Napa County
Integrated Water Resource Management Planning Framework

(Napa County IWRMPF)

REPORT

April 2011

Contents

I. Introduction and Planning Approach

Need for Countywide Integrated Water and Watershed Resource Management Planning

The people, economy, ecosystems, and wildlife of Napa County depend on an adequate, reliable, clean water supply and intact, safe, and naturally-functioning watersheds. With more than 1,740 miles of rivers, streams, and tributaries (USGS data), abundant upland and wetland habitats, and a host of unique flora and fauna, Napa County is known as a biodiversity hotspot. Although Napa County occupies less than one-half of one percent of California's area, it contains about 32 percent of the state's native flora and a level of native fish species diversity that is unsurpassed in Sierra Nevada and Central Valley rivers (Napa County General Plan 2009). The County contains twenty-four special-status wildlife species; threatened and endangered species, including salmonids and contains a CWA 303(d)-listed Impaired Water Body - the Napa River, which is impaired by excessive sediment, pathogens, and nutrient levels (Napa County General Plan 2009; SWRCB 2009). Napa County is divided into two major hydrologic regions – the San Francisco Bay Basin and the Sacramento River Basin. Major San Francisco Bay watersheds in Napa County include the Napa River draining into the San Pablo Bay and upper Suisun Creek watershed, draining into Suisun Bay; while the upper Putah Creek/Lake Berryessa watershed drains towards the Sacramento River Basin.

Recognizing the significance and sensitivity of Napa County's waters and water-dependent resources, local entities have long been committed to the conservation of the County's natural resources and the protection of its water quality and supply. The County and its local jurisdictions are recognized leaders in protecting agricultural lands and providing for the conservation of water and natural resources for human, wildlife, and other beneficial uses. In 1998, Napa County voters approved Measure A, which funds flood protection and watershed improvement projects throughout Napa County, consistent with the award-winning "Living River Guidelines" (Napa County Flood Control and Water Conservation District, 2005).

Because water issues cross multiple jurisdictions, local (i.e. countywide) water management efforts require integration to address issues at the multiple-watershed scales. Napa County has numerous individual water-related management plans, such as City and County General Plans, Urban Water Management Plans, Water Supply Master Plans, Wastewater Master Plans, Recycled Water Master Plans, Flood Protection Management Plans, Stormwater Management Plans, and Watershed Management Plans. These planning and policy documents would be strengthened by proactive project coordination, both within the county and with neighboring regional efforts like the Integrated Regional Water Management Plans (IRWMPs) being prepared by the San Francisco Bay Area and Westside Sacramento Valley groups (*see Section III, Integration with San Francisco Bay Area and Sacramento Valley-Westside IRWMPs*).

More than 134,000 residential and agricultural water-users in the County utilize diverse surface and groundwater resources (ABAG 2005). These water-users represent varied socio-economic backgrounds and demographics, community sizes and resource use levels. This diversity leads to a range of concerns about issues related to local and regional water management and watershed sustainability. The local, state and federal agencies in Napa County that have water regulatory and management authority are equally diverse: over two dozen agencies are responsible for water management in Napa County. Each has a distinct water management and regulatory jurisdiction and its own rules of governance (although there are institutional commonalities and areas of overlap). The purpose of integrating local and regional water and watershed management is to provide a cost effective process for identification and implementation of water management solutions that provide multiple benefits. The Local and regional agencies recognize the need to collaborate utilizing a common water and watershed management framework. The planning approach outlined in this document – the ***Napa County Integrated Water Resource Management Planning Framework (Napa IWRMPF)*** – is intended to provide a blueprint for initiating an integrated planning and implementation initiative.

Combining local, state, and federal resources will allow selection and implementation of high caliber projects that yield multiple benefits. Integration of local and regional water resource planning efforts will also: prevent redundant planning and funding efforts; engage the widest stakeholder audience possible; further local agencies' ability to manage their operations and collective resources; increase regional water supply reliability and quality; facilitate development of collaborative solutions to resource scarcity and challenges; promote cost efficiencies; result in better service to the public; remove inconsistencies among planning and management efforts; and improve the competitiveness of projects within Napa County for planning and implementation funding.

The need for robust, innovative, and integrated water resource management in Napa County is expected to increase as the County's population increases and the effects of a changing climate begin to impact local and regional water supplies, community needs and natural systems. If climate change impacts occur as predicted, water supply availability is likely to be the most important issue facing California (Weare 2009). Computer simulations (climate modeling) suggest that in California, ground temperatures will increase, precipitation will become more unpredictable, the frequency of critically dry years will double, flooding will increase, and increased pressure will be placed on the State's water storage and delivery system(s) as winter snowpack diminishes. No one can predict for certain what will happen locally in Napa County, but the combined effect of these factors will almost certainly be reduced water availability in summer months for agriculture, wildlife, and other human and environmental beneficial uses (Weare 2009). According to predictions, during years of ample rainfall, current and future supplies are adequate, although storage capacity will remain a challenge. Projections for critical dry years, however, show that Napa County's incorporated and unincorporated areas may not have enough water to meet all their needs through 2050 (Nakano 2005). Municipal and groundwater supplies will be strained, and water and watershed managers further challenged by a projected 14 percent increase in County population by 2030 (ABAG 2005). These factors, combined with regulatory requirements to maintain instream flows for fish and other

sensitive/endangered aquatic organisms, suggest a need for proactive integrated resource planning and collaboration to seek and exploit economies of scope and scale.

Governance, Decision-Making, and Conflict Resolution

The proposed Napa County IWRMPF governance structure is intended to facilitate the development of, and participation in, integrated inter- and intra-regional water resource management by coordinating efforts locally to achieve specific stakeholder-endorsed goals and objectives. This structure was developed to identify and reduce conflicting water resource needs through stakeholder involvement and consensus-seeking. A guiding principle behind the proposed structure was to utilize (and possibly restructure) established boards and committees for governance and decision-making whenever feasible. The proposed governing and decision-making structure guiding this planning framework is:

- *Governing Body*
  The Governing Body is the governing and decision-making body for the Napa County IWRMPF. The Governing Body provides direction and oversight to the planning process and serves as the primary fiduciary entity. The Governing Body is composed of elected officials from the County of Napa and each City/Town within the County. The existing entity currently representing the Napa County IWRMPF Governing Body is the Napa County Flood Control and Water Conservation District (FC&WCD) Board, and for specific issues (i.e., TMDL compliance and Measure A funding in unincorporated areas) the Napa County Board of Supervisors. The Governing Body ultimately approves project selection and prioritization criteria, based on recommendations from Napa County IWRMPF committees (described below). Decision-making among Governing Body members is guided by the bylaws of those boards.

- *Technical Advisory Committee (TAC)*
  The TAC is advisory to the Community Advisory Committee (WICC) on technical matters related to the planning and implementation process. The TAC functions as an ad-hoc committee appointed by the Governing Body to provide a balanced representation and technical knowledge in water resources and the services that they provide. TAC members provide scientific, engineering, and technical expertise to the Napa County IWRMPF process, including an annual technical review of the IWRMPF planning documents, and input on funding applications and priorities. The TAC includes local, state, federal public trust, and governmental agency and district staff, as well as academic, expert, and professional membership. The existing entity most currently representing the Napa County IWRMPF TAC, with amendment to its membership, is the Watershed Information Center and Conservancy (WICC) Board of Napa County's Technical Advisory Committee (WICC TAC). The WICC Board is an apolitical advisory committee to the Napa County Board of Supervisors. The WICC TAC is positioned to serve as the IWRMPF TAC; however its membership would need to be revised or

updated to ensure balanced representation from water supply, wastewater treatment, stormwater, and environmental interests.

- *Community Advisory Committee (CAC)*
  The CAC is an advisory body to the Governing Body, PAC and TAC. The CAC provides a forum for general community and interest group input into the Napa County IWRMPF planning and implementation process. The CAC is a standing committee that provides representation from a diversity of stakeholder groups. The existing entity most closely represents a CAC for the Napa County IWRMPF is the WICC Board of Napa County. The WICC Board could be designated as the CAC.

- *Planning Advisory Committee (PAC)*
  The PAC is an advisory and staff support team to the Governing Body, Technical Advisory Committee, and Community Advisory Committee. The PAC is an ad-hoc committee appointed by the Governing Body and includes staff members from the County of Napa, each of the cities and town, and water resource related special districts. The PAC provides policy and governance recommendations, as well as administrative and staffing support. To facilitate broader interregional integration of local efforts, the PAC provides representation, coordination and information sharing with regional Bay Area and Sacramento-Westside IRWMP groups. Members of the PAC represent the Napa County IWRMPF to funding partners. The "Planning Team" assembled to assist in the development of this planning framework, with the addition of additional members from the jurisdictions described above is well positioned to serve as the PAC.

Despite a long history of working to achieve common goals, differences between the various parties involved in the Napa County IWRMPF are unavoidable given the diversity of interests and large geographic area involved. Concerns about water resources issues vary; in large part depending on local geography, land use, and water supply availability (see Section VII). These differences will need to be considered and addressed in a constructive way for the IWRMPF to achieve its goals. The regional, integrated approach advocated by the IWRMPF helps balance competing interests – all water management interests are represented and concerns can be expressed in a public forum. The framework and guiding principles of the Napa County IWRMPF supports and encourages participants to strive to find common ground, pursue mutually beneficial programs, and plan for a future with ample, fully functioning natural resources, a robust economy, and environmental and social justice.

The proposed process for ranking and prioritizing IWRMPF projects provides an example of how the Governing Body and its' three Committees may interact with each other and reach agreement on decisions (see "Project Prioritization Flow Chart"; Section IX).

Project Accountability and Adaptive Management

The Napa County IWRMPF is envisioned as an inclusive, equitable, transparent process to be guided by an adaptable, "living" planning framework. As such, the IWRMPF process will:

1. Demonstrate a commitment to public involvement by ensuring that policy and decision-making meetings are open to the public; provide workshops and other opportunities to solicit stakeholder input to the Napa County IWRMPF process; and maintain a user-friendly website with relevant information about the planning framework, opportunities for participation and incorporated projects; and

2. Demonstrate a commitment to inclusive, equitable, transparent process by publishing and making available meeting announcements, agendas, and minutes to the public in a timely fashion.

The Napa County IWRMPF will realize these commitments - and the IWRMPF goals (see Section II) - by requiring strict project oversight, timely response to evolving project conditions, and regular progress reporting to funding bodies and stakeholders. For more on project accountability and evaluation, see Section XI.

Given the variety of stakeholders in Napa County, it is anticipated that project priorities will vary according to changing perspectives and on-the-ground conditions and project readiness. Effective integrated planning will therefore require adopting an adaptive management approach. In recognition of this fact, the Napa County IWRMPF is intended to be a dynamic, evolving process guided by a flexible document and policy process that is evaluated regularly and improved upon overtime. The IWRMPF will typically be reviewed annually, and refined as needed. For example, as regional goals, objectives, and priorities evolve, the IWRMPF will need to adapt so that it continues to meet the changing needs of Napa County and its regional partners. Additionally, as local water resource monitoring data become available from watershed assessments and surveys, project implementation, regulatory compliance, and a number of other sources, they will assessed and incorporated into the IWRMPF document to inform future policy and planning processes.

Working Relationships

To achieve successful integrated water resource management and to create a sustainable water portfolio for Napa County, participants in the IWRMPF will be required to create and sustain working relationships with each other, with stakeholders, and with other organizations and agencies throughout the region and state. Entities likely to participate in the IWRMPF already have a history of working together to solve complex resource problems at local and regional scales in collaborative ways. Many local and regional water management agencies have shared physical infrastructure at very large scales. The most significant and productive working relationships occur at the project level. The IWRMPF encourages participants to work with the Governing Body and its Committees to conceive, develop, plan, implement, and report on a number of water resource projects. Involvement in other integrated regional water

management planning (IRWMP) efforts is an important and critical aspect of the local IWRMPF, particularly from a funding and regional coordination perspective. This need for intensive cooperation will likely result in the development of formal and informal mutual aid agreements between agencies, stakeholders and participants alike.

Examples of on-going working relationships among organizations in the region include participation by those in the Napa County IWRMPF with those in the San Francisco Bay Area and Sacramento Valley (Westside) IRWMPs, the North Bay Water Reuse Authority (NBWRA) (via participation by Napa Sanitation District in the North Bay Watershed Association (NBWA)), participation municipal jurisdictions in the Association of Bay Area Governments (ABAG), and participation by the Napa County FC&WCD and the Napa County Stormwater Pollution Prevention Program in the Bay Area Flood Protection Agencies Association (BAFPAA), not to mention other regional planning efforts underway and planned.

Envisioned as a collaborative, cooperative endeavor, the Napa County IWRMPF process relies on developing and sustaining working relationships with local stakeholders. Public engagement and involvement is crucial. For a description of where outreach to stakeholders already occurs and how it can be expanded upon and integrated into the Napa County IWRMPF process, see Section VI, Stakeholder Involvement.

Unified Database Approach

One of the greatest benefits of integrated water resource planning is the potential for sharing of water and watershed related data and information. The IWRMPF will utilize a unified approach to sharing project information, primarily through a database on the publically-accessible WICC website (www.napawatersheds.org). The WICC website focuses on information exchange and outreach and is playing an increasing role in storing watershed data and information related to natural resources, studies and research and stream restoration efforts. One of WICC's primary roles as an IWRMPF partner is public outreach, and functioning as the Community Advisory Committee (CAC).

For members of the public who may not have web access, local outreach will be conducted in-person at various venues as needed. This will ensure that smaller, rural, and/or web-limited stakeholders have an equal opportunity to gain access to the IWRMPF process and database. These outreach efforts will generally be conducted prior to project list updates to allow time for the identification and integration of new and existing projects on the sub-regional/local level. For more on IWRMPF outreach, see Section VI, Stakeholder Involvement.

II. Integrated Water and Watershed Resource Management Plan Goals and Objectives

Goals

Achieving the ambitious goals set forth in the Napa County IWRMPF will be challenging but feasible if IWRMPF goals are integrated with the goals of other water and watershed management efforts in the County and region. Thus, to maximize integration with existing efforts, the proposed Napa County IWRMPF goals below include principles distilled from a review of over 25 water and watershed-related planning documents that included more than 100 overlapping goals that have been approved and adopted previously by various groups in and around Napa County. For example, the IRWMP-listed goals for both the San Francisco Bay Area and the Sacramento Valley (see Section III) are incorporated, as are the most recently-updated goals from the Napa County General Plan Conservation Element (2009). The San Francisco Bay Area IRWMP "Functional Areas" categories (Water Supply and Water Quality; Watershed Management and Habitat Protection/Restoration; Wastewater and Recycled Water; and Flood Protection and Stormwater Management) also helped provide a conceptual framework for the drafting of the goals. Among other criteria (see Section IX), projects ultimately approved for implementation through the Napa County IWRMPF process will be those that demonstrate substantial integration of and significantly contribute to the stated IWRMPF goals below.

The five overarching goals of the Napa County IWRMPF are:

1. To ensure healthy watersheds and communities in Napa County.

2. To support both economic vitality and ecosystem viability in Napa County.

3. To provide an efficient and equitable mechanism to identify, plan, analyze, fund, and implement projects that align with the goals and objectives of the Napa County IWRMPF.

4. To facilitate inter- and intra-regional cooperation in the areas of water supply reliability; water recycling; desalination; water conservation; water quality improvements; stormwater capture and management; flood management; recreation and access; wetland enhancement and creation; listed-species recovery; and environmental habitat protection and improvement.

5. To foster coordination, collaboration, and communication among participating agencies to achieve greater efficiencies, enhance public services, and build public support for vital plans and projects.

The five issue-specific goals of the Napa County IWRMPF are:

1. To ensure Napa County has an adequate and reliable supply of water for beneficial uses such as drinking, agriculture, wildlife, and recreation.

2. To effectively plan and implement watershed management and habitat restoration and enhancement projects that will preserve the high biodiversity supported by Napa County watersheds.

3. To improve flood protection and stormwater management infrastructure and practices so that Napa County agencies can cope with predicted increases in flood and storm activity.

4. To protect and enhance the quality of life for residents of Napa County and their property, as well as future generations.

5. To actively engage all members of the public (including Disadvantaged Communities), provide public outreach and education, and a forum for data sharing and information exchange among all interested parties.

Objectives

The objectives listed below were developed using the planning documents that served to produce the above-listed goals. These objectives provide direction for actions to support each goal as the IWRMPF proceeds toward project identification and implementation.

Reliable Water Supply

1. Protect and improve surface and groundwater water quality.
2. Meet water supply demands; minimize vulnerability to drought.
3. Preserve highest quality water supplies for potable use.
4. Protect groundwater supplies from overdraft and preserve groundwater for primarily agricultural uses.
5. Improve wastewater-processing facilities where necessary and feasible.
6. Expand the use of recycled water (considered a supply source, as well as potable demand reduction) in areas including commercial and municipal landscape irrigation, industrial processes, and potentially agriculture. Specific areas for

expansion include the Milliken-Sarco-Tulocay area, the Carneros region, and in and around each of the cities (parks, schools, freeway landscaping, etc.).

7. Increase opportunities for water conservation among end-users through incentive programs, education, tiered rate structures, and building codes/zoning regulations; continue to provide public outreach to ensure broad awareness and participation.
8. Explore possibilities for off-stream storage to harvest rainwater for later use during dry summer months.
9. Consider pursuing dry year supplies through contracts and/or purchases outside of Napa County for larger municipalities.

Watershed Management and Habitat Restoration

1. Where possible, restore natural river/floodplain interactions for flood protection, groundwater recharge, and to increase and enhance riverine habitat value and complexity.
2. Rehabilitate natural processes and ecologic processes that sustain continuous, native riparian cover in river corridors; where feasible incorporate “Living River Principles” as utilized by the Napa River/Napa Creek Flood Protection Project.
3. Minimize the need for ongoing channel stabilization and maintenance where practicable; protect property and habitat using natural processes that promote streambank stability.
4. When revegetating riparian corridors, replant riparian vegetation that will not serve as hosts for Pierce’s Disease.
5. Incorporate exclusionary livestock fencing that allows native mammal migration and access to the creek while keeping domestic grazing animals out of the riparian corridor by providing dispersed, shaded watering sites away from the riparian zone, especially in the upper and middle Carneros Creek Watershed.
6. Promote contiguous upland habitat and biodiversity.
7. Maintain and improve instream habitat; increase habitat complexity in the lower reaches of tributary streams.
8. Establish and maintain uninterrupted riparian corridor where practicable.
9. Improve structural complexity in aquatic and tidal habitats, riparian canopies and channel forms
10. Remove anthropogenic fish migration obstacles and barriers to all suitable habitats within the basin.
11. Reduce fine sediment inputs from chronic sources such as road and bank erosion.
12. Acquire, protect, and restore habitat areas, including wetlands, streams, vernal pools, and open spaces.

13. Enhance wildlife populations and biodiversity; acquire and protect continuous wildlife corridors and connections between habitat patches.
14. Manage pests and invasive species.
15. Encourage land stewardship and sustainable land use; coordinate natural resource protection and planning efforts.
16. Ensure that new acquisition/conservation activities are part of an existing, coherent design.
17. Develop a high-resolution vegetation map, high-resolution aerial photography, and topographic mapping for the County.
18. Implement a sustained watershed-health monitoring program that will allow the condition of the watersheds (and the performance of this plan in meeting its objectives) to be evaluated over time.
19. Understand the historical ecology of the watersheds, in part to develop a historical reference state model for TMDL analysis and to inform decisions related to restoration implementation strategies.

Flood Protection and Stormwater Management

1. Maintain and enhance performance of existing flood protection and stormwater facilities.
2. Increase community awareness of local flood risks and opportunities to decrease risk through implementation of floodplain enhancement or other flood hazard reduction projects.
3. Implement effective floodplain management to minimize risks to health, safety and property by encouraging wise use and management of flood-prone areas.
4. Enhance natural conveyance and storage to support flood protection.
5. Improve floodplain connectivity.
6. Appropriately integrate multi-objective flood protection projects in ways that protect and enhance stream corridor and wetland habitats, are aesthetically pleasing, provide trails and recreational opportunities, and protect cultural resources.

Quality of Life

1. Minimize water disinfection byproducts, water treatment variability, and costs of water treatment.
2. Maintain economic sustainability.
3. Support recreational opportunities, including trails and water related recreation.
4. Protect cultural resources.

5. Promote social equity by working to ensure that all members of society are included in decisions about land use and other policies.

Stakeholder Outreach

1. Increase community outreach and education to empower the citizenry to take action to improve watershed health.
2. Maximize community involvement and stewardship; conduct outreach to involve all segments of Napa County society in land use planning and water management decisions.
3. Conduct education, outreach and service-learning projects to promote greater understanding related to ecology and natural resource management, protection and improvement.

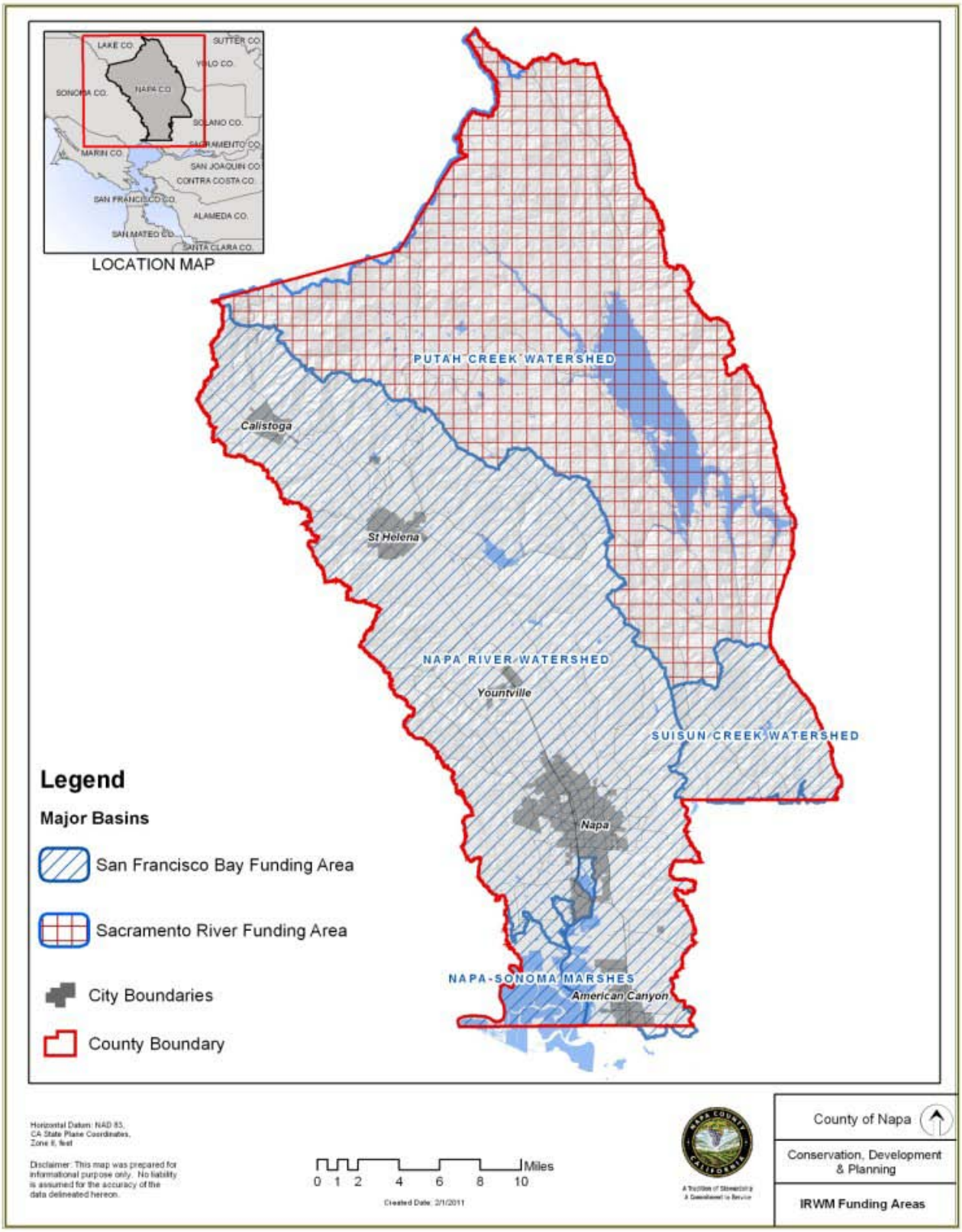
III. Integration with San Francisco Bay Area and Sacramento Valley-Westside IRWMPs

Description of Boundaries and Funding Areas

Napa County is geographically divided between two IRWMP funding areas: the San Francisco Bay Area Funding Area, and the Sacramento River Funding Area. These adjacent areas have developed, or are developing either the San Francisco Bay Area Integrated Regional Water Management Plan ("Bay Area IRWMP") or the Westside-Sacramento Plan ("Westside IRWMP"), respectively. Reflecting this geographic divide, Napa County's three major constituent watersheds (Napa River, Putah Creek/Lake Berryessa, and Suisun Creek) are included in one of the two different IRWMP regions: The San Francisco Bay Area IRWM Region and the Sacramento Valley IRWM Region. (*see IRWM Funding Areas map below*)

Napa County does not intend to develop its own IRWMP, but will instead contribute to the larger regional IRWMPs in addition to its own independent local planning. Thus the Napa River and Suisun Creek watersheds will participate in the ongoing San Francisco Bay Area IRWMP and related IRWMP-funded projects, and projects from the Putah Creek/Lake Berryessa drainage basins will be integrated into the Westside Sacramento River IRWMP, now in development by agencies in Lake, Napa, Yolo, Solano and Colusa Counties.

By participating in both the Bay Area and Westside IRWMPs, Napa County and its municipalities will help regional and local management entities avoid redundant water/watershed planning and implementation efforts. Participation also ensures that each of the County's major watersheds are included in a regional IRWMP effort and are eligible for IRWMP funding (i.e. Prop 84). However, meaningful integration of the Bay Area and Westside IRWMPs with Napa County's local priorities and projects will require sustained coordination and cooperation between the various jurisdictions, regulatory and management agencies, and other interested parties. The proposed mechanisms whereby diverse multi-region views and priorities will be integrated into an efficient IRWMP-IWRMPF partnership are described below.


LAKE CO.
SUTTER CO.
YOLO CO.
SONOMA CO.
NAPA CO.
SOLANO CO.
SACRAMENTO CO.
MARIN CO.
SAN JOAQUIN CO.
CONTRA COSTA CO.
SAN FRANCISCO CO.
ALAMEDA CO.
SAN MATEO CO.
SANTA CLARA CO.
LOCATION MAP
PUTAH CREEK WATERSHED
Calistoga
St Helena
NAPA RIVER WATERSHED
Yountville
SUISUN CREEK WATERSHED
Napa
NAPA-SONOMA MARSHES
American Canyon
Legend
Major Basins
San Francisco Bay Funding Area
Sacramento River Funding Area
City Boundaries
County Boundary
Horizontal Datum: NAD 83, CA State Plane Coordinates, Zone II, feet
Disclaimer: This map was prepared for informational purpose only. No liability is assumed for the accuracy of the data delineated hereon.
0 1 2 4 6 8 10 Miles
Created Date: 2/1/2011
County of Napa
Conservation, Development & Planning
IRWM Funding Areas

Mechanisms for Integration, Coordination, and Communication

Water management practices and water-related issues in Napa County are different from those of the Bay Area and Westside IRWMP regions, a fact that complicates efforts to practice water and watershed management at the appropriate (i.e. multi-county) scale. Some ways in which Napa County differs from the IRWMP regions to the west and, to a lesser extent, east include the following: Napa County is relatively rural, particularly in the northeast of the County; tends to have a drier climate; has a different demographic profile; has lower population density compared to the Bay Area; is comprised of inland, versus coastal, watersheds; has a smaller development footprint; has more agricultural crop production; provides fewer consolidated water and wastewater services; has sizeable rural areas largely dependent on groundwater; and is characterized by limited groundwater recharge.

Despite such differences, Napa County and the adjacent/overlapping IRWMP regions do share common concerns, goals, priorities, strategies, and projects, just as they share watersheds and groundwater basins. The entities involved with integrating IRWMP and IWRMPF projects support and welcome integrated, complementary efforts and regional, coordinated approaches. Participating agencies have identified and are coordinating on each other's efforts, and projects that overlap planning regions. By coordinating with these IRWMPs, Napa County contributes to regional water and watershed management goals. Initial efforts to coordinate the Napa County IWRMPF and the two IRWMPs resulted in the use of language from the IRWMPs to develop the IWRMPF goals in Section II. Additional mechanisms for coordinating Napa, Bay Area, and Westside planning and implementation will be incorporated into this IWRMPF as the process continues to evolve.

Regular communication between Napa County IWRMPF parties and those managing the surrounding/overlapping IRWPM regions is already occurring and will continue as the IWRMPF develops. Standard methods (e.g. email, list serves, websites like the WICC's, phone calls, teleconferences, meetings, and workshops) will continue to be employed to keep the various parties in close communication. The Napa County IWRMPF Planning Advisory Committee (PAC) will continue to provide coordination and information sharing with the Bay Area IRWMP, Westside Regional Water Management Group and other funding partnerships. Finally, members of the various IRWMP committees regularly report to local stakeholders on the development of their IRWMPs, including projects in Napa County.

IV. Coordination with State and Federal Agencies

The Napa County IWRMPF will serve a vital role disseminating State goals and directives to local stakeholders. Guidance documents such as the DFG Recovery Strategies for Salmon, the State Water Resources Control Board's Watershed Management Initiative and associated Regional (2 and 5) Water Quality Control Board Basin Plans, the California Water Plan, and the recently released California Climate Adaptation Strategy provide technical and jurisdictional direction in terms of integrated planning to attain water supply reliability, water quality, salmonid recovery, and environmental justice goals and objectives. Many local planning agencies, however, do not have the time or resources to evaluate – much less integrate with – statewide planning goals and objectives. Through the WICC website and other outreach mechanisms, the IWRMPF will serve as an information resource for Napa County stakeholders to learn about, understand, and implement statewide objectives in the context of local planning. Conversely, the IWRMPF will serve as a mechanism through which local concerns can be presented and considered at the regional and state levels. By operating as a water and water resource planning and implementation "hub", the Napa County IWRMPF will synchronize local and statewide planning, resulting in greater efficiency and stronger, more robust planning and funding efforts.

The IWRMPF will serve as an implementation mechanism for current Proposition 84 Program Preferences and other State goals and objectives as they become known. It will meet or contribute to the following Proposition 84 Program Preferences:

- Reduce conflict between water users
- Implement TMDLs
- Implement SFBRWQCB and CVRWQCB Watershed Management Initiative Chapters, plans, and policies
- Assist in meeting Delta Water Quality Objectives
- Assist in achieving one or more goals of the CALFED Bay-Delta Program

The IWRMPF intends to utilize the following Water Resources Management Strategies identified in the California Water Plan to achieve local, regional, and statewide water management goals:

- Agricultural Lands Stewardship
- Agricultural Water Use Efficiency
- Conjunctive Management and Groundwater Storage
- Conveyance – Delta
- Drinking Water Treatment and Distribution
- Economic Incentives
- Ecosystem Restoration
- Flood Risk Management
- Land Use Planning and Management
- Matching Water Quality to Use
- Pollution Prevention
- Recharge Area Protection
- Recycled Municipal Water
- Surface Storage

- System Reoperation
- Urban Runoff Management
- Urban Water Use Efficiency
- Water Transfers
- Water-dependent Recreation
- Watershed Management

The IWRMPF will also serve as a conduit for dissemination of relevant federal priorities and a mechanism for local feedback to federal agencies. Examples include: the US Army Corps of Engineers Napa River Flood Management Project, US Bureau of Reclamation Lake Berryessa Solano Project, species recovery plans developed by NOAA Fisheries and the US Fish and Wildlife Service, the US Environmental Protection Agency's Non-Point Source Pollution and related water and watershed programs, as well as projects and planning efforts from other agencies such as the Natural Resources Conservation Service, and US Geological Survey.

V. Relation to Local Planning

Water Resource Planning Projects

The IWRMPF will integrate and complement new and ongoing local water efforts in Napa County. As an overarching mechanism for communication, coordination, and information dissemination, the IWRMPF will enable local entities to learn about state regulations and funding opportunities, keep abreast of the latest technical developments, and network with those who share similar concerns and face similar constraints. For example, the Napa Sanitation District has developed different strategies for increasing recycled water production and use depending on different funding scenarios. The final strategy will meet NPDES permit requirements with options that provide full recycling of all treated water (Larry Walker Associates 2005). The IWRMPF framework provides a forum for the Napa Sanitation District to share their strategy and its development process with other wastewater treatment providers in Napa County, thus increasing the county's overall water knowledge and water resource management capacity.

Local water management regulations, such as the Napa County's Groundwater Ordinance, Water Efficient Landscaping Ordinances (WELO) and other related water conservation regulations adopted by the local jurisdictions will be built-in to IWRMPF funding application and project evaluation templates in order to ensure all projects meet and implement regulations and goals on local and state levels. Additionally, templates will acquire information relevant for state program preferences, IWRMPF goals and objectives, and other relevant goals and priorities. This information will be used during evaluative processes in order to ensure the highest possible conformance to state, federal, and local requirements and preferences.

Many of the agencies involved with Napa County water planning have an established working relationship through various programs and planning efforts on local and regional scales, such as: the 2050 Napa Valley Water Resources Study Project (WYA 2005), City of Napa Urban Water Management Plan: 2005 Update (City of Napa 2006), the Carneros Creek Watershed Management Plan (Carneros Creek Stewardship and Bay-Delta Authority Watershed Program 2005), Central Napa Watershed Project, Carneros Creek Watershed Assessment and Management Program, Northern Napa River Watershed Plan, Watershed Information Center and Conservancy Board, the Water Technical Advisory Committee and state water contract agreements, Napa County Transportation and Planning Agency, Napa County Stormwater Pollution Prevention Program, the SF Bay Area IRWMP, and Westside IRWMP planning process.

Land Use Planning Projects

A number of local, state, and federal agencies are currently involved in watershed protection efforts in Napa County. The IWRMPF will integrate with and complement these efforts and provide a framework for coordinated implementation. Projects evaluated for inclusion in the IWRMPF will be evaluated for conformation to the IWRMPF goals and local jurisdictional regulations (e.g. groundwater and surface water management and protection, erosion/runoff control, stormwater water quality, conservation and reuse, environmental protection and enhancement) Project evaluation and prioritization will also incorporate existing stream habitat protections and prioritization, such as the prioritization of Napa River basin streams in the Central Napa River Watershed Project (Napa County RCD 2005). Other local, regional and state regulations and procedures will be incorporated into the IWRMPF project evaluation process including adopted local procedures for implementing the California Environmental Quality Act and land use, agricultural preservation, conservation, and other relevant policies contained in local municipal and agency policy documents.

VI. Stakeholder Involvement

Stakeholder Identification

The Napa County IWRMPF acknowledges the need for effective public outreach to address the diversity of water management issues, geographical representation, and stakeholder interests in the County, watershed basins, and surrounding regions. The IWRMPF PAC is committed to proactively identifying all interested parties and soliciting their involvement. Potential stakeholder groups to engage include: local governments including city councils, county supervisors, and public works and planning departments; water, wastewater, stormwater and flood control agencies; watershed conservation groups and other NGOs; regulatory agencies; environmental and social justice organizations; representatives of Disadvantaged Communities (DACs); landowners; and all other interested parties. A formal Stakeholder Outreach Plan will be developed as part of this IWRMPF and will include strategies for identifying the broadest possible array of stakeholders.

Stakeholder Outreach and Participation

Targeted stakeholder outreach aimed at engaging people in the IWRMPF process will involve communicating with a diverse group of water supply, water quality, wastewater, stormwater, flood control, watershed, municipal, environmental, and regulatory groups, and the general public. Through collaborative efforts with stakeholders, multiple water management issues will be addressed and multi-benefit regional solutions will be developed and implemented. By directly contacting stakeholders and encouraging them to participate in the Napa County IWRMPF process, everyone with a stake in water and watershed viability can voice their interests and share their concerns.

The primary tool by which the Napa County IWRMPF will be publicized and projects solicited/ uploaded is an information database at the WICC website (www.napawatersheds.org). The WICC website will be the IWRMPF "hub," where stakeholders can learn about the IWRMPF, upload information about their current and proposed projects; check the status of project submissions; upload or download assessments and other data from implemented projects; share lessons and insight on completed and on-going projects; learn about local watershed and water issues; and read notices announcing upcoming meetings, workshops, and other public events related to local and regional water and watershed management and planning.

The WICC, in addition to hosting the website described above, will continue to play an important role as outreach liaison and Community Advisory Committee to the IWRMPF. WICC staff members attend various community meetings to provide information and solicit input.

WICC staff also represent Napa County in local and regional planning efforts (e.g., North Bay Watershed Council, Bay Area Watershed Network, San Francisco Estuary Partnership, and Delta Protection Commission, among others).

A fully developed stakeholder outreach plan will include strategies to identify and facilitate involvement with DAC and rural residents. Local outreach will provide a critical interface for those with limited web access, or who cannot travel to the larger stakeholder workshops traditionally held close to urban centers. Targeted outreach efforts to all stakeholder groups shall be conducted prior to project list updates to allow time for the identification and integration of new and existing projects.

VII. Key Water Management Issues

Water Supply Quantity and Reliability

There are many competing uses for available water including flows for environmental benefits, surface water diversion groundwater used for irrigation, residential, agricultural, commercial, and industrial needs. Napa County has a Mediterranean climate with hot dry summers and wet winters. Precipitation is the primary source of surface water in the county, thus surface water is most limited when it is in greatest demand for agricultural, landscaping, and environmental uses. When there is ample rainfall, water supply is sufficient for all uses, but some agencies do not have the water storage capacity to store water from wet years to dry years, or when extended drought conditions occur. Increasing supply through increased diversions from the Napa River or increasing local reservoir capacities are not feasible because of increased regulations and environmental concerns coupled with the high cost of implementation (WYA 2005). Cities and towns are instead seeking to augment water supplies and increase supply reliability with conservation measures, use of recycled water, contingency planning with state water contractors and exploring small-scale unconventional supply augmentation via rainwater harvesting/infiltration and low-impact development practices. For example, the Napa Sanitation District, which serves the City of Napa and surrounding unincorporated areas, has identified extending the delivery of recycled water as a high priority to offset dependency on ground and surface water as long as the cost of necessary pipeline extensions can be shared equitably. Wastewater discharges to the Napa River occur only during the wet season – during the dry summer months, 100% of wastewater flows are reclaimed or stored until winter for discharge during the rainy season.

The Napa River watershed supplies about 85% of the county's yearly water demand through ground and surface water; the remaining 15% comes from the State Water Project for the cities of Napa, American Canyon, and Calistoga (SFBRWQCB 2004). A study commissioned by the Napa County FC&WCD indicates that municipalities should pursue diversified approaches to meet existing and future water demand including importing water through supply agreements or options in dry years when deliveries from the State Water Project are reduced (WYA 2005). Water use efficiency efforts are consistently shown to be successful and cost-effective. With implementation of urban and residential water use efficiency improvements, statewide water use could potentially decline by 20 percent through 2030 (Gleick et al. 2005). SB 7x-7 legislation requires that the State reduce urban per capita water use by 20 percent by 2020. Additionally, conjunctive uses, such as using recycled water for groundwater recharge, may help to address limited supplies and overdraft conditions in groundwater basins.

Groundwater Management Planning

As of September 2009 Napa County is one of 29 California counties that have adopted groundwater management ordinances, but as of yet, the County has not developed a formal AB 3030 Groundwater Management Plan. In general, Napa County has not experienced many significant groundwater issues with the exception of the Milliken-Sarco-Tulocay area. The Milliken-Sarco-Tulocay groundwater basin has been identified as groundwater deficient within which groundwater is being used faster than it is being replenished, and Napa County, with support from the Napa Sanitation District, as a targeted this area for recycled water delivery. Other areas near St. Helena, have been identified for restrictions on development utilizing septic tanks unless contamination of groundwater can be avoided.

Unincorporated areas and agricultural uses are the primary users of groundwater in Napa Valley, with only 1% of groundwater used by cities and towns. Increasing demand for groundwater in unincorporated areas is a regional concern. Groundwater users in unincorporated areas are at greatest risk to experience water shortages if demand continues to increase. Supply and demand projections for unincorporated areas show a deficit of over 5,000 acre-feet (AF) in normal years, 7,000 AF in multiple dry years, and 10,000 AF in critical dry years by 2050 if water supply sources are not augmented (WYA 2005).

Urban Water Management Planning

The cities of American Canyon, St. Helena, and Napa have Urban Water Management Plans on file with the California Department of Water Resources. These plans project population growth and water demand and assess existing and expected future supply to meet those demands under different water year scenarios. Supplementation, including use of recycled water, is discussed and each city provides a Water Shortage Contingency Plan. Water Shortage Contingency Plans set specific steps for water conservation that first involve voluntary, then mandatory conservation efforts by end users.

Water Quality

The Napa River and its tributaries are listed as impaired by pathogens, nutrients, and sedimentation (SFBRWQCB 2007). Pathogens impact both contact and non-contact beneficial uses in the Napa River watershed. The most common source of pathogens is fecal material. Potential sources include municipal stormwater, septic systems, municipal wastewater treatment facilities, confined animal facilities, grazing lands, and wildlife. A pathogen TMDL has been established to define allowable density-based bacteria concentrations and prohibit the discharge of raw or inadequately treated human waste. This TMDL sets numeric water quality targets and pollutant load allocations for each source of pathogens. Since fecal matter is also a

source of nutrients, this TMDL is expected to aid in attainment of the nutrient TMDL when it is established.

Excess sediment impacts Napa River beneficial uses including recreation, cold freshwater habitat, fish spawning, and preservation of rare and endangered species. Sediment loads in the watershed vary with terrain, land uses, and the presence of dams. Greater than half of all sediment delivered to streams comes from road and road drainage systems, erosion, vineyards, and intensive historical grazing. Thirty percent of the Napa River watershed drains into dams; the dams capture a significant amount of sediment input. However, fine particle sediment loads are still substantially elevated. River bank and bed erosion, which is a significant sediment source, is also degrading aquatic habitat. A sediment TMDL has been established for the Napa River that sets load allocations to 125 percent of natural background loads. This will require a reduction of human-caused sediment inputs by 50 percent.

Additional water quality concerns identified by the SFBRWQCB include low dissolved oxygen content, high water temperature, and eutrophication in parts of the Napa River. Low dissolved oxygen levels have also been identified in Carneros Creek during summer low flow periods. Flooding of the Napa River has led to TPH (total petroleum hydrocarbons) contamination of at least four sites along the Napa River. These sites are currently undergoing cleanup operations (SFBRWQCB 2004). Mercury contamination has been identified as a concern in the upper reaches of Putah Creek, as well as the Napa River (being a tributary to the San Pablo and greater San Francisco Bay). Sources of mercury contamination include natural geothermal springs, and abandoned and inactive mercury mines (WRG 2009).

Regional and Local Challenges

Like much of California, Napa County faces issues and challenges involving water supply reliability, water rights and diversions, water quality, instream habitat, flood management, imported water, wastewater, conjunctive use, and a variety of demographic, social, and political issues associated with population trends and growth.

Water supply issues are paramount as Napa County and other State Water Project recipients face reductions in supply due to pumping restrictions imposed to protect the Delta smelt (BAIRWMP 2009). Such conflicts are inherent between environmental beneficial uses and consumptive beneficial uses, including many residential, commercial, industrial and agricultural uses. One of the County's groundwater basins is a groundwater deficient basin, and demand and supply projections through 2050 show that demand throughout the County will outpace supply within the next forty years if actions to increase conservation, expand recycled water sources, pursue conjunctive uses and locate out-of-basin sources are not pursued.

Water quality issues include protection of drinking water supplies and controlling stormwater runoff into streams, wetlands, and other aquatic habitat. Recycled water quality issues include high water temperatures, and presence of dissolved solids. Potential challenges can arise

regarding agricultural uses of recycled water and acceptable levels of residual chemical compounds in aquatic habitat and drinking water supplies. More on the safety and water quality issues of local recycled water supplies can be found in detail at http://www.nbwra.org/safety/.

Flood protection activities may lead to challenges between riparian and floodplain property owners and others, especially when property owners feel their rights are compromised for the benefit of others. Additionally, high land values can make it difficult to acquire or maintain riparian buffers which could help to protect or restore natural hydrologic and ecologic processes.

The Putah Creek watershed faces many water rights issues. The majority of water rights in the upper Putah Creek watershed are held by the Solano County Water Agency. Within the watershed, the Napa Berryessa Resort Improvement District and the Lake Berryessa Resort Improvement District have received enforcement actions from the Central Valley Regional Water Quality Control Board in the past few years because of periodic wastewater system overflows that discharge into Lake Berryessa. Both Districts have also had difficulties funding necessary upgrades to their water collection and wastewater disposal systems.

An important economic issue that may lead to challenges is the continued economic viability of agriculture. The wine industry in particular faces increasing competition from regions around the world and changes within the industry that present challenges for farmers, vintners, and the County. To preserve the agricultural character of the county, the "Right to Farm" is recognized throughout the General Plan to ensure that agriculture remains the primary land use. The Williamson Act enables the county to enter into contracts with landowners that restrict specific parcels of land to agricultural use, thereby discouraging land conversion to residential or urban uses.

Land Use Planning and Development

By the mid-1800s, the primary land uses in the county were agricultural activities including grazing, field crops, and timber production. Streams were channelized and connected and dams built to provide water for agricultural and residential development. Vineyards were first developed in the 1860s. Timber was intensively harvested through the 1940s. Groundwater pumping rates peaked between 1910 and 1950, gradually decreasing until the use of irrigation for frost pumping increased the rate of extraction (Stillwater Sciences and Dietrich 2002).

In the Napa River watershed, the Napa valley floodplain was used primarily for agriculture – orchards, field crops, and vineyards – with areas of urban development in the cities of American Canyon, Napa, St. Helena, and Calistoga and the Town of Yountville. Between 1970 and 1996, the area of land under grape cultivation increased by about 327% - from 15 square miles to 49 square miles (Stillwater Sciences and Dietrich 2002). Currently, the fastest growing land use is urban housing (SFBRWQCB 2004). Impacts to beneficial uses associated with these land use

conversions include: elimination of natural channels including loss of wetlands; increased sedimentation due to land clearing and construction activities; unmitigated changes in hydrology that lead to channel destabilization, erosion, and greater flooding frequency; impairment of fish habitat from water diversions and fish passage barriers; and increased pollutant loads associated with urban development and agricultural activity.

Channel incision in the mainstem Napa River has occurred due to a combination of factors, including land cover changes that increase peak river flow, levee building and dam construction, filling-in of flood basins adjacent to channels, navigational dredging, channel straightening, and historical gravel mining and removal of debris jams. This has resulted in greater local sediment delivery as well as loss of salmonid habitat complexity. Several large river/stream and riparian restoration projects are currently underway on the mainstem of the Napa River to address incision processes, manage floodwaters and increase habitat complexity.

Climate Change Planning and Adaptation

Climate change has become an increasingly important concern that could potentially affect many aspects of natural and built environments. Models have been developed that extrapolate current conditions into projections for the future. Most model simulations project an increase in temperature in Northern California with only a slight decrease in precipitation. Even if precipitation amounts remain the same, however, increased temperatures are expected to lead to evaporative water loss and contribute to overall drier conditions. Reduction in Sierra snowpack may affect the availability of State Water Project supplies for Napa County cities. Storms and other weather events, such as heat waves, are projected to become more extreme. Drought vulnerability is likely to continue into the next century.

These changing patterns are expected to have impacts from an increase in heat-related deaths to increased runoff and flooding during storms to increased wildfires. Sea level could rise about 30 – 45 cm greater than 2000 levels by 2050 and increase up to 60 cm greater than 2000 levels by the end of the century. Up to 33 percent more land in the San Francisco Bay Area would be at risk from flooding (CAT 2009). Extreme high sea level events where high tide coincides with winter storms and high winds are likely to occur more frequently with El Niño expected to exacerbate these conditions.

Increased temperatures and precipitation changes may have important effects on agricultural crops. Changes in water availability, temperature averages and minima and maxima, pest and weed ranges, and growing season length will affect crop productivity. Pierce's Disease is less prevalent where winter temperatures are cold, so increasing temperatures will likely lead to an increase in the disease (Pierce's Disease.org undated). Crops such as wine grapes that have minimum chill requirements may not receive adequate chilling for fruit set. California losses are estimated at up to 40 percent for wine, table grapes, and similar commodities, with significant regional variation in losses (Karl et al. 2009).

Salmonid habitat may also be affected. Summer instream flows are projected to decline while winter flows are expected to increase during extreme precipitation events, potentially increasing scouring of redds, which are salmon nests. Warmer water temperatures may lead to earlier egg hatching, leaving juvenile salmon more vulnerable to predations and possibly out-of-sync with insect prey life cycles. Warmer waters will also increase metabolic function, increasing the need for foraging and creating favorable conditions for diseases and parasites.

Additional potential impacts of projected changes to climate patterns include an increased demand for electricity, reduction in water quality, increased air pollution, increased incidence of climate-sensitive infectious disease, and illness and death caused by extreme weather events such as heat waves, storms, floods, or wildfires.

The State of California and communities around the state are preparing management strategies for climate mitigation and adaptation. The Napa County General Plan includes policies and programs to proactively respond to concerns about greenhouse gas emissions including the use of alternative transportation modes and development of "walkable" communities. Other potential steps towards climate mitigation/adaptation include participation in the AB 811 Property Assessed Clean Energy Program. This program enables individual property owners to install renewable onsite power generation systems and energy efficiency measures, energy efficiency incentive programs, and use of alternative fuel vehicles for government transportation fleets.

Flood Management and Vulnerability

The Napa River is prone to seasonal flooding during the winter – from about November through April yearly. Flooding occurs from the City of St. Helena south to the City of Napa; at least 22 severe floods have occurred on the river since 1865 with the most recent occurring in 2005, 1997, and 1995 (Napa County Flood Control and Water Conservation District, 2009). In response to this challenge, a unique 'Community Coalition' comprised of political and community leaders, industry, natural resource agencies, NGOs and private citizens was formed. The coalition developed the Napa River Flood Protection Plan based on "Living River" principles – it provides protection in part by reconnecting the Napa River to its historic flood plain and restoring over 650 acres of tidal wetlands in the San Francisco Bay estuary. The plan has been recognized nationally as a model of decision-making that incorporates environmental processes while achieving political, social, and economic goals (Napa County Flood Control and Water Conservation District 2009).

Along several tributaries, natural and anthropogenic factors are contributing to the flood hazard. Flood conveyance appears to be effective; however localized flooding occurs in the watershed due to high intensity land use, inadequately culverted stream crossings, and potentially some existing stream stabilization projects (Napa County RCD et al. 2005). Land use practices that contribute to localized flooding include increases in agriculture, impervious surface area, vineyard related drainage systems, and road density. The watershed contains 57

on- and off-stream reservoirs that retain storm flow and reduce the risk of flooding during the early rainy season. Some of these reservoirs have potential for overflow, which could cause either severe erosion or catastrophic dam failure (Napa County RCD et al. 2005).

Invasive Species Management

Napa County contains both terrestrial and aquatic invasive plant and animal species. Noteworthy terrestrial invasive plants of concern include Eucalyptus (*Eucalyptus* sp.), Himalayan blackberry (*Rubus armeniacus*), perennial pepperweed (*Lepidium latifolium*), yellow star thistle (*Centaurea solstitialis*), artichoke thistle (*Cynara cardunculus*), giant reed (*Arundo donax*), and tamarisk (*Tamarix parviflora*). Eurasian milfoil (*Myriophyllum spicatum*) is an aquatic weed of concern in the County. The Napa County Weed Management Area Group, Napa County FC&WCD, Napa County RCD, Napa Valley Chapter of the California Native Plant Society, and other agencies and NGOs are working individually and collectively to manage invasive plant species throughout the county.

An important terrestrial animal species of concern includes the European grapevine moth. The moth and its larvae were first detected in the United States near the Oakville and Coombsville regions of Napa County in October 2009. The larvae feed primarily on the flowers and fruit of grapes, but can also survive on a number of other hosts, including olives, blackberries, cherries, nectarines, persimmons, and pomegranates. The Napa County Department of Agriculture, US Department of Agriculture, and the California Department of Food and Agriculture are working together to determine the extent of the infestation and next steps for management and containment.

New Zealand Mud snails have been detected in the lower Putah Creek watershed (Yolo County) and the Napa River. Monitoring and risk assessments show that the Putah Creek watershed is at risk for Quagga and zebra mussel infestation. Preventative measures have been in place at Lake Berryessa to prevent mussel invasion for the past year. The mussels are spread between water bodies primarily by humans when recreationists utilize previously contaminated boats and gear in uncontaminated locations. The Department of Fish and Game is working with local agencies to determine and implement effective management actions to address the threats from these and other aquatic invasive species.

Climate change and increasing global travel increase the potential for new invasions and expansion of the range of existing invasive plant and animal species.

VIII. Funding Opportunities

Obtaining funding for water and water management planning and implementation projects is challenging, particularly during the current economic recession. However, opportunities exist at federal, state, and local levels.

The federal government, in response to the recession, passed the American Recovery and Reinvestment Act of 2009, which made $275 billion available for federal contracts, grants and loans. The Recovery Act targets infrastructural development and enhancement, including renewable energy projects and road and bridge repair, as well as providing opportunities for scientific research. Federal monies are also available through the Natural Resources Conservation Service, Environmental Protection Agency, and other federal agencies for projects related to agriculture, environmental restoration, water quality and supply, pollution prevention, technical innovation, education, and environmental justice.

On the state level, due to the urgency associated with a reliable and safe water supply, California voters passed Proposition 84, the Safe Drinking Water, Water Quality & Supply, Flood Control, River & Coastal Protection Bond Act in 2006; Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002; and Proposition 40, the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protection Act in 2002. These propositions provide funding for a myriad of planning and implementation projects through various state agencies including the Department of Parks and Recreation, Department of Water Resources (DWR), and State Water Resources Control Board (SWRCB). SWRCB administers the Agricultural Water Quality Grant Program, which funds projects that reduce pollutants from agricultural operations into surface waters through Propositions 40 and 50. DWR and SWRCB also provide loans and grants through a number of other state propositions including Propositions 1E, 13, 82, and 204.

An important local funding mechanism is Measure A, which was passed by Napa County voters in 1998 to create the Napa Flood Protection and Watershed Improvement Expenditure Plan that supports projects for flood protection, water supply, and watershed health. Other local funding opportunities are provided by private foundations and organizations.

Specific potential funding opportunities are presented in the Appendix*: Potential Funding Opportunities*.

IX. Project Review Process

Process for Project Submission

This section describes how interested parties can submit information about the local water or watershed management project they want to implement. The user-friendly process envisioned for County residents and entities is: (1) identify project to be developed and implemented; (2) visit the WICC website www.napawatersheds.org; and (3) upload the information required for project consideration. The project upload template and process will initially be used to apply for IRWMP funds; later, funding sources may be diversified. For communities or individuals with limited internet access, project application information can be submitted in writing by contacting WICC staff.

Individual Project Evaluation Criteria

All projects considered for the Napa County IWRMPF will be ranked and prioritized according to a standardized set of criteria developed by the IWRMPF PAC and approved by the IWRMPF Governing Body (see the "Project Prioritization Flow Chart"). This evaluation system will emphasize integrated, multi-benefit, regional projects that meet one or more of the IWRMPF stated goals and objectives (see Section II). The system will provide consistency with the San Francisco Bay Area and Sacramento Valley IRWMPs' project evaluation criteria as much as possible.

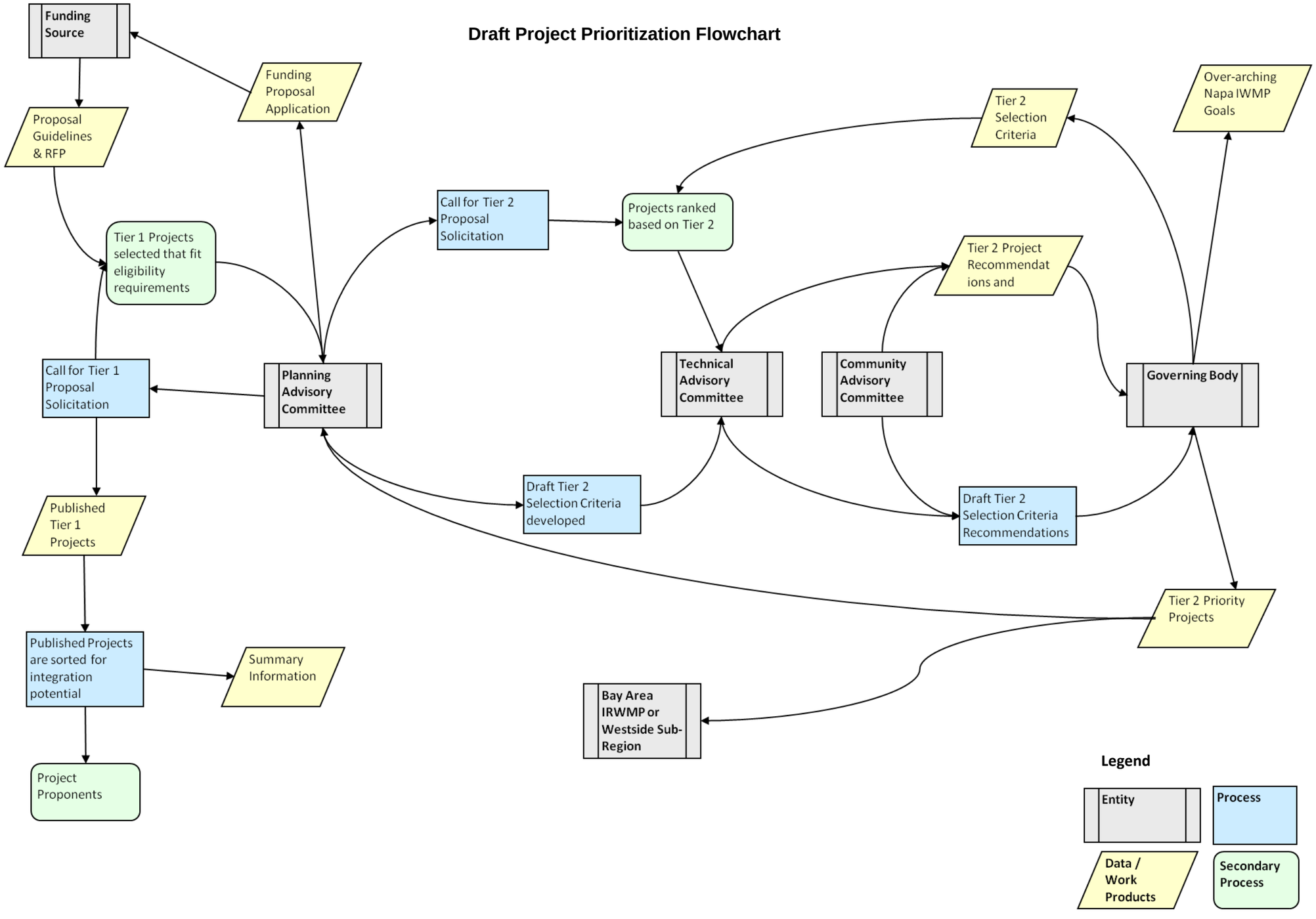
The criteria may include:

1. Project Contribution to Overall IWRMPF Goals and Objectives
2. Project Relation to Selected Resources Management Strategies
3. Project Technical Adequacy and Feasibility
4. Project Benefits
    a. Direct and Indirect
    b. Benefits to Disadvantaged Communities
5. Project Relevance to Funding Program
6. Project Environmental Justice Considerations
7. Project Economic Analysis
8. Project Readiness
9. Permitting and Environmental Compliance
10. Project Potential for Integration
11. Project Contribution to Addressing Climate Change

12. Stormwater Quality and Flood Management Project Multiple Benefits that may include: water quality improvements, ecosystem benefits, reduction of instream erosion and sedimentation, and groundwater recharge

The final IWRMPF-approved project upload site is anticipated to be active by Fall 2010, as funding allows.

Draft Project Prioritization Flowchart



X. Plan Integration and Implementation

The IWRMPF provides a framework for integration of existing water planning efforts and opportunities to further develop regional relationships and expand stakeholder participation. Utilizing the structure of the IWRMPF, county water management agencies, watershed groups, agricultural interests, and others are working together to identify common needs, differences, and potential points of disagreement. The IWRMPF provides a process to move through this initial identification towards mutually beneficial integration of projects and programs to gain economies of scale and synchronize implementation efforts to maximize benefits from resource expenditures. For example, a watershed restoration group that is interested in habitat restoration of a specific creek or reach would benefit greatly from the cooperation and participation of adjacent landowners to remove fish passage barriers. The IWRMPF will serve as a nexus of communication for these and other efforts so that each implemented project provides multiple benefits and builds upon projects occurring both up- and downstream.

The IWRMPF will also serve as a location for data integration. Member agencies will be encouraged and project proponents will be required to collect monitoring data that are compatible with SWAMP, GAMA, and other state data collection protocols. All data will be housed in one location (such as the WICC website) to provide the most up-to-date, comprehensive information available. When funding is available, the data will be integrated and provided in a spatially mapped format to facilitate use by all stakeholders. A web-based map interface will be provided in order to ensure ease of use.

The IWRMPF will allow both individual agency and IWRMPF group decisions to be integrated. With greater awareness of one another's objectives and activities, more holistic decisions can be made. Projects will be prioritized based on their suitability to meet local needs and their contribution towards attainment of statewide priorities. Projects providing multiple benefits and integrate with existing projects and programs will be prioritized for implementation. The process described will be used in project prioritization and other decision-making processes. As part of the adaptive management process, monitoring and performance data (see Section XI) will continually be fed back into the decision making process. Priorities will be typically evaluated yearly in light of monitoring and performance data and will be modified as necessary to meet local, regional, and statewide changing conditions and needs.

XI. Plan Performance/ Evaluation and Measurement

The Napa County IWRMPF will require strict project oversight, timely response to evolving project conditions, and regular progress reporting to funding bodies and stakeholders. Metrics used to evaluate project and plan performance include, but are not limited to:

1. Progress towards meeting Plan objectives
2. Extent of Stakeholder Outreach/Involvement
3. Monitoring Systems - to gather performance data
4. Implementation of Adaptive Management – What are the mechanisms to adapt project operations and plan implementation based on results of monitoring data
5. Processes to update or change IRWM Plan

Individual project and program proponents will be responsible for collecting and reporting performance and monitoring data in formats that conform to state requirements (SWAMP and GAMA compatible). Data management protocols will be standardized and shared publicly to ensure transparency in the IWRMPF process. Several data repositories are available for data sharing and dissemination to IRWM participants, stakeholders, the public, and state and federal agencies. These include the California Environmental Information Clearinghouse (CEIC), the Natural Resource Projects Inventory (NRPI), the California Environmental Resource Evaluation System (CERES), the Information Center for the Environment (ICE), the San Francisco Bay Area Conservation Commons, and the WICC.

By making monitoring results widely available, efforts throughout the County and the San Francisco Bay area will be enhanced. This will be accomplished because entities planning projects in a specific area will have access to all IWRMPF project data for that area, and those in other locations will have comparative data available for planning and decision-making processes. The widespread availability of data will also enhance state and federal planning; integration with SWAMP and other state and federal monitoring programs will allow for more informed planning at federal, state, and local levels.

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XIII. Appendix

Potential Funding Opportunities

Name	Agency	Description	Funding floors/ceilings	Eligible Applicants	Relevant Dates	URL
Federal						
Bring Back the Natives Grant Program	National Fish and Wildlife Foundation	Funding for restoring, protecting, and enhancing native populations of sensitive or listed aquatic species, especially on lands on or adjacent to federal agency lands.	$10,000 - $150,000	non-profit organizations, universities, Native American tribes, and local, state and federal agencies	closing date 12/1/09	Link
Community-based Habitat Restoration Partnership Grants	National Oceanic and Atmospheric Administration	Funding for "implementation of a wide-range of individual habitat restoration projects, from locally-driven, grass-roots projects that emphasize stewardship and hands-on restoration, to mid-scale, watershed level projects that yield significant ecological and socio-economic benefits."	$500,000 - $100,000	institutions of higher education, non-profits, commercial (for profit) organizations, U.S. Territories, and state, local and Indian tribal governments	09/30/2009	Link
NOAA Open Rivers Initiative	National Oceanic and Atmospheric Administration	"Funds the removal of obsolete dams and other stream barriers to improve fisheries, enhance public safety and boost local economies through benefits resulting from removal."	$30,000 - $1,000,000	institutions of higher education, non-profits, industry and commercial (for profit) organizations, organizations under the jurisdiction of foreign governments, international organizations, and state, local and Indian tribal governments	11/16/2009	Link

Recovery Act: Habitat Restoration at Work	National Oceanic and Atmospheric Administration	"Funds projects that will restore coastal and marine habitats under the American Recovery and Reinvestment Act of 2009. NOAA is accepting applications for a variety of habitat restoration projects – including wetlands restoration, dam removals, shellfish restoration, and coral reef restoration. Applicants must demonstrate that their project can achieve significant ecological benefits, maximize jobs creation/preservation, and are "shovel-ready.""	$500,000-$20,000,000	institutions of higher education, non-profits, commercial (for profit) organizations, U.S. Territories, and state, local and Indian tribal governments.	04/06/2009	Link
National Association of Counties' Coastal Counties Restoration Initiative	National Oceanic and Atmospheric Administration	"Funds innovative, high quality county-led or supported projects to improve stream, river, estuarine and other important marine habitats. A priority area is the removal of fish passage barriers in coastal streams and rivers."	$50,000 - $100,000	National Association of Counties member counties and organizations working in partnership with a National Association of Counties member county.	03/29/2010	Link
American Sportfishing Association's FishAmerica Foundation Grants	National Oceanic and Atmospheric Administration and American Sportfishing Association's FishAmerica Foundation	"Funds marine and anadromous fish habitat restoration projects that benefit recreationally fished species."	$5,000 - $50,000	public and private organizations and local, state and tribal governments	06/22/2009	Link
The Nature Conservancy Community-based matching grants	National Oceanic and Atmospheric Administration and The Nature	"Funds marine and coastal habitat restoration projects that benefit fish and shellfish around the coastal U.S. The applicant should be a TNC local chapter, or working in close coordination with a local chapter. "	$25,000 - $85,000	Local TNC Chapter or a partner of a local TNC Chapter	04/24/2009	Link

	Conservancy				
Trout Unlimited Embrace-A-Stream Grants	National Oceanic and Atmospheric Administration and Trout Unlimited	"Funds coastal projects submitted to TU's Embrace-A-Stream program that benefit anadromous fish. "	up to $10,000	Local TU chapter	Link
Wildlife Habitat Incentives Program (WHIP)	Natural Resources Conservation Service	A "voluntary program for conservation-minded landowners who want to develop and improve wildlife habitat on agricultural land, nonindustrial private forest land, and Indian land. "		Landowners	Link
Watershed Protection and Flood Prevention Program	Natural Resources Conservation Service	"Provides technical and financial assistance to States, local governments and Tribes (project sponsors) to implement authorized watershed project plans for the purpose of watershed protection; flood mitigation; water quality improvements; soil erosion reduction; rural, municipal and industrial water supply; irrigation water management; sediment control; fish and wildlife enhancement; and wetlands and wetland function creation and restoration."		Sponsoring local organizations of authorized watershed projects	Link

California Environmental Quality Incentives Program (EQIP)	Natural Resources Conservation Service	"The Environmental Quality Incentives Program (EQIP) was established in the 1996 Farm Bill to provide a single, voluntary conservation program for farmers and ranchers to address significant natural resource concerns. Nationally, it provides technical and financial assistance to address natural resource concerns. Administered by the Natural Resources Conservation Service (NRCS), EQIP was reauthorized in the 2008 Farm Bill and awards cost share assistance to projects which provide significant environmental benefit. Eligible farmers and ranchers may apply for EQIP program benefits at any time. Application ranking periods are established to allow evaluation of projects and awarding of contracts based upon an environmental score for each application that achieves the natural resource benefits identified by local, state and national priorities."		Farmers and ranchers	ongoing	Link
Aquatic System Restoration	US Army Corps of Engineers		$1,000 - $11.6 million			Link
Community Development Block Grant Program (CDGB)	US Department of Housing and Urban Development	"The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs. "		Business , Community/Watershed Group , Nonprofit Groups , Educational Institution , Private Landowner , Water and Wastewater Utilities , Local Government , State/Territorial Agency		Link

Community Action for a Renewed Environment (CARE)	US EPA	"A competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment. "	"Level I cooperative agreements ranging in approximate value from $75,000 to a maximum of $100,000, with an average project funding of about $90,000. Level II cooperative agreements ranging in approximate value from $150,000 to a maximum of $300,000, with an average project funding of about $275,000."	"Local, public non-profit institution/organizations, federally-recognized Indian tribal government, Native American organizations, private non-profit institution/organization, quasi-public nonprofit institution/organization both interstate and intrastate, local government, colleges, and universities could be eligible to apply for CARE funds. "	Closing date 3/9/10	Link or Link
Environmental Justice Small Grants Program	US EPA	"The Environmental Justice Small Grants Program (EJSG), supports and empowers communities working on solutions to local environmental and public health issues."	up to $25,000	non-profit organizations, cities, townships, county governments and their entities, or federally recognized Native American tribal governments	Closing date 1/8/2010	Link

Pollution Prevention Grant Program	US EPA	"The purpose of the P2 Grant Program is to give States and Tribes the capability to assist businesses and industries in identifying better environmental strategies and solutions for complying with Federal and State environmental regulations. It also aims to improve business competitiveness without increasing environmental impacts. The majority of P2 Grants fund State-based projects for technical assistance, training, outreach, education, regulatory integration, data collection, research, demonstration projects, and recognition programs. "	$20,000 - $180,000	states, state agencies, federally recognized tribes	04/06/2010	Link
Small Business Innovation Research (SBIR) Program	US EPA	"The EPA SBIR Program assists small businesses with no more than 500 employees develop and commercialize new environmental technologies."	Phase I up to $70,000; Phase II of $225,000 - $345,000	science and technology-based firms	2010 solicitation notice available 3/19/2010; closing date 5/20/2010	Link
Wetlands Program Development Grants	US EPA	Funds "projects that promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution."		States, tribes, local government agencies, interstate agencies, and intertribal consortia		Link

Agriculture and Food Research Initiative Competive Grants Program	USDA	"AFRI is a new competitive grant program to provide funding for fundamental and applied research, extension, and education to address food and agricultural sciences. "	up to $4,000,000	Land-Grant Institutions, For-profit Organizations other than small businesses, hispanic-serving institutions, individuals, native American Tribal organizations, private institutions of higher education, state agricultural experiment stations, state controlled institutions of higher education	09/30/2009	Link
Conservation Reserve Program	USDA Farm Service Agency	"The Conservation Reserve Program (CRP) is a voluntary program for agricultural landowners. Through CRP, you can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland."	$50 - $50,000	Producers that have owned or operated the land for at least 12 months prior to close of the CRP sign-up period.		Link
State						
Flood Protection Corridor	Department of Water Resources	Funds "nonstructural flood management projects that include wildlife habitat enhancement and/or agricultural land preservation."	$5 million	Local government agencies and nonprofit organizations		Link
Groundwater Recharge Facilities	Department of Water Resources	Funds groundwater recharge construction projects	$5 million	Public agencies and incorporated mutual water companies		Link
Integrated Regional Water Management Grant Program	Department of Water Resources	Funding "to promote and practice integrated regional water management to ensure sustainable water uses, reliable water supplies, better water quality, environmental stewardship, efficient urban development, protection of agriculture, and a strong economy."		Approved IRWM regions		Link

Local Groundwater Assistance	Department of Water Resources	Funds groundwater studies, groundwater monitoring and management activities.	$250,000	Local Public Agencies	April 2010	Link
New Local Water Supply Construction	Department of Water Resources	Funds projects such as canals, dams, reservoirs, groundwater extraction facilities or other construction or improvements	$5 million	Local Public Agencies	ongoing	Link
New Local Water Supply Feasibility Study	Department of Water Resources	Funds studies that propose to assess the feasibility of implementing an eligible local water supply project	$500,000	Local public agencies	ongoing	Link
Storm Water Management Proposition 1 E	Department of Water Resources	Funds are dispersed through the IRWM program to fund storm water management projects outside of the state plan of flood control that reduce flood damage.		Local government agencies and nonprofit organizations		Link
Urban Streams Restoration Program (USRP)	Department of Water Resources	"Funds grants to local communities for projects to reduce flooding and erosion and associated property damages; restore, enhance, or protect the natural ecological values of streams; and promote community involvement, education, and stewardship."		Local government agencies and nonprofit organizations	June 20106/1/2010	Link
Agricultural Drainage Management Loan Program	State Water Resources Control Board	"Provides loan and grant funding for Drainage Water Management Units. Drainage Water Management Units are land and facilities for the treatment, storage, conveyance, reduction or disposal of agricultural drainage water that, if discharged untreated, would pollute or threaten to pollute the waters of the State."	Cap of $5 million for implementation and $100,000 for feasibility studies.	Any city, county, district, JPA or other political subdivision of the State involved with water management.	ongoing	Link
Agricultural Drainage Program	State Water Resources Control Board	Funding "to address treatment, storage, conveyance, or disposal of agricultural drainage water that threatens waters of the State."	Cap of $20 million for implementation projects and $100,000 for feasibility studies	Any city, county, district, JPA or other political subdivision of the State involved with water management.	ongoing	Link

Agricultural Water Quality Grant Program	State Water Resources Control Board	"Provides funding for projects that reduce or eliminate non-point source pollution discharge to surface waters from agricultural lands.		Public agencies and non-profit organizations		Link
Clean Water State Revolving Fund Program	State Water Resources Control Board	"Program offers low interest financing agreements for water quality projects."		Any city, town, district or other public body ccreated under state law, Native American tribal government, any designated and approved management agency under Section 208 of the Clean Water Act		Link
Dairy Water Quality Grant Program	State Water Resources Control Board	Funds "regional and on-farm dairy projects to address water quality impacts from dairies."		Public agencies, nonprofit organizations, dairy operators	not currently accepting applications	Link
Federal 319 Program	State Water Resources Control Board	"This program is an annual federally funded nonpoint source pollution control program that is focused on controlling activities that impair beneficial uses and on limiting pollutant effects caused by those activities."	Cap of $1,00,000 for implementation projects; cap of $125,000 for planning/assessment projects	Public agencies and non-profit organizations		Link
Orphan Site Cleanup Fund Program	State Water Resources Control Board	Program "established to provide financial assistance to eligible applicants for the cleanup of brownfields sites contaminated by leaking petroleum underground storage tanks where there is no financially responsible party."		Public agencies and non-profit organizations	ongoing	Link

Proposition 84 Storm Water Grant Program	State Water Resources Control Board	Funds are to "be used to provide matching grants to local public agencies for the reduction and prevention of Storm Water contamination of rivers, lakes, and streams."	Local Public Agencies	Link
Small Community Wastewater Grant Program	State Water Resources Control Board	"Provides grant assistance for the planning, design, and construction of publicly-owned wastewater treatment and collection facilities."	Small communities (population < 20,000) or those with financial hardship	Link
Small Community Wastewater Strategy	State Water Resources Control Board	"Promotes strategies to assist small and/or disadvantaged communities with wastewater needs.	Local agencies	Link
Urban Stormwater Grant Program	State Water Resources Control Board	Funding "to assist agencies with the planning for, and the implementation of, needed urban pollution runoff controls. The program shall provide grants for projects designed to implement stormwater runoff pollution reduction and prevention programs, including diversion of dry weather flows to publicly owned treatment works for treatment, acquisition, and development of constructed wetlands and the implementation of approved best management practices, as required by stormwater permits."	Local Public Agencies	Link

Water Recycling Funding Program (WRFP)	State Water Resources Control Board	Promotes "the beneficial use of treated municipal wastewater (water recycling) in order to augment fresh water supplies in California by providing technical and financial assistance to agencies and other stakeholders in support of water recycling projects and research."	Public agencies	ongoing	Link

Existing Water and Watershed Management Plans & Programs

Resource Title	Organization	Description	
FEDERAL			
Clean Water Act § 303(d)	U.S. Environmental Protection Agency (USEPA)	Section 303(d) of the federal Clean Water Act requires that all states in the U.S. identify waterbodies that do not meet specified water quality standards and that do not support intended beneficial uses. Identified waters are placed on the Section 303(d) List of Impaired Waterbodies. Once placed on this list, states are required to develop a water quality control plan - called a Total Maximum Daily Load (TMDL) - for each waterbody and each associated pollutant/stressor.	http://www.epa.gov/oecaagct/lcwa.html
Salmon Recovery Plan: Southern Oregon/Northern California Coast. 2000.	NOAA Fisheries Service	In 1991, the National Marine Fisheries Service (NMFS) began a comprehensive review of the status of salmonid and steelhead throughout Washington, Oregon, Idaho, and California. NMFS identified 52 Evolutionarily Significant Units (ESUs) of West Coast salmon and steelhead. Twenty-six of those ESUs have now been listed as endangered or threatened species under the Endangered Species Act (ESA). Comprehensive recovery plans are needed to provide a framework for addressing problems across entire ESUs and among all of the activities that threaten salmon, and for prioritizing actions necessary for recovery.	http://www.nwfsc.noaa.gov/trt/overview.cfm
West Coast Regional Marine Research and Information Needs DRAFT for Public Comment. 2009.	NOAA Sea Grant, Washington, Oregon, California, University of Southern California, West Coast Regional Research and Information Planning	"The primary goal of the West Coast planning process has been to identify continued and new research and outreach related to the CCLME that would contribute to the transition toward an ecosystem-based approach to ocean and coastal management. The goal is not to create a Sea Grant plan, but rather to establish priorities that foster collaboration among a full range of regional information providers and end users. This report covers the first phase of the process and presents research and information needs identified by regional stakeholders in the context of ongoing federal, state, tribal, and local science programs. The second phase of the West Coast process will develop a research and information plan, a separate document that identifies regional priorities to guide initiation and investment in natural and social science research that will provide decision makers with the best-possible science for wise policy and resource-management decisions."	http://seagrant.oregonstate.edu/research/RegionalPlanning/index.html
Productive Lands Healthy Environment: NRCS Strategic Plan	U.S. Department of Agriculture (USDA) Natural Resources	"The Strategic Plan sets the direction for NRCS and describes our conservation priorities and goals. Bold, forward-looking, and far-reaching, this plan challenges us to reformulate some past approaches and develop and adopt new approaches.	Full PDF: http://www.nrcs.usda.gov/about/strategicpla

2005-2010	Conservation Service (NRCS)	This plan will guide NRCS in implementing key overarching strategies, managing agency business lines, meeting customer needs, and developing and strengthening capacity to achieve our mission goals." Plan contains a water conservation component.	n/StratPlan_read.pdf PDF by Chapters: http://www.nrcs.usda.gov/about/strategicplan/#strategic%20plan
EPA Underground Injection Control (UIC) Program. Undated.	U.S. Environmental Protection Agency (USEPA)	The UIC Program works with state and local governments to regulate the underground injection of waste to prevent the contamination of underground drinking water resources. The EPA regulates injection wells by authority provided in Part C of the Safe Drinking Act and according to regulations located in the Code of Federal Regulations parts 144 –147. In California, the EPA and the state share primary responsibility for the UIC program for all classes of wells except oil and gas related wells. In California, some of the types of injection wells include stormwater wells, carwash wells, sewage treatment effluent wells, spent brine wells, aquaculture wells, aquifer remediation wells, geothermal electric power wells (such as the Geysers in Sonoma County), salt water intrusion barrier wells, and aquifer recharge wells (EPA 1999).	http://www.epa.gov/safewater/uic/index.html
Draft Handbook for Developing Watershed Plans to Restore and Protect Our Waters. 2005.	U.S. Environmental Protection Agency (USEPA)	"This draft handbook is intended to help communities, watershed organizations, and state, local, tribal and federal environmental agencies develop and implement watershed plans to meet water quality standards and protect water resources. It was designed to help any organization undertaking a watershed planning effort, and it should be particularly useful to persons working with impaired or threatened waters."	http://www.epa.gov/owow/nps/watershed_handbook/
National Management Measures to Control Nonpoint Source Pollution from Urban Areas. 2005.	U.S. Environmental Protection Agency (USEPA)	Publication Number EPA 841-B-05-004, November 2005 This plan helps citizens and municipalities in urban areas protect bodies of water from polluted runoff that can result from everyday activities. These scientifically sound techniques are the best practices known today. The guidance will also help states to implement their nonpoint source control programs and municipalities to implement their Phase II Storm Water Permit Programs.	http://www.epa.gov/nps/urbanmm/#08
Underground Injection Control Program. 2007.	U.S. Environmental Protection Agency (USEPA)	"The UIC Program works with state and local governments to oversee underground injection of waste in order to prevent contamination of drinking water resources. Some of the wastes the UIC program regulates include: Over 9 billion gallons of hazardous waste every year; Over 2 billion gallons of brine from oil and gas operations every day; Automotive, industrial, sanitary and other wastes that are injected into shallow aquifers."	http://www.epa.gov/safewater/uic.html
National Management	U.S. Environmental	This guidance document describes practices to reduce NPS pollution of surface	http://www.epa.gov/o

Measures to Protect and Restore Wetlands and Riparian Areas for the Abatement of Nonpoint Source Pollution. 2005.	Protection Agency (USEPA)	waters and ground water through the protection and restoration of wetlands and riparian areas, as well as the implementation of vegetated treatment systems. The guidance provides background information about NPS pollution, including where it comes from and how it enters the nation's waters; discusses the broad concept of assessing and addressing water quality problems on a watershed level; and presents recent technical information about how certain types of NPS pollution can be reduced effectively through the implementation of these management measures.	wow/nps/wetmeasures/pdf/guidance.pdf
Southern Pacific Shorebird Conservation Plan: A Strategy for Supporting California's Central Valley and Coastal Shorebird Population. 2003.	U.S. Fish and Wildlife Service (USFWS)	The Southern Pacific Shorebird Conservation Plan is one of 11 regional plans associated with the US Shorebird Conservation Plan providing relevant information and needs for the conservation of shorebirds on the coast and in the Central Valley of California. This plan represents the combined expertise of a broad partnership of federal and state agencies, conservation organizations, academics, and private consultants.	www.prbo.org/cms/docs/wetlands/SPSCPlan_010904.pdf
STATE			
Memorandum of Understanding Regarding Efficient Water Management Practices by Agricultural Water Suppliers in California. 1999.	Agricultural Water Suppliers Efficient Water Management Practices Act of 1990 AB 3616	"The purposes of this MOU are to: (1) create a constructive working relationship between agricultural water suppliers, environmental interest groups, and other interested parties; (2) establish a dynamic list of EWMPs; (3) establish criteria to evaluate the appropriateness of EWMPs; and (4) implement appropriate EWMPs, while avoiding unnecessary or unreasonable planning, paperwork, or expense for water suppliers, thereby voluntarily achieving more efficient water management than currently exists or may be required by existing law."	http://www.owue.water.ca.gov/docs/AgriculturalMOU.pdf
Integrated Energy Policy Report. 2007.	California Energy Commission	"The *2007 Integrated Energy Policy Report* (*IEPR*) was prepared in response to Senate Bill 1389 (Bowen), Chapter 568, Statutes of 2002, which requires that the California Energy Commission prepare a biennial integrated energy policy report that contains an integrated assessment of major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301[a]). This report fulfills the requirement of SB 1389."	http://www.energy.ca.gov/2007_energypolicy/index.html
Climate Action Team Proposed Early Actions to Mitigate Climate	California Environmental Protection Agency	This report "describes ongoing and expected efforts to reduce and mitigate GHG emissions in the near term. In describing the items listed under Group 1 as "Discrete Early Actions", the CAT members considered the definition provided by	http://www.climatechange.ca.gov/climate_action_team/reports/inde

Change in California. DRAFT. 2007.		the Global Warming Solutions Act of 2006. It should be noted however that only the ARB has a legal responsibility to enumerate early actions under this statute. The Group 1 items in this report are those where there is a reasonable belief that regulations would be in place by January 1, 2010. It should be noted that the Group 1 strategies of all CAT members except for ARB account for GHG emissions reductions of over 17 million metric tons of CO_2 equivalent by 2020 (emissions reductions for several strategies have not yet been determined). Action items included in Group 2 are those for which a regulatory deadline of January 1, 2010 is not appropriate or achievable but where there are ongoing or expected efforts focused on GHG emissions reductions."	x.html
California Rivers Assessment - Professional Judgment Assessment. 2007.	California Resources Agency; California Wildlife Conservation Board	"The California Rivers Assessment (CARA) is a computer-based data management system designed to give resource managers, policy-makers, landowners, scientists and interested citizens rapid access to essential information and tools with which to make sound decisions about the conservation and use of California's rivers."	http://ice.ucdavis.edu/project/cara
Total Maximum Daily Load (TMDL) Program. Undated.	State Water Resources Control Board (SWRCB)	"Section 303(d) of the federal Clean Water Act requires that all states in the U.S. identify waterbodies that do not meet specified water quality standards and that do not support intended beneficial uses. Identified waters are placed on the Section 303(d) List of Impaired Waterbodies. Once placed on this list, states are required to develop a water quality control plan - called a Total Maximum Daily Load (TMDL) - for each waterbody and each associated pollutant/stressor. A TMDL is a calculation of the maximum amount of a given pollutant that a waterbody can receive and still meet water quality standards."	http://www.swrcb.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml
Missing Linkages: Restoring Connectivity to the California Landscape. 2000.	California Wilderness Coalition (CWC), The Nature Conservancy (TNC)	"Missing Linkages was a one-day event that was divided into two sessions. The first session was a series of presentations about the importance of corridors by renowned conservationists. This information-sharing session informed conference participants about the importance of, and the latest research in corridor protection, and set the stage for the following section. The second section was a hands-on working session. The state was divided into eight ecoregions: North Coast, Bay Area, Central Coast, South Coast, Central Valley, Modoc Plateau & Cascades, Sierra Nevada, and Mojave & Sonoran Deserts (Figure 1-1, California Regions and Topography). Each ecoregional team was provided with a series of base maps detailing landownership, road density, land cover, and log sheets. Conference participants shared their knowledge in their ecoregion of expertise by marking the locations of important movement corridors and	http://www.calwild.org/resources/publications.php

		providing detailed information on each linkage identified. Participants also worked with adjacent ecoregions to ensure habitat connectivity throughout the state. The proceedings have been organized in a similar structure to the conference, arranged by ecoregion, with a statewide overview of California's Missing Linkages."	
California Department of Public Health Division of Drinking Water and Environmental Management Drinking Water Program. Undated.	California Department of Public Health	"The Drinking Water Program regulates public water systems; promotes and provides information on drought preparedness and water conservation; oversees water recycling projects; certifies residential water treatment devices; certifies drinking water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial (TMF) capacity; oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates; and provides funding opportunities for water system improvements, including funding under Proposition 84, Proposition 50 and the Safe Drinking Water State Revolving Fund."	http://www.cdph.ca.gov/programs/Pages/DWP.aspx
Natural Resource Projects Inventory. Undated.	California Biodiversity Council, University of California at Davis Information Center for the Environment	"The signatories of the California Biodiversity Council joined forces to gather information on thousands of conservation, mitigation and restoration projects being developed and implemented throughout California. The result, the Natural Resource Project Inventory (NRPI), has become a comprehensive electronic database searchable on the Internet."	http://www.ice.ucdavis.edu/nrpi/
California's Critical Coastal Areas Program. Undated.	California Coastal Commission (CCC)	The purpose of California's Critical Coastal Areas (CCA) Program is "to foster collaboration among local stakeholders and government agencies and better coordinate resources and efforts in coastal-zone watershed areas critically in need of protection from polluted runoff (CCC undated)." The North Coast is one of four regional pilot CCAs in which the CCA Program will form teams comprised of local stakeholders and state, federal, and local agencies to develop community-based action plans to reduce polluted runoff in coastal zone watershed areas. The Napa River is part of the San Francisco Bay Region (#90).	www.coastal.ca.gov/nps/cca-nps.html http://www.coastal.ca.gov/nps/Web/waap/CCA_2002_List_by_Region.pdf
Strategic Plan, June 1997.	California Coastal Commission (CCC)	"The Strategic Plan is intended to focus the efforts of the agency to achieve the policy directions of the California Coastal Act of 1976. In an environment of limited fiscal resources and with moderate augmentation as proposed by this plan, the Commission articulates the following Goals: Improve the protection of coastal and ocean resources; Improve assessment and management of impacts of development in the coastal zone; improve shoreline access opportunities for the public; enhance staff	http://www.coastal.ca.gov/strategy.html

		capabilities and expertise on technical and other subjects; enhance the Coastal Commission's leadership role in coastal zone management and in the provision of information regarding coastal and ocean resources; strive to make the Commission's regulatory and planning processes more effective, efficient, and user-friendly; and develop innovative approaches to carrying out the Commission's programs, including inter-agency, inter-disciplinary, and volunteer approaches."	
Seawater Desalination And the California Coastal Act. 2004.	California Coastal Commission (CCC)	This report describes desalination issues as they relate to existing Coastal Act policies and discusses how these policies are likely to apply to a proposal.	http://www.coastal.ca.gov/energy/14a-3-2004-desalination.pdf
California Coastal Sediment Master Plan Status Report. 2008	California Coastal Sediment Management Workgroup (CSMW)	"The California Coastal Sediment Management Master Plan ("Sediment Master Plan" or "SMP") is an ongoing, collaborative effort by CSMW to evaluate California's coastal sediment management needs and promote regional, system-wide solutions. This integrated approach to sediment management enables agencies to work together to leverage financial and intellectual resources. By developing spatial tools, informational documents, integrated planning and outreach, the Sediment Master Plan will provide coastal managers with information needed to address coastal erosion and excess sediment problems through beneficial reuse of sediment."	http://www.dbw.ca.gov/CSMW/smp.aspx
Steelhead Restoration and Management Plan for California. 1996.	California Department of Fish and Game (CDFG)	"This plan is not a single species, stand-alone document that ignores other native aquatic organisms and other portions of the ecosystem. It provides guidelines for steelhead restoration and management that can be integrated into current and future planning for specific river and stream systems. It identifies requirements specific to steelhead and is intended to augment current anadromous fish restoration plans. The Steelhead Plan recognizes that restoration of California's steelhead populations requires a broad approach that emphasizes ecosystem restoration."	http://www.dfg.ca.gov/nafwb/pubs/swshplan.pdf
California Salmonid Stream Habitat Restoration Manual. 1998.	California Department of Fish and Game (CDFG)	The first edition of this manual, written by Gary Flosi and Forrest Reynolds, and published in 1991, formally synthesized and described the Department of Fish and Game's approach and technical methods for anadromous salmonid habitat restoration. From 1991 through 1994 the first edition was broadly distributed and used as a "standard methods" text by many habitat restoration and resource inventory workers. The second edition included a number of revisions: 1) a reorganization of sections for project planning and project implementation; 2) the	http://www.dfg.ca.gov/nafwb/manual.html

		just then recently revised stream channel classification system developed by David Rosgen; 3) a new monitoring and evaluation section; 4) a listing of all databases used for resource inventory and analysis as presented in the manual; 5) a protocol for a large woody debris inventory; 6) a description of required environmental review processes and permits; 7) an expanded and updated listing of sensitive species; and 8) numerous editorial changes to text and data forms. This third edition, like the second, incorporates changes recently developed in the practice of stream habitat inventory and restoration.	
Recovery Strategy for California Coho Salmon. 2004.	California Department of Fish and Game (CDFG)	A "guide for the process of recovering coho salmon on the north and central coasts of California. The Recovery Strategy is organized at three scales. The first is at a broad geographic, range-wide resolution; the second is at a large watershed scale; and the third is at a finer scale that identifies actions needed within specific sub-watersheds."	http://www.dfg.ca.gov/nafwb/CohoRecovery
California Aquatic Invasive Species Management Plan. 2008.	California Department of Fish and Game (CDFG)	"This plan proposes management actions for addressing aquatic invasive species (AIS) threats to the State of California. It focuses on the non-native algae, crabs, clams, fish, plants and other species that continue to invade California's creeks, wetlands, rivers, bays and coastal waters."	http://www.dfg.ca.gov/invasives/plan/
California Wildlife Conservation Challenges. 2007.	California Department of Fish and Game (CDFG) and the University of California Davis Wildlife Health Center	"Part I discusses statewide issues. Chapter 1, California's Natural Diversity, is an overview of the extraordinary diversity of plant and animal species of the state. Chapter 2, Species at Risk in California, summarizes the special status species and endemic species statewide. The components of the Wildlife Species Matrix, a Web publication, are also defined. Chapter 3, Threats to Wildlife Diversity, summarizes the major threats to wildlife across the state. Chapter 4 presents recommended statewide conservation actions. Chapter 5 discusses the importance of monitoring and adaptive management, current monitoring efforts, and monitoring for effectiveness of conservation actions. Chapter 6 addresses the conservation capabilities of the state. Resource assessment and conservation planning are two key functions the state provides for conservation of wildlife. Sections 1 and 2 of Chapter 6 address the status of these functions and the limited capabilities of Fish and Game to provide them. All of the state's conservation efforts are constrained by funding, and many of the recommendations of this report will not be implemented without greater investment in conservation. Section 3 of Chapter 6 looks at Fish and Game's challenge to fund the implementation of expanding wildlife stewardship mandates. Part II of the report contains a chapter on each of the nine regions.	http://www.dfg.ca.gov/wildlife/wap/report.html

		Each chapter addresses species at risk, stressors affecting wildlife and habitats, and conservation actions."	
California Watershed Assessment Manual Volume I. 2005.	California Department of Forestry and Fire Protection and The California Bay Delta Authority	"Volume I of the Manual currently contains 8 chapters. These flow from the introductory chapter (1), through chapters describing the details of assessment planning (2), fundamentals of watershed functioning (3), data collection (4), data analysis (5), and data integration (6). Chapter 7 gives details on how to structure an assessment report; and chapter 8 describes connecting the assessment with decision-making. Volume II will be a compendium of tools for use in specific circumstances and with specific natural or human processes or conditions."	http://cwam.ucdavis.edu/Manual_chapters.htm
California Watershed Assessment Manual Volume II Manual & Guide. Draft. Undated.	California Department of Forestry and Fire Protection, UC Davis, Center for Integrated Watershed Science and Management, and Office of Environmental Health Hazard Assessment	"The California Watershed Assessment Manual provides a series of standard approaches that assist watershed assessors, and those guiding assessments, in planning and carrying out watershed assessments. These approaches are appropriate for a variety of watershed stakeholders, including members of watershed groups, agency representatives, landowners, scientists, members of the academic community, business representatives, and consultants."	http://cwam.ucdavis.edu/
Drinking Water Program. 2007.	California Department of Human Services Division of Drinking Water and Environmental Management	"The Drinking Water Program regulates public water systems; oversees water recycling projects; permits water treatment devices; certifies drinking water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial (TMF) capacity; oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates; and provides subsidized funding for water system improvements under the State Revolving Fund and Proposition 50."	http://dhs.ca.gov/ps/ddwem/dwp/default.htm.
Recycled Water: Regulations and Guidance. 2009.	California Department of Public Health (CDPH)	Website that contains compilations of CDPH's recycled water regulations and related statutes, and CDPH's draft regulations and guidance documents for water recycling.	http://www.cdph.ca.gov/HealthInfo/environhealth/water/Pages/Waterrecycling.aspx
California Department of Water Resources – Urban Stream Restoration Program. 2007.	California Department of Water Resources (CDWR)	Program is intended to assist communities, reduce damage from stream bank and watershed instability, restore environmental and aesthetic values of streams and encourage local stewardship and maintenance.	http://www.watershedrestoration.water.ca.gov/urbanstreams/
California Water Plan	California Department of	To prepare California Water Plan Update 2009, the Department of Water	http://www.waterplan.

2009 Update Pre-Administrative Draft	Water Resources (CDWR)	Resources will use a variety of venues and outreach to partner with other State agencies, coordinate with federal agencies, consult with tribal governments, and engage statewide and local agencies & organizations, technical experts, and the public.	water.ca.gov/cwpu2009/index.cfm
Environmental Protection Indicators for California.	California Environmental Protection Agency (CEPA)	The Environmental Protection Indicators for California (EPIC) Project was created to support a commitment to use measurable results in judging the effectiveness of the state's efforts directed at environmental protection. This report presents the framework for an environmental indicator system which consists of guidelines and criteria for identifying and selecting indicators, the priority environmental issues in California that are important to track, and an initial set of indicators.	http://www.oehha.ca.gov/multimedia/epic/2002epicreport.html
2004 Update: Environmental Protection Indicators for California	California Environmental Protection Agency (CEPA)	"Presents updated information for most of the "Type I" indicators (indicators for which sufficient data are available to present a status or trend, and for which systematic, ongoing data collection is conducted).	http://www.oehha.ca.gov/multimedia/epic/2002epicreport.html
2005 Addendum to the 2004 EPIC Update	California Environmental Protection Agency (CEPA)	New "Findings" section and updated indicators in Air Quality, Water and Land, Waste and Materials Management	http://www.oehha.ca.gov/multimedia/epic/2002epicreport.html
Water Action Plan. 2005.	California Public Utilities Commission (CPUC)	"This plan identifies the policy objectives that will guide the California Public Utilities Commission (CPUC) in regulating the investor-owned water utilities and highlights the actions that the Commission anticipates or will consider taking in order to implement these objectives."	http://www.cpuc.ca.gov/PUC/hottopics/3Water/051109_wateractionplan.htm
California Coastal Salmon and Watersheds Program. Undated.	California Resources Agency (CRA)	The goal of the California Coastal Salmon and Watersheds Program is to recover harvestable salmon and steelhead populations and restore watersheds, and by so doing, to contribute to healthy communities. Program priority actions include science-based watershed assessments, information dissemination to the public, expanding partnerships with local agencies, consistent rule enforcement, and continued support of ongoing restoration and assessment efforts.	http://resources.ca.gov/coastal_salmon_plan.html
California Coastal Sediment Management Master Plan. 2002.	California Resources Agency (CRA)	The Coastal Sediment Management Workgroup, a collaborative effort between federal, state, and local agencies and non-governmental organizations developed the California Coastal Sediment Management Master Plan. The purpose of the plan is to evaluate California's coastal sediment management needs on a regional, system-wide basis. Partners of the effort include the Army Corps, California Resources Agency, and the California Department of Boating and Waterways. This integrated approach will combine financial and intellectual resources.	http://www.spd.usace.army.mil/csmwonline/CCSMMP_Workplan16.pdf

CEQA: The Environmental Quality Act: Statutes and Guidelines. 2007.	California Resources Agency (CRA)	This website presents the statute, legal notices and updated information relevant to the California Environmental Quality Act.	http://ceres.ca.gov/ceqa/
Protecting Our Ocean: California's Action Strategy. 2004.	California Resources Agency (CRA)	The Protecting our Ocean California's Action Strategy was prepared by the California Resources Agency and the California Environmental Protection Agency and submitted to the Governor of California in September 2004. The Plan recommends initial actions for the state to pursue to manage and protect ocean and coastal resources.	http://resources.ca.gov/ocean/Cal_Ocean_Action_Strategy.pdf
California Watershed Portal. Undated.	California Resources Agency (CRA) and California Environmental Protection Agency (CEPA)	"The California Resources Agency and California Environmental Protection Agency are in the process of developing this website and other online tools to identify ongoing watershed activities, provide access to important data and information, and links to the larger California Watershed community."	http://cwp.resources.ca.gov/index.html
Calfish: Inventory of Barriers to Fish Passage in California's Coastal Watersheds. Undated.	California State Coastal Conservancy (CSCC)	The State Coastal Conservancy, in collaboration with the California Department of Fish and Game, and the Pacific States Marine Fisheries Commission, have developed an map-based inventory of existing barriers to fish passage throughout the state titled the Passage Assessment Database (PAD). The purpose of this data is to identify barriers suitable for removal or modification to restore habitat connectivity, spawning and riparian conditions for salmon and steelhead and to enhance aquatic and riparian habitat. The PAD compiles currently available fish passage information from many different sources, allows past and future barrier assessments to be standardized and stored in one place, and enables the analysis of cumulative effects of passage barriers in the context of overall watershed health.	http://www.calfish.org http://www.calfish.org/uploads/FishPassageReport_LoRes.pdf
California State Coastal Conservancy Strategic Plan. 2007.	California State Coastal Conservancy (CSCC)	"The document describes current and historical resource allocation by the Conservancy, public needs served by the agency, policies and principles guiding the Conservancy and its staff, and the intended and recommended future course of the agency's efforts. The plan starts with background information about the Conservancy, including the Conservancy's mission and vision, its business principles, and project selection criteria. The Conservancy's mission is based on 13 statutory authorities contained in Division 21 of the Public Resources Code, and these make up four program areas: 1. Public Access, 2. The San Francisco Bay Area Conservancy, 3. Coastal Resource Conservation, 4. Ocean Protection Council."	http://www.coastalconservancy.ca.gov/Publications/pubs.htm
California Outdoor	California State Parks	"The primary objective of the 2002 CORP is to determine the outdoor recreation	http://www.parks.ca.g

Recreation Plan 2002.	(CSP)	issues – which are currently the problems and opportunities – most critical in California, and to explore the most appropriate actions by which public agencies – state, federal, and local – might best address them. This plan is comprehensive in its scope, considering the full range of outdoor recreation issues throughout the entire state."	ov/?page_id=23880
Public Opinions and Attitudes on Outdoor Recreation in California 2002. An Element of the California Outdoor Recreation Plan.	California State Parks (CSP)	"The information this public opinion survey provides is an essential element to the California Outdoor Recreation Plan. It serves to update the guidelines to the Open Project Selection Process, may be used to guide various grant programs and will lend support for assessing local park and recreation needs. Similar surveys were undertaken in 1987, 1992 and 1997."	http://www.parks.ca.gov/?page_id=23880
California Recreational Trails Plan (Phase I). 2002.	California State Parks (CSP)	"This California Trails Plan (Phase One) identifies 12 trail-related goals and lists general action guidelines designed to reach those goals. These 12 goals and their action guidelines will direct the future actions of the Departments Statewide Trails Office regarding trail programs both within the State Park System and in its wider, statewide and national roles. This is to be considered Phase One of a more comprehensive statewide trails plan that is to follow. "	http://www.parks.ca.gov/?page_id=1324
Park and Recreation Trends in California. 2005. An Element of the California Outdoor Recreation Planning Program.	California State Parks (CSP)	This report examines trends affecting parks, recreation areas, programs and services by examining current and projected demographics.	http://www.parks.ca.gov/?page_id=23880
California Desalination Planning Handbook. 2008.	California State University, Sacramento Center for Collaborative Policy for Department of Water Resources	"The primary purpose of this Handbook is to provide a planning framework for developing, where appropriate, economically and environmental acceptable seawater and brackish groundwater desalination facilities in California. The Handbook does not prescribe technical options, acknowledging numerous other resources available to assist in these areas. It suggests neither wholesale support for nor opposition to desalination. The planning framework proposed should prove helpful, however, for water resources engineers, local government and water resources planners, public officials making water resources decisions, staff of regulatory agencies and the various publics who have an interest in the potential applications of desalination."	http://www.owue.water.ca.gov/recycle/docs/Desal_Handbook.pdf
Strategic Plan Update 2008 – 2012. 2008.	California Water Boards: State Water Resources	"The State Water Resources Control Board and the nine Regional Water Quality Control Boards (Water Boards) have broad responsibilities to protect surface and	http://www.waterboards.ca.gov/water_issues

	Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB)	ground water quality and balance competing demands on our water resources through programs that allocate water rights, adjudicate water right disputes, develop statewide and regionalwater quality control plans, and establish and implement water quality standards…. This Strategic Plan Update 2008-2012 (Update) highlights some key actions that we will be taking in addition to all of our ongoing program responsibilities."	/hot_topics/strategic_plan/
California Watershed Network. 2007.	California Watershed Network (CWN)	"California Watershed Network (CWN) is a 501(c)(3) non-profit organization formed in 2000, with the mission to help people protect and restore the natural environments of California's watersheds while ensuring healthy and sustainable communities. CWN works to develop a coordinated network of community-based watershed management in California."	http://www.watershednetwork.org/
Water Recycling 2030: Recommendations of California's Recycled Water Task Force. 2003.	California's Recycled Water Task Force	"Chapter 1 includes an overview of the Task Force and the process used to arrive at its recommendations. Chapter 2 includes an estimate of the potential for additional recycled water use in California, how it can complement our water supply, and the potential cost. The legal and regulatory framework for water recycling in California is presented in Chapter 3. The issues that have been identified by the Task Force are described in Chapter 4, and the highest priority recommendations to address these issues are presented. The remaining recommendations of the Task Force are included in Chapter 5. Implementation of the recommendations is addressed in Chapter 6."	http://www.owue.water.ca.gov/recycle/docs/Chapter1.pdf
CDPH Strategic Plan 2008 – 2010.	Department of Public Health (DPH)	This document presents five goals which address strategic issues and provide broad direction to the department for implementation.	http://www.cdph.ca.gov/Documents/CDPH-Strategic-Plan.pdf
Preparing for California's Next Drought: Changes Since 1987 – 92. 2000.	Department of Water Resources (DWR)	"The purpose of this report is to review items that the Department should consider in near-term drought planning, putting California's conditions today into perspective with experiences gained in the 1987-92 drought. The report begins with an overview of California hydrology and water supply, then describes conditions encountered in the 1987-92 drought. Changed conditions since that drought are summarized, and their implications discussed. The report concludes with a list of actions that the Department could take to respond to future drought conditions."	http://www.water.ca.gov/drought/nextdrought.cfm
California's Groundwater Bulletin 118 – Update 2003. 2003.	Department of Water Resources (DWR)	"Bulletin 118 presents the results of groundwater basin evaluations in California."	http://www.groundwater.water.ca.gov/bulletin118/update2003/index.cfm

California Water Plan, 2005 Update. 2005.	Department of Water Resources (DWR)	The California Water Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The Plan, which is updated every five years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the State's water needs.	http://www.waterplan.water.ca.gov/
Water Desalination Findings and Recommendations. 2003.	Department of Water Resources (DWR)	This report evaluates the potential for increased use of desalination in California.	http://www.owue.water.ca.gov/recycle/desal/Docs/Findings-Recommendations.pdf
Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water. 2008.	Department of Water Resources (DWR)	"This report recommends a series of adaptation strategies for state and local water managers to improve their capacity to handle change. Many of the strategies will also help adapt our water resources to accommodate non-climate demands including a growing population, ecosystem restoration and greater flood protection."	http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf
FloodSAFE Strategic Plan DRAFT. 2008.	Department of Water Resources (DWR)	"The FloodSAFE Strategic Plan, as presented in this report, describes: 1. a shared vision for the desired future flood management conditions in California (*Vision*) 2. what will be accomplished within the next 5 – 20 years to begin realizing the vision (*Goals and Objectives*) 3. who will be involved to accomplish the objectives (*Partners*) 4. how DWR will lead a set of collaborative efforts to accomplish the objectives (*Guiding Principles* and *Implementation Framework*) "	http://www.water.ca.gov/floodsafe/plan/
California Drought An Update. 2008.	Department of Water Resources (DWR)	Chapter 1 details dry hydrologic conditions since 2000. Chapter 2 provides updates sin 2000, focusing on institutional and programmatic actions. Chapter 3 presents recent research.	http://www.water.ca.gov/drought/docs/DroughtReport2008.pdf
California Irrigation Management System. 2008.	Department of Water Resources (DWR), Office of Water Use Efficiency	"The primary purpose of CIMIS was to make available to the public, free of charge, information useful in estimating crop water use for irrigation scheduling. Although irrigation scheduling continues to be the main use of CIMIS, the uses have been constantly expanding over the years. There are also many secondary suppliers of CIMIS weather data, such as other web sites, radio, newspapers, consultants, and local water agencies."	http://wwwcimis.water.ca.gov/cimis/welcome.jsp
Urban Drought	Department of Water	"The guidebook discusses water shortage management programs that belong in	http://www.owue.wat

Guidebook 2008 Updated Edition. 2008.	Resources (DWR), Office of Water Use Efficiency	water shortage contingency plans. It was fi rst written in 1988, and then updated in 1991 and 2008 to help water suppliers cope with potentially severe drought and other water shortages. The focus of the guide is to provide a step-by-step process to anticipate and respond to water shortages. The guidebook emphasizes two areas: First, it uses examples of well-conceived and executed plans in California and other parts of the country to illustrate recommendations whenever possible. Second, it stresses that successful programs are commonly the result of a cooperative effort between water suppliers and their customers. Activities that foster this spirit of cooperation are highlighted."	er.ca.gov/events/events.cfm
California Water Plan, Update2009 Public Review Draft. 2009.	Department of Water Resources (DWR)	"The Department of Water Resources updates the state's Water Plan about every five years – recognition that planning needs to continually adapt to changing conditions. California Water Plan Update 2009 presents the latest edition of a statewide strategic plan for water management – a roadmap to year 2050."	http://www.waterplan.water.ca.gov/cwpu2009/index.cfm
Critical Water Shortage Contingency Plan. 2000.	Governor's Advisory Drought Planning Panel	Background information is described in Chapter 1. "Chapters 2 and 3 provide background information on changes in California water management conditions since the last statewide critical water shortage – the drought of 1987-92 – and describe challenges associated with effective water management in times of shortages. Chapter 4 is the heart of the plan, describing Panel members' recommendations for actions that State government could take to reduce the impacts of critical water shortages."	http://www.water.ca.gov/drought/docs/Contingency_Plan-text.pdf
Putting Action into the Open Space Element: Techniques for Preserving Open Space and Farmland. 1997.	Governor's Office of Planning and Research	"According to state law, every local open space plan must have an "action program." An action program identifies specific techniques which a local government intends to pursue in implementing its open space element. This brief publication outlines a variety of possible action program measures. Many have been insufficiently publicized, but most have been used in California. The booklet does not describe zoning or agricultural preserves due to the availability of publications regarding these most commonly used programs."	http://www.opr.ca.gov/index.php?a=planning/publications.html
The Planner's Guide to Specific Plans. 2001.	Governor's Office of Planning and Research	"This is a guide to the use and function of specific plans in California. It examines the pertinent statutes, suggests guidelines for the preparation and implementation of a plan, and provides examples and references to unique or innovative plans prepared throughout the state. It also discusses pertinent case law, specific plan fees, and the relationships of specific plans to other planning documents such as general plans and zoning ordinances."	http://www.opr.ca.gov/index.php?a=planning/publications.html
State of California General Plan Guidelines.	Governor's Office of Planning and Research	This document presents guidelines to cities and counties in California for developing general plans. This edition incorporates changes from prior guidelines	http://www.opr.ca.gov/index.php?a=planning

2003.		including environmental justice, water and energy elements, public participation, consolidation of some individual general plan elements, and suggested formats for the annual general plan progress report.	/gpg.html
LAFCO Incorporation Guidelines. 2003.	Governor's Office of Planning and Research	"This is volume 1 of the first edition of OPR's advisory guidelines for use by Local Agency Formation Commissions in the development of a local process for incorporation of new cities, as required by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. The guidelines provide a step-by-step process for LAFCOs and citizens to follow, based on legal requirements and "best practices". Please see volume 2 (below) for appendices."	http://www.opr.ca.gov/index.php?a=planning/publications.html
A Guide to the LAFCO Process for Incorporations: Appendices. 2003.	Governor's Office of Planning and Research	"This is volume 2 of the first edition of OPR's advisory guidelines for use by Local Agency Formation Commissions in the development of a local process for incorporation of new cities, as required by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. The appendices contain background information, sample forms and notices, and a Primer with basic information on the incorporation process for use by citizens and LAFCO staff."	http://www.opr.ca.gov/index.php?a=planning/publications.html
Tribal Consultation Guidelines: Supplement to General Plan Guidelines. 2005.	Governor's Office of Planning and Research	"The 2005 Supplement (also known as Tribal Consultation Guidelines) provides advisory guidance to cities and counties on the process for consulting with Native American Indian tribes during the adoption or amendment of local general plans or specific plans, in accordance with the statutory requirements of Senate Bill 18 (Chapter 905, Statutes of 2004). It reflects recent changes to the California Public Records Act which will facilitate this consultation process."	http://www.opr.ca.gov/programs/docs/09_14_05%20Updated%20Guidelines%20(922).pdf
General Plan Annual Progress Report Guidance. 2007.	Governor's Office of Planning and Research	"Cities and counties must submit an annual report on the status of the General Plan and progress in its implementation to their legislative bodies, the Governor's Office of Planning and Research, and the Department of Housing and Community Development, (Government Code Section 65400(b)(1)). This guidance document outlines what types of information may be included in that report."	http://www.opr.ca.gov/index.php?a=planning/publications.html
The California Planners' Book of Lists 2008	Governor's Office of Planning and Research	"Contains the results from OPR's 2007 local government annual planning survey. Includes a table summarizing the status of local general plans, directories of California's city and county planning agencies, Councils of Government, Local Agency Formation Commissions, state and federal agencies, and more."	http://www.opr.ca.gov/index.php?a=planning/publications.html
California Planners' Information Network (CALPIN). Undated.	Governor's Office of Planning and Research	This is an interactive version of the California Planners' Book of Lists. "Through this site, it is possible to view the names and addresses of key planning officials, the current status of local general plans, and other information regarding a particular jurisdiction. Information is updated by each local jurisdiction as often as there is a change."	http://www.calpin.ca.gov/

California State Agency Technical Resources for General Plans. 2008.	Governor's Office of Planning and Research	This is a list of references and documents for use by local governments in developing General Plans. The list provides websites, documents and where they can be obtained, and short descriptions.	http://opr.ca.gov/planning/docs/State_Agency_Technical_Resources_for_General_Plans.pdf
Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions. 2009.	Governor's Office of Planning and Research	"The Governor's Office of Planning & Research (OPR) has drafted amendments to the CEQA Guidelines for greenhouse gas emissions as required by Senate Bill 97 (SB 97)."	http://opr.ca.gov/index.php?a=ceqa/index.html
MLPA Blue Ribbon Task force North Central Coast Recommendations to the California Fish and Game Commission. 2008.	Marine Life Protection Act Initiative, CDFG	"The purpose of this memorandum is to summarize the work and outcomes of the deliberations of the California Marine Life Protection Act (MLPA) Blue Ribbon Task Force (BRTF) for the North Central Coastal Study Region of the MLPA Initiative. This information will also support the BRTF presentation to the California Fish and Game Commission at the June 11, 2008 joint meeting in Sacramento, California by providing background information and rationale to support the BRTF's recommendation that the commission adopt the Integrated Preferred Alternative as the preferred alternative MPA proposal in the MLPA North Central Coast Study Region."	http://www.dfg.ca.gov/mlpa/ncc_recommendations.asp#overview
The California Electricity Crisis: Causes and Policy Options. 2003.	Public Policy Institute of California (PPIC)	"In *The California Electricity Crisis: Causes and Policy Options*, Christopher Weare shows how several factors combined to produce blackouts, financial crisis, and the breakdown of market institutions. It also discusses the major options for rebuilding the electricity sector and offers recommendations for improving the performance of the electricity sector under any particular regulatory and market structure."	http://www.ppic.org/main/publication.asp?i=374
Water Supply and Growth in California: A Survey of City and County Land-Use Planners. 2004.	Public Policy Institute of California (PPIC)	"Documentation of results of a survey sent to city and county land-use planners in California."	http://www.ppic.org/main/publication.asp?i=506
Water for Growth: California's New Frontier. 2005.	Public Policy Institute of California (PPIC)	"In this report, the author examines how well California is faring in meeting the water supply challenges of growth throughout the state and the extent to which local governments are integrating water supply concerns into their land-use planning. The report also evaluates progress in implementing the new "show me the water" laws, SB 610 and SB 221, which require up-front screening of water availability for large development projects."	http://www.ppic.org/main/publication.asp?i=429
California 2025: Taking	Public Policy Institute of	"With support from the William and Flora Hewlett Foundation, PPIC undertook a	http://www.ppic.org/m

on the Future. 2005.	California (PPIC)	study to see whether the state is facing a growth and infrastructure crisis, how big the problems are, and how to think about planning for the future. This report presents the findings of that study. It concludes that we haven't reached a crisis—yet—but some trends and forces make it imperative to begin systematic, well-informed planning. Otherwise, the future California gets by default may not be the future residents want for themselves and their children."	ain/publication.asp?i=489
California Comes of Age: Governing Institutions, Planning, and Public Investment. 2005.	Public Policy Institute of California (PPIC)	"This report seeks to answer several questions. How do California's infrastructure concerns relate to its system of governance? What are the origins of current governance challenges for public investment, and what are potential solutions? Can we draw useful parallels between today's dilemmas and those faced by state leaders of the past, and if so, what can we learn from their responses? We address these questions by tracing changes in government decision-making processes for three key sectors —surface transportation, water supply, and higher education —since World War II. Turning to the future, we also evaluate emerging opportunities for governance reform."	http://www.ppic.org/main/publication.asp?i=610
Sizing Up the Challenge: California's Infrastructure Needs and Tradeoffs. 2005.	Public Policy Institute of California (PPIC)	"Since the mid-1990s, a number of reports have argued that California is jeopardizing its future by investing too little on basic public infrastructure. We revisit this question, with a focus on three main sectors – schools, water, and transportation. We argue for nuance in characterizing the state's public investment challenges. In many cases, cost-saving innovations and incentives to encourage efficient use of services provide opportunities to meet the needs of a growing population without vast new sums of public spending. In others, recent innovations in funding have enabled us to meet social goals."	http://www.ppic.org/main/publication.asp?i=611
Understanding Infrastructure Financing for California. 2005.	Public Policy Institute of California (PPIC)	This report examines paying for California's Infrastructure focusing on K-12 Education, Water Supply and Quality, and Transportation.	http://www.ppic.org/main/publication.asp?i=614
California's Economic Future and Infrastructure Challenges. 2005.	Public Policy Institute of California (PPIC)	"While long-term economic projections are fraught with uncertainty, and the linkages between the changing economy and infrastructure needs are far from deterministic, the goal of this paper is to describe projected changes in California's economy over the next couple of decades, and to assess the broad implications of these projected changes for infrastructure needs."	http://www.ppic.org/main/publication.asp?i=612
Understanding Equitable Infrastructure Investment for	Public Policy Institute of California (PPIC)	"This report provides a broad overview of equity issues in infrastructure investments in California. In order to illustrate the nature and extent of equity concerns, we focus on four major areas of infrastructure: transportation, K-12	http://www.ppic.org/main/publication.asp?i=613

California. 2005.		education, higher education, and water resources. We also highlight a significant concern that these investments do not disproportionately create environmental problems for low-income and minority communities; hence, we examine "environmental justice" in the context of infrastructure equity."	
Lawns and Water Demand in California. 2006.	Public Policy Institute of California (PPIC)	"Over the next 25 years, outdoor water use will be a major factor in escalating water demand in California. The demand will be aggravated by the dominant land-use pattern in inland areas: single-family homes with lush lawns. Without efforts aimed specifically at reducing outdoor urban water use, the demand will pose significant financial and environmental challenges for California. In this issue of *CEP*, the authors analyze population growth and housing trends in the state's major climactic regions, estimate residential lot and yard sizes, and examine the water needs of cool-season turf grass lawns. They also evaluate several outdoor water conservation programs."	http://www.ppic.org/main/publication.asp?i=691
California and the Global Economy: Recent Facts and Figures, 2006 Edition. 2006.	Public Policy Institute of California (PPIC)	"This paper presents current patterns and recent trends in California's exports, foreign direct investment, and gateway activity, three key measures of the state's international business activity."	http://www.ppic.org/main/publication.asp?i=674
California Coastal Management with a Changing Climate. 2008.	Public Policy Institute of California (PPIC)	"As a result of climate change, California is likely to face significant challenges to coastal management along the ocean coastline and within the San Francisco Estuary, and tough tradeoffs exist. For example, one of the primary means of protecting buildings and infrastructure from sea level rise and increased storm surges is to "harden" the coastline with coastal armoring—but this strategy is detrimental to beaches, public access, and habitat. Priorities for coastal management include inventorying coastal resources, assessing vulnerabilities, and experimenting with alternatives to armoring. This report was prepared as part of the *Preparing California for a Changing Climate* project."	http://www.ppic.org/main/publication.asp?i=853
Climate Policy at the Local Level: A Survey of California's Cities and Counties. 2008.	Public Policy Institute of California (PPIC)	"This survey of over 300 of the state's cities and counties puts the spotlight on the role California's local governments are playing. It finds that there is already considerable local involvement in activities related to climate change. However, many efforts are still focused on municipal operations and facilities, rather than on the broader community. Better information on successful programs and funding sources, and greater clarity in state law on conformity with the California Environmental Quality Act (CEQA) will help further local efforts."	http://www.ppic.org/main/publication.asp?i=849
Preparing California for a Changing Climate.	Public Policy Institute of California (PPIC)	"This report finds that some institutions, such as water agencies and electrical utilities, have already begun planning for change. But other areas have yet to	http://www.ppic.org/main/publication.asp?i=7

2008.		prepare effectively for the challenges of a changing California."	55
Adapting California's Water Management to Climate Change. 2008.	Public Policy Institute of California (PPIC)	"Among the potential impacts of climate change, accelerated sea level rise and a reduced Sierra snowpack are the most certain. Both will pose significant challenges for water supply and flood management. Water utilities have already begun to plan for these changes, but flood control agencies are lagging behind and face greater regulatory constraints. State leadership is needed to resolve some threats, including the risk of catastrophic failure in the Sacramento-San Joaquin Delta. This report was prepared as part of the *Preparing California for a Changing Climate* project."	http://www.ppic.org/main/publication.asp?i=851
Adaptation of California's Electricity Sector to Climate Change. 2008.	Public Policy Institute of California (PPIC)	"Changes in the climate will likely result in increased electricity demand, mainly as a result of the increased use of air conditioning. At the same time, hydroelectric power—one of the key sources used to meet peak summertime demands—will be threatened by the declining Sierra Nevada snowpack. The electricity sector is already considering the impacts of climate change, but steps are needed to invest in research, development, and demonstration to improve system resiliency and develop conservation tools. This report was prepared as part of the *Preparing California for a Changing Climate project."*	http://www.ppic.org/main/publication.asp?i=852
Air Quality Planning and California's Changing Climate. 2008.	Public Policy Institute of California (PPIC)	"California is home to some of the worst air quality in the country, and climate change will likely make it more difficult to meet health-based air quality standards. This report recommends that air quality planning agencies take steps to understand how climate change could affect air quality improvement efforts. These agencies should also work to ensure that efforts to address climate change are consistent with air quality goals. This report was prepared as part of the *Preparing California for a Changing Climate* project."	http://www.ppic.org/main/publication.asp?i=854
Climate Change and California's Public Health Institutions. 2008.	Public Policy Institute of California (PPIC)	"Climate change is expected to have significant impacts on public health in California. The direct effect will likely be an increase in heat-related morbidity and mortality. In addition, climate change could worsen air quality, alter the incidence and transmission of vector-borne illness, and increase the risk of large wildfires. Public health officials recognize the risks associated with climate change, but feel that they lack the information and resources to adapt to the new challenges. This report was prepared as part of the *Preparing California for a Changing Climate project."*	http://www.ppic.org/main/publication.asp?i=858
Climate Change in California: Scenarios for	Public Policy Institute of California (PPIC)	"This report reviews the most recent assessments of the potential impacts of climate change in California, including sea level rise, higher air and water	http://www.ppic.org/main/publication.asp?i=8

Adaptation. 2008.		temperatures, reduced Sierra Nevada snowpack and changes in runoff patterns, and an increase in the frequency of extreme events such as droughts and floods. Resource managers, regional planners, and government agencies need to consider climate change in their planning, both to respond to long-term changes in the climate and to the occurrence of extreme events. This report was prepared as part of the *Preparing California for a Changing Climate* project."	50
Conservation and Management of Ecological Systems in a Changing California. 2008.	Public Policy Institute of California (PPIC)	"As the climate changes, responding to the new threats to species and ecosystems is one of California's most urgent tasks. Air and temperature increases and sea level rise are all expected to compromise habitat, putting many more native species at risk of extinction. Recommendations include developing more forward-looking conservation planning processes to protect future habitat and improving the coordination of existing conservation efforts. This report was prepared as part of the *Preparing California for a Changing Climate* project."	http://www.ppic.org/main/publication.asp?i=856
Paying for Infrastructure: California's Choices. 2009.	Public Policy Institute of California (PPIC)	"In this *At Issue*, PPIC research director Ellen Hanak analyzes the impediments to infrastructure financing and describes funding reforms such as loosening the supermajority rules for local infrastructure funding, financing investment through user fees, and expanding public-private partnerships. She outlines how these reforms could improve the state's ability to build for the future."	http://www.ppic.org/main/publication.asp?i=863
PPIC Statewide Survey: Californians and the Environment. 2008.	Public Policy Institute of California (PPIC)	"This is the 88th PPIC Statewide Survey and the eighth in the *Californians and the Environment* survey series, whose intent is to inform policymakers, encourage discussion, and raise public awareness about environment, education, and population issues. This survey was conducted with funding from The William and Flora Hewlett Foundation."	http://www.ppic.org/main/publication.asp?i=834
Just the Facts: Californians' Attitudes Toward the Future. 2009.	Public Policy Institute of California (PPIC)	Publication provides statistics for attitudes toward public infrastructure, employment and education.	http://www.ppic.org/main/allpubs.asp
California Drought An Update. 2008.	State of California, The Resources Agency, and Department of Water Resources.	This document provides an analysis of water availability based on model simulations.	http://meteora.ucsd.edu/cap/pdffiles/DroughtReport2008_hdc.pdf
Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water.	State of California, The Resources Agency, and Department of Water Resources	"This report recommends a series of adaptation strategies for state and local water managers to improve their capacity to handle change. Many of the strategies will also help adapt our water resources to accommodate non-climate demands including a growing population, ecosystem restoration and greater	http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf

2008		flood protection."	
Rangeland Water Quality Management Plan. 1995.	State Water Resources Control Board (SWRCB), Division Of Water Quality Nonpoint Source Program	The primary goal of this Plan is to maintain and improve the quality and associated beneficial uses of surface water as it passes through and out of rangeland resources in the state. Approved by the SWRCB in July of 1995, the plan was developed cooperatively by industry, conservation organizations, and state and federal agencies. It is a "Tier 1" voluntary effort at the local level for compliance with the Plan for California's Nonpoint Source Pollution Control Program. The plan also describes voluntary compliance with the Clean Water Act, the Coastal Zone Management Act, and the Porter-Cologne Act (SWRCB 1995b).	http://danr.ucop.edu/uccelr/h01.htm http://californiarangeland.ucdavis.edu/STATE%20WATER%20RESOURCES%20CONTROL%20BOARD.htm
Surface Water Ambient Monitoring Program (SWAMP). 2007.	State Water Resources Control Board (SWRCB)	"SWAMP is a statewide monitoring effort designed to assess the conditions of surface waters throughout the state of California. The program is administered by the State Water Resources Control Board (SWRCB). Responsibility for implementation of monitoring activities resides with the nine Regional Water Quality Control Boards (RWQCB's) that have jurisdiction over their specific geographical areas of the state. Monitoring is conducted in SWAMP through the Department of Fish and Game and US Geological Survey master contracts and local RWQCBs monitoring contracts."	http://www.swrcb.ca.gov/swamp/
Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California. 1998.	State Water Resources Control Board (SWRCB)	Adopted by the SWRCB in 1972 and subsequently updated, this Plan specifies water quality objectives, effluent quality limits, and discharge prohibitions that affect temperature of interstate waters and waste discharges into those waters.	http://www.swrcb.ca.gov/plnspols/docs/wqplans/thermpln.pdf
Water Quality Control Policy for the Enclosed Bays and Estuaries of California. 1995.	State Water Resources Control Board (SWRCB)	The current Water Quality Control Policy for the Enclosed Bays and Estuaries of California was adopted by the SWRCB in 1995. It provides water quality guidelines to prevent water quality degradation and protect beneficial water uses in enclosed bays and estuaries in California. The SWRCB's policy is to phase out the discharge of municipal and industrial process wastewaters to enclosed bays and estuaries with the exception of the San Francisco Bay-Delta system, which has its own set of rules.	http://www.swrcb.ca.gov/plnspols/docs/wqplans/rs95-84.pdf
California's Nonpoint Source Pollution Control Program. 2000	State Water Resources Control Board (SWRCB), California Coastal Commission	Completed in 2000, the Plan for California's Nonpoint Source (NPS) Pollution Control Program is the first major revision of the program since it began in 1988. The NPS Control Program is required to conform to § 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) and the Clean Water Act	http://www.waterboards.ca.gov/nps/protecting.html

Vol. I - Nonpoint Source Program Strategy and Implementation Plan, 1998-2013 Vol. II - California Management Measures for Polluted Runoff		(CWA). The EPA and NOAA have final approval of the Program Plan. The lead State agencies are SWRCB, the nine RWQCBs, and the California Coastal Commission (SWRCB and CCC 2000a).	http://www.coastal.ca.gov/nps/npsndx.html
California Pesticide Management Plan for Water Quality. 1997.	State Water Resources Control Board (SWRCB), Department of Pesticide Regulation	The Department of Pesticide Regulation (DPR) and the SWRCB cooperatively developed the California Pesticide Management Plan. The Plan aims to protect water quality from the potential negative effects of pesticides. The Plan explicitly recognizes the importance of water quality throughout the state and the importance of pesticides to a strong economy and potential impacts to public health. The Plan provides for outreach programs (education, training, and public information), water quality standards compliance, ground and surface water protection programs, regulatory compliance, interagency communication, and dispute/conflict resolution (CEPA 1997).	http://www.cdpr.ca.gov/docs/dprdocs/waterpln/maaplan.htm
State Water Resources Control Board Strategic Plan, North Coast Regional Water Quality Control Board Watershed Planning Chapter. 2005.	State Water Resources Control Board (SWRCB), North Coast Regional Water Quality Control Board	The Watershed Management Initiative (WMI) uses watershed management principals to provide an integrated approach to water resource protection, enhancement and restoration while balancing environmental and economic impacts.	http://www.waterboards.ca.gov/northcoast/programs/wpc.html
Policy for Maintaining Instream Flows in Northern California Coastal Streams DRAFT. 2008.	State Water Resources Control Board 9SWRCB), Division of Water Rights	Applies to portions of Napa County. "This policy is also known as the North Coast Instream Flow Policy. It applies to applications to appropriate water, small domestic use and livestock stockpond registrations, and water right petitions…. This policy focuses on measures that protect native fish populations, with a particular focus on anadromous salmonids and their habitat."	http://www.waterrights.ca.gov/HTML/instreamflow_nccs.html
California State Agency Watershed Management Strategic Plan: 18 Month Action Plan. 2005.	Steering Committee is co-chaired by the California Resources Agency and CalEPA	Plan describes governance and management activities; information to support activities and to demonstrate watershed health; regulatory coordination; funding, collective investment and economics; and project level coordination, local involvement, and stewardship for eighteen months.	http://cwp.casil.ucdavis.edu/cwp.conf
A Guide to Estimating	University of California	"After providing background information on estimating	http://www.cuwcc.org/

Irrigation Water Needs of Landscape Plantings in California. 2000.	Cooperative Extension and California Department of Water Resources	water needs for agricultural crops and turf in Chapter 1, landscape needs are addressed in Chapter 2. The landscape coefficient, a key factor in the formula for estimating landscape water requirements, is introduced in Chapter 2. Subsequent chapters give examples of how to calculate and use the landscape coefficient. Chapter 5 addresses irrigation efficiency and gives examples of how it is used to determine total water needs. As a way of "putting it all together," a worksheet which summarizes the process is provided in Chapter 6. Special topics are discussed in Chapters 7 and 8. The appendices provide further information."	WorkArea/showcontent.aspx?id=7770
Proposed WETCAT Strategies and Measures. 2008.	Water-Energy (WET-CAT) Subgroup of the Climate Action Team	This report contains descriptions of the WETCAT strategies to combat climate change and implementation measures.	http://www.climatechange.ca.gov/wetcat/
California Water 2030: An Efficient Future. 2005.	Pacific Institute	The document present a "High Efficiency" scenario for water use through the year 2030, in which Californians maximize thier ability to minimize the amount of water required to satisfy demand.	http://www.napawatersheds.org/docs.php?oid=21743&ogid=10610
Natural Resources Projects Inventory. Undated.	UC Davis, California Biodiversity Council	In response to a growing need for more project related data on California's natural resources, existing inventories were synthesized into one database and thousands of new projects have been added through individual online entries and electronic database transfers. Today, NRPI is the most comprehensive statewide database of its kind in California with over 6,000 natural resource projects searchable on the Internet. These projects include watershed conservation and acquisition, restoration and noxious weed eradication, assessment, planning, and scientific studies. Projects are linked to CERES California Environmental Information Clearinghouse (CEIC), GeoFinder, California Digital Atlas and Google Maps.	http://www.ice.ucdavis.edu/nrpi/
Memorandum of Understanding Regarding Urban Water Conservation in California. First adopted 1991. Last amended 2008.	California Urban Water Conservation Council	By signing the Council's Memorandum of Understanding (MOU), members agree to implement Best Management Practices (BMPs) to conserve water in urban areas. In 2008, the BMPs were revised to include current technology and credit agencies for their innovative water conservation programs.	http://www.cuwcc.org/mou-main-page.aspx
REGIONAL PLANS			
Water Quality Control Plan ("Basin Plan") for	State Water Quality Control Board, San	"The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial	http://www.swrcb.ca.gov/rwqcb2/basin_plan

the San Francisco Bay Basin. 2007.	Francisco Region (Region 2)	uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan has been adopted and approved by the State Water Resources Control Board, U.S. EPA, and the Office of Administrative Law where required."	ning.shtml
2002 CWA Section 303(D) List Of Water Quality Limited Segment. 2002.	State Water Quality Control Board, San Francisco Region (Region 2)	The most current 303(d) List of Impaired Waterbodies for the San Francisco Bay Region (Region 2) of California is the 2002 Section 303(d) List of Water Quality Limited Segments	http://www.swrcb.ca.gov/water_issues/programs/tmdl/docs/2002reg2303dlist.pdf
Napa River Pathogen Total Maximum Daily Load (TMDL); Amendment to Basin Plan. 2006.	State Water Quality Control Board, San Francisco Region (Region 2)	"The Napa River and its tributaries are impaired by pathogens. The overall goal of this TMDL is to minimize human exposure to waterborne disease-causing pathogens and to protect uses of water for recreational activities such as wading, swimming, fishing, and rafting."	http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/napariverpathogentmdl.shtml
Napa River Proposed Sediment Reduction and Habitat Enhancement Plan; Amendment to Basin Plan. 2009.	State Water Quality Control Board, San Francisco Region (Region 2)	"The goals of the Napa River Sediment Reduction and Habitat Enhancement Plan (Plan) are to: Conserve the steelhead trout population; establish a self-sustaining Chinook salmon population; enhance the overall health of the native fish community; enhance the aesthetic and recreational values of the river and its tributaries."	http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/napariversedimenttmdl.shtml
Conceptual Approach to Developing Nutrient TMDL's for San Francisco Bay Area Waterbodies. 2003.	State Water Quality Control Board, San Francisco Region (Region 2)	"This report describes the California Regional Water Quality Control Board, San Francisco Bay Region's (Regional Board's) approach to resolving nutrient-related water quality problems in Bay Area waters. The report begins with a general introduction to the problem and continues with a more technical discussion of nutrient-related water quality problems. The report then describes our Regional Board's proposed technical approach to addressing nutrient-related water quality impairment through the Total Maximum Daily Load (TMDL) process, and concludes with discussions of possible implementation approaches, stakeholder involvement, and TMDL schedules."	http://www.swrcb.ca.gov/rwqcb2/water_issues/programs/TMDLs/sonomacrknutrients/scnutrientsstaffrept0603.pdf
BDR Data Layer List. 2004.	County of Napa	"Comprehensive list of data layers to be collected as identified by the Napa County Environmental Resource Mapping Section."	http://www.napawatersheds.org/docs.php?oid=295&ogid=10145
2050 Napa Valley Water Resources Study. 2005.	Napa County Flood Control and Water Conservation District	"Study updates information from the 1991 Water Resources Study for the Valley floor and compares available water supplies to existing and future water demands of Napa County's municipal, rural, and agricultural water users within the Napa Valley Region. The 2050 Water Study identifies specific water supply	http://www.napawatersheds.org/Content/10210/Water_Use__Supply.html

		project options to fill future water supply shortfalls. All water supply options were considered including recycled water, groundwater, local surface water, imported surface and groundwater, and water conservation."	
Sediment and Stewardship Project. Final Report. 2005.	Napa County Resource Conservation District (NCRCD) for the San Francisco Water Quality Control Board	"In early 2002, Napa County Resource Conservation District, under funding from the California State Water Resources Control Board, embarked on the *Sediment and Stewardship* project, which aimed both to improve our technical understanding of sediment processes in the Napa River watershed and to educate the public on the subject. That project is the subject of this report. The technical goal of the project, according to the scope of work, was to evaluate the effectiveness of permanent vegetative ground cover and other erosion control practices used on hillside vineyards to prevent and control on- and off-site erosion caused by human activities that result in the delivery of sediment to the channel." At the same time, we aimed to educate the public by building on our citizen volunteer water quality monitoring program and by offering more formal educational opportunities as well."	http://www.naparcd.org/Sed&Stew%20Final%20Report%209-05.pdf
Napa County Baseline Data Report (BDR): Hydrology. 2005.	Napa County Conservation, Development and Planning Department	"The three hydrology/water-related chapters of the BDR characterize surface water, groundwater, and water quality conditions. These chapters also describe developing a regionally integrated surface water, groundwater, and water quality models developed for Napa County."	Surface Water Hydrology: http://www.napawatersheds.org/Content/10231/preview.html Groundwater Hydrology: http://www.napawatersheds.org/Content/10232/preview.html Surface Water Quality: http://www.napawatersheds.org/Content/10233/preview.html
Napa County Baseline Data Report (BDR): Biological Resources. 2005.	Napa County Conservation, Development and Planning Department	"This chapter describes the biological resources found in Napa County. It allows accurate assessment of impacts, evaluation of conservation plans, and review of proposed enhancements to biological resources in Napa County. In addition, it provides a biological database that can assist in analyzing biological resources."	http://www.napawatersheds.org/Content/10221/preview.html
Napa Wetlands Monitoring Program.	Napa County Resource Conservation District	"The Napa County RCD received funding from the United States Environmental Protection Agency (EPA) in 2003 to initiate a volunteer-based wetland monitoring	http://www.napawatersheds.org/docs.php?oi

2007.	(NCRCD)	program in Napa County. A total of five wetland sites were established to monitor birds, fish, vegetation, and water quality. This program was intended to provide the necessary training and organizational structure for ongoing volunteer monitoring of wetland sites."	d=21233&ogid=10676
Caring for Creeks in Napa County: Management Tips for Streamside Property Owners. Undated.	Napa County Resource Conservation District (NCRCD)	"This booklet is designed to encourage and support the ongoing stewardship of creeks in Napa County. It provides background on how watersheds work; recommendations for how you can contribute to maintaining a healthy creek; and a resource directory if you would like additional information or assistance."	http://www.napawatersheds.org/docManager/13411/Creek%20Care%20FINAL.pdf
Napa River Basin Limiting Factors Analysis. 2002.	San Francisco Bay Water Quality Control Board & California State Coastal Conservancy	"This study represents Phase I of a planned two-phase study. It had three primary objectives: 1. To help inform the Regional Board's sediment TMDL process; 2. To improve our understanding of current conditions in the Napa River system, develop and refine hypotheses regarding impacts on salmonids and freshwater shrimp populations by sediment and other factors, and develop recommendations for additional (Phase II) studies to define cause-and-effect relationships between human land use activities in the watershed and their impacts on water quality and beneficial uses; and, 3. To make recommendations regarding planning and implementation of restoration actions to protect and restore aquatic ecosystem functions and beneficial uses in the Napa River watershed. These recommendations are based on and commensurate with our current state of knowledge. We anticipate formulating more detailed recommendations once key uncertainties have been resolved during Phase II."	http://www.napawatersheds.org/Content/10136/Napa_River_Limiting_Factors_Analysis.html
Napa Green Program. Undated.	Napa Valley Vintners & Napa County Resource Conservation District	"Napa Green is based on the Fish Friendly Farming program which has been in use in the Russian River, Navarro and Gualala watersheds since 1999. Development of Napa Green for the Napa watershed was initiated by Napa Valley's agricultural community and involved an 18-month collaborative effort between local vintners and growers and representatives from government agencies and environmental organizations. The result of this effort was the creation of a workbook of Beneficial Management Practices (BMPs) with a farm plan template. The work book and accompanying workshops are the centerpiece of the program and assist landowners in evaluating natural features on their farms, assessing current management practices, and implementing improved practices. The Napa County Resource Conservation District (RCD) serves as the lead agency for the program."	http://www.napavintners.com/wineries/napa_green_wineries.asp http://www.naparcd.org/greencerttext.htm
Watershed	National Marine Fisheries	National Marine Fisheries Service Southwest Regional Office Habitat Conservation	http://swr.nmfs.noaa.g

Characterization: Napa River Watershed	Service Southwest Regional Office	Division created a portfolio that provides statistics and maps that describe the watershed in detail. All of the data portrayed is from publically available sources, which are listed within the document.	ov/sr/watershed_characterizations.htm
Baylands Ecosystem Habitat Goals Report. 2000.	San Francisco Bay Area Wetlands Ecosystem Goals Project	"This report presents the findings of the San Francisco Bay Area Wetlands Ecosystem Goals Project. It is intended to be a guide for restoring and improving the baylands and adjacent habitats of the San Francisco Estuary."	http://sfep.abag.ca.gov/pdfs/habitat_goals/Habitat_Goals%5BPart1%5D.pdf
San Francisco Bay Plan. 2008.	San Francisco Bay Conservation and Development Commission	"The San Francisco Bay Plan was prepared during three years of study and public deliberation by the members of the San Francisco Bay Conservation and Development Commission. The Commission's study resulted in the publication of 23 volumes of technical reports. Summaries of the studies are printed as a supplement to this Plan, and the detailed reports are available for reference in numerous public libraries and in the offices of the Commission."	http://www.bcdc.ca.gov/pdf/planning/plans/bayplan/bayplan.pdf
Conserving the Lands of Napa County. 2002.	The Nature Conservancy of California (TNC)	"The purpose of this study is to develop a strategic vision for conserving functional landscapes that maintain the composition, structure, and viability of important ecological systems in Napa County. It is intended as a conceptual blueprint for land conservation activities of The Nature Conservancy (TNC) and its public and private partners. The study was built on the results of TNC's ecoregional planning and refined through a series of workshops with knowledgeable local experts. It identifies nine conservation areas that support the most important ecological systems of Napa County including valley and blue oak woodlands, native perennial grasslands, serpentine chaparral, cypress forests, riparian forests, and aquatic systems for native fish."	http://www.napawatersheds.org/Content/10145/Napa_Conservation_Plan.html
San Francisco Bay Area Integrated Regional Water Management Plan. 2006.	Bay Area regional water management group	"The Bay Area Integrated Regional Water Management Plan is a nine-county effort to coordinate and improve water supply reliability, protect water quality, manage flood protection, maintain public health standards, protect habitat and watershed resources, and enhance the overall health of the bay." "San Francisco Bay Area water, wastewater, flood protection and stormwater management agencies; cities and counties represented by the Association of Bay Area Governments (ABAG); and watershed management interests represented by the California Coastal Conservancy (CCC) and non-governmental environmental organizations signed a Letter of Mutual Understandings (LOMU) to develop an Integrated Regional Water Management Plan (IRWMP) for the San Francisco Bay Area."	http://bairwmp.org/
WATERSHED PLANS			

Central Napa River Watershed Project, Salmonid Habitat Form and Function October, 2005: Final Report	Napa County Resource Conservation District (RCD)	"The Napa County RCD received funding from the California Department of Fish and Game in 2002 to carry out the second phase of a three-phase watershed study covering the entire Napa River basin. The geographic scope of this project covered the Napa River basin from Bell Creek to Soda Creek. This study was intended to assess the quality and quantity of available aquatic habitat, specifically relating to salmonid life history requirements, and identify key areas for restoration, improvement, or preservation."	http://www.napawatersheds.org/docs.php?oid=13401&ogid=10652
Hydrologic Monitoring and Modeling of Napa River Tributaries and Stewardship Support Services, 2004-2005. Final Report. 2005.	Napa County Resource Conservation District (RCD)	"Since 1999, the Napa County Resource Conservation District (RCD) has contracted with the City of Napa to do hydrologic modeling and monitoring of local creeks. The initial contract was for monitoring and modeling of Napa Creek, and in subsequent years monitoring of flows on Milliken and Salvador Creeks was added. In 2001, the RCD took on the task of developing a hydrologic model of Salvador Creek, while at the same time reconvening the Salvador Creek Stewardship, with a view toward using the model to study issues of interest to the Stewardship group."	http://www.naparcd.org/Napa%20City%20Final%20Rept%202005.pdf
Lower Putah Creek Watershed Management Action Plan (WMAP). 2005.	Lower Putah Creek Coordinating Committee	"This Plan represents Phase I of a three-phase program for enhancing watershed resources in the lower Putah Creek watershed. The WMAP is a comprehensive science-based and community-based approach to protect and enhance resources in the lower Putah Creek riparian corridor, including tributaries, extending from Lake Berryessa to the Yolo Bypass."	http://www.watershedportals.org/lpccc/WMAP
Napa Creek Salmon Monitoring Project, Year 1. 2006.	Napa County Resource Conservation District (RCD)	"In 2006, the Napa County Resource Conservation District (RCD), funded by the City of Napa, began a five-year study of Napa Creek. The goal of this study is to develop a comprehensive fisheries assessment of Napa Creek, and provide both general and site-specific recommendations for restorative actions benefiting Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*) and other native fish species. This report summarizes findings to date, which include general watershed characterization and a detailed habitat assessment."	http://www.napawatersheds.org/docs.php?oid=21012&ogid=10841
Zinfandel Lane Bridge Fish Passage Assessment. 2006.	Napa County Resource Conservation District (RCD)	"Assessment, conclusions and recommendations regarding fish passage barrier at Zinfandel Bridge."	http://www.napawatersheds.org/docs.php?oid=21154&ogid=11017
Carneros Creek Watershed Assessment and Management Program. 2003.	Napa County Resource Conservation District (RCD)	"In 2001, the Carneros Creek Watershed Stewardship, an apolitical, non-advocacy group of landowners and managers in the Carneros Creek watershed, formed to promote an open dialogue among interested individuals regarding local natural resource concerns and issues. The goals of the group include: assessing the	http://www.napawatersheds.org/Content/10031/Carneros_Creek_Watershed_Assessment_

		physical features of the watershed on an on-going basis; providing education about the watershed; protecting and restoring natural resources, including native fish and wildlife species; protecting and enhancing the economic and human resources; and creating a sustainable, enduring watershed stewardship. The website has links to a number of documents related to the land use, geomorphology, and fishes of Carneros Creek, including a Watershed Management Plan."	and_Management_Plan.html
Sulphur Creek Watershed Management Plan. 2004.	Napa County Resource Conservation District (RCD)	"This management plan is the product of the Sulphur Creek Watershed Task Force's interests and draws upon watershed assessment research that was conducted during the summer and fall of 2002. The plan was drafted specifically to provide management recommendations for the portion of the watershed that is above the City of St. Helena."	http://www.napawatersheds.org/docs.php?oid=13273&ogid=10138
Napa River Watershed Giant Reed Removal & Riparian Restoration Plan	California Department of Fish and Game, Circuit Rider Productions, Inc.	"In 2002, Circuit Rider Productions, Inc. was awarded a grant from the California Department of Fish and Game to identify giant reed populations in the main stem Napa River and its tributaries, to map and analyze these data, generate acreage figures, develop prioritized plans for control and restoration of invaded sites and develop estimates for control and restoration costs."	
Fish Friendly Farming Projects	Fish Friendly Farming	Fish Friendly Farming website, documents projects to improve riparian habitat in Napa River, Suisun Creek, Wooden Valley Creek, Carneros Creek.	http://www.fishfriendlyfarming.org/projects.html
Napa Creek Habitat Report 2006	Napa County Resource Conservation District (RCD)	"The goal of this study is to develop a comprehensive fisheries assessment of Napa Creek, and provide both general and site-specific recommendations for restorative actions benefiting Chinook salmon (Oncorhynchus tshawytscha), steelhead trout (Oncorhynchus mykiss) and other native fish species."	http://www.napawatersheds.org/
Water Quality Study: A Component of the Watershed Management Plan for the Sulphur Creek Watershed, Napa County, California. 2003.	Napa County	"Water quality was measured in Sulphur Creek to establish a limited baseline for current conditions within the stream. The objective of this study was to establish monitoring sites along the stream and to collect water quality data using field tests that can be conducted by volunteers. These tests include dissolved oxygen (D.O.), electrical conductivity, pH, water temperature, and air temperature. Additional information on physical habitat is also collected including water color, odor, weather, stream bed appearance, water depth, flow, and habitat change. All water quality tests were done using the Napa County RCD stream monitoring protocol. One site (SUL-4) was selected in the middle of reach 2. and another in reach 3(SUL-5) to get a satisfactory geographic range along the stream. Additionally one site was selected in Heath Canyon Creek (HEA-1) near the	http://www.napawatersheds.org/docs.php?oid=12887&ogid=10138

		confluence with Sulphur Creek. “	
Northern Napa River Watershed Plan. 2002.	Napa County Resource Conservation District (RCD)	“In June, 2000 the Napa County Resource Conservation District was awarded a Salmonid Habitat Restoration grant from the California Department of Fish and Game (CDFG) to fund a study of the northern Napa River watershed. The goal of this study was to develop a Watershed Management Plan for the northern reaches of the Napa River watershed. The Plan, which landowners can implement on their properties, provides both general and site-specific recommendations for restorative actions benefiting salmonids, with emphasis on steelhead trout (Onchorynchus mykiss). The Plan is focused on establishing geomorphic and ecological functions, processes, and characteristics to enhance stream habitat conditions for salmonids. Additionally, the Plan prioritizes sites for future project implementation, and makes recommendations for additional specific project planning that will improve fish and wildlife habitat. This study was the first step in the process of creating a watershed plan encompassing the entire Napa River watershed. In subsequent years, proposals will be submitted for watershed planning in additional geographically related areas in the central and southern portions of the Napa River watershed.”	http://www.napawatersheds.org/docs.php?oid=12889&ogid=10837
Wooden Valley Stream Habitat Inventory. 2002.	Napa County Resource Conservation District (RCD)	“The Napa County Resource Conservation District conducted stream inventories during June of 2002 on Wooden Valley Creek and its primary tributary, White Creek. The inventory was conducted in two parts; habitat typing and a visual biological inventory. The objective of the habitat inventory was to document the amount and condition of available habitat to fish, and other aquatic species with an emphasis on anadromous salmonids in the Wooden Valley watershed. The biological component documented fish species presence in addition to other pertinent observations on flora and fauna. The objective of this report is to document the current habitat conditions, and recommend options for the potential enhancement of habitat for steelhead trout, and possibly chinook salmon. Recommendations for habitat improvement activities are based upon target habitat values suitable for salmonids in California's north coast streams.”	http://www.napawatersheds.org/Content/10144/Wooden_Valley_Stream_Habitat_Inventory.html
Napa Valley Watershed Resources Analysis and Steelhead Growth Project. 2006.	Napa County Resource Conservation District (RCD)	“Through focused scientific research and data collection, the Napa Valley Watershed Resources Analysis Project is intended to identify the connection between public resource policy and private land management and stewardship activities, and to support the development of specific priorities for the management and enhancement of fish and aquatic wildlife habitat in the Napa River watershed. The model and report will provide the compilation and analysis	http://www.napawatersheds.org/Content/10238/Napa_Valley_Watershed_Resources_Analysis_and_Steelhead_Growth_Project.html

		of reliable and verifiable scientific data necessary to inform restoration projects, local policy decisions, stewardship activities, funding opportunities, land management decisions, long term monitoring, and public education and involvement."	
Napa River Salmon Monitoring Program Spawning Year 2007 Report, August 2008.	Napa County Resource Conservation District (RCD)	"The Napa County Resource Conservation District (RCD) began an ongoing salmon monitoring program in 2003 to assess Chinook abundance, distribution, and spawning success within the Napa River basin. This report covers salmon activity in the 2007 spawning year, which began in late December and extended through earl y January 2008. from 2001–2005 by Stillwater Sciences, involved sampling the enhanced areas and the surrounding habitats to evaluate the use of the areas by various fish species, with special emphasis on threatened and endangered species."	http://www.napawatersheds.org/docs.php?oid=22082&ogid=10648
Napa River Watershed Owner's Manual. Undated.	Napa County Resource Conservation District (RCD)	"The manual is a collection of recommendations from the Napa County Resource Conservation District that have been developed with the advice and participation of community representatives; federal, state, local government agencies; and citizen groups. The document guides citizens of the Napa River Watershed maintain a healthy, sustainable natural resource system."	http://www.naparcd.org/napariverownersmanual.pdf
Final Technical Report: Sediment Source Assessment, A Component of the Watershed Management Plan for the Sulphur Creek Watershed, Napa County, California. 2003.	Pacific Watershed Associates (PWA)	"Sediment source assessment as a part of the watershed management plan for the Sulphur Creek watershed."	http://www.napawatersheds.org/docs.php?oid=21407&ogid=10138
A Conceptual Plan for the Stabilization and Restoration of the Napa River, Rutherford Reach. 2003.	Rutherford Dust Society, California Department of Fish and Game (CDFG), Napa County Flood Control and Water Conservation District, Pina Vineyard Management Company, Napa County	"This Conceptual Plan was funded primarily by donations from the landowners along the river in the Rutherford Reach, and from the Rutherford Dust Society. The California Department of Fish and Game provided funding to analyze the riparian vegetation data, to write the vegetation section of the report, and conduct outreach to landowners. The Napa County Flood Control and Water Conservation District assisted with the collection and analysis of data for the Riparian Vegetation Management Section, and printed this report. Pina Vineyard Management Company and the Napa County Conservation, Development, and Planning Department provided the maps for the Riparian Vegetation	http://www.napawatersheds.org/Content/10027/Rutherford_Dust_Society_Project.html

	Conservation, Development, and Planning Department, Napa County Resource Conservation District (RCD)	Management Section of the report. Napa County Resource Conservation District funded and carried out the Fish Habitat Survey."	
Ecological, Geomorphic, and Land Use History of the Sulphur Creek Watershed: A Component of the Watershed Management Plan for the Sulphur Creek Watershed, Napa County, California. 2003.	San Francisco Estuary Institute	"This report describes the ecological history of the Sulphur Creek watershed. It is one of five technical reports prepared for the Sulphur Creek Watershed Task Force in preparation for development of the Sulphur Creek Watershed Management Plan."	http://www.napawatersheds.org/docs.php?oid=13272&ogid=10138
Channel Geomorphology Assessment: A Component of the Watershed Management Plan for the Sulphur Creek Watershed, Napa County, California. 2003.	San Francisco Estuary Institute	"During the summer and fall of 2002, empirical observational data was collected to assess the geomorphological condition of Sulphur Creek. This technical report describes the methods, results and conclusions derived from this assessment. This report will be integrated with the other four technical reports by the project partners in close consultation with the Sulphur Creek Stewardship to create a management plan for the local community and the Sulphur Creek watershed."	http://www.napawatersheds.org/docs.php?oid=12888&ogid=10138
Selby Creek Restoration Project – Revegetation Plan. 2007.	Selby Creek Watershed Partners	"Selby Creek Watershed Partners is currently involved in a restoration and revegetation project. The development and implementation of this plan has been the main focus of the group since 2003." The group works closely with the Napa County Resource Conservation District (RCD).	http://www.napawatersheds.org/Content/10292/Selby_Creek_Watershed_Partners.html
WICC Community Portal	Watershed Information Center & Conservancy of Napa County	This website contains current news, reports and data, projects and activities, and information about stakeholders to maintain and improve the health of Napa County's watersheds.	http://www.napawatersheds.org/docs.php?oid=21012&ogid=10841
GENERAL PLANS			
City of American Canyon General Plan. Amended 2006.	City of American Canyon	"The General Plan is the foundational policy document of the City of American Canyon. It defines the framework by which the physical, economic, and human resources of the City are to be managed and utilized over time. By providing a	http://www.ci.american-canyon.ca.us/departme

		basis for rational decision making, this document guides civic decisions regarding land use, the design and/or character of buildings and open spaces, the conservation of existing housing and the provision of new dwelling units, the provision of supporting infrastructure and public services, the protection of environmental resources, the allocation of fiscal resources, and the protection of residents from natural and human-caused hazards."	nts/planning/GeneralPlanElements.html
City of Calistoga General Plan. 2003.	City of Calistoga	"The General Plan is the City of Calistoga's fundamental land use and development policy document, which shows how the city will grow and conserve its resources. The purpose of this General Plan is to guide development and conservation in the city through 2020. The Calistoga General Plan meets these requirements while also articulating a vision for the city's long term physical form and development. It serves as a basis for future decision-making by municipal officials, including City staff, the Planning Commission and City Council."	http://www.ci.calistoga.ca.us/Index.aspx?page=519
City of Napa General Plan. 2006.	City of Napa	"This General Plan, Envision Napa 2020, formalizes a long-term vision for the physical evolution of Napa and outlines policies, standards, and programs to guide day-to-day decisions concerning Napa's development through the year 2020."	http://74.205.120.199/index.php?option=com_content&task=view&id=417&Itemid=531
City of St. Helena General Plan. 1998.	City of St. Helena	"The primary goal of this General Plan is to preserve the rural small town quality and agricultural character of St. Helena. The St. Helena General Plan serves as the city's constitution. It identifies the city's long-range plans for development of land and the conservation of resources.	http://www.sthelena2030.com/docs.php?ogid=1000000092
City of St. Helena General Plan Update: 2008 Goals.	City of St. Helena	This section provides nine project goals and identifies which elements of the current General Plan should be revised for Phase II of the General Plan update. These goals were drawn from public input, the Community Vision, Steering Committee work and findings and conclusions from the working papers described in the Findings Report Annex. The ultimate goal of the General Plan update process is to modify the policies and programs of the City's General Plan so that the updated plan provides a framework for the achievement of St. Helena's vision. The Community Vision's three themes – to Increase community sustainability, economic stability and environmental stewardship – will be used as the organizing principles for the nine project goals of the Update."	http://www.sthelena2030.com/docs.php?ogid=1000000066
Napa County General Plan. 2008.	County of Napa	"Protects agriculture and agricultural, watershed, and open space lands by maintaining 40- and 160-acre minimum parcel sizes, limiting uses allowed in agricultural areas, and designating agriculture as our primary land use. Contains policies aimed at preserving the County's irreplaceable biodiversity, protecting	http://www.co.napa.ca.us/GOV/Departments/DeptPage.asp?DID=8&LID=1786

		significant natural resources and water resources, and improving the ecological health of the Napa River. Includes policies aimed at reducing local contributions to global climate change and encouraging sustainable building practices, sustainable vineyard practices, and ecological stewardship."	
Napa County General Plan, Conservation Element. 2008.	County of Napa	"This Conservation Element provides goals, policies, and action items related to open space conservation as well as a wide range of other topics that together comprise the natural environment of Napa County, including its natural resources and its water resources. The goals and policies contained in this element also address climate change and sustainable practices for environmental health related to water, energy conservation, air pollutant, greenhouse gas emissions, clean energy generation, and similar issues. "	http://www.co.napa.ca.us/GOV/Departments/DeptPage.asp?DID=8&LID=1790
GROUNDWATER MANAGEMENT PLANS (GWMPs)			
None Available for Napa County		Website shows where GWMPs have been published	http://www.groundwater.water.ca.gov/docs/CAgwMgmt10feb2005-final.pdf
STORM WATER MANAGEMENT PLANS (SWMPs)			
Napa County Stormwater Management Program (Report). 2003.	Napa County Flood Control and Water Conservation District	"On June 21, 1995, a water quality plan for the San Francisco Bay Basin was published by Region 2 California Regional Water Quality Control Board. The plan shows the Napa River and its tributaries as part of the San Pablo Basin. The plan required that the Cities of Napa, St. Helena, Calistoga, American Canyon, the Town of Yountville, and Napa County develop and conduct baseline control programs for stormwater runoff."	http://www.napastormwater.org/Uploads/Files/NCSWMP.SWMP.final.DEC2003.pdf
Napa County Stormwater Management Program. Undated.	County of Napa	"The Napa County Stormwater Management Program (NCSWMP) is a joint effort of Napa's cities, towns and unincorporated areas to: Prevent stormwater pollution; protect and enhance water quality in creeks and wetlands; preserve beneficial uses of local waterways; and comply with State and Federal regulations though the County and each of the five cities and towns carry out their own individual stormwater pollution prevention programs, NCSWMP provides for the coordination and consistency of approaches between the individual participants and documents their efforts in annual reports."	http://www.napastormwater.org/
URBAN WATER MANAGEMENT PLANS (UWMPs)			
City of American Canyon Urban Water Management Plan.	City of American Canyon	"The purpose of the UWMP is to: Evaluate water supplies necessary to meet demands over at least a 20-year period for normal water conditions, single dry year conditions, and multiple dry year conditions; identify measures to be	ftp://ftp.water.ca.gov/uwmp/completed-plans/AmericanCanyon

2006.		implemented or projects to be undertaken to reduce water demands and address water supply shortfalls; identify stages of action to address up to 50% reduction in water supplies during dry water years; identify actions to be implemented in the event of a catastrophic interruption in water supplies; and assess the reliability of the sources during normal, dry and multiple dry water years."	,%20CityOf/UWMP/Final%20UWMP%20Report.pdf
City of American Canyon Integrated Water Management Plan	City of American Canyon	The plan will address all water-related resources for the city, including potable water, wastewater, recycled water and flood control issues.	unpublished (due 2010)
City of Napa Urban Water Management Plan. 2005 Update.	City of Napa	"Using data gathered in the *2050 Napa Valley Water Resources Study*, the City of Napa UWMP 2005 was prepared according to the requirements of the Urban Water Management Planning Act. It includes sections on our service area's climate and population, water sources and their reliability through 2030, water use by customer type through 2030, and demand management (water conservation) measures. Supply and demand are projected for a normal water year, a single dry year, and multiple dry years. Recycled water and other alternative supplies are discussed, along with the City's Water Shortage Contingency Plan."	http://www.cityofnapa.org/index.php?option=com_content&task=view&id=262&Itemid=353
City of St. Helena 2003 Urban Water Management Plan.	City of St. Helena	"The City of St. Helena (City) has approximately 2,300 service connections located both inside and outside the City, serves a population of approximately 6,500 people, and supplies approximately 2,000 acre-feet of water per year to its customers. Although this number of connections and total annual supply are both less than the trigger amounts discussed above [CA Water Code], per capita water use in the City has increased over the past several years and available supplies are limited even in normal years. Therefore, the City has determined that an UWMP should be prepared at this time to assess the City's available water supplies and projected demands, to assess the need for water conservation in normal years, and to evaluate the City's ability to supply its customers during a potential drought condition."	http://city.ci.st-helena.ca.us/images/aad/Docs/FinalUWMP.pdf