

Name	Year Authored	Author	Type	Category	Annotation
Regional Biotreatment Soil Specifications	2016	Bay Area Stormwater Management Agencies Association	Other	Implementation	This document provides specifications on the soils objectives biotreatment or bioretention areas shall meet. It includes documents to be submitted, mulch, sand and compost guidelines and the requirements of treatment.
Petaluma River Access and Enhancement Plan	1996	City of Petaluma	Plan	Implementation	The overriding purpose of the Petaluma River Access and Enhancement Plan is to describe this community's vision for the Petaluma River, including its riverfront uses, activities, and developments. Implementation of this plan will result in a waterfront environment that is the jewel in Petaluma's crown. This plan elaborates on the Petaluma General Plan 1987-2005 regarding the river and the properties abutting it. As the most comprehensive statement of this community's vision for the river and riverfront development, this plan will be used by policymakers, property owners, and interested citizens to guide the metamorphosis of the river into the central feature of Petaluma.
City of Santa Rosa Storm Water Low Impact Development Technical Design Manual	2017	City of Santa Rosa	Manual	Implementation	The Storm Water Low Impact Development Technical Design Manual (Manual) provides technical guidance for project designs that require the implementation of permanent storm water Best Management Practices (BMPs). This Manual supersedes the 2005 SUSMP Guidelines. This Manual is intended to satisfy the specific requirements of the Santa Rosa Area MS4 permit. Additional design requirements imposed by governing agencies, such as local grading ordinances, CAL Green, CEQA, 401 permitting, and hydraulic design for flood control still apply as appropriate. Governing agencies may, at their discretion, determine that designing in accordance with this Manual satisfies another requirement. Additionally, coverage under another regulation may trigger the requirement to design in accordance with this Manual.
City of Santa Rosa Storm Water Low Impact Development Technical Design Manual	2011	City of Santa Rosa	Manual	Implementation	The Storm Water Low Impact Development Technical Design Manual (Manual) provides technical guidance for project designs that require the implementation of permanent storm water Best Management Practices (BMPs). This Manual supersedes the 2005 SUSMP Guidelines. This Manual is intended to satisfy the specific requirements of the Santa Rosa Area MS4 permit. Additional design requirements imposed by governing agencies, such as local grading ordinances, CAL Green, CEQA, 401 permitting, and hydraulic design for flood control still apply as appropriate. Governing agencies may, at their discretion, determine that designing in accordance with this Manual satisfies another requirement. Additionally, coverage under another regulation may trigger the requirement to design in accordance with this Manual.
City of Sonoma Municipal Code Chapter 13.32	2006	City of Sonoma	Other	Implementation	Municipal code for stormwater management and discharge. The purpose of this chapter is to protect the health, safety and general welfare of city of Sonoma residents; to protect water resources and to improve water quality; to cause the use of management practices by the city and its citizens that will reduce the adverse effects of polluted runoff discharges on waters of the state; to secure benefits from the use of stormwater as a resource; and to ensure the city is compliant with applicable state and federal law.
Sonoma Bicycle and Pedestrian Master Plan	2007	City of Sonoma/Sonoma County Transportation Authority	Plan	Implementation	This Sonoma Bicycle and Pedestrian Plan was developed as a component of the Sonoma County Transportation Authority's (SCTA's) 2008 Countywide Bicycle and Pedestrian Master Plan. While part of the Master Plan, the Sonoma plan is also a stand-alone document to be used by the City of Sonoma to guide implementation of local projects and programs and document city policy. It is also designed to be a component of the Countywide Bicycle and Pedestrian Master Plan to improve coordination in realizing the countywide bicycle and pedestrian system. The Sonoma plan was developed over the course of a year through the coordinated efforts of the SCTA's Bicycle and Pedestrian Advisory Committee, a focused project steering committee, Sonoma staff, and input from the public through a series of public workshops and public review periods. The Project Steering Committee was established to oversee the development of the plan and consisted of representatives from the County and each of its cities. Public workshops were held throughout the County to collect input from interested members of the public. The workshops were advertised through various local and regional print media, mailings, the posting of public fliers, and government outreach efforts. The primary emphasis of this planning effort is to facilitate transportation improvements for bicyclists and pedestrians.

City of Sonoma Storm Drain Master Plan	2011	City of Sonoma/Winzler and Kelly	Plan	Implementation	The Storm Drain Master Plan (SDMP) identifies and incorporates proposed storm drain system improvement projects into the City's 2010 Capital Improvement Program (CIP). Because the City's storm drain network is linked dynamically to Sonoma Creek, Fryer Creek, Nathanson Creek and Schell Creek, the SDMP also attempts to analyze the effect of specific improvements to open channel drainages. In some cases, flooding in a particular area may be reduced by incorporating storm drain system improvements or by making improvements to the open channels. The goal of this SDMP is to identify projects necessary to decrease/alleviate flooding in regions of the City where current modeling efforts have demonstrated that flooding potential exists. The extent of the SDMP scope was specifically limited to storm drain system (pipe) improvements.
Sonoma County Ordinance Code Chapter 11A Stormwater Quality	2008	County of Sonoma	Other	Implementation	County ordinance with policies consistent with SWRP goals.
Sonoma County Ordinance Code Chapter 7D3 Water Efficient Landscape	2015	County of Sonoma	Other	Implementation	County ordinance with policies consistent with SWRP goals.
Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties	2014	Dan Cloak Environmental Consulting/Bay Area Stormwater Management Agencies Association	Guide	Implementation	The Bay Area Stormwater Management Agencies Association Post-Construction Manual (Manual) includes standards and requirements applicable to projects in jurisdictions including Sonoma and Petaluma. These counties, cities, and towns are Permittees under a statewide Phase II municipal stormwater NPDES permit reissued by the California State Water Resources Control Board in 2013. Permit Provision E.12 requires these agencies to regulate development projects to control pollutants in runoff from newly created or replaced impervious surfaces. Requirements are in effect by June 30, 2015 (see preface). This Manual is designed to ensure compliance with the requirements, facilitate review of applications, and promote integrated Low Impact Development (LID) design. The Manual interprets, clarifies, and adds to permit requirements.
San Francisco Bay Area Integrated Regional Water Management Plan	2013	Kennedy Jenks	Plan	Implementation	The San Francisco Bay Area Integrated Regional Water Management Plan (IRWMP or Plan) represents a significant accomplishment in regional water resources planning. The collective vision presented in this Plan aims to address the major challenges and opportunities related to managing water and associated natural resources within the Bay Area IRWM region (Region). It outlines the Region's water resources management needs and objectives, and presents innovative strategies and important actions to help achieve these objectives. The IRWMP was first completed and adopted in 2006 (2006 IRWMP). This Plan updates and expands upon the 2006 IRWMP, documents progress towards meeting IRWMP objectives, and identifies ongoing regional needs and issues. This IRWMP is not intended to duplicate existing and ongoing plans, but to better integrate these efforts, and utilize the results and findings of existing plans to put forward the projects needed to address IRWMP goals and objectives. This Plan provides a framework to improve collective understanding and to take actions to collaboratively address the many major water related challenges, needs and conflicts within the Region through the 20-year planning horizon (2013-2033).
Sonoma County General Plan 2020 Land Use Element	2008	Sonoma County Permit and Resource Management Department	Plan	Implementation	The Land Use Element provides the distribution, location and extent of uses of land for housing, business, industry, open space, agriculture, natural resources, recreation and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other uses. For each appropriate land use category, it includes standards for population density and building intensity.
Sonoma County General Plan 2020 Open Space and Resource Conservation	2008	Sonoma County Permit and Resource Management Department	Plan	Implementation	The element addresses open space for the preservation of natural resources, for the managed production of resources, for outdoor recreation, for public health and safety, and for Archeological, Historical, and Cultural resources.
Sonoma County General Plan 2020 Water Resources Element	2008	Sonoma County Permit and Resource Management Department	Plan	Implementation	The primary purpose of this element and the reason for adding this optional element to the Sonoma County General Plan is to ensure that Sonoma County's water resources are sustained and protected. To achieve this purpose, water resource management should consider the amount of quality water that can be used without exceeding the replenishment rates over time or causing long term declines or degradation in available surface water or groundwater resources.
Sonoma County Water Agency Flood Control Design Criteria Manual	1999	Sonoma County Water Agency	Manual	Implementation	The design criteria for waterways, channels and closed conduits herein contained have been adopted by the Sonoma County Water Agency for its own use in design of Agency drainage and flood control works, for the checking of design and construction of such projects which, upon completion, will be maintained by the Agency, and for checking design of private developments which are referred for review under agreement with other agencies. In view of the large backlog of experience represented within these standards, it is believed that adherence to the minimum requirements contained herein will provide the Sonoma County Water Agency, the County of Sonoma and cities in the County, a system of drainageways which will adequately carry off storm and drainage water.

Water Supply Strategies Action Plan	2010	Sonoma County Water Agency	Plan	Implementation	In September 2010, following a 16-month process of community involvement, the Sonoma County Water Agency Board of Directors approved nine Water Supply Strategies developed to increase water supply system reliability, resiliency and efficiency in the face of limited resources, regulatory constraints and climate change uncertainties. The Board directed completion of the 2010 Water Supply Strategies Action Plan. The 2010 Plan described how each strategy was being carried out through specific activities and projects, identified involved parties and provided the status and budget information for each activity or project. The Board recognized that the plan is a living document and requested an update in 2011. The Water Agency expects to update its Action Plan annually.
Sonoma County Water Agency Stream Maintenance Program Final Manual	2009	Sonoma County Water Agency/Horizon Water and Environment	Manual	Implementation	The purpose of this SMP Manual is to establish and define the overall maintenance program and describe the program's maintenance activities, natural resources, and approaches to avoid or minimize impacts to environmental resources. This SMP Manual is intended for use by Sonoma County Water Agency maintenance staff, engineers, and resource managers, as well as environmental regulatory agency staff and other watershed stakeholders. This SMP Manual provides a description of the activities that will be conducted as part of the SMP. As such, this manual serves as the description of activities permitted by the relevant regulatory agencies.
Sonoma County Water Agency Water Smart Development Guidebook	2013	Sonoma County Water Agency/Horizon Water and Environment	Guide	Implementation	The Sonoma County Water Agency (Water Agency) developed this guidebook to provide the residents of Sonoma County, land developers, city and county planning officials, and environmental regulatory agencies with a reference guide to avoid and minimize potential water resource impacts while planning residential and commercial development. The three core subjects of this guidebook focus on ways to increase water conservation, increase the use of alternative water sources, and reduce storm water impacts. This guidebook also supports requirements of the National Pollutant Discharge Elimination System (NPDES) Permits for discharges from municipal separate storm sewer systems (MS4) – both the Phase 1 and Phase 2 permits cover urbanized areas within the County. The required LID guidance manual should provide land planners, engineers, and developers with objectives and specifications on how to integrate LID strategies into the project planning and design process. This guidebook is intended to support these requirements.
Upper Petaluma River Watershed Flood Control Project Scoping Study: Conceptual Alternatives Screening Evaluation	2011	Sonoma County Water Agency/RMC Water and Environment	Study	Implementation	The purpose of this memorandum is to summarize the screening and prioritization process for the Study and apply that process to the project concepts identified in the memorandum entitled Project Concepts Identification and Description. The goal of the screening and prioritization process is to create a prioritized list of project concepts to carry forward into the feasibility study phase of the Project. These selected concepts will form the basis of projects to be evaluated for implementation feasibility. Other project elements are anticipated to be included in the project description to potentially improve public and regulatory acceptance and to increase opportunities for receiving outside funding.
Upper Petaluma River Watershed Flood Control Project Scoping Study: Project Strategy Memo	2012	Sonoma County Water Agency/RMC Water and Environment	Study	Implementation	The Sonoma County Water Agency (Water Agency) is presently developing the Upper Petaluma River Watershed Project (Project) in order to provide regional flood mitigation and groundwater recharge benefits within the Upper Petaluma River Watershed. It is anticipated that the Scoping Study for the Project will be followed up by a Feasibility Study and subsequent Project Implementation. This memorandum summarizes the findings of the Scoping Study, outlines the scope of the Feasibility Study and discusses project implementation strategies that should be considered at this juncture in the Project development.
Promoting Multi-Benefit Water Projects in the North Bay and the Greater Bay Area	2007	Sonoma Ecology Center	Report	Implementation	Forces such as population growth, environmental constraints, climate change, and integrated land use planning are driving a fundamental change in water management. The State of California is tying substantial water management funding to the development of Integrated Regional Water Management Plans (IRWMPs) which emphasize multibenefit, integrated projects and strategies. The North Bay Watershed Association (NBWA) recognizes that many water management challenges are best approached through projects which combine two or more of the following benefits: flood reduction, water supply, water treatment, habitat enhancement, aesthetics, recreation, and water quality. Yet when NBWA surveyed its stakeholders to create an inventory of water and watershed projects as part of the North Bay IRWMP (December 2005), the inventory did not reflect this desire for more multibenefit projects. Instead, the projects tended to represent the priorities of either water supply and treatment agencies, or nongovernmental organizations (NGOs) and trustee agencies. Multibenefit projects that combine the interests of both these groups are rarely identified or pursued. This mismatch between today's project inventory and tomorrow's desired project inventory is common across the state. To the degree that NBWA can help develop more multibenefit projects, it will be a leader in the statewide effort at integration.

Report on the Sonoma Valley Water Forum	2006	Sonoma Ecology Center	Report	Implementation	<p>The purpose of this report is to provide:</p> <ul style="list-style-type: none"> <li>- an overview of the Sonoma Valley Water Forum held in April, 2006</li> <li>- an opportunity for public comments and input</li> </ul> <p>The goal of the Water Forum and this follow-up is to develop a document that reflects local consensus about water issues, which will be distributed to decision-makers at all levels of government.</p>
Protecting Streams and Riparian Habitat	2001	Sonoma Ecology Center	Report	Implementation	<p>Riparian buffers are the preferred method for protecting and managing riparian zones. There are both fixed- and variable- width buffers and each has its advantages and disadvantages. A literature review reveals that calculation methods for variable-width buffers vary widely. Several methods are outlined in detail.</p> <p>The identified goals, strategies, and areas for improvement can help guide future decision-making. Recommendations on how to protect and manage riparian areas are discussed.</p>
Summary of Existing Information in the Watershed of Sonoma Valley in Relation to the Sonoma Creek Watershed Restoration Study and Recommendations on How to Proceed	2000	Sonoma Ecology Center/San Francisco Estuary Institute	Report	Implementation	<p>This report illustrates the variety of data available in relation to the future possibility of carrying out projects that aim to reduce flood hazard and restore or enhance environmental values in the Sonoma Creek watershed and Baylands. This report is meant to be a starting point for information and recommendations rather than an endpoint. Although it contains over 150 pages of text, figures and tables it does not claim to be complete. Instead it aims to stimulate discussion by asking as many questions as it answers. This report is one of two documents. The second document is the verbatim minutes of the technical advisory committee meeting held at Atwood Ranch on August 30th 2000.</p>
SVVGA Interview Report on BMPs in Sonoma Valley	2005	Sonoma Resource Conservation District	Report	Implementation	<p>The US Environmental Protection Agency listed Sonoma Creek as impaired for excess sediment in 1990. Currently local agencies, organizations and stakeholders are working together with the Regional Water Quality Control Board to identify water quality problems and implementation measures needed to correct these problems. This report summarizes interviews conducted during two weeks in May 2005 with vineyard growers in Sonoma Valley, who were interviewed regarding best management practices that they have used over the years on their properties.</p> <p>Twenty-one growers and vineyard managers were interviewed regarding best management practices that they have used over the years on their properties. The purpose of these interviews was to determine grower use and satisfaction with best management practices recommended for erosion control.</p>
Army Corps Maintained Channels		City of Petaluma	GIS	Mapping	Channels maintained by the ACOE in the Petaluma River watershed.
City of Petaluma Creek Maintenance	2015	City of Petaluma	Map	Mapping	A map of creek maintenance activities by the City of Petaluma
City of Petaluma Maintained Channels		City of Petaluma	GIS	Mapping	Channels maintained by the City in the Petaluma River watershed.
Privately Maintained Channels		City of Petaluma	GIS	Mapping	Privately maintained channels in the City boundary.
Sonoma County Water Agency Maintained Channels		City of Petaluma	GIS	Mapping	Sonoma County Water Agency maintained channels through the Agency Stream Maintenance Program.
Storm Drain Man Holes		City of Petaluma	GIS	Mapping	City of Petaluma Storm Drain Man Holes
Stormlines		City of Petaluma	GIS	Mapping	City of Petaluma Stormlines
Stream Gauges		City of Petaluma	GIS	Mapping	City of Petaluma Alert 2 Stream Gauges
Watershed Soils Map		City of Petaluma	Map	Mapping	A map depicting the soils existing within the Petaluma River Watershed
City of Petaluma Subbasin Locations		City of Petaluma	GIS	Mapping	Subbasins within the City of Petaluma
Lidar Petaluma River Topo		City of Petaluma	GIS	Mapping	Topography of the Petaluma River Watershed derived from Lidar
City of Petaluma Drainage Basins		City of Petaluma	GIS	Mapping	Drainage basins within the City of Petaluma
Denman Reach Phase 3 Outline		City of Petaluma	GIS	Mapping	Outline of the project for phase 2 of the Denman reach of the Petaluma River
Flood Plain	2014	City of Petaluma	GIS	Mapping	Flood plain map for City of Petaluma
HSI Hydraulic Model	2001	City of Petaluma/HSI	GIS	Mapping	HEC 2 and watershed modeling for Petaluma River watershed
City of Sonoma NPDES MS4 Boundary		City of Sonoma	GIS	Mapping	Regulatory boundary for the City of Sonoma
Storm Mains		City of Sonoma	GIS	Mapping	City of Sonoma Storm Mains
Storm Structures		City of Sonoma	GIS	Mapping	City of Sonoma Storm Drain Structures
Sonoma County FIRM Maps Petaluma	2015	Federal Emergency Management Agency	Map	Mapping	Flood Insurance Rate Maps for the Petaluma River.
Sonoma Veg Map		Mark Tuckman	GIS	Mapping	GIS layers formed from lidar depicting Sonoma County vegetation, landforms, riparian areas, water bodies and streamlines
Boundary for NPDES Phase 2		Sonoma County Permit and Resource Management Department	GIS	Mapping	Regulatory boundary for the County of Sonoma NPDES
Sonoma County NPDES Storm Water Conduit Layer		Sonoma County Permit and Resource Management Department	GIS	Mapping	Sonoma County Storm Water Conduits in unincorporated communities
Sonoma County NPDES Storm Water Inlet Layer		Sonoma County Permit and Resource Management Department	GIS	Mapping	Sonoma County Storm Water Inlets in unincorporated communities
Sonoma County NPDES Storm Water Man Hole Layer		Sonoma County Permit and Resource Management Department	GIS	Mapping	Sonoma County Storm Water Man Holes in unincorporated communities

Sonoma County NPDES Storm Water Outfall Layer		Sonoma County Permit and Resource Management Department	GIS	Mapping	Sonoma County Storm Water Outfalls in unincorporated communities
Sonoma County NPDES Storm Water Streams Layer		Sonoma County Permit and Resource Management Department	GIS	Mapping	Sonoma County Streams
Sonoma Creek Watershed Geology and Shaded Relief Map		Sonoma Ecology Center	Map	Mapping	The dominant geology of Sonoma Creek Watershed is volcanic with the north-south trending ridges of the Sonoma Mountains to the east and the Mayacamas Mountains to the west defining the valley. Many tributaries run at their lower elevations over alluvial fans constructed of materials weathered from the Sonoma Volcanics and re-deposited by water flow. The geologic units of the Sonoma Volcanics are highly variable, with interbedded strata of hard flow rocks and highly erodible re-worked ash deposits. Streambed material ranges in size from sand to boulders and exposed bedrock is common. Where tributaries intersect the Glen Ellen and Petaluma geologic units, formations typically composed of interbedded silts, sands, gravels, and lacustrine deposits, there appears to be a relatively high level of suspended sediment produced.
Sonoma Sediment Source Analysis Estimated Tons/Acre/Year		Sonoma Ecology Center	GIS	Mapping	This layer displays the estimated sediment contribution from subwatersheds in the Sonoma Valley.
Sonoma Valley Historical Hydrology Layers	2016	Sonoma Ecology Center/Arthur Dawson	GIS	Mapping	GIS layers depicting historical ecology of the Sonoma Valley
City of Petaluma Flood Preparedness Handout	2013	City of Petaluma	Other	Outreach and Education	This handout was developed in preparation for the winter of 2013-2014. It contains reminders to residents and property owners of the flood hazards posed by the Petaluma River and its tributaries and suggests ways to protect both people and property.
City of Petaluma Flood Safety Brochure		City of Petaluma	Other	Outreach and Education	This brochure was created and distributed to property owners in or near a special hazard flood zone. It contains suggestions on what to do before a flood, what to do during a flood and what to do after. It also contains contact information for permitting, flood safety, illegal dumping, emergency services and City services.
City of Petaluma Sheet Mulch Brochure		City of Petaluma	Other	Outreach and Education	Public outreach brochure on the benefits of sheet mulching for water conservation. Includes four simple steps for turning turf to a water efficient landscape.
City of Sonoma Rain Water Harvesting and Storage Systems Handout	2009	City of Sonoma	Fact Sheet	Outreach and Education	This handout was developed by the City of Sonoma to inform residents on rainwater harvesting limitations, zoning and set back requirements, permit requirements, resources and other requirements and considerations for harvesting systems.
Conservation Measures to Reduce Non-point Source Pollution at Horse Facilities	2000	Council of Bay Area Resource Conservation Districts	Fact Sheet	Outreach and Education	This fact sheet provides horse owners with conservation measures to reduce non point source pollution from sediment and soil erosion and organic matter, ammonia, nutrients and salts in horse waste at horse facilities. The conservation measures include manure management, stormwater runoff management, stream protection, pasture management and integrated pest management.
Stormwater Runoff Management at High Use Areas	2000	Council of Bay Area Resource Conservation Districts	Fact Sheet	Outreach and Education	This fact sheet provides two goals for managing stormwater runoff in high use areas at horse facilities to prevent water pollution. The fact sheet goals are to keep clean water clean and to manage contaminated runoff. The sheet provides best management practices for management of contaminated runoff.
Portrait of Sonoma County	2014	Measure of America	Report	Outreach and Education	A Portrait of Sonoma County is an in-depth look at how residents of Sonoma County are faring in three fundamental areas of life: health, access to knowledge, and living standards. While these metrics do not measure the county's breathtaking vistas, the rich diversity of its population, or the vibrant web of community organizations engaged in making it a better place, they capture outcomes in areas essential to well-being and opportunity. This report examines disparities within the county among neighborhoods and along the lines of race, ethnicity, and gender. It makes the case that population-based approaches, the mainstay of public health, offer great promise for longer, healthier, and more rewarding lives for everyone and that place-based approaches offer a way to address the multiple and often interlocking disadvantages faced by families who are falling behind. Only by building the capabilities of all residents to seize opportunities and live to their full potential will Sonoma County thrive.
Portrait of Sonoma The Springs Fact Sheet	2014	Measure of America	Fact Sheet	Outreach and Education	Portrait of Sonoma County identifies as a priority area the Springs in Sonoma Valley (Fetters Springs/Agua Caliente West tract), which has the lowest human development index score outside Southwest Santa Rosa. This comparatively compact area lies amid census tracts with much higher scores. Although life expectancy in this community is higher than the county average, forty-five percent of its adults lack high school diplomas and its median personal earnings are third from last among Sonoma's ninety-nine tracts. The relatively small population (just over 5,000); the fact that this community is not adjacent to other high-poverty, low-human development areas; and the strong positive community role played by the area's schools give a place-based approach to the area a high likelihood of success.

North Bay Watershed Association Brochure	2016	North Bay Watershed Association	Other	Outreach and Education	Brochure for the North Bay Watershed Association (NBWA). NBWA represents 16 entities concerned with managing water, watersheds, and shorelines surrounding the northern part of San Francisco Bay. The brochure provides information on NBWA activities and the watersheds of the North Bay.
General Permit for Vineyard Properties in the Napa River and Sonoma Creek Watersheds Fact Sheet	2016	San Francisco Bay Regional Water Quality Control Board	Fact Sheet	Outreach and Education	This fact sheet provides an overview of the recent draft waste discharge requirements (General Permit) for vineyards. It provides performance assessments, permit administration, farm plan requirements and some frequently asked questions.
City Watersheds of Sonoma Valley: Fryer Creek Project Background	2014	Sonoma County Water Agency/Sonoma Ecology Center/City of Sonoma/Sonoma County Agricultural Preservation and Open Space District	Fact Sheet	Outreach and Education	This document summarizes the City Watersheds of Sonoma Valley, specifically looking at the Fryer Creek project. The City Watersheds of Sonoma Valley project was part of a larger, integrated regional water management initiative that addressed groundwater management and flood control in Sonoma Valley. The multi-benefit projects developed in the City Watersheds effort helped to address local flooding, promote groundwater recharge, improve water quality, educate the public, and enhance habitats along identified sites in Sonoma Valley. The Nathanson and Fryer Creek subwatersheds cover approximately 80% of the geographic area of the City of Sonoma. The City Watersheds Project was conceived as a Stormwater Management – Groundwater Recharge project occurring in multiple phases including a Nathanson Creek project and a Fryer Creek project. Both projects have multiple benefits and address both the risk of flooding and also recharging groundwater to help create resiliency in the water supply system.
NEWTS Local Resource Guide	2008	Sonoma Ecology Center	Guide	Outreach and Education	Neighborhood Water Teams, aka NeWTs. NeWTs are informal community groups where neighbors come together to learn ways to save water, improve water quality, and take action in their own homes and yards. This guide walks neighbors through water saving activities and actions they can take and helps them to develop action plans.
Sonoma Marin Saving Water Partnership Annual Report	2010	Sonoma Marin Saving Water Partnership	Report	Outreach and Education	The Sonoma-Marin Saving Water Partnership (Partnership) represents 10 water utilities in Sonoma and Marin counties who have joined together to provide regional solutions for water-use efficiency. The annual report documents Partnership achievements and updates for the fiscal year, including an update on Sonoma County's 20 x 2020 Goals.
Sonoma Marin Saving Water Partnership Annual Report	2011	Sonoma Marin Saving Water Partnership	Report	Outreach and Education	The Sonoma-Marin Saving Water Partnership (Partnership) represents 10 water utilities in Sonoma and Marin counties who have joined together to provide regional solutions for water-use efficiency. The annual report documents Partnership achievements and updates for the fiscal year, including an update on Sonoma County's 20 x 2020 Goals.
Sonoma Marin Saving Water Partnership Annual Report	2012	Sonoma Marin Saving Water Partnership	Report	Outreach and Education	The Sonoma-Marin Saving Water Partnership (Partnership) represents 10 water utilities in Sonoma and Marin counties who have joined together to provide regional solutions for water-use efficiency. The annual report documents Partnership achievements and updates for the fiscal year, including an update on Sonoma County's 20 x 2020 Goals.
Sonoma Marin Saving Water Partnership Annual Report	2013	Sonoma Marin Saving Water Partnership	Report	Outreach and Education	The Sonoma-Marin Saving Water Partnership (Partnership) represents 10 water utilities in Sonoma and Marin counties who have joined together to provide regional solutions for water-use efficiency. The annual report documents Partnership achievements and updates for the fiscal year, including an update on Sonoma County's 20 x 2020 Goals.
Creek Care Guide		Sonoma Resource Conservation District	Guide	Outreach and Education	Riparian buffers are the preferred method for protecting and managing riparian zones. There are both fixed- and variable- width buffers and each has its advantages and disadvantages. A literature review reveals that calculation methods for variable-width buffers vary widely. Several methods are outlined in detail.  The identified goals, strategies, and areas for improvement can help guide future decision-making. Recommendations on how to protect and manage riparian areas are discussed.
Slow it. Spread it. Sink it. Store it.	2015	Sonoma Resource Conservation District	Guide	Outreach and Education	This exciting new guidebook will help landowners and homeowners make the most of the many potential benefits of innovative stormwater management. Once thought of as a nuisance, stormwater is now universally recognized as one of our most important natural resources and proper management (simple to complex) is more important than ever.  Traditional building and landscaping practices were designed to dispose of stormwater as quickly as possible. This outdated paradigm typically results in significant damage to land, structures, and the surrounding environment. Slowing down, spreading and sinking stormwater can help protect your property & increase its value, provide a free source of water for irrigation, conserve drinking water, beautify your landscape, promote groundwater recharge and much more!

City of Petaluma 2010 Urban Water Management Plan	2011	City of Petaluma	Plan	Surface and Groundwater	The Urban Water Management Act (Act) became part of the California Water Code with the passage of Assembly Bill 797 during the 1983-1984 regular session of the California Legislature. The California Water Code requires every urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to adopt and submit an Urban Water Management Plan (UWMP) every five years to the California Department of Water Resources (DWR).
City of Petaluma Water Conservation Plan	2007	City of Petaluma	Plan	Surface and Groundwater	The intent of the study was to evaluate and recommend the most cost effective water conservation plan based on an 80 year present worth, comprised of water conservation measures that are feasible, cost effective, and implementable by the City. The goal of the plan was to further implement water conservation beyond that recommended under the City's Water Demand and Supply Analysis conducted in June 2006. The plan established a water savings goal based on the amount of additional potable water required to meet Buildout (Year 2025) demands, the confidence that the recommended supply sources outlined in the Water Supply and Demand Analysis can meet the projected buildout demand, and the ability of a water conservation program to achieve the goal established. The offset goal established for the Water Conservation Plan was 495 MG/Year by 2025 (Buildout).
City of Petaluma Water Conservation Plan Appendices	2007	City of Petaluma	Plan	Surface and Groundwater	The intent of the study was to evaluate and recommend the most cost effective water conservation plan based on an 80 year present worth, comprised of water conservation measures that are feasible, cost effective, and implementable by the City. The goal of the plan was to further implement water conservation beyond that recommended under the City's Water Demand and Supply Analysis conducted in June 2006. The plan established a water savings goal based on the amount of additional potable water required to meet Buildout (Year 2025) demands, the confidence that the recommended supply sources outlined in the Water Supply and Demand Analysis can meet the projected buildout demand, and the ability of a water conservation program to achieve the goal established. The offset goal established for the Water Conservation Plan was 495 MG/Year by 2025 (Buildout).
City of Petaluma Water Demand and Supply Analysis Report	2006	City of Petaluma/Dodson	Report	Surface and Groundwater	The City of Petaluma updated the City's General Plan through buildout (Year 2025). As part of the General Plan 2025, a Water Resources Element was developed. Under the Water Resources Element, potable water demand requirements for the City's new General Plan through buildout were required, as well as potable water supply sources to satisfy the projected demand. The Water Demand and Supply Analysis project was undertaken by the City to determine the potable water demand and supply requirements to meet the new General Plan 2025. Under the Water Resources Element of the General Plan, the City completed a Water System Master Plan, a Recycled Water Master Plan, and a Groundwater Master Plan. All of these documents have been integrated along with water conservation efforts to determine the least-cost, feasible program for the City of Petaluma to meet their potable water demands through buildout. The analysis explored potable water supply from Sonoma County Water Agency, groundwater from City wells, potable offset via recycled water, and water use reduction through conservation.
City of Petaluma Water Demand and Supply Analysis Report Appendices	2006	City of Petaluma/Dodson	Other	Surface and Groundwater	The City of Petaluma updated the City's General Plan through buildout (Year 2025). As part of the General Plan 2025, a Water Resources Element was developed. Under the Water Resources Element, potable water demand requirements for the City's new General Plan through buildout were required, as well as potable water supply sources to satisfy the projected demand. The Water Demand and Supply Analysis project was undertaken by the City to determine the potable water demand and supply requirements to meet the new General Plan 2025. Under the Water Resources Element of the General Plan, the City completed a Water System Master Plan, a Recycled Water Master Plan, and a Groundwater Master Plan. All of these documents have been integrated along with water conservation efforts to determine the least-cost, feasible program for the City of Petaluma to meet their potable water demands through buildout. The analysis explored potable water supply from Sonoma County Water Agency, groundwater from City wells, potable offset via recycled water, and water use reduction through conservation.
City of Sonoma 2015 Urban Water Management Plan	2016	City of Sonoma/Maddaus Water Management	Plan	Surface and Groundwater	The purpose of developing this 2015 UWMP is to evaluate whether a water supplier can meet the water demands of its water customers as projected over a 20 or 25 year planning horizon. This evaluation is for a 25 year planning horizon and is accomplished through analysis of current and projected water supply and demand for normal, single dry, or multiple dry water year conditions

Evaluation of Groundwater Resources: Sonoma County	1982	Department of Water Resources	Report	Surface and Groundwater	The Sonoma County Water Agency (Sonoma County Water Agency) requested the California Department of Water Resources (DWR) to undertake a cooperative study to estimate the volume of ground water in storage and the recharge potential in the Santa Rosa Plain, Petaluma Valley, Sonoma Valley, and Alexander Valley and Healdsburg area. The study examined alternative ways the ground water resources of the county may be used conjunctively with the Russian River and other surface water sources. This report on the Sonoma Valley includes an evaluation of geologic and hydrologic characteristics of the ground water basin, an evaluation of the volume of usable ground water in the basin and the volume that can reasonably be extracted, possible changes in water quality resulting from pumping of groundwater, an evaluation of the interconnection of ground and surface the potential for artificial recharge of the ground water basin.
Sonoma County Water Agency Urban Water Management Plan	2010	Sonoma County Water Agency/Brown & Caldwell	Plan	Surface and Groundwater	This wholesale Urban Water Management Plan (Plan) addresses the Sonoma County Water Agency (Water Agency) water transmission system and includes a description of the water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. The Water Agency's Plan has been prepared in accordance with the Act, which is in the California Water Code, Sections 10610 through 10656. The Act requires every urban water supplier that provides water for municipal purposes to more than 3,000 connections, or supplying more than 3,000 acre-feet (ac-ft) of water annually, to adopt and submit a plan every five years to the California Department of Water Resources (DWR). This plan serves as a long-range planning document for the Water Agency's wholeEnvironmental Science Associatesle water supply.
Sonoma County Water Agency Urban Water Management Plan	2015	Sonoma County Water Agency/Brown & Caldwell	Plan	Surface and Groundwater	This wholesale Urban Water Management Plan (Plan) addresses the Sonoma County Water Agency (Water Agency) water transmission system and includes a description of the water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. The Water Agency's Plan has been prepared in accordance with the Act, which is in the California Water Code, Sections 10610 through 10656. The Act requires every urban water supplier that provides water for municipal purposes to more than 3,000 connections, or supplying more than 3,000 acre-feet (ac-ft) of water annually, to adopt and submit a plan every five years to the California Department of Water Resources (DWR). This plan serves as a long-range planning document for the Water Agency's wholesale water supply.
Sonoma County Water Agency Urban Water Management Plan	2005	Sonoma County Water Agency/Brown & Caldwell	Plan	Surface and Groundwater	This wholesale Urban Water Management Plan (Plan) addresses the Sonoma County Water Agency (Water Agency) water transmission system and includes a description of the water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. The Water Agency's Plan has been prepared in accordance with the Act, which is in the California Water Code, Sections 10610 through 10656. The Act requires every urban water supplier that provides water for municipal purposes to more than 3,000 connections, or supplying more than 3,000 acre-feet (ac-ft) of water annually, to adopt and submit a plan every five years to the California Department of Water Resources (DWR). This plan serves as a long-range planning document for the Water Agency's wholesale water supply.
Sonoma Valley Stormwater Management and Groundwater Recharge Scoping Study: Screening Evaluation and Prioritization Memorandum	2012	Sonoma County Water Agency/Environmental Science Associates, Parker Groundwater/Daniel B Stephens & Associates	Study	Surface and Groundwater	In February 2009, the State Water Resources Control Board established a statewide Recycled Water Policy to encourage the use of recycled water and local stormwater capture. The Recycled Water Policy also required local water and wastewater entities, together with local salt and nutrient contributing stakeholders to develop a Salt and Nutrient Management Plan (SNMP) for each groundwater basin or subbasin in California. In addition to promoting reliance on local, sustainable water sources such as recycled water and stormwater, the SNMP's purpose is to manage salts and nutrients from all sources to ensure water quality objectives are met and sustained, and beneficial uses of the groundwater basin are protected. The information in this SNMP is limited to the available data for the subbasin. This SNMP was developed for the Sonoma Valley Subbasin, defined as basin number 2-2.02 in the California Department of Water Resources (DWR) Bulletin 118-4 (DWR, 2003). The Sonoma Valley Subbasin encompasses an area of approximately 70 square miles and is located within the larger 166 square mile Sonoma Creek Watershed.

Sonoma Valley Groundwater Management Plan	2007	Sonoma County Water Agency/Schlumberger Water Services	Plan	Surface and Groundwater	Groundwater resources have long played a significant role in the development, growth and sustainability of the Sonoma Valley, with more than half the water demand in a given year met by local groundwater resources. With continuing and increasing demand on finite local groundwater supplies, overall groundwater storage in the Sonoma Valley has been and will continue to be depleted without appropriate actions in the near future. This voluntary, non-regulatory Sonoma Valley Groundwater Management Plan identifies a range of water management actions to sustain resources for future generations. The goal of the Plan is to locally manage, protect, and enhance groundwater resources for all beneficial uses, in a sustainable, environmentally sound, economical, and equitable manner for generations to come.
Sonoma Valley Groundwater Recharge Potential Mapping Project	2011	Sonoma County Water Agency/Sonoma Ecology Center	Report	Surface and Groundwater	The objective of this project is to develop a groundwater recharge potential map for the Sonoma Valley. The project is intended to provide improved information on the distribution of recharge potential in Sonoma Valley and assist in identifying areas that could be favorable locations for multiple-scale enhanced groundwater recharge projects. Additionally, data developed from the project will be coupled with other ongoing and planned recharge investigation techniques to inform and feed into the development of a fully coupled surface water/groundwater flow model for Sonoma Valley
2014 Guide to Groundwater in Sonoma Valley	2014	Sonoma Valley Groundwater Management Program	Guide	Surface and Groundwater	This brochure provides updates on groundwater conditions and ongoing and planned efforts by local stakeholders to better manage and sustain groundwater resources in Sonoma Valley. It provides an overview of groundwater use in Sonoma Valley, the status of groundwater, the management measures being taken to improve water supply conditions in Sonoma Valley and ways to stay involved.
Geohydrological Characterization, Water-Chemistry, and Ground-Water Flow Simulation Model of the Sonoma Valley Area, Sonoma County, California	2006	United States Geological Survey	Report	Surface and Groundwater	The Sonoma Valley, located about 30 miles north of San Francisco, is one of several basins in Sonoma County that use a combination of ground water and water delivered from the Russian River for supply. Over the past 30 years, Sonoma Valley has experienced rapid population growth and land-use changes. In particular, there has been a significant increase in irrigated agriculture, predominantly vineyards. To provide a better understanding of the ground-water/surface-water system in Sonoma Valley, the U.S. Geological Survey compiled and evaluated existing data, collected and analyzed new data, and developed a ground-water flow model to better understand and manage the ground-water system. The new data collected include subsurface lithology, gravity measurements, groundwater levels, streamflow gains and losses, temperature, water chemistry, and stable isotopes.
2015 Urban Water Management Plan for the Valley of the Moon Water District	2015	Valley of the Moon Water District/EKI Environment and Water	Plan	Surface and Groundwater	The District's 2015 UWMP describes how the current and future water resources and demands within the District's service area will be managed to provide adequate and reliable water supply.
City of Petaluma Phase II Storm Water Management Plan	2003	City of Petaluma/Winzler and Kelly	Plan	Water Quality	The City's Storm Water Management Plan (Plan) will focus efforts and resources on best management practices (BMPs) that address the reduction of nutrients, pathogens, and sediment in the City's storm water, the —mediuml priority pollutants in the Petaluma River water body. The Plan acts as the City's permit, describing actions including BMPs, measurable goals, and timetables for what are defined as Minimum Control Measures (MCMs).
City of Sonoma Stormwater Annual Report	2013	City of Sonoma	Report	Water Quality	The City of Sonoma's National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit includes an obligation to submit an annual report to verify compliance with the primary permit requirement to perform the tasks of the stormwater management program (SWMP). This document is for the reporting period from July 1, 2012, to June 30, 2013. It is the 11th annual report created under the City of Sonoma's permit.
NPDES for Storm Water Discharges Storm Water Management Plan Phase II	2004	County of Sonoma./Sonoma County Water Agency	Plan	Water Quality	This Storm Water Management Plan (SWMP) has been prepared as required by the Phase II Storm Water Regulations promulgated by the Environmental Protection Agency (EPA) on December 8, 1999, to satisfy the requirements of Clean Water Act §402(p). The SWMP has been prepared to comply with the State Water Resources Control Board Water Quality Order No. 2003-0005-DWQ, Waste Discharge Requirements for Small Municipal Separate Storm Sewer Systems (MS4 General Permit). Part I contains a description of the context in which this SWMP will be implemented, including the land uses, pollutant of concern, and administrative structure of each copermittee. Parts II and III contain individual SWMPs for the County of Sonoma (County) and the Sonoma County Water Agency (Water Agency).
USEPA Approved 303d List	2012	Environmental Protection Agency	Excel	Water Quality	California's Water Resources Control Board and nine Regional Water Quality Control Boards are responsible for conducting monitoring, assessment, reporting under CWA Sections 303(d) and 305(b) and TMDL development for the State of California. The State Board and Regional Boards cooperate in developing Section 305(b) and Section 303(d) listing reports. TMDLs are normally developed by Regional Boards, and then approved by the State Board and State Office of Administrative Law before being submitted for EPA approval.

3.0 Sonoma Watershed Management Area	2011	San Francisco Bay Regional Water Quality Control Board	Report	Water Quality	The sections describe the geography, land uses, and ecology of county watershed areas; discuss the significant water quality issues; describe existing watershed planning and stakeholder activities; and provide a general list for the next two years of the major activities in staff workplans for each of the counties. These sections also include a list of some of the major unfunded activities of importance in each county and Water Board grant priorities for each county. Each section includes a regional map, based on the 1995 Basin Plan watershed boundaries, that includes the major watersheds and sub-watersheds discussed in the County section.
Sonoma Creek Watershed Sediment TMDL and Habitat Enhancement Plan	2008	San Francisco Bay Regional Water Quality Control Board	Plan	Water Quality	This Staff Report provides the scientific and technical bases for the project. As we explain below, our approach to developing a Basin Plan amendment will entail: 1) confirming the nature of impairment by identifying significant limiting factors for fish using a limiting factors analysis of the Sonoma Creek watershed; 2) evaluating sediment loads and sources; 3) establishing narrative and numeric targets needed to support fish in good condition; and 4) developing an implementation plan to reduce sediment discharges and enhance native fish habitat.
Total Maximum Daily Load (TMDL) for Pathogens in Sonoma Creek Watershed	2006	San Francisco Bay Regional Water Quality Control Board	Report	Water Quality	This staff report provides the technical background and basis for a proposed amendment to the Water Quality Control Plan, San Francisco Bay Region (Basin Plan) (Water Board, 1995). This staff report contains results of staff analysis of pathogen impairment and sources, recommended pathogen load allocations, and a plan to implement the allocations. If adopted, the Basin Plan amendment would: 1) establish a pathogen Total Maximum Daily Load (TMDL) in the Sonoma Creek Watershed pursuant to Section 303(d) of the Clean Water Act, and 2) establish an implementation strategy to achieve and support the TMDL. If adopted, portions of Basin Plan Chapter 4 (implementation plan) will be revised. This report provides the scientific basis for the TMDL and associated implementation plan for the Sonoma Creek Watershed. It discusses background conditions and current pathogen loads. It also describes how the TMDL ensures attainment of water quality objectives and protects beneficial uses of the Sonoma Creek Watershed.
Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds	2007	San Francisco Bay Regional Water Quality Control Board	Study	Water Quality	This report provides a data summary for watershed monitoring completed during year three of the regional program. Watershed data were compared with published water quality goals and reviewed to identify spatial and/or temporal trends. Data analysis was also geared to augment regional findings from previous years' monitoring, including linkage of results to land use and evaluation of the SWAMP monitoring tools. This report does not provide an evaluation of beneficial use support, nor does it assess watershed impairment; however, data provided herein can be used in support of such determinations.
Petaluma River Impairment Assessment for Nutrients, Sediment/Siltation, and Pathogens	2010	San Francisco Bay Regional Water Quality Control Board/ Aquatic Science Center	Report	Water Quality	This report summarizes existing data and makes comparisons between what is available for Petaluma and what was used for development of TMDLs for similar types of watersheds. This report describes the beneficial uses for the Petaluma River, compiles relevant water quality guidelines and targets for reference, establishes and qualifies connections between water quality guidelines and beneficial uses, compiles the readily available data (not older than last 10 years) to evaluate whether water quality objectives protective of beneficial uses in the waterbody are being attained, and compares the data used to develop TMDLs in similar watersheds against what is available for Petaluma.
Guidelines for the Standard Urban Storm Water Mitigation Plan	2005	Sonoma County, Santa Rosa, Russian River Watershed Authority/ BKF Engineers, EOA	Guide	Water Quality	These guidelines have been developed to assist project sponsors and municipal staff to implement the Santa Rosa Area Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that were adopted by the North Coast Regional Water Quality Control Board in June 2003. Since the SUSMP requirements apply to both privately sponsored projects and public capital improvement projects, these Guidelines should be used by development project applicants, municipal development project review staff, and municipal staff responsible for capital improvement projects. The SUSMP requirements are part of the Storm Water Management Plan that has become an enforceable part of the reissued municipal storm water National Pollutant Discharge Elimination System (NPDES) permit for the City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency.

Sonoma Creek Watershed Limiting Factors Analysis	2006	Sonoma Ecology Center	Report	Water Quality	The purpose of this study is to evaluate the influence of physical factors, including sediment transport processes, on three aquatic species of concern. These species are steelhead trout ( <i>Oncorhynchus mykiss</i> ), Chinook salmon ( <i>Oncorhynchus tshawytscha</i> ), and California freshwater shrimp ( <i>Syncaris pacifica</i> ). The objective is to assess which factors are most likely limiting the success and size of sensitive aquatic species populations during the freshwater portion of their life cycle. In reporting our results, we place the greatest emphasis on factors limiting steelhead trout, the most ubiquitous of the three species throughout the watershed and an excellent indicator of overall aquatic ecological health. A goal of this study is to identify a range of possible restoration measures. The aim is to bring the best science possible to bear on framing a community-supported and cost-effective approach to the ecological recovery of Sonoma Creek.
Sonoma Creek Watershed Limiting Factors Analysis Appendix 1: Stream Temperatures	2004	Sonoma Ecology Center	Report	Water Quality	Warmer water temperatures during the summer months may cause juvenile steelhead to seek refuge habitat in cooler waters such as deep, well-shaded pools. Preliminary data collected in 1996 and 1997 by the SEC concluded that summer water temperatures, as preferentially measured in well shaded pools, found conditions were found not to be optimal (Katzel 1997). The 1996-1997 study however, did not collect temperature data during the earlier part of the summer (June and early July) and did not cover all significant fish-bearing tributaries in the watershed. It was therefore recommended that additional temperature monitoring be conducted to expand the period during the summer when data was collected and assess additional stream reaches.  Starting in 1998 and continuing through 2002, thermal monitors were installed throughout the Sonoma Creek watershed. Thermal monitoring sites were chosen based on known historic or potential juvenile steelhead rearing habitat, and site. Eight sites were selected in mainstem Sonoma Creek and nine main tributaries arising from both the east and west sides of the watershed .
Sonoma Creek Watershed Sediment Source Analysis	2006	Sonoma Ecology Center	Report	Water Quality	The purpose of this project is to conduct a sediment source analysis (SSA) for the Sonoma Creek watershed. This SSA identifies sediment sources, rates of erosion, and rates of sediment delivery to waterways. This study is part of the Sonoma Creek Total Maximum Daily Load (TMDL) water quality program administered by the California Regional Water Quality Control Board, San Francisco Bay Region (SF RWQCB). In 1996, the SF RWQCB listed Sonoma Creek as impaired under Section 303(d) of the federal Clean Water Act (CWA)
Sonoma Valley Salt and Nutrient Management Plan	2013	Sonoma Valley County Sanitation District/RMC Water and Environment	Plan	Water Quality	In February 2009, the State Water Resources Control Board established a statewide Recycled Water Policy to encourage the use of recycled water and local stormwater capture. The Recycled Water Policy also required local water and wastewater entities, together with local salt and nutrient contributing stakeholders to develop a Salt and Nutrient Management Plan (SNMP) for each groundwater basin or subbasin in California. In addition to promoting reliance on local, sustainable water sources such as recycled water and stormwater, the SNMP's purpose is to manage salts and nutrients from all sources to ensure water quality objectives are met and sustained, and beneficial uses of the groundwater basin are protected. This SNMP was developed for the Sonoma Valley Subbasin, defined as basin number 2-2.02 in the California Department of Water Resources (DWR) Bulletin 118-4 (DWR, 2003). The Sonoma Valley Subbasin encompasses an area of approximately 70 square miles and is located within the larger 166 square mile Sonoma Creek Watershed.
General WDR for Vineyards in Napa River and Sonoma Creek Watersheds	2017	State Water Resources Control Board	Other	Water Quality	Vineyard properties may pose threats to water quality by discharging sediment, nutrients, and pesticides and increasing storm runoff, which consequently can cause erosion and sedimentation and otherwise impact aquatic life. The Napa River and Sonoma Creek Total Maximum Daily Loads have established performance standards under federal law for sediment discharge and storm runoff to protect and restore water quality. The draft General Permit would require actions to control pollutant discharges 1 including sediment and storm runoff from vineyards and unpaved roads, which are located throughout vineyard properties, and pesticides and nutrients from vineyards.
State Water Resources Control Board – Industrial General Permit 2014-0057-DWQ	2014	State Water Resources Control Board	Other	Water Quality	The Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP) implements the federally required storm water regulations in California for storm water associated with industrial activities discharging to waters of the United State
State Water Resources Control Board Resolution 2015-0019: Amendment to the Water Quality Control Plan for Ocean Waters to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California	2015	State Water Resources Control Board	Other	Water Quality	Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California

San Francisco Estuary Watersheds Evaluation	2007	Center for Ecosystem Management and Restoration	Report	Watershed Description	This report summarizes the results of a novel, region-wide analysis that for the first time provides planners and resource agency staff a thoroughly documented, transparent guide to prioritizing expenditures on steelhead restoration in the watersheds tributary to the San Francisco Estuary. All readily available documentation about steelhead was gathered, and local experts interviewed, to establish the most comprehensive record currently available on the distribution of the species and its habitat. This document was vetted with members of academia, agency staff, and others with expertise, and provides a systematic and transparent basis for recommending Bay Area locations with the greatest promise to achieve steelhead conservation and restoration.
City of Petaluma Floodplain Management Plan	2015	City of Petaluma	Plan	Watershed Description	The Federal Emergency Management Agency (FEMA) first issued Flood Insurance Rate Maps in 1980. Since that time, the City of Petaluma has made a concerted effort to manage the development of its floodplain by the adoption of various ordinances, regulations and practices, and by incorporating floodplain management goals into the City's General Plan 2025, adopted in May of 2008. The City of Petaluma joined the National Flood Insurance Program (NFIP) in 1983 and adopted its first Floodplain Management Plan (FMP) in 1995. The City updated and re-adopted its plan in October of 2001 and October of 2010. The purpose of this updated Floodplain Management Plan (FMP) is to ensure that an open public process is followed in pursuing the reduction of flood losses, and that the selected activities are best for the community. This plan describes the nature and magnitude of flooding the City has experienced in the past; floodplain management activities implemented to date; additional alternative remedies; and a plan for future action to address the current flooding problems. It is not the purpose or the intent of this plan to commit the City to large public expenditures. The objective is to quantify the problem and propose solutions that can be undertaken at this time, and in the future, if and when funds become available.
City of Petaluma: General Plan 2025	2008	City of Petaluma	Plan	Watershed Description	The Petaluma General Plan outlines a vision for Petaluma's long-range physical and economic development and resource conservation; enhances the true quality of life for all citizens; recognizes that all human activity takes place within the limits of the natural environment; and reflects the aspirations of the community; Establishes a basis for judging whether specific development proposals and public projects are in harmony with Plan policies and standards; Allows City departments, other public agencies, and private developers to design projects that will enhance the character of the community, preserve and enhance critical environmental resources, and minimize impacts and hazards; and Provides the basis for establishing and setting priorities for detailed plans and implementing programs, such as the Development Codes, the Capital Improvement Program (CIP), facilities and master plans, and redevelopment projects.
City of Sonoma 2020 General Plan	2006	City of Sonoma	Plan	Watershed Description	This 2020 General Plan is the fifth adopted by the City of Sonoma since its first general plan in 1964. Each of these, adopted in roughly ten-year intervals, has had a different scope and focus but one quality has remained consistent: these plans have represented the collective vision of the community and expressed its desire to preserve and improve upon the essential characteristics that define Sonoma.
Baylands Ecosystem Habitat Goals Report	1999	San Francisco Bay Area Wetlands Ecosystem Goals Project	Report	Watershed Description	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. Scientists and resource managers developed the Goals Project's recommendations, but this report has been written for the public rather than for a scientific or technical audience.  This report presents recommendations for the kinds, amounts, and distribution of wetlands and related habitats that are needed to sustain diverse and healthy communities of fish and wildlife resources in the San Francisco Bay Area. The geographic scope of the Goals Project included portions of the San Francisco Estuary that are downstream of the Sacramento-San Joaquin Delta. These include Suisun Bay, San Pablo Bay, and San Francisco Bay. It represents the culmination of more than three years of work by scientists, resource managers, and other participants of the San Francisco Bay Area Wetlands Ecosystem Goals Project (Goals Project).
Baylands Ecosystem Habitat Goals Report Science Update	2015	San Francisco Bay Area Wetlands Ecosystem Goals Project	Report	Watershed Description	The 1999 Baylands Ecosystem Habitat Goals report was a seminal document that provided a comprehensive scientific vision for non-tidal and tidal wetland restoration in the baylands ecosystem. This Science Update is a nonregulatory, voluntary effort to point the Bay Area toward a more resilient future, with strategies that were developed over several years by several hundred experts and practitioners in the region. This update incorporates new science available since that report and addresses the challenges resulting from the present-day understanding—of climate change and other key drivers—needed to maintain a resilient bayland ecosystem through 2100.

Sonoma County General Plan 2020 Draft EIR	2006	Sonoma County Permit and Resource Management Department	Report	Watershed Description	This Draft Environmental Impact Report (EIR) describes the potential environmental effects that could result from implementation of the proposed Sonoma County General Plan 2020 (Draft GP 2020), which provides policy guidelines for the unincorporated portions of Sonoma County to direct growth and development to the year 2020.
Historical Synopsis of Changes for the Sonoma Valley Watershed	2004	Sonoma Ecology Center	Report	Watershed Description	<p>This synopsis and synthesis of existing information on apparent changes in the Sonoma Valley watershed over the last two hundred years was compiled at the request of Rebecca Lawton, staff geologist and Prop 13 project manager for the Sonoma Ecology Center (SEC), and Lisa Micheli, watershed science coordinator for the SEC. Based on years of historical research, interviews with local elders collected for the Oral History Project, field observations, collaborations with watershed scientists, and preliminary analysis, the primary goal of this paper is to inform current Limiting Factors Analysis (LFA), Total Maximum Daily Load (TMDL) and Army Corps of Engineers (ACE) studies in the watershed by:</p> <ul style="list-style-type: none"> <li>• Outlining our current understanding of the historical record as it relates to issues of ecology, geomorphology, hydrology and fisheries.</li> <li>• Documenting historical sources which relate to questions of historical ecology, geomorphology, hydrology and fisheries.</li> <li>• Presenting a coherent and cohesive picture of the historic watershed (1810 to present) and to use this picture to extrapolate conditions in the reference watershed (pre-1810).</li> <li>• Presenting hypotheses suggested by historical evidence which can be checked against modern field data.</li> <li>• Defining directions for further historical and field research.</li> </ul>
Sonoma Valley Historical Hydrology Mapping Project Phase 1	2016	Sonoma Ecology Center/Arthur Dawson	Report	Watershed Description	<p>Prior to extensive human modification, the Sonoma Valley watershed (Figure 1) enjoyed an abundance of surface and ground water, extensive wetlands, and high water quality. Previous studies (Lawton 2006; Micheli 2006; San Francisco Estuary Institute 2012; see also "Comparison of Modern &amp; Historical Conditions," pg. 24) have demonstrated that changes over the last two centuries have caused increased runoff, flooding, and sedimentation; decreased surface and groundwater; degraded habitat for salmonids and other species; and a loss of wetlands. In coming years, climate change is expected to aggravate these conditions with projected increases in both flooding and drought. Understanding how the watershed functioned before significant human modification is essential to planning projects that will reduce flooding, increase groundwater recharge, improve water quality and restore habitat. The goal of this project was to complete a medium-resolution (1:72,000) historical hydrology map documenting historical freshwater channels and wetlands recorded for the Sonoma Valley watershed at the time of European-style settlement in the mid-19th century. This report details the methods used for mapping and the maps themselves.</p>
Analysis of Sonoma Creek Stream Gauging Data	2002	Sonoma Ecology Center/Leland	Report	Watershed Description	<p>This report describes the methods and results of an analysis of stream gaging data collected by the USGS on Sonoma Creek from 1955 to 1981. The objectives of the analysis are:</p> <ul style="list-style-type: none"> <li>• to describe certain hydrologic characteristics of Sonoma Creek, including high flow and low flow frequencies and relationship of precipitation to streamflow</li> <li>• to provide this description of hydrologic characteristics as a portion of a baseline inventory of the creek against which data collected since 1981 can be compared</li> <li>• to communicate the results of this description to the community.</li> </ul>
Sonoma Creek Watershed Enhancement Plan	1997	Sonoma Resource Conservation District	Plan	Watershed Description	<p>The goals of the Plan were developed by a broad-based group of local community organizations, residents, and agriculturists. Their goal was to develop a plan that provides recommendations for management of the Valley's natural resources agreeable to all citizens of the watershed and serve as a planning tool for years to come.</p> <p>The goals of the Plan include:</p> <ul style="list-style-type: none"> <li>Maintain long-term local control of watershed planning and enhancement.</li> <li>Conserve and improve the natural resources of the watershed, including native wildlife species and plant communities, productive soils and health stream habitat.</li> <li>Encourage responsible landmanagement practices that support a healthy watershed. Manage streams to maximize wildlife habitat while maintaining effective flood control.</li> <li>Educate the community about the natural features of the watershed, its people, and economy.</li> </ul>

Petaluma Watershed Enhancement Plan	1999	Sonoma Resource Conservation District	Plan	Watershed Description	<p>The Petaluma Watershed Enhancement Plan was prepared through grant funding from the California Regional Water Quality Control Board (RWQCB). The Regional Board is currently focusing efforts on initiating watershed management planning for several counties, including Sonoma County. It is the RWQCB's belief that watershed planning and protection efforts will not be effective unless solutions are defined and implemented locally. The primary focus of the Enhancement Plan is the issues of concern of the agriculturists and landowners located outside of the Petaluma urban area. The majority of the landowners involved in this planning process are ranchers and farmers who care about the health of the watershed. They are interested in participating and contributing to the process of enhancing the watershed and sustaining agriculture in Sonoma County. The Plan identified four goals: Establish a Local Watershed Council for Residents and Other Organizations to Fund and Coordinate Watershed Enhancement Activities and Keep One Another Informed.                  Improve Water Quality and Ground Water Recharge in the Petaluma Watershed with the Ultimate Purpose of Removing the Petaluma River from the RWQCB Impaired Waterbody List 303d                  Support the Viability of Agriculture in the Community                  Conserve and Enhance Existing Wildlife Habita"</p>
Petaluma Watershed Enhancement Plan	2015	Sonoma Resource Conservation District	Plan	Watershed Description	<p>Watershed plans are intended to be living documents that continue to change and improve over time. The first Petaluma Watershed Enhancement Plan was developed in 1998 in order to determine how to more effectively manage the watershed. This draft 2013 Plan updates and replaces the 1998 Plan, with current information on the watershed and new recommendations for watershed management strategies. This new plan also focuses on including new technical information from the urban and rural areas of the watershed, and both social and resource related recommendations for improved water quality, habitat, and agricultural and rural sustainability throughout the watershed. The objective of this Plan Update is to reflect the latest conditions, goals, and regulatory requirements associated with the watershed, to review natural resource issues concerning residents and to recommend a course of action to maintain and improve those resources. In conducting this update, the Plan reviews existing information, identifies data gaps and recommends additional data collection activities. The overall purpose of the Watershed Enhancement Plan is to identify ways in which to protect, conserve, and enhance the watershed.</p>
San Antonio Creek Watershed Plan	2008	Sonoma Resource Conservation District	Plan	Watershed Description	<p>The purpose of this document is to: 1) identify the existing conditions, 2) determine issues of concern from the perspective of the landowners and residents in the watershed, and 3) establish a set of goals, objectives, management measures and recommended actions with timelines for implementation. The San Antonio Creek Watershed plan is directly linked to the 1999 Petaluma Watershed Enhancement Plan. This watershed and it's "subplan" is vertically aligned with the Petaluma plan which has strong grass roots support from landowners and stakeholders. In addition to issues identification, the group also established a number of actions and objectives to achieve major goals for San Antonio Creek. The issues and goals identified in this plan show the concern that members of the agricultural community as well as other stakeholders in the watershed have for San Antonio Creek and the larger Petaluma Watershed.</p>

Sonoma Creek Watershed Enhancement Plan	2013	Sonoma Resource Conservation District	Plan	<p>Watershed Description</p> <p>The first Sonoma Creek Watershed Enhancement Plan was developed in 1997 in order to determine how to more effectively manage the watershed. This 2013 Plan updates and replaces the 1997 Plan, with current information on the watershed and new recommendations for watershed management strategies. The Plan addresses the entire Sonoma Creek watershed, which consists of 170 square miles and drains into the San Pablo Bay. The overall purpose of the Watershed Enhancement Plan is to identify ways in which to protect, conserve, and enhance the watershed. Draft goals were developed by the advisory committee which was composed of landowners, residents, agricultural interests, agency representatives, elected officials and community groups. Plan goals include the following:</p> <ul style="list-style-type: none"> <li>A. Maintain long-term, local control of watershed planning and enhancement. Establish integrated watershed management.</li> <li>B. Conserve and improve the natural resources of the watershed. Protect the quality and quantity of the valley's water.</li> <li>C. Maintain streams to maximize beneficial uses.</li> <li>D. Encourage responsible stewardship of urban, rural residential, agricultural, and park lands.</li> <li>E. Educate the community about the natural features of the watershed, its people, ecology, and economy.</li> <li>F. Support diverse agriculture that responsibly manages the landscape and contributes to the valley's economic vitality.</li> </ul> <p>The objective of this Plan Update is to reflect the latest conditions, goals, and regulatory requirements associated with the watershed, to review natural resource issues concerning residents and to recommend a course of action to maintain and improve those resources. In conducting this update, the Plan reviews existing information, identifies data gaps and recommends additional data collection activities. The Watershed Enhancement Plan (WEP) addresses all resources within the watershed. The Plan seeks to provide a comprehensive set of management strategies for multiple benefits in the watershed.</p>
Lower Sonoma Creek Flood Management and Ecosystem Enhancement	2012	Sonoma Resource Conservation District/ Environmental Science Associates	Study	<p>Watershed Description</p> <p>The report contains over 180 pages with figures, maps, and charts and technical appendices describing: study purpose and goals, background and history landscape and watershed setting opportunities and constraints for flood management and restoration conceptual model of flood flow interactions along Sonoma Creek conclusions and recommendations appendices: project alternatives, hydraulic model development report, photos of recent flood events, screening analysis and alternatives in hydrodynamic model, shoreline response to sea level rise, sediment transport and geomorphic analyses, and brief intro to tidal marsh restoration</p>
Sonoma and Carriger Creeks Alluvial Fan Assessment	2012	Sonoma Resource Conservation District/Watershed Sciences/Sonoma County Water Agency	Study	<p>Watershed Description</p> <p>Channels on active alluvial fans are inherently unstable. Development on these landforms combined with the occurrence of flooding, property damage, channel instability, and loss of mature riparian vegetation has prompted this study of the channel profiles of Sonoma and Carriger Creeks to improve our understanding of current conditions and recent changes along their alluvial fans.</p> <p>The purpose of this project was to analyze the current mainstem channel conditions, causes of channel avulsion and instability, and to identify potential sites of future concern along Carriger and Sonoma Creeks on their alluvial fans.</p> <p>The report contains over 60 pages with maps, figures, and charts describing: study purpose and goals, background and history the local landscape setting and fluvial geomorphology concepts as they relate to alluvial fans conceptual model of flood flow interactions along sections of Sonoma Creek and Carriger Creek conclusions and recommendations for restoration and flooding projects on alluvial fans</p>

<p>Sonoma Creek &amp; Tributaries Feasibility Study</p>	<p>2001</p>	<p>US Army Corps of Engineers/Southern Sonoma Resource Conservation District</p>	<p>Study</p>	<p>Watershed Description</p> <p>The San Francisco District of the U.S. Army Corps of Engineers (Corps) and the Southern Sonoma County Resource Conservation District (RCD), the non-Federal sponsor, developed this Project Management Plan (PMP) with input from stakeholders in the watershed. The PMP outlines the planning process that would take place to develop the Sonoma Creek &amp; Tributaries Integrated Feasibility NEPA/CEQA Report (Report). The Report will facilitate the potential implementation of a lower Sonoma Creek watershed flood protection and restoration project. The Report would benefit the restoration and economic enhancement of the Sonoma Creek watershed. The planning process would identify, review, refine, and prioritize steps for restoration of the watershed's physical functions that minimize flooding and maintain a healthy ecosystem, e.g.: appropriate hydraulic geomorphology that minimizes accelerated rates of bank erosion, bed erosion and sedimentation; important plant communities that increase habitat diversity (i.e.: wetland and riparian) while minimizing bank erosion; and decreases in water temperature and water supply of sufficient quantity and quality to support endemic wildlife and fish populations, especially those that are rare and endangered). The development of the Report would be an iterative process to foster support for flood protection and restoration within the Sonoma Creek and tributaries ecosystem.</p>
<p>Adapting to Sea Level Rise Along the North Bay Shoreline</p>	<p>2013</p>	<p>Veloz, Elliott, Jongsomjit/North Bay Watershed Association</p>	<p>Report</p>	<p>Watershed Description</p> <p>PRBO Conservation Science in coordination with the North Bay Watershed Association (NBWA) developed this report to demonstrate how the Future San Francisco Bay Tidal Marshes Climate Smart Planning Tool (<a href="http://www.prbo.org/sfbayslr">www.prbo.org/sfbayslr</a>) can be used by agencies responsible for coastal areas in North San Francisco Bay to develop adaptive management plans. We held two workshops that brought together 50 managers, scientists, and other stakeholders from groups in the North Bay to identify what information they needed, but currently lacked, to make decisions. As a result of feedback gathered in these workshops and a pre-workshop survey we decided on the following four goals for this study:</p> <ul style="list-style-type: none"> <li>-Address the ecosystem value of tidal marshes by estimating the amount by which they attenuate incoming waves</li> <li>-Analyze tidal marshes and other sites of interest in the North Bay region by calculating projected marsh composition, wave attenuation, and tidal marsh bird abundance</li> <li>-Add summary reports containing these data for 344 tidal marshes across San Francisco Bay to PRBO's sea-level rise decision support tool (<a href="http://data.prbo.org/apps/sfbslr/index.php?page=marsh-reports">http://data.prbo.org/apps/sfbslr/index.php?page=marsh-reports</a>)</li> <li>-Produce more detailed vulnerability assessments (including estimates of adaptive capacity) for three case study areas selected as being of high interest to workshop participants: Inner Richardson Bay, Gallinas Creek, and Novato Creek</li> </ul>
<p>Geomorphic Changes in the Lower Reaches of Carriger Creek</p>	<p>2002</p>	<p>Watershed Sciences</p>	<p>Report</p>	<p>Watershed Description</p> <p>Carriger Creek is a tributary of Sonoma Creek, in Sonoma County, California. Its 5.6 sq. mi. watershed includes a steep, forested canyon with sparse residential development that drains to a broad alluvial fan that supports mostly viticulture and cattle ranching. Sections of the creek along the alluvial fan lack riparian trees and perennial flow during late fall. The high rate of bank erosion, loss of riparian vegetation and perennial flow, flooding, and loss of fish habitat in the lower creek have raised concern among local residents about the "health" of their watershed. As a result, a detailed quantitative field study of creek conditions and processes was conducted from June through September 2000 in the lower 3.9 miles of Carriger Creek. This lower creek segment is called the Study Site, which includes the lower Sonoma Valley, the Carriger Creek alluvial fan, and a small portion of Carriger Canyon.</p> <p>The principal objective of this study was to survey current channel conditions, identify relevant geomorphic processes, identify changes in conditions and processes since the time of non-native settlement, and provide the information to land managers in an effort to improve restoration strategies and design, reduce erosion and sedimentation, and improve water quality and habitat in Sonoma County.</p>