

## **Appendix A**

### **Land Use in the Petaluma River Watershed**



# **Land Use in the Petaluma River Watershed**

*Prepared for*  
**Southern Sonoma County Resource Conservation District  
Petaluma River Watershed Enhancement Plan**

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Southern Sonoma County Resource Conservation District has contracted with Prunuske Chatham, Inc., an environmental consulting firm located in Occidental, to produce this document entitled *Summary of Land Use in the Petaluma River Watershed*.



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# SUMMARY OF LAND USE IN THE PETALUMA RIVER WATERSHED

## **1.0 Introduction**

The Petaluma River and its receiving water, San Pablo Bay, are on California's Impaired Waterbody 303(d) list.<sup>1</sup> The San Francisco Bay Regional Water Quality Control Board (RWQCB) identifies the main pollutants as sedimentation, high nutrient levels, and animal waste, which causes the coliform standard to be exceeded. In response to this listing, the Southern Sonoma County Resource Conservation District (SSCRCD) applied for and received 205(j) grant funding from the RWQCB to develop a plan for the Petaluma River watershed. The planning area for SSCRCD's watershed plan includes all areas outside the limits of the City of Petaluma (City).

One component of the planning process is to develop a summary of land use in the Petaluma River watershed. The goal of the summary is to assist SSCRCD's watershed advisory group in developing land use goals and recommendations for the watershed plan. This report summarizes available land use and watershed enhancement information from the City, Sonoma County, and other sources. It includes an overview of the historic relationship between the City and Sonoma County regarding land use planning, as well as an identification of land use concerns related to 1) agricultural sustainability, 2) natural resources, and 3) rural community quality of life. Recommendations by the watershed advisory group are identified. Appendix A is a summary of permits required for watershed restoration work.

## **2.0 Watershed Overview**

The Petaluma River watershed is located in southern Sonoma County and a portion of northeastern Marin County. It drains a 146 square mile, pear-shaped basin (see attached Map of the Petaluma River Watershed). It is approximately 19 miles long and 13 miles wide with the City near its center. U.S. Highway 101 bisects the watershed valley. Mountainous or hilly upland areas comprise 56% of the watershed, 33% percent of the watershed is valley, and the lower 11% is salt marsh. Sonoma Mountain at 2,295 feet is the highest point in the watershed. The Petaluma River empties into the northwest portion of San Pablo Bay.

The headwaters and ephemeral tributaries begin on the steep southwest slopes of Sonoma Mountain, the southern slopes of Meacham Hill, and the eastern slopes of Wiggins Hill and Mt. Burdell. The confluence of Willow Brook, Liberty, and Wiggins Creeks form the headwaters of the Petaluma River just upstream of Rainsville Road and Stony Point Road. The Petaluma

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<sup>1</sup> Impaired refers to the limited capacity of the river to assimilate or flush waste.

River itself flows across the Denman Flat area and through the City. Tidal influence extends upstream of the confluence with Lynch Creek beyond the railroad crossing.

The lower 12 miles of the Petaluma River flow through the Petaluma Marsh, the largest remaining salt marsh in San Pablo Bay. The marsh covers 5,000 acres and is surrounded by approximately 7,000 acres of reclaimed wetlands. Prior to reclamation, marshland ranged from mean sea level to 3 feet above mean sea level.

Major tributaries in the eastern portion of the watershed include Lichau Creek, which flows into Willow Brook Creek and feeds into the Denman Flat area near Stony Point Road and Rainsville Road, Lynch Creek, Adobe Creek, and Ellis Creek. These tributaries flow through both unincorporated land and land within the City limits before joining the Petaluma River.

There are three major creeks on the western side of the watershed. Wiggins Creek and Marin Creek flow into Liberty Creek, which also feeds into Denman Flat. The largest subwatershed is San Antonio Creek located in the western portion of the watershed south of Petaluma. It flows from near Laguna Lake in Chileno Valley to the Petaluma Marsh and divides Marin and Sonoma counties. In the lower watershed, small tributaries drain into the river and marsh areas.

### **3.0 Watershed Land Uses**

Land uses in the watershed include intensive urban development, rural residential, agriculture, and open space (see attached Map of the Petaluma River Watershed).<sup>2</sup> Urban development is concentrated within the City limits. Limited commercial and rural residential development is located in the community of Penngrove.

#### **3.1 Rural residential.**

Ranchettes or large lot, rural residential development are found throughout the watershed. These rural properties typically range from one to 20 acres and are not usually part of development tracts. Many rural residents keep livestock, such as sheep and horses. On the eastern side of the watershed, rural residential areas surround Penngrove and extend into the Lichau Creek and Lynch Creek areas. On the western side of the watershed, the rural residential areas outside the City (Liberty Road, Rainsville Road, Skillman Lane, Middle Two Rock Road, and Eastman Lane) are expanding.

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<sup>2</sup> The land use map is from the 1989 Sonoma County General Plan. The County is in the process of updating the General Plan.

### **3.2 Agriculture.**

Since European settlement in the 19th century, agriculture has been the dominant land use in the Petaluma River watershed. Although the historic poultry production has declined, dairy continues to be an important agricultural industry. Dairy operations are found throughout the watershed, particularly in the San Antonio Creek and Adobe Creek subwatersheds. In December, 1997, there were 15 dairies in the watershed.

Although vineyards were established in the Lakeville area before the prohibition era, the area was historically considered too cool for wine grapes. Vineyard development has increased, particularly near Lakeville, along Highway 101, and in the San Antonio Creek subwatershed. Wine grape production is expected to expand rapidly in the next five years. In December, 1997, there were approximately a dozen vineyards in the Petaluma River watershed.

Other agricultural uses include livestock (beef and sheep), horses (including about five boarding and training facilities), oats (for silage, hay, or straw and seed), olives, truck crops, Christmas trees, poultry production (chickens, ducks, and eggs), emus, llamas, greenhouses, and floral nurseries.

Eight properties in the watershed, totaling 2,946 acres, have conservation easements with the Sonoma County Agricultural Preservation and Open Space District. Two of these properties have future potential for public access; the others are in agricultural production, including hay, sheep, dairy, and grazing use. Two properties in Sonoma County adjacent to the watershed boundary also have conservation easements totaling 736 acres. Five ranches on the Marin County portion of the San Antonio Creek subwatershed have easements with Marin Agricultural Land Trust.

Agricultural activities can profoundly impact natural resources. These impacts are listed briefly here, and most will be addressed in other study components of SSCRCD's watershed enhancement plan. These impacts can include:

- **Degradation of water quality.**  
Excess nutrients (especially nitrogen), high salt content, high sediment loads, low oxygen, and high water temperatures from lack of streamside cover can impact water quality. For this plan, water quality concerns are addressed in a separate summary.
- **Loss of streamside or riparian vegetation from grazing or farming practices.**  
Streamside vegetation helps cool creek water, filters run-off from pastures and paddocks, protects banks from erosion and provides wildlife habitat.

For this plan, a separate report entitled *Summary of Riparian Community Enhancement in the Petaluma River Watershed* has been prepared.

- **Upland erosion.**

Upland erosion can be caused by farming and grazing practices or vineyard management, as well as ranch roads. For this plan, a separate report entitled *Summary of Erosion and Sedimentation in the Petaluma River Watershed* has been prepared.

- **Loss of wildlife habitat from farming practices.**

Wildlife habitat loss from farming practices can occur in upland, aquatic, and tidal areas. For this plan, habitat issues relating to salmon and steelhead, the federally-listed endangered California clapper rail, California black rail, and salt marsh harvest mouse are discussed in the *Summary of Fisheries Enhancement in the Petaluma River Watershed* and *Summary of Marsh/Bay Habitat in the Petaluma River Watershed*.

- **Loss of upland habitat and changes in upland vegetation are addressed in *Summary of Riparian Community Enhancement in the Petaluma River Watershed*.**

### 3.3 Open space.

Open space land includes local and state parks, as well as preserves. The 1,950 acre Petaluma Marsh Wildlife Area is managed by the California Department of Fish and Game (CDFG). It is located approximately six miles southeast of the City and is bordered by the Petaluma River on the east, San Antonio Creek on the south, private property (Neils Island) on the west, and Schultz Slough on the north. The 300-acre Rush Creek Marsh, which is managed by Marin County Open Space District, is located south of Basalt Creek and north of Novato. The State Coastal Conservancy (SCC) and U.S. Fish and Wildlife Service (USFWS) own and manage approximately 430 acres of marsh as part of the Baylands Project.

The Sonoma Land Trust owns and manages 472 acres of marshlands south of Petaluma on both sides of Highway 37. This land is currently leased as farmland. The Land Trust also has an agricultural preservation easement on an additional 528 acres. They have a contract with State Lands Commission (SLC) to monitor an approximately 50-acre parcel that has been restored to tidal wetlands.

The City owns the 300-acre Petaluma River Marsh, Lafferty Ranch on Sonoma Mountain, small parcels related to water supply on Manor Road, the Petaluma River Marina, oxidation ponds and related facilities near Lakeville, Schollenberger Park (a dredge disposal site), Rocky Dog Memorial Park (on an old landfill), the Alman Marsh near the marina, a portion of the McNear

Peninsula near downtown, and 160 acres of marsh and oxidation ponds near Schollenberger Park.

On the eastern side of its boundaries, the City owns a municipal airport on East Washington Street, Prince Park, Wiseman Park, a golf course, and urban separator lands. The City is planning for two major open space acquisitions—the Gray property and floodplain areas for the Petaluma River Greenway.

Other open space land in the watershed includes Helen Putnam Regional Park (Sonoma County Department of Parks and Recreation), the Burdell Ranch (CDFG), Petaluma Adobe State Historic Park, and Olompali State Historic Park (both owned by California Department of Parks and Recreation), and the Fairfield Osborn Preserve (recently purchased by Sonoma State University).

### **3.4 Other land uses.**

There is a small airport near the Marin County line just north of Novato and a privately-owned, inactive airstrip off Stony Point Road. A large, expanding quarry is located south of Petaluma and west of Highway 101. A privately-owned golf course is on Frates Road, and a KOA Campground is located on Stony Point Road. The Sonoma County landfill located off Meacham Hill Road drains to both the Stemple Creek and Petaluma River watersheds.

## **4.0 Summary of Current Planning Efforts**

Below is a summary of current planning efforts in the Petaluma River watershed. Work conducted by the City within its urban limits is referenced in context to how it fits into other watershed enhancement work.

### **4.1 SSCRCD.**

For many years, SSCRCD has participated in efforts to enhance the resources of the San Francisco Bay, which includes San Pablo Bay and bay wetland areas. This includes regular meetings with CDFG, USFWS, U.S. Army Corps of Engineers (ACOE), SLC, Bay Conservation and Development Commission (BCDC), and environmental groups. SSCRCD administers a landowner levee maintenance permit from ACOE and BCDC.

SSCRCD staff has designed dairy waste systems and responds to calls for assistance with erosion control. SSCRCD has received grants from the U.S. Environmental Protection Agency's North Bay Initiative for outreach to watershed landowners in the San Antonio Creek subwatershed and to coordinate with watershed landowners on levee permit issues. SSCRCD sponsors work by AmeriCorps and the Adopt-a-Watershed School Program for several schools in the watershed. More recently, SSCRCD received funding from a water quality violation fine for watershed restoration work in Lichau Creek. Their projects include conducting conservation planning

workshops with local ranchers and streambank stabilization projects to reduce sediment delivery to the creek.

In 1997, SSCRCDD received a contract from the State Water Resources Control Board (SWRCB) to develop a voluntary plan for the Petaluma River watershed. SSCRCDD will continue to seek implementation funding for the project.

#### **4.2 City of Petaluma.**

The City has several watershed enhancement projects including:

- *Petaluma River Access and Enhancement Plan.* Adopted in May, 1996, the plan establishes policies for preservation, enhancement, and restoration along a 7.8 mile stretch of river from the urban limit line near Old Redwood Highway, through downtown to the marina. The plan calls for creating a continuous riparian corridor or “greenway” along the river, identifies restoration and enhancement opportunities, and designates appropriate access points.
- *Petaluma River Marsh Enhancement Plan.* In 1992, the City completed a plan for 300 acres of undeveloped, disturbed wetland south of the City marina. The plan includes recommendations for water quality protection, habitat enhancement and restoration, endangered species protection, public access, and public recreational opportunities. Most of the land is within the City limits and is owned by the City.
- *Petaluma Demonstration Marsh and Effluent Management Plan.* As part of the City’s Long Range Effluent Management Plan, the City approved acquisition of approximately 170 acres adjacent to the Petaluma Marsh to create a demonstration marsh. The plan includes restoration of approximately 100 acres of tidal marsh and creation of a mosaic of seasonal wetlands, riparian areas, and freshwater ponds.
- *The Ellis Creek Watershed Enhancement and Wetland Mitigation Plan* was developed by the City as a mitigation project for a proposed reservoir on Higgins Creek. The Ellis Creek plan includes fencing, installation of cattle crossings, bank stabilization, and enhancement planting of approximately 8,100 linear feet along Ellis Creek. Additional freshwater wetlands and enhancement are also proposed on Higgins Creek, a tributary to Ellis Creek, as mitigation for the reservoir’s impacts. The City is continuing to evaluate discharge options, which may eliminate the need for a reservoir. The enhancement plan could, however, be funded through other efforts.

- ***Adobe Creek Restoration Project.*** As part of the mitigation for widening Lakeville Highway, the City is restoring the lower portion of Adobe Creek to a brackish marsh, as well as enhancing public access and incorporating urban forestry into highway revegetation. Within the City limits, two upper reaches with constructed trapezoidal flood control channels are targeted as restoration projects to demonstrate reach-specific stream channel design and maintenance programs based on hydraulic analysis and the use of vegetation management standards. The goals for enhancing the upper portion of Adobe Creek include collecting and concentrating summer flows in a trained, low-flow channel; minimizing maintenance, dredging, and clearing; maintaining adequate flood protection; re-establishing a native riparian plant community above the channel and along the banks to provide shade and diversity for aquatic habitat; and providing on-going methods for removing sediment accumulation.

### **4.3 Sonoma County.**

Sonoma County has policies and programs to protect agriculture and natural resources. Most of these are contained in the 1989 General Plan that was last revised in 1991.

**4.3.1 Agriculture.** The General Plan reflects the desire of residents to manage growth and protect agriculture. Agricultural land use policies include stabilizing agricultural land use at the urban fringe, limiting the intrusion of new residential areas into agricultural areas by maintaining parcels large enough for farmers to lease or buy for their operations, and minimizing conflicts between agricultural and non-agricultural uses.

**4.3.2 Open space.** The General Plan identifies open space as a limited and valuable resource. Policies to protect open space include maintaining community separators between Petaluma and both Novato and Rohnert Park and protecting scenic resources, such as the mountains between Petaluma and Sonoma, the grassy hills and ridgelines south of Petaluma near the Marin County border, and views of San Pablo Bay along Highway 37.

**4.3.3 Natural resources.** Policies were developed to protect critical wetland, marsh, and oak savanna habitat that are highly sensitive to change. For example, the riparian corridor policy states that agricultural cultivation and grazing should occur 100 feet from the top of the streambank in flatland areas and 50 feet in upland areas. Policies are identified to control soil erosion, protect agricultural and domestic water supplies, maintain Sonoma County's diverse plant and animal communities, and protect fishery resources while balancing needs for agriculture, development, and mining.

**4.4.4 Other policies.** In addition to the General Plan, Sonoma County has several other natural resource-related policies. The Valley Oak Ordinance specifies that when oak trees on particular soil types are removed,

landowners must notify the County and indicate that they will either plant more oaks or implement measures to protect existing trees. Sonoma County, several cities, public agencies, and various organizations (both environmental and agricultural) have also worked on a Vernal Pool Preservation Plan. A general permit has been requested from the ACOE to cover development-related activities.

#### **4.4 Relationship between City of Petaluma and Sonoma County.**

The City and Sonoma County both have general plans and formal planning-related relationships. For example, annexation proposals are reviewed by the County both through LAFCO (Local Agency Formation Committee) and at a financial level. In addition, the City and County have a joint referral and review system. The County refers all projects within the Planning Referral Area to the City for comment. Likewise, City projects that may affect the County or are near the urban boundaries are referred to the County. Finally, the City has expressed a desire to review proposed projects in areas of interest that are beyond the City's formal sphere of influence. The City and County planning staff and public representatives also have working relationships and less formal means of cooperation, such as meetings on various topics related to planning.

The City has also adopted policies in the General Plan that support agricultural businesses located within Petaluma.

#### **5.0 Land Use Areas of Concern**

The following are concerns about agricultural land use in the Petaluma River watershed. Concerns were identified by the watershed advisory group, local residents, and public agencies regarding natural resources and long-term viability of agriculture in the region.

##### **5.1 Rural residential development.**

Large lot, rural residential parcels (ranchettes) ranging from one to 20-40 acres provide an opportunity for people to live in rural areas and have small agricultural operations, such as raising a few horses or other animals. Issues associated with expansion of rural residential areas include:

- **The division of large parcels of agricultural land** can decrease the amount of land available for productive and profitable agricultural operations. For example, while 200 acres could support a dairy operation, it is less likely that ten 20-acre parcels could each support such a use.
- **Concentration of animals and related facilities in small areas.** Livestock trampling and heavy grazing can lead to accelerated erosion, soil compaction, and increased run-off of pollutants such as nutrients. This is

particularly a concern in Liberty Valley, a major groundwater recharge area with sandy soils. Cumulatively, the intensively used rural residential lots can contribute significantly to erosion and degradation of water quality.

- **Improper drainage.** Many rural residential landowners have developed their properties in ways that change natural drainage patterns and cut into hillsides. This also leads to accelerated erosion and drainage problems.
- **Development of roads.** Unpaved or improperly constructed roads are often a major source of erosion and sediment.
- **Loss of contiguous wildlife habitat.** A patchwork of differing land uses reduces the size of oak woodland and fragments riparian forests, seasonal wetlands, and other important wildlife areas. Fences, cats, dogs, and increased human activity restrict wildlife access to those areas that remain. Domestic animals also prey on wildlife in natural areas. Replacing native vegetation with ornamental plants can also have a profound collective impact on the quality and quantity of wildlife habitat.

## 5.2 Rural community quality of life.

Historically, life in the Petaluma River watershed revolved around agriculture. Development pressures, rising land prices, and the proliferation of rural residential areas are changing the character and community of the watershed. Threats to rural community quality of life include:

- **Rising land prices** that make it difficult for local ranchers to compete with wealthy investors for large tracts of land.
- **Tension** between long-established farming families and new rural residents who may not be aware of the economic vulnerability and complexity of farming operations.
- **Potential land use compatibility issues.**

## 5.3 Conversion to vineyards.

Vineyards and wineries are a key component of Sonoma County's economy. Vineyard expansion and development has begun in the Petaluma River watershed and is expected to increase rapidly, especially in the Lakeville area. Conversion of land to vineyards raises several issues of concern:

- **Sedimentation and water contamination.** Vineyards, especially those planted on steep hillsides, can contribute significant amounts of sediment

and contaminants such as sulfides and other chemicals to creeks and tributaries.

- **Water development issues.** Additional water development is often needed for vineyards. New wells and stock ponds can draw down groundwater supplies and decrease the amount of water available for stream flows.
- **Loss of wildlife habitat.** Vineyard development replaces important wildlife habitat areas, such as grasslands, oak woodlands, and riparian forests.
- **Use of chemical pesticides and herbicides** can impact the surrounding ecology and water quality.

#### **5.4 Agricultural impacts on natural resources.**

The impact of agricultural activities on erosion, riparian habitat, fisheries, and water quality will be included in other summaries prepared for the *Petaluma River Watershed Enhancement Plan*.

#### **5.5 Use of historic marshlands.**

Approximately one-third of the historic marshlands have been reclaimed by a system of levees, drainage ditches, tide gates, and pumps. Many of these areas are used for hay and silage production. Landowners in this area have several concerns that include:

- **A burdensome regulatory process** to maintain levees along the river and conduct farming operations.
- **A lack of public awareness and understanding of the history and contribution of agriculture in this area.** The decisions to build levees were made at a time when public support for “taming the wilderness” was strong. As public opinion has changed, some of these landowners find themselves suddenly perceived as culprits.
- **A possible perceived decline in land values due to regulatory constraints.**

#### **5.6 Water supply.**

Domestic water for the cities of Petaluma and Penngrove is principally supplied by the Russian River Project administered by the Sonoma County Water Agency. The City maintains a group of municipal water wells as an auxiliary supply. Most rural residents and the agricultural community pump well water from the underlying aquifer. Under SSCRCDD’s planning process for the Petaluma River watershed, a summary of concerns related to groundwater is being prepared. Although SSCRCDD’s current project does not

include a component to review water supply issues, the watershed advisory group has expressed related concerns. These include:

- **The long-term viability of agriculture** in the area depends on available water, particularly for vineyard development and expansion.
- **Treated wastewater should be made available to agricultural operators.** The City currently supplies treated wastewater to approximately seven landowners for agricultural use in the Lakeville and Old Adobe areas.

#### **6.0 Recommendations for Consideration**

On December 2, 1997, the watershed advisory committee reviewed and discussed draft recommendations to address land use concerns in the watershed outside of Petaluma. The modified recommendations and those suggested by the committee are presented below. Specific recommendations for erosion control, riparian enhancement, water quality, and groundwater are being developed separately.

- **Support the viability of agriculture in the watershed.** Actions could include educating watershed residents about the importance of agriculture to the local economy and farming operations, as well as supporting programs to protect farmland, such as agricultural easements.
- **Support infill development within Petaluma's city limits.**
- **Conduct outreach to rural residential landowners.** Outreach activities could include information on erosion control, animal waste and nutrient management, Best Management Practices (BMPs), wildlife habitat, native plants, water quality, creek management, proper drainage, and road maintenance. Examples of outreach include easy to read creek care guides, step-by-step "how to" brochures, one page fact sheets, newsletters, as well as workshops.
- **Support ranch and vineyard conservation planning efforts.** Ranch and vineyard conservation plans assist land stewards in achieving both economic and natural resource goals. The plans are tailored to each operation and allow agricultural operators to prioritize projects that improve or maintain economic sustainability, enhance wildlife habitat, reduce critical erosion, implement on-farm water quality monitoring, and manage nutrients. So far, SSCRCD has assisted eight watershed landowners in developing these plans. The advisory committee recommended considering requiring vineyard plans for new vineyards and supporting conservation planning workshops for vineyard operators

and ranchers; they also stressed the need to reach both small and large operations.

- **Compile and distribute information on BMPs for agricultural operators.** Actions could include working with the watershed advisory group to develop and review existing BMPs and distributing this information to watershed landowners. Information could be presented in creek care guides, "how to" brochures, one page fact sheets, and SSCRCD's sustainable vineyard manual. The advisory committee stressed including both small and large landowners when discussing management practices.
- **Compile and distribute information on BMPs to quarry operators.**
- **Work cooperatively with regulatory agencies in streamlining levee maintenance permits and other permits for agricultural operators in the bayland areas.**
- **Conduct research on the long-term water supply concerns for rural and agricultural residents, especially for agricultural operations.**
- **Support the availability of bio-solids for interested agricultural users.**
- **Assist residents' interface with the counties on well and septic regulations for groundwater and surface water to help maintain the rural quality of stream habitat.** This is especially important in the San Antonio Creek subwatershed.
- **Provide technical information to interested agricultural operators about the potential benefits and detriments of using treated wastewater and about BMPs for using treated wastewater.** The advisory committee also suggested that users of treated wastewater be required to follow a conservation plan and that BMPs or a management plan should be developed for using treated wastewater.

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## **APPENDIX A**

### **Summary of Permits Required for Watershed Restoration Work**



**PETALUMA RIVER WATERSHED ENHANCEMENT PLAN**  
**SUMMARY OF LAND USE**  
**IN THE PETALUMA RIVER WATERSHED**

**APPENDIX A**

**Summary of Permits Required for Watershed Restoration Work**

**Permitting Requirement Overview**

This section describes the permits generally necessary for watershed restoration and enhancement work. These permits are required of either individual landowners conducting work or sponsoring agencies such as SSCRCDC.

**Local Permits.** The Sonoma County Planning and Building Department requires grading permits for streambank stabilization and similar projects.

**Regional Permits.** The Bay Conservation and Development Commission's (BCDC) sphere of influence extends to near the Highway 101 bridge. BCDC requires a permit for levee maintenance (see Federal Permits below).

**State Permits.** The California Department of Fish Game (CDFG) requires Streambed Alteration Agreements for work that occurs on defined waterways. Streambed Alteration Agreements are also required for removal of log jams and fish passage barriers. Agreements can be issued by wardens and biologists. Under Streambed Alteration Agreements, repair projects must generally be completed by October 31 of each year. The application fee for projects under \$25,000 is \$132; for projects between \$25,000-\$500,000 the fee is \$662, and for projects over \$500,000 it is \$1,191.

The San Francisco Bay Regional Water Quality Control Board (RWQCB) issues water quality certifications (401 Certifications) for all projects requiring permits from the U.S. Army Corps of Engineers (ACOE), which are discussed below. This is to insure that the ACOE permits (including non-reporting Nationwide Permits) meet California's water quality standards. The application consists of a letter, description of the project, potential water quality impacts, proposed revegetation, and any sketches. The filing fee is \$500.

The RWQCB is considering regulations that would include spring development under wetland regulations.

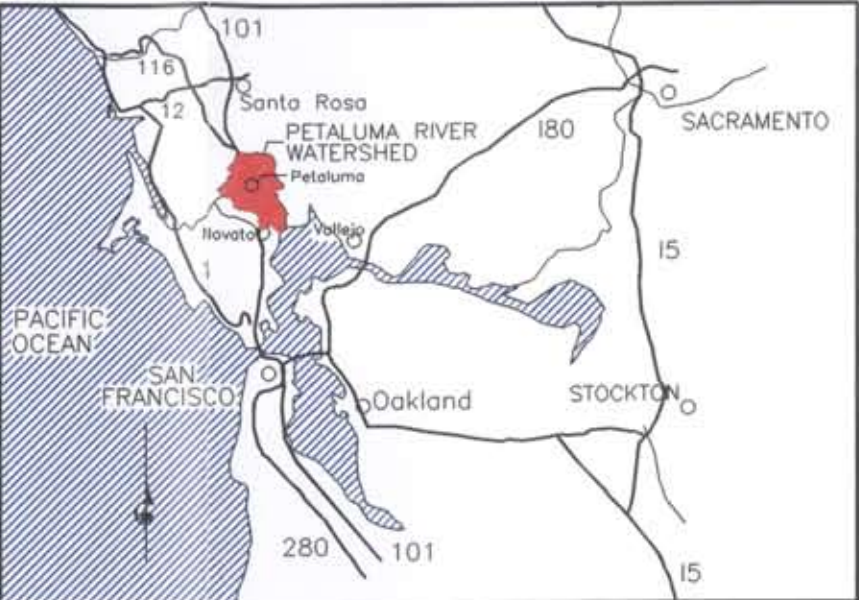
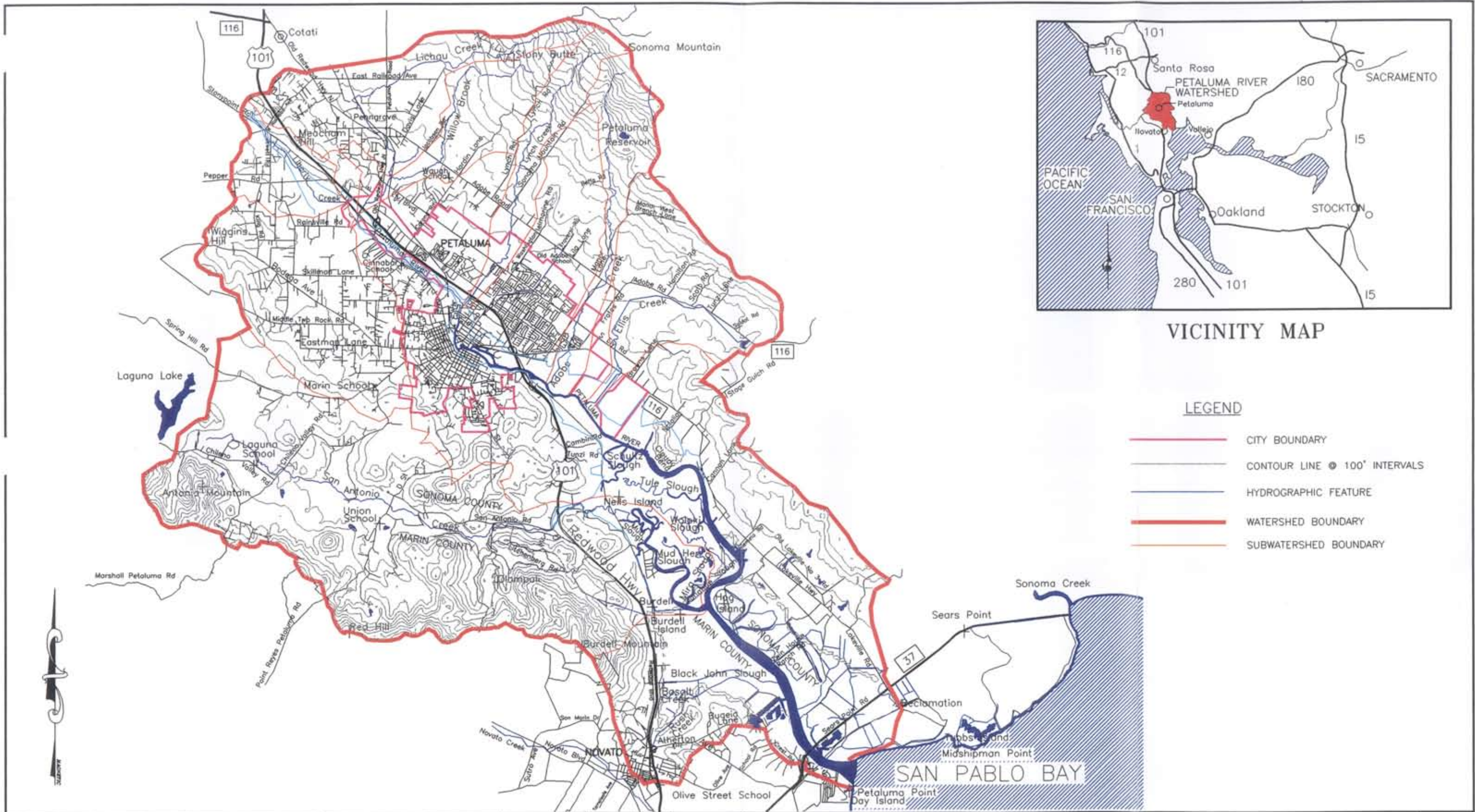
**Federal Permits.** The ACOE issues permits for work done in waters under their jurisdiction. As defined by the ACOE, in non-tidal areas this extends up to the ordinary high water line or the upper limit of wetlands. For tidal

waters, this extends up to the line of high tide (for dredge or fill), or up to the mean high water line (for work or structures). The ACOE and BCDC have issued a special Section 404 (of the federal Clean Water Act) blanket permit for levee maintenance in the Sonoma Creek and Petaluma River drainages. The permit is administered by SSCRCDC. It has been reissued since 1980, although not without review and input by several regulatory agencies. The SSCRCDC anticipates that the current permit, which is good for five years, will be renewed for another five years.

SSCRCDC is now working on an ACOE Section 10 permit that would allow landowners to clean existing drainage ditches.

Watershed restoration projects often come under ACOE Nationwide Permit 27. Depending on the specific details of the repair, the ACOE may need advance notification of the work. There is no filing fee, but response can take up to one year.

An ACOE permit may be required for work in wetland areas.



VICINITY MAP

LEGEND

- CITY BOUNDARY
- CONTOUR LINE @ 100' INTERVALS
- HYDROGRAPHIC FEATURE
- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY

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DATE: November, 1997  
 SCALE: 1" = 5,000'  
 CHECKED BY: MN  
 DRAFTED BY: EA

REVISIONS	BY

PREPARED FOR:  
 SOUTHERN SONOMA COUNTY  
 RESOURCE CONSERVATION DISTRICT

PETALUMA RIVER WATERSHED

SHEET  
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