

### **3.9 SOLANO WATERSHED MANAGEMENT AREA**

#### ***Overview***

Solano County is the northernmost of the nine counties within the San Francisco Bay Area. The county's population of 413,344 (2010 census) is concentrated along the Interstate 80 corridor that runs generally in an east-west direction through the center of the county. Of the county's 823 square mile area, a large percentage is in agriculture, although, as with most outlying Bay Area counties, suburban development is causing a rapid decrease in farmland acreage. The landscape of Solano County ranges from flat agricultural land in the north to rolling hills in the south. Along its southern and western borders are San Pablo and Suisun Bays, the Napa River and the Mare Island and Carquinez Straits. The Sacramento River is the eastern boundary of the county. Region 2's jurisdiction in the county comprises the area that drains into San Francisco Bay and the Carquinez Straits, generally the southwestern half of the county. Figure 3-4 shows significant watersheds in the North Bay including Solano County.

Solano County has become a leader in Bay Area growth since the 1980s because it possesses some of the last remaining large tracts of easily developable land in the Bay Area. The major cities in our portion of the County are Vallejo and Benicia at its southernmost end, and Fairfield and Suisun City in central Solano County. Vallejo is the largest city in the county with a population of 115,942 (2010 census). Fairfield is the County seat and second largest city, characterized by a maturing center and new development at the fringes, surrounded by crop and grazing land. Recent construction of a new County office complex in downtown Fairfield in 2004 may help to revitalize the downtown area.

#### ***Watershed Description***

In the western portion of Solano County there are large expanses of marshes, farmed wetlands, islands, sloughs and mudflats forming a crescent along the north shoreline of San Pablo Bay, anchored by Mare Island at its eastern most point. The former Mare Island Naval Shipyard currently consists of over 5,000 acres of developed areas, marshlands, and submerged lands. The shipyard was established in 1854 as the first U.S. Naval installation on the Pacific Coast. At the peak of its activity during World War II, it employed over 46,000 military and civilian personnel and was one of the major ship repair facilities for the Pacific Fleet. In the 1950's it became a building and overhaul base for submarines. The Base was downsized in the late 1980's and was ultimately closed in 1996.

Suisun Marsh in eastern Solano County is the largest contiguous brackish water marsh remaining on the west coast of North America and is a critical part of the San Francisco Bay-Delta estuary ecosystem. Encompassing 116,000 acres, the Suisun Marsh includes 52,000 acres of managed wetlands, 27,700 acres of upland grasses, 6,300 acres of tidal wetlands and 30,000 acres of bays and sloughs. It is home to public waterfowl hunting areas and 158 private duck clubs. The Marsh comprises more than 10% of California's remaining natural wetlands and is the resting and feeding ground for thousands of

<http://www.iep.ca.gov/suisun/>. The upland area of the Suisun Marsh is a 10,000 acre open space tract owned by the Cities of Benicia, Fairfield, Vallejo and the County, which is overseen by the Tri-City and County Cooperative Planning Group, responsible for preparing, adopting, revising, amending, funding, and implementing a Regional Park and Open Space Preservation Plan.

Suisun Creek Watershed drains 53 square miles in Napa and Solano counties, from the western flank of the Vaca Mountains to Suisun Marsh. Gordon Valley Dam was constructed on Suisun Creek by the City of Vallejo in 1926 for water supply. Wooden Valley Creek and its tributary, White Creek, drains a small agricultural valley and large area of wildlands to meet Suisun Creek several miles downstream of the dam. Ledge wood Creek drains approximately 21 square miles along the eastern side of Suisun Valley to Suisun Marsh. Over ninety percent of the Suisun Creek watershed is in open space, and most of it is privately owned by farmers and ranchers. The lack of development in the watershed has preserved ample habitat for wildlife, including steelhead trout (*Oncorhynchus mykiss*). Recent studies have named Suisun Creek as one of 8 “anchor” watersheds in the Bay area supporting steelhead trout habitat.

Travis Air Force Base, which occupies over 6,000 acres in eastern Solano County, is an active military base, and employs a large portion of the county residents. Established in 1943, the 5,025-acre Travis Air Force Base serves as Military Air Command Headquarters to the 22nd Air Force, as well as a medical center.

### ***Significant Watershed Issues***

- One of the major water quality issues in Solano County is the impact on creeks and wetlands from existing and proposed new development and hydromodification, particularly in upland areas with unstable and highly erodable soils. Conversions of agricultural land to housing and vineyards contribute to erosion, sedimentation of downstream waterbodies and marshes, urban runoff pollution (e.g., oils and greases) and pollution from fertilizers and pesticides.
- A major issue in Solano County has been the base conversion at Mare Island Naval Shipyard and impacts to water quality associated both with historical activities at the Base and with the current the development proposals. The base conversion plan includes over 1400 residential units, 7 million square feet of commercial office space, and various public and recreational facilities. Environmental concerns at the facility from historic activities include: landfills, underground storage tanks, oil sumps, PCBs, industrial solvents, sandblasting waste, and ordnance. Redevelopment will also require oversight of construction, stormwater controls, and stream and wetland protection.

- Aside from Mare Island, several groundwater cleanup sites in Solano County are a focus of Regional Board staff efforts, including the Benicia Arsenal and Industrial Park solvent plume, the OEA site (explosives), the Valero Refinery, IT Corporation, and Travis Air Force Base, which is a U.S. EPA Superfund site. The backfill for an underground aqueduct running through Fairfield potentially serves as a preferential migration pathway, and as such is a concern to the UST (Underground Storage Tank) Local Oversight Program. Redevelopment in and near downtown Vallejo (Brownfields), including cleanup and redevelopment of a former PG&E manufactured gas facility, and other pending development of waterfront industrial properties are also areas of concern for water quality protection and where cleanup may be required.
- Current and future areas of water quality concern include the ongoing cleanup of the Kinder-Morgan pipeline diesel fuel spill into Suisun Marsh (April 2004) and future management to prevent similar pipeline ruptures in sensitive ecological areas. Kinder Morgan recently relocated the pipeline to a corridor some distance from the Marsh, which should alleviate some of these concerns. Another issue recently brought to Regional Board attention is the discharge of nutrient-laden water from some Suisun Marsh duck clubs, which has severely lowered dissolved oxygen levels in marsh sloughs and caused fish kills. Also of interest in the County is the widespread use of biosolids and potential impacts to groundwater and surface waters. A water quality-related issue identified by local municipalities is the need for better communication and coordination among local agencies on water, sewer, and stormwater regulation and outreach.
- There are four major NPDES permits in Solano County: the Fairfield-Suisun Sewage Treatment Plant, Vallejo Sanitation treatment plant, Valero Refinery, and Benicia treatment plant. Of these, Vallejo's permit is up for renewal in 2011, Benicia's in 2013, and Fairfield-Suisun and Valero in 2014. Issues include high inflow and infiltration during wet weather.
- The cities of Vallejo, Fairfield and Suisun City have been subject to Phase I (large urban areas) stormwater permitting. The cities of Fairfield and Suisun City have joined together to form the Fairfield-Suisun Urban Runoff Management Program (the Fairfield-Suisun Permittees). The City of Vallejo and the Vallejo Sanitary District also collaborate as the Vallejo Permittees. All are now covered under the regionwide Municipal Regional Permit for Stormwater, adopted by the Board in October 2009. The remainder of Solano County is included under the statewide permit for Phase II municipalities and facilities (small cities and state and federal facilities).
- The Suisun Marsh Wetlands are designated as impaired on the 303(d) list, due to metals, nutrients, organic enrichment, low D.O. and salinity. These are considered medium-priority TMDLs at this time. In October 2001, agencies with primary responsibility for actions in Suisun Marsh formed the Suisun Marsh

Charter Group to develop an implementation plan for the Marsh. The plan will outline actions needed to preserve and enhance managed seasonal wetlands, restore tidal marsh habitat, implement a comprehensive levee protection/improvement program and protect ecosystem and drinking water quality.

A subcommittee of the Charter Group, the Suisun Marsh Regulatory Working Group, is comprised of staff from agencies with regulatory oversight responsibilities. The Regulatory Working Group is preparing a joint National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) Programmatic Environmental Impact Statement -Environmental Impact Report (EIS/EIR) for a Habitat Management, Preservation, and Restoration Plan for the Suisun Marsh. Participating agencies include the Board, Solano Resource Conservation District, U.S Bureau of Reclamation, U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Army Corps of Engineers, and California Department of Fish and Game. Further info on the Charter Group can be found on the Department of Fish and Game website at <http://www.dfg.ca.gov/delta/suisunmarsh/charter.asp>.

- The Air Force has identified a number of sites with contaminated soil and/or groundwater at Travis Air Force Base, some of which pose the potential for human health or ecological risk. There are a wide variety of contaminants, such as heavy metals, VOCs (volatile organic compounds), refined petroleum products and SVOCs (semivolatile organic compounds) that were intentionally or unintentionally released from historic aircraft fueling and maintenance activities. Sites of concern include: three onsite landfills, one of which contained pesticide containers but has now been cleaned up and closed, and another which has been designated as a corrective action management unit (CAMU) to receive contaminated soil from other base cleanups; four areas where combustible wastes were burned during firefighting exercises for several decades; several areas where various solvents and petroleum products were spilled; and a storm drain system that is tributary to Union Creek, which flows across the Base.

There is also a decommissioned sewage treatment plant with several abandoned oxidation ponds and sludge drying beds. A number of areas with soil and groundwater above screening levels have been identified. An extensive groundwater-monitoring program is in place, and there are three onsite treatment plants that treat extracted groundwater, some of which is discharged to Union Creek, with the remainder being reclaimed onsite. Other sites use more innovative treatment methods, or rely on monitored natural attenuation. Several soil sites have been identified as posing a risk to human health and/or the environment, including portions of the sediment in Union Creek. Following the adoption of a Record of Decision (ROD) for the soil, sediment and surface water at the majority of Travis AFB, the Air Force plans to excavate the contaminated soil starting later this year, and to dispose of this material, to the extent possible, in the onsite CAMU. Following the adoption of a Record of Decision (ROD) for

the soil, sediment and surface water at the majority of Travis AFB, the Air Force plans to excavate the contaminated soil.

- Another significant water quality issue in the Solano County portion of San Francisco Bay is the ultimate fate of over 150 surplus navy vessels, known as the “Mothball Fleet”, moored in Suisun Bay east of the Carquinez Strait. None of the vessels are in working order and many are no longer sea worthy. Many of these vessels still have bunker oil, diesel fuel, and other petroleum products in their fuel and storage tanks and could cause water quality problems in Suisun Bay if they are allowed to sink and break apart. After several years of negotiations between the U.S. Maritime Administration (MARAD) and the Water Board and other agencies, on April 14, 2011, the United States Eastern District of California Federal Court signed the proposed Consent Decree negotiated with MARAD, thereby agreeing to enforce through the court the cleanup, maintenance, and removal of mothball fleet’s 57 so-called “non-retention” vessels from Suisun Bay by 2017. The Consent Decree requires MARAD to:
  - 1) Submit a Notice of Intent to comply with the Statewide NPDES Industrial Stormwater General Permit and to submit a comprehensive pollution prevention plan, which has already been reviewed and approved by all of the parties. MARAD has completed this requirement.
  - 2) Remove the exfoliated paint from all of the ship decks. MARAD has completed this work on about 20 of the non-retention fleet’s 57 ships and has collected approximately 120 tons of paint and debris from these ships;
  - 3) By September 30, 2011, MARAD will remove all of the exfoliating paint from all horizontal and vertical exterior surfaces on the 25 vessels that are in the poorest condition; and
  - 4) By September 30, 2013, MARAD will remove the 25 worst vessels from the fleet for scrapping.

### ***Watershed Groups and Watershed Management Efforts***

There are several existing watershed efforts currently in Solano County:

*Suisun Marsh Technical Advisory Committee* -- Interagency committee chaired by DWR to discuss technical and water quality issues in Suisun Marsh. One of the main purposes of the Committee is to report on the operation of the Department of Water Resource’s structures in the Suisun Marsh that are used to control salinity, required under a State Board Permit. The committee reports on the monitoring of the salinity in the Marsh and other compliance points. In general, salinity has been successfully controlled by these structures. The committee also deals directly with landowners in the Marsh and the Suisun Resource Conservation District to find ways to enhance water quality and protect endangered species.

*Suisun Creek Watershed Program (SCWP)* – this effort was started in 2000 as a partnership between local landowners interested in protecting Suisun Creek and the California Sportfishing Protection Alliance (CSPA). These two partners combined with

elected officials, environmental and agricultural groups, resource agencies and the City of Vallejo, owner of Lake Curry, to form the Suisun Creek Restoration Team (SCRT). CSPA hired Laurel Marcus and Associates (LMA) and, in conjunction with the SCRT sought funding for a Suisun Creek Watershed Plan. They received a \$150,000 grant from the State Coastal Conservancy. The City of Vallejo also expended funds to evaluate some aspects of the watershed.

The Watershed Plan identified a number of limiting factors to steelhead habitat, water quality and beneficial uses in Suisun Creek and recommended a number of priority actions, including an analysis of potential changes to Lake Curry (a dammed lake on upper Suisun Creek in Napa County, which is a standby water supply for the City of Vallejo); eradication of the invasive plant species *Arundo donax*, *Vinca major* and *Rubus discolor* along the riparian corridor; use of “Fish Friendly Farming Program” practices on agricultural lands in the watershed; and outreach and education. In June 2004 the CSPA was awarded a \$580,000 grant by CalFed to implement these recommendations. The California Land Stewardship Institute (CLSI) with Laurel Marcus as director, now directs implementation of the watershed plan through the Fish Friendly Farming program and a grant through the Department of Conservation for a Suisun Creek Watershed Coordinator. More information is available on the Fish Friendly Farming website at: <http://www.fishfriendlyfarming.org/otherwatersheds/suisun-creek.html>.

#### *Solano Environmental Educators (SEE)*

This is a new group begun in 2011 and is comprised of educators, government, agencies, and NGOs who meet to share ideas and resources, plan partnerships, and develop and fill needs for environmental education in Solano County. More information is available at their website <http://outdoorsolano.info>.

#### *Vallejo Watershed Alliance*

The Alliance is a community-based group working together to improve the greater Vallejo watershed, which encompasses the City of Vallejo and nearby unincorporated areas of Solano County. The Alliance is made up of interested residents, local groups, and agencies, including representatives from the Vallejo Sanitation and Flood Control District, the Greater Vallejo Recreation District, the California Native Plant Society and others. Their mission is to raise awareness, create local partnerships and promote sustainable management of Vallejo’s watersheds. <http://www.vallejowatershedalliance.org/>

#### ***Proposed RWQCB Workplan for FY 2011/12 and 2012-13***

- Oversee Department of Defense (DoD site cleanups, including Mare Island, Benicia Arsenal, and Travis AFB
- Oversee SLIC and UST sites
- Provide assistance on Brownfields redevelopment
- Update Vallejo Sanitation Agency NPDES permit
- Oversee stormwater programs, Phase I and Phase II
- Issue 401 water quality certifications, e.g., levee repairs in Suisun Marsh
- Oversee wetland restoration projects

- Review and address Bay margin issues, including pipeline repairs and nutrient discharges from duck clubs
- Take enforcement action as needed

***Priority Activities that are Unfunded or Underfunded***

- CEQA review
- Grant management
- Construction project oversight
- General plan reviews and new development project reviews
- Protection of endangered species habitat, wetlands and riparian

***High Priority Projects for Grant Funding***

- Implementation of management practices to reduce sediment discharges to Suisun Marsh
- Habitat restoration in Suisun Marsh and creeks
- Watershed planning efforts
- Restoration of habitat values and stream functions in Solano County watersheds that drain to the Carquinez Strait.
- Implementation of management practices to reduce sediment nutrient, or low dissolved oxygen discharges to Suisun Marsh, and habitat restoration in Suisun Marsh and its tributary creeks, Solano County.