

**Volume One Unabridged
Watershed Characteristics Report**

**Chapter 6
Regulatory Setting**

SANTA CLARA BASIN



**Prepared for the
Santa Clara Basin Watershed Management Initiative**

by

**Regulatory Subgroup and
Land Use Subgroup**

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Watershed Characteristics Report

Chapter 6: Regulatory Setting

List of Authors

REGULATORY SUBGROUP

with consultant support from

Larry Walker Associates

Tom Grovhoug, Project Manager
Betsy Elzufon, Senior Engineer
Melissa Thorne, Legal Counsel
Dean Messer, Project Scientist
Gil Wheeler, Vice President

LAND USE SUBGROUP

with consultant support from

EOA, Inc.

Wendy Edde, Senior Scientist

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and
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Chapter 6

Regulatory Setting

A wide variety of activities that are conducted in the Santa Clara Basin may have an impact on the water environment and are, therefore, subject to a variety of environmental regulations and programs. Activities ranging from construction to industrial operations to commercial activities to habitat restoration projects may require permits, depending on the nature and location (e.g., near a streambank, in a wetlands area) of the proposed activity. This chapter discusses the existing institutional and legal framework within which decisions about water-related resources are made. In addition, the pertinent regulatory authorities are presented as they relate to watershed management. Regulation of the following areas is discussed:

- Water quality
- Drinking water quality
- Water rights
- Wetlands and riparian zones
- Endangered species
- Fisheries
- Land use
- Transportation
- Vector control
- Pesticides
- Air quality
- Local agency formation

6.1 Regulation of Water Quality

Federal and state laws and regulations have been enacted to protect water quality in California from sources of pollution. The California Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) and the Federal Water Pollution Control Act of 1972 (commonly referred to as the Clean Water Act [CWA]) regulate water pollution primarily through the control of municipal and industrial wastewater discharges. The Water Quality Act of 1987 amended the CWA to provide, among other things, a framework for addressing other sources of pollution, including runoff. In addition, Congress reauthorized the Coastal Zone Management Act (CZMA) in 1990, directing states to develop pollution control programs targeting diffuse sources of pollution (known as nonpoint sources) in watersheds draining to coastal areas. In California, the authority for implementing water quality control programs is delegated from the U.S. Environmental Protection Agency (EPA) to the state and implemented through the Porter-Cologne Act by the State Water Resources Control Board (State Board). In addition, the California Fish and Game Code contains provisions regarding water pollution and resulting

impacts to aquatic life and waterfowl. An overview of these laws and regulations and the implementing agencies is presented below. These laws and regulations are discussed in more detail in *Regulatory Analysis for the San Francisco Estuary* (SFEP 1992).

6.1.1 Laws and Regulations

The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The CWA sets up a framework under which EPA and the states evaluate water quality and regulate discharges. The heart of these programs is the designation of "beneficial uses" of the waters (see below) and the criteria that must be met to protect them. These designations set the standards for judging the health of a given waterbody. Each state must have a continuing planning process, including a water quality control plan with steps for carrying it out (in California this is done by Basin Plans). The plans prescribe how water quality standards are met and effluent limits are established, provide authority for intergovernmental cooperation, and require an inventory and ranking of needed wastewater treatment works.

The CWA (33 United States Code [USC] Section 1251 et seq.) and its amendments in 1977 established two programs to regulate water quality from discrete, defined sources of pollution (known as point sources): the National Pollutant Discharge Elimination System (NPDES) program, and the National Pretreatment Program. The NPDES program controls discharges by incorporating water quality standards and technology-based effluent limitations in discharge permits. The National Pretreatment Program controls discharges to Publicly Owned Treatment Works (POTWs) using technology-based effluent limitations. The adoption of the CWA resulted in few changes in the regulatory strategies implemented under the Porter-Cologne Act, except that the EPA now had the responsibility to oversee the water quality control activities of the state. EPA has delegated this authority to the State of California and State Board as the California Water Quality Agency.

CWA Section 402 addresses discharges. The 1987 Amendments to the CWA added Section 402(p), which established a framework for regulating municipal and industrial stormwater discharges as point sources under the NPDES program. In November 1990, EPA published final regulations that established application requirements for NPDES stormwater permits. Municipalities with populations over 100,000 were required to obtain NPDES permits for stormwater discharges.

Discharges that are not specifically defined under Section 402 are considered nonpoint sources. Regulation of these sources is covered by CWA Section 319, the CZMA, and the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA).

Congress amended the CWA in 1987 to establish the Section 319 Nonpoint Source Management Program because it recognized the need for greater federal leadership to help focus state and local pollution control efforts. Under Section 319, States, Territories, and Indian Tribes (hereinafter referred to as "States") receive grant money that supports a wide variety of activities, including technical assistance, financial assistance, education, training, technology

transfer, demonstration projects, and monitoring to assess the success of specific implementation projects. States follow a two-step process to qualify for grant money under Section 319(h). First, States must complete an assessment report, identifying water quality problems resulting from diffuse sources of pollution. Second, States are to develop management programs describing what they are going to do about their runoff-related water quality problems over the next 4 years. Portions of the Section 319 grant funds have been used by States to support implementation of source controls in watersheds (both urban and nonurban) and to monitor the effectiveness of such controls. The State Board developed its first source assessment report in 1988, identifying runoff-related water quality problems. The State Board's WMI is an outgrowth of this approach. Section 319 funds for project implementation in California are available for implementation and restoration activities – planning, research, and/or assessment projects are not eligible. Eligible activities may include the implementation of best management practices (BMPs), total maximum daily load (TMDL) implementation, technology transfer, demonstration projects, pollution prevention, technical assistance, volunteer monitoring, and public education.

The 1990 Reauthorization of the CZMA added the Coastal Nonpoint Source Pollution Control Program. This program required EPA to publish guidelines for states to develop and implement coastal nonpoint source pollution controls programs. Section 319, along with Section 6217 of CZARA, forms the basis for non-NPDES runoff-related pollution control programs in California. They encourage the state to assess water quality problems associated with this pollution, and to develop programs to address these challenging problems. In response to CZARA, California undertook activities beginning in 1994 to enhance the state's program, while satisfying the CZARA requirements. California decided to develop a program capable of meeting the CZARA requirements on a statewide basis, rather than limiting the program to coastal watersheds only. The resulting plan for the state's Nonpoint Pollution Control Program was formally adopted in early 2000.

The following paragraphs describe the specific statutory requirements of CWA Sections 208, 303(d), 303(e), and 305(b) as they relate to water quality.

CWA Section 208 required States to identify areas that have substantial water quality control problems for the purpose of creating areawide waste treatment management plans. These plans were to identify and prioritize treatment needs for all wastes generated within the area involved.

Under CWA Section 303(d), States are required to identify waters within their boundaries for which technology-based effluent limitations are not stringent enough to meet the applicable water quality standard for the receiving water. Once these waters are identified, States must then prioritize these waters, taking into account the severity of the pollution and the uses to be made of the identified waters.

For all waters identified by States pursuant to the 303(d) listing process, States are required to establish TMDLs. TMDLs set the total amount of each pollutant that can be "loaded" or discharged into a particular waterbody that will protect the applicable water quality standards, taking into account seasonal variations and a margin of safety.

Numerous lawsuits have been filed nationwide against States and EPA for failing to list impaired waters or to adopt TMDLs for those waters. As an indirect response to the TMDL litigation, EPA has set forth TMDL guidance, and plans to adopt new TMDL regulations for all States. EPA anticipates it will take between 8 and 13 years to finalize TMDLs nationwide.

Section 303(e) requires that each State have a continuing planning process (CPP) for all navigable waters within the State. The CPP must include provisions for effluent limitations and schedules of compliance, areawide waste management plans and basin plans, TMDLs, procedures for revision, adequate authority for intergovernmental cooperation, a water quality standards implementation plan, residual waste controls, and an inventory and ranking of needed waste treatment works.

CWA Section 305(b) requires that, in every even-numbered year, each State submit to EPA a description of the quality of the State's waters. States must also submit an analysis of what would be required to meet desired water quality standards, the environmental and economic costs and benefits of such actions, and the date such water quality objectives will be achieved.

The California Legislature enacted the Porter-Cologne Act in 1969 (California Water Code Section 13000 et seq.) to implement federal directives requiring classification of state waters by beneficial use, to adopt water quality objectives to ensure the beneficial uses are met, and to formulate plans to achieve the adopted objectives. The Porter-Cologne Act provides a comprehensive management system that relies on the issuance of waste discharge requirements (WDRs) as its control mechanism.

The Porter-Cologne Act applies to all pollutant discharge sources to surface waters and groundwaters, and to waste discharges to land. The Porter-Cologne Act creates a water quality control program administered regionally, yet overseen through statewide coordination and policy. The State Board provides program guidance and oversight to the Regional Water Quality Control Boards (Regional Boards) through adoption of statewide regulations, plans, policies, and administrative procedures. The State Board and Regional Boards carry out their water protection authority through specific Water Quality Control Plans, or "Basin Plans," which (1) designate beneficial uses, (2) set water quality objectives to protect beneficial uses, and (3) establish programs to achieve these objectives. Such plans may include prohibitions against the discharge of certain types of waste in specified areas under specified conditions. Discharge prohibitions may be adopted for indirect discharges to waterbodies, such as surface runoff or waste discharge to land, or for direct discharges to surface water or groundwater. The Porter-Cologne Act also requires the State Board to adopt a "State Policy for Water Quality Control," including water quality objectives directly affecting water projects.

Chapter 5.5 of the Porter-Cologne Act authorizes the State Board and Regional Boards to regulate activities affecting water quality, and implement water quality control plans through the issuance of WDRs for any discharge to surface waters or to land, and federal NPDES permits for wastewater discharges to surface water. Any person discharging waste or proposing to discharge

waste that could affect the quality of waters of the state, other than discharge into a community sewer system, must submit a Report of Waste Discharge (ROWD) to the Regional Boards, unless the Regional Boards waive the filing of a report. Chapter 5.5 also authorizes regulation of sewage sludge use and disposal, disposal of pollutants into wells, and pretreatment of waste.

The Porter-Cologne Act provides Regional Boards with additional enforcement powers to address unauthorized discharges, discharges violating NPDES permit requirements or prohibitions of discharge, violations of reporting or monitoring requirements, or other activities that threaten water quality. The State Board may use its water rights authority to enforce requirements for the protection of water quality that may be impacted by water use.

In addressing diffuse runoff-related problems, the State Board and Regional Boards generally use a three-tiered approach: (1) voluntary implementation of BMPs, (2) regulatory-based encouragement of BMP implementation, and (3) issuance of WDRs and NPDES permits as applicable. The Regional Boards have the discretion to apply this approach in a site-specific manner, and generally refrain from imposing WDRs on dischargers that implement BMPs in accordance with a State Board or Regional Board order.

6.1.2 Beneficial Uses

A complete discussion of existing and potential beneficial uses designated by the Regional Board for significant surface water and groundwater bodies in the state is provided in Section 7.3 of this report.

6.1.3 Implementing Agencies

At the federal level, EPA has the primary management responsibility for control of water pollution through the CWA. EPA delegated the authority to implement the sections of the CWA discussed above to the States. The State Board and the Regional Boards have regulatory and enforcement authority at the state level over programs for sources of water pollution. Division 7 of the Porter-Cologne Act assigns overall responsibility for water quality protection to the State Board, and directs the Regional Boards to establish and enforce water quality standards within their individual regions. The San Francisco Bay Regional Board regulates surface water and groundwater quality in the greater San Francisco Bay basin.

Other implementing agencies include local governments and the National Oceanic and Atmospheric Administration (NOAA). Authority to enforce the National Pretreatment Program was delegated by EPA to individual POTWs. Local governments have the responsibility to implement stormwater management programs in their municipalities following federal guidelines as stated in their NPDES permits. NOAA has joint responsibility with EPA for the Coastal Nonpoint Source Pollution Control Program. In addition, the California Department of Fish and Game (CDFG) has some enforcement authority through Fish & Game Code Section 5650, which prohibits the discharge of any substance or material that may adversely impact fish, plant life, or bird life.

6.2 Regulation of Drinking Water Quality

Several federal and state laws have been enacted to protect drinking water sources. At the federal level, Congress enacted the federal Safe Drinking Water Act (SDWA) in 1974, which required EPA to establish national drinking water standards and to regulate state underground injection control programs. The federal SDWA is implemented in California through the California SDWA and Title 22 of the California Code of Regulations. In addition, the Safe Drinking Water and Toxic Enforcement Act of 1986, also known as Proposition 65, is a state law designed to protect drinking water sources.

6.2.1 Laws and Regulations

The federal SDWA, the California SDWA, and Title 22 govern drinking water quality in California. Amendments to the federal SDWA, 42 USC, Section 300f et seq. were adopted in 1996 and integrated into California regulations set up new and stronger protective measures to keep contaminants out of water sources and to enhance water system management. They also required the setting of new drinking water standards based on better science and risk assessment. Source water protection involves preventing entry of possible contaminants into waters that are eventually treated by drinking water systems. The source water protection approach requires states to delineate the areas that supply public drinking water and complete assessments for all public water supply sources evaluating water system susceptibility to contamination.

In the standards setting area, EPA was required to publish, within 18 months of the enactment of the SDWA amendments, a list of potential contaminants of concern in drinking water that are not currently regulated, but which may require regulation in the future. Contaminants of concern to drinking water suppliers that may adversely affect human health include pathogens (e.g., parasites, viruses, enteric bacteria), natural organic matter (precursors for disinfection by-products), and other constituents (e.g., trace organics, arsenic). After a decision has been made to regulate a contaminant, EPA has 3½ years to publish a final primary drinking water standard for that contaminant.

EPA is in the process of redesigning key portions of the drinking water regulatory protocol to respond to the 1996 SDWA amendments. On October 6, 1997, EPA's drinking water program published a draft list of 58 chemicals and 13 microbial contaminants that are candidates for regulation. The proposed list signals a turning point for the agency because of the list's greater emphasis on microbes. EPA published the final Drinking Water Contaminant Candidate List, required under the 1996 SDWA amendments, in the Federal Register on March 2, 1998 (see 63 Fed. Reg. 10,273). This final list contained 10 microbiological contaminants and 50 chemical contaminants.

The SDWA amendments also require EPA to implement two new public-right-to-know activities. First, community drinking water system operators must provide public notification of acute drinking water contamination with potential to have serious adverse effects on human

health with short exposure (such as nitrates, fecal coliform, waterborne disease outbreaks) within 24 hours of discovery. Second, all public water systems must produce and publicize to their customers an annual Consumer Confidence Report (CCR) that details the source of their water, how it is treated, what regulated constituents are detected in the treated supply, and whether state/federal standards have been violated. California public water systems already provide an Annual Water Quality Report (AWQR) to customers that substantially meet the new EPA regulations. In the year 2000, California water systems must reformat the AWQR to fully conform to the new EPA CCR model.

The California Safe Drinking Water and Toxic Enforcement Act (Proposition 65, California Health & Safety Code Section 25249.5 et seq.) applies to certain listed chemicals and to defined business activities. Regulations implementing the Act were first promulgated in 1988, and have been amended numerous times since then. Proposition 65 has two substantive provisions: (1) businesses must warn people prior to exposure to certain amounts of any listed chemical, and (2) businesses are prohibited from discharging significant amounts of listed chemicals into sources of drinking water.

6.2.2 Implementing Agencies

At the federal level, EPA has primary responsibility for enforcement and oversight of the SDWA. In California, EPA has delegated this authority to the California Department of Health Services.

The California Environmental Protection Agency (Cal-EPA) has been designated by the governor as the lead governmental agency to implement Proposition 65's provisions. Within Cal-EPA, the Office of Environmental Health Hazard Assistance (OEHHA) is responsible for Proposition 65 enforcement. Drinking water systems are also regulated by the California Department of Health Services, Division of Drinking Water and Environmental Management.

6.3 Regulation of Water Rights

Management of California's water systems incorporates three elements: the regulatory framework establishing the right to use water, cooperative ventures, and economic incentives (i.e., water banking, water marketing). An overview of the regulatory framework for water rights and the implementing agencies is presented below. A more comprehensive discussion of all three elements pertaining to managing California's water systems can be found in *Regulatory Analysis for the San Francisco Estuary* (SFEP 1992).

6.3.1 Laws and Regulations

Freedom of navigation and the public's right to use rivers is guaranteed by the Commerce Clause of the U.S. Constitution. The congressional Act Admitting States to the Union requires that "all the navigable waters within said state shall be common highways and forever free." The California State Constitution forbids individual, joint, and corporate landowners from

obstructing free navigation. Important legislative codes affirming the rights to waterway navigation, public access, and use of waterways include the California Public Resources Code, Section 6301, the California Civil Code, Section 830, and the California Harbors and Navigation Code, Section 100.

California operates under a dual system of water rights recognizing both riparian and appropriative rights. Riparian rights are based on the principle that those who own land adjacent to water possess the right to use the water. The process for obtaining appropriative rights was formally established in 1872 for lands that were not adjacent to water. In 1928, California amended its constitution [California Constitution Article X, Section 2] to add that both systems of water rights were subject to the principle that the use of water must be reasonable and beneficial.

Other governing principles that affect water rights are the public trust doctrine, water contracts, water reclamation, and conservation. The public trust doctrine holds that certain resources, including water and the natural resources that depend on it, belong to the public and are, therefore, held in trust by the state for future generations. It restricts the kinds of uses for which state lands may be utilized. These uses typically include public uses of waterways for navigation, commerce, fisheries, recreation, and environmental protection. The State Lands Commission reviews projects affecting tidal and nontidal waterways for consistency with the public trust doctrine.

6.3.2 Implementing Agencies

Federal and state governments, local municipalities, and private entities operate water storage and diversions. At the federal level, the Bureau of Reclamation, which manages the Central Valley Project, has the largest role. At the state level, the California Department of Water Resources (DWR), which manages the California State Water Project, plays a key role. At the local level, water supply districts and irrigation districts are instrumental in the management of water.

The State Board is the regulator of water rights in California. The Regional Board has a responsibility to comment on water quality aspects of water rights decisions. Other state agencies involved in water rights issues include the CDFG, the Public Utilities Commission, and the California Department of Health Services. Federal agencies involved in water rights issues include the U.S. Army Corps of Engineers (ACOE), the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the U.S. Geologic Survey. Local water supply districts and irrigation districts are responsible for supplying water directly to California residents.

6.4 Regulation of Wetlands and Riparian Zones

The primary federal regulation of wetlands exists under the CWA. An overview of the regulatory framework for wetland protection and the implementing agencies is presented below.

A more comprehensive discussion of regulation protecting wetlands can be found in *Regulatory Analysis for the San Francisco Estuary* (SFEP 1992).

6.4.1 Laws and Regulations

CWA Section 404 represents the principal federal program regulating activities affecting the integrity of wetlands. Section 404 requires that a permit be obtained prior to the discharge of dredged or fill material into U.S. waters, including wetlands. Several types of projects affecting wetlands require permits; however, certain farming, maintenance, and construction activities that are conducted without discharging dredged or fill material are exempt from Section 404 requirements. In addition, Section 404(e) authorizes nationwide "general permits" for categories of activities that are similar in nature. This allows the ACOE to approve such activities without case-by-case permit reviews. Permit applications are reviewed by the ACOE, and accepted if they are determined to comply with Section 404(b)(1) Guidelines and have undergone a public review. CWA Section 401 requires that the State certify that ACOE permits will not result in activities that will adversely impact water quality in wetlands that are considered "waters of the United States."

Projects affecting fish and wildlife habitats also require permits from the CDFG. The Lake and Streambed Alteration Program requires, under Fish and Game Code Section 1600, that the CDFG be notified regarding proposed projects that will change the natural flow or other aspects of a waterbody or use materials from a streambed. If the CDFG determines that the proposed project may adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement must be obtained from them.

Projects affecting waterways may also require permits from the California State Lands Commission, the State Board, ACOE, and/or the San Francisco Bay Conservation and Development Commission (BCDC). Examples of activities occurring in wetlands that require permits include: commercial, industrial and residential development; power plants and transmission lines; construction of pipelines and railroad crossings. Agencies responsible for these permits include local governments, the State Lands Commission, the California Reclamation Board, the California Energy Commission, the California Public Utilities Commission, and the California Department of Housing and Community Development.

Within the Basin, the Santa Clara Valley Water District (Water District) has local permitting jurisdiction around watercourses through its Ordinance 83-2. This ordinance was developed to minimize impacts to watercourses, creeks, streams, lakes, ponds, and reservoirs. It requires a project review and permitting process for any project or works that are planned within 50 feet of any watercourse within the District's service area that drains more than 320 acres.

Another important component of wetlands regulation is the definition of "wetlands." Three federal definitions of wetlands are used in the U.S. today. One was developed for inventory purposes (USFWS) and the other two have direct regulatory significance under the CWA and the Food Security Act. Definitions used by EPA, the ACOE, and the USFWS vary, but all are based on three conditions: (1) a hydrologic regime typified by standing water, (2) hydric or saturated

soils, and (3) the presence of plants adapted to water-logged soils. The USFWS definition also recognizes nonvegetated wetlands (e.g., mudflats, rocky shores, and sandbars). Other state, regional, and local agencies may have formal definitions of the term “wetland” as well. However, the majority of these have roots in one of the federal definitions (see Table 6-1).

6.4.2 Implementing Agencies

The ACOE and the EPA both have regulatory responsibilities relating to wetlands. CWA Section 404 requires the ACOE to regulate the discharge of dredged and fill material in waters of the U.S., including wetlands. The ACOE and EPA are jointly responsible for preventing the degradation and destruction of wetland resources resulting from disposal of dredged spoil or fill. The State Board, following recommendations from the Regional Board, is responsible for certifying through CWA Section 401 that ACOE activities will not adversely impact water quality. This authority may be delegated to the Regional Board in the near future. The Regional Board imposes waste discharge requirements on wetlands fill and waterway modification projects. Other agencies with jurisdiction include the State Lands Commission, State Board, ACOE, and/or the BCDC, CDFG, and Water District. Municipalities can enact ordinances for local wetland protection as well.

6.5 Regulation of Endangered Species

Activities that could jeopardize the continued existence of threatened and endangered species are regulated under federal and California endangered species protection laws as described below. Generally, threatened and endangered species are placed on a list. When a species is "listed," federal agencies are required to undertake programs to conserve this species and develop recovery plans that would allow it to be removed from the list. Agencies are prohibited from authorizing or implementing any action that would jeopardize a listed species or modify its “critical habitat.”

6.5.1 Laws and Regulations

The federal Endangered Species Act (ESA) protects species of fish, wildlife, and plants that are in danger of, or threatened with, extinction. Federal ESA Section 7 requires the USFWS or NMFS to be consulted before actions are taken that may adversely affect designated critical habitat. In order to protect listed species, NPDES, 404, or other permitting requirements may be adjusted to promote species recovery and protection. In addition, the implementation of this law by the federal government may affect or limit the quantity of water diverted under a state-issued water right permit. Federal ESA Section 9 prohibits taking of listed animals without

**Table 6-1
Federal Wetlands Definitions**

Federal Definition	Institutional Use of Definitions	Legislative Origin and Purpose
<p>USFWS (Cowardin et al. 1979): <i>“Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.”</i></p> <p><i>“drained hydric soils that are now incapable of supporting hydrophytes because of a change in water regime are not considered wetlands by our definition.”¹</i></p>	<p>Federal: USFWS</p> <p>State: CDFG²</p> <p>Local: San Francisco Estuary Institute³ San Francisco Estuary Project⁴</p>	<p>No direct legislative origin or authority.⁵</p> <p>Developed to conduct the National Wetlands Inventory (1981)</p>
<p>ACOE/EPA, 1977: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.⁶</p>	<p>Federal: ACOE EPA</p> <p>State: State/Regional Water Quality Control Boards CDFG²</p> <p>Local: Santa Clara Valley Water District</p>	<p>Clean Water Act as amended (1977): Section 404 regulation of dredge and fill activities within “waters of the United States” (including wetlands)</p>
<p>Natural Resources Conservation Service, 1985: The Food Security Act contains the following definition: <i>The term “wetland”, except when such term is part of the term “converted wetland”, means land that—</i> <i>(A) has a predominance of hydric soils;</i> <i>(B) is inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions; and</i> <i>(C) under normal circumstances does support a prevalence of such vegetation.</i> <i>For the purposes of this Act and any other Act, this term shall not include lands in Alaska identified as having high potential for agricultural development which have a predominance of permafrost soils.⁷</i> Hydric soils and hydrophytic vegetation are further defined.</p>	<p>Federal: Natural Resources Conservation Service ACOE</p> <p>State: none</p> <p>Local: none</p>	<p>1985 Food Security Act as amended (1990)</p> <p>Primary method used to delineate wetlands on agricultural lands</p> <p>Originally intended for “swampbuster” provisions of Food Security Act, but now also used to delineate wetlands on agricultural lands for CWA purposes⁹</p>

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- ¹ Cowardin, Lewis M., Carter, Virginia, Golet, Francis C., and LaRoe, Edward T. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Biological Services Program. U.S. Government Printing Office, Washington, D.C.
- ² CDFG recommends using the Cowardin classification system, but in practice they typically accept the ACOE/EPA definition for wetland delineation (personal communication, Carl Wilcox, CDFG, Yountville office).
- ³ Major data source for the EcoAtlas was the USFWS National Wetlands Inventory information.
- ⁴ Definition was used in San Francisco Estuary Project. 1991. *Status and Trends Report on Wetlands and Related Habitats in the San Francisco Estuary*. Prepared under Cooperative Agreement #815406-01-0 with the U.S. Environmental Protection Agency by the Association of Bay Area Governments, Oakland, California, p. 124.
- ⁵ *Ibid.*, p. 2.
- ⁶ National Research Council. 1995. *Wetlands: Characteristics and Boundaries*. National Academy Press, Washington, D.C., p. 51.
- ⁷ *Ibid.*, p. 56.
- ⁸ In most areas of the United States (the Bay Area is the sole exception—see note 5) the National Resources Conservation Service is responsible for delineating wetlands on agricultural lands for both the purposes of the Food Security Act and the Clean Water Act. In instances where Section 404 permits are required on agricultural lands, the ACOE will accept the National Resources Conservation Service wetlands definition.
- ⁹ The Bay Area is the sole exception to this procedure. In the nine Bay Area counties, the ACOE retains its authority to delineate wetlands on all lands, including those defined as agricultural, for the purposes of the Clean Water Act.

authorization. Incidental take permits were developed under Section 10 to allow nonfederal projects to be conducted that may result in the taking of listed species.

California’s endangered species statute (Fish and Game Code Section 2050 et seq.) contains provisions for adding and removing species from the California’s list of threatened, endangered or candidate species. The California law, as with the federal law, prohibits the import, export, taking, or possessing of listed species without an incidental take permit, and requires consultation with the California lead agency for projects that may jeopardize a listed species.

As more aquatic species that inhabit the San Francisco Bay and the Delta system are placed on the threatened or endangered species lists, more restrictions may be placed on local activities, even those designed to improve the aquatic habitat for these species. In recent years, the EPA has attempted to promulgate water quality standards to regulate the quantity of flows into the Delta in order to protect listed species. If necessary to ensure the continued survival of these species, it is conceivable that additional, more stringent restrictions (i.e., more stringent water quality criteria) could be imposed on entities regulated under a federal program, such as the NPDES program. These restrictions could include additional monitoring to determine the effects of pollutants on the endangered or threatened species.

When no federal action or approval is necessary, authorization for an incidental take is required under Section 10, which describes the Habitat Conservation Plan (HCP) process (McCutchen et al. 1996a). Implementation of the federal ESA and California ESA is moving more towards HCPs and natural community conservation planning (NCCP) and may serve as useful models for watershed management planning purposes. These concepts allow for protection of critical habitats over a long time period (approximately half a century), which can include protecting nonsensitive species. Via a legal agreement, these concepts allow landowners assurance that no

additional mitigation commitments will be necessary and that incidental takes are permitted. As in watershed planning, HCPs do not focus on parcel-by-parcel planning, but rather look at obtaining conservation goals through a larger perspective, recognizing that impacts will occur in some areas, while other critical areas are preserved and enhanced.

6.5.2 Implementing Agencies

The USFWS and the NMFS have regulatory authority over the federal ESA. The CDFG is the California regulatory agency in charge of implementing the California ESA statute.

6.6 Regulation of Fisheries

6.6.1 Laws and Regulations

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (Magnuson Act) sets forth a national program for the conservation and management of the fishery resources of the U.S. to prevent overfishing, to rebuild overfished stocks, to ensure conservation, to facilitate long-term protection of fish habitat, and to realize the full potential of the nation's fishery resources. The emphasis of the Magnuson Act is on coastal fisheries and anadromous fish populations.

Under the Magnuson Act, fisheries conservation plans and management measures will:

- Prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the U.S. fishing industry.
- Be based upon the best scientific information available.
- Take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.
- Where practicable, minimize costs and avoid unnecessary duplication.

The Magnuson Act may bring NMFS into the NPDES permit review process where discharges are deemed to have a potential to affect an “essential fish habitat.” As with the federal ESA, this Act may also result in a tightening of wastewater discharge restrictions or additional monitoring requirements in order to protect anadromous fish in the Bay and the Delta.

The Fish and Game Code contains several provisions designed to protect fisheries, including the Anadromous Fisheries Program Act (Fish & Game Code Section 6900 et seq.) and Part 1.7, Conservation and Management of Marine Living Resources. As stated in Fish and Game Code Section 1700, it is the policy of the state to promote the development of local fisheries and distant-water fisheries based in California. Elements of the policy include:

- The maintenance of sufficient populations of all species of aquatic organisms to ensure their continued existence
- The recognition of the importance of the aesthetic, educational, scientific, and nonextractive recreational uses of the living resources of the California Current
- The maintenance of a sufficient resource to support sport fishing
- The growth of local commercial fisheries and the development of distant-water fishery enterprises
- The management, on a basis of adequate scientific information promptly promulgated for public scrutiny, of the fisheries under the state's jurisdiction, and the participation in the management of other fisheries in which California fishermen are engaged, with the objective of maximizing the sustained harvest
- The development of commercial aquaculture

The Fish and Game Code also protects fish habitat under Section 5930, which requires that dams do not obstruct fish passage ways. The owner of any dam must allow sufficient water to pass through a fishway at all times, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to protect any fish that are present below the dam.

6.6.2 Implementing Agencies

The NMFS has primary responsibility for implementing the Magnuson Act. The CDFG also has jurisdiction regarding fisheries.

6.7 Regulation of Land Use

The principal tool for managing generalized effects of land use change on estuarine systems is land use planning and regulation. Land use planning in California has been carried out through the use of three basic tools: general plans, zoning ordinances, and subdivision ordinances. In addition, the California Environmental Quality Act (CEQA) of 1970 and growth control and management have become instrumental in the management of land use (see Table 6-2). An overview of land use planning and regulation at the state, regional, and local levels is presented below with a more detailed discussion (including information on state laws and enabling legislation and regional plans and planning agencies) presented in *Regulatory Analysis for the San Francisco Estuary* (SFEP 1992).

**Table 6-2
Summary of Land Use Regulations**

Land Use Regulation	Description	Potential Support	Potential Hindrance
California Environmental Quality Act	Examine potential environmental impacts of projects, and mitigation for such.	Forces examination of environment. Can lead to avoidance or mitigation of impacts. Master Environmental Impact Reports could be useful with respect to cumulative impacts.	Thresholds of significance need to be defined. Project-by-project analysis by itself generally does not identify or plan for minimizing cumulative impacts as well as watershed or regional analyses do.
General Plan Law	Constitution/overview plan of municipal planning.	If watershed management objectives are included here, other regulations must comply; opportunity to work out conflicting policies. Good tool to house watershed strategy.	Very broad; no teeth in itself. Requires enforceable implementing ordinances to be effective in actual practice. Except housing element, no set time to update.
Specific Plan Law	More detailed plan for subareas.	If watershed management objectives are included here, other regulations must comply; opportunity to work out conflicting policies. Ability to include more specific techniques. Good tool to house watershed strategy.	No teeth in itself. Requires enforceable implementing ordinances to be effective in actual practice.
Subdivision Map Act	Regulates subdivision land use access and design.	Allows control of land use access and density. Allows project denial based on environmental impact.	Subdivisions < five parcels; vested tentative maps – measures not on tentative map cannot be placed on subsequent permits.
Zoning Regulations	Separates cities into districts to regulate land use, and building type and design.	Allows control of land use type and design such as building footprint and setbacks. Must take into account general and specific plans, California Environmental Quality Act, and impacts to surrounding areas.	Because zoning regulations tend to be amended more often than other land use regulations, more time and resources may be needed to track proposed amendments to ensure that they support, or at least do not conflict with, watershed planning efforts.

Table 6-2 (concluded)			
Summary of Land Use Regulations			
Land Use Regulation	Description	Potential Support	Potential Hindrance
Wetland Regulations	Protects waterways.	Assists to protect riparian corridors.	Can be used only under specific situations. Additional coordination with federal and state government probable.
Endangered Species Regulations	Protects fish, wildlife, and vegetation species.	Assists to protect sensitive species. Potential for Habitat Conservation Plans or ecosystem management.	Can be used only under specific situations. Additional coordination with federal and state government probable.
Community Redevelopment Law	Corrects urban blight.	Very powerful; can acquire property. Focus on reviving urban core areas; can help reduce sprawl.	Limits on use for open-space/public improvements.

6.7.1 Laws and Regulations

Watershed planning in urbanized and urbanizing watersheds is important to avoid exacerbating the hydrologic changes that are created as a result of the landscape alterations and increased imperviousness associated with development. However, watershed management planning strategies must comply with existing laws, respect private property rights, and justly compensate landowners as appropriate. Section 6.7.1.1 examines land use regulations within California, and the regulatory controls they provide to local municipal governments to implement watershed management strategies. Because several of the tools and objectives could result in potential “takings” cases, the concept of takings is explored at the end of Section 6.7.1.1. Section 6.7.1.2 discusses how specific watershed management strategies may be successfully implemented using existing regulations. Case studies are used to depict examples of strategy implementation.

6.7.1.1 Governing Land Use – Municipal Powers for Managing Watersheds

This section summarizes the powers that several state and federal land use regulations bestow to California municipalities that may influence how watershed management strategies are implemented. In general, municipalities gain the legal authority for regulatory land use from their police powers to protect the public health, safety, and general welfare of the residents within the municipality’s territories (*Berman v. Parker, 348 U.S. 26 (1954)*) (Curtin 1999a). Specifically, this section discusses CEQA, general plan and specific plan law, zoning regulations, the Subdivision Map Act, and the Community Redevelopment Law (see also Table 6-2).

Wetland regulations and endangered species regulations may also directly influence how watershed management land use strategies are implemented (see Sections 6.4 and 6.5). Other federal statutes that relate to land use planning but not discussed further here include CWA Section 401 (33 USC Section 1341); National Environmental Policy Act (NEPA) (42 USC Sections 4321-4347); Fish and Wildlife Act of 1956 (16 USC Section 742a et seq.); Fish and Wildlife Coordination Act (16 USC Sections 661-666c); Marine Protection, Research, and Sanctuaries Act of 1972 Section 302 (16 USC Section 1432); National Historic Preservation Act of 1966 (16 USC Section 470); Interstate Land Sales Full Disclosure Act (15 USC Section 1701 et. seq.); and the CZMA (16 USC Section 1456(c)).

California Environmental Quality Act

Overview. CEQA was created to provide public information about possible environmental impacts from a project, and measures that could avoid, prevent, or mitigate for the potential impacts.¹ CEQA requires the lead public agency—often the municipality—to prepare an initial study, and if necessary, an Environmental Impact Report (EIR) for projects that may significantly impact the environment (Public Resources Code Sections 21000-21177).²

CEQA requires changes in projects to prevent environmental impacts that are avoidable. Mitigation measures created by municipalities to protect watershed resources can be used in the CEQA process; however, projects that impact the environment can be approved if economic, social, or other conditions make mitigation efforts infeasible, and if the public agency prepares a Statement of Overriding Considerations, according to CEQA Guidelines Sections 15091, 15093, (Curtin 1999a). A watershed plan that includes quantifiable cost information on the impacts of development can help offset the number of projects where mitigation efforts are deemed economically infeasible.

Exemptions. Four types of exemptions exist under CEQA: statutory, categorical, general rule, and disapproved project. Additionally, certified regulatory programs can obtain a partial exemption (CEQA Guidelines Sections 15250-15253) (Bass et al. 1999). The California Legislature can exempt activities even if they may potentially significantly impact the environment. Such statutory exemptions include ministerial projects (e.g., most building permits, final subdivision maps), emergency projects, and feasibility or planning studies for future actions (not including municipal general plans) (Bass et al. 1999). The California Legislature has also exempted certain projects categorically. Categorical exemptions include:

- Maintenance, repair, and minor alteration of existing facilities

¹ Projects funded in part or whole with federal funds also require compliance with NEPA, which requires that an Environmental Impact Statement (EIS) be prepared. Unlike CEQA, NEPA does not require evaluation of growth inducement factors and mitigation measures (Curtin 1999a).

² Activities that may directly or indirectly change the physical environment are considered “projects.” Effects that will have a real or potentially substantial adverse impact on the environment are considered “significant” (Curtin 1999a).

- Replacement or reconstruction of existing structures if they are at the same site for the same purpose and substantially the same capacity as the original
- New construction of or conversion of small facilities (e.g., less than or equal to three single-family residences in an urbanized area)
- Minor alteration to land, water, or vegetation (including grading on slopes less than 10 percent), land use limitations, regulatory agency actions to protect the environment and natural resources
- Inspections (CEQA Guidelines Sections 15301-15332) (Bass et al. 1999)

General rule exemptions are for those activities that obviously will have no significant environmental effect. Disapproved projects are those that a public agency has disapproved during their initial screening process.

Because CEQA allows for categorical exemptions, some development activities (e.g., single-family residences) that could affect watershed planning objectives may escape the CEQA process. CEQA cannot therefore be used alone to assist with the implementation of watershed planning objectives. If, however, an activity clearly may have a significant environmental effect, case law has shown that categorical exemptions are improper (EOA 1995). The municipality may consider defining “substantially the same capacity” for replacement structures to consider the amount of additional impervious cover allowed for replacement or reconstruction of existing structures, especially since recent development trends have led to the increase in building footprint when replacing residences.

Initial Studies. For projects not categorically exempt from CEQA, an initial study is prepared to determine if the project may significantly impact the environment. A municipality may use any of the following tools to determine findings of mandatory significance during the CEQA process:

- Model initial study checklist
- CEQA’s mandatory finding of significance (including projects that achieve short-term goals to the disadvantage of long-term goals)
- Agency-adopted regulatory standards
- Consultation with other agencies
- Agencies’ thresholds of significance (Bass et al. 1999)

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An initial study may result in either: a negative declaration that indicates no potential substantial adverse impact on the environment would occur; a mitigated negative declaration, which indicates that implementation of mitigation measures would reduce any substantial adverse effects to a less-than-significant impact; or an EIR, if the project may have a significant environmental impact.

Environmental Impact Reports. EIRs examine potentially significant impacts in detail. An EIR compels the public agency to consider qualitative, technical, and economic factors; balance competing objectives; disclose information; and consider the effects on the environment before the project is decided upon. Cumulative impacts must be discussed when they are significant, and should consider “past, present and reasonably anticipated future projects”(CEQA Guidelines Sections 15130, 15065(e), 15130), (Public Resources Code Sections 21083, 21100) (Curtin 1999a).

Changes to CEQA in 1993 under Assembly Bill 1888 have allowed for the development of Master EIRs for different projects (e.g., general plan, general plan element or amendment, specific plan, phased projects, projects involved in redevelopment plans) (Public Resources Code Section 21157) (Curtin 1999a). The Master EIR is written to evaluate cumulative or growth-inducing impacts, and irreversible significant effects on the environment of anticipated projects as much as possible (Bass et al. 1999; Curtin 1999a). The Master EIR contains the type, location, and intensity of expected future projects, as well as the schedule for capital improvements and alternative site locations; the evaluation of future impacts and mitigation measures for specific projects; cumulative and growth-inducing impacts; and significant permanent environmental impacts (Bass et al. 1999).

A first-level tiered EIR, the Master EIR can be used for 5 years (Public Resources Code Section 21157.6) to streamline the approval process of subsequent projects. Once a Master EIR is prepared, a new EIR or findings are not required for related subsequent projects if the lead agency: (1) incorporates all feasible mitigation measures or alternatives indicated in the Master EIR; and (2) prepares an initial study that determines the project was described within the Master EIR’s scope, would not result in additional significant impacts, and needs no additional measures or alternatives to mitigate or avoid impacts (Bass et al. 1999). If subsequent projects under a Master EIR may have added significant impacts then the project needs only a focused EIR that analyzes added significant impacts, and any additional mitigation measures. This allows for review and incorporation of additional mitigation measures as specific projects are defined. Under a Master EIR, the tiered process will be less susceptible to legal challenges, but the procedures for the second-tier review of future projects is complicated (Bass et al. 1999). The lead agency may set up a fee to cover the cost of a Master EIR (Public Resources Code Sections 21157(a),(c)) (Bass et al. 1999).

Thus, a municipality may use a Master EIR to review cumulative and growth-inducing impacts, and to set forth preferred mitigation measures. It is a useful tool for examining impacts of development projects from a larger perspective.

Other tiered EIRs include Program EIRs for a series of actions that are seen as one large project; a Staged EIR for large, phased projects; Community Plan EIR or Zoning Ordinance EIR; a General Plan or Specific Plan or Coastal Program EIR; or a Redevelopment Plan EIR (Bass et al. 1999). A focused EIR may be used for small multiple-family or mixed-use projects not analyzed in a Master EIR, and for projects created solely for the installation of pollution control equipment (Bass et al. 1999).

Monitoring Programs. Because public agencies must ensure that a project’s incorporated mitigation measures are implemented, municipalities must adopt a reporting or monitoring program (Public Resources Code Section 21081.6; CEQA Guidelines Section 15091) (Curtin 1999a). Thus, municipalities have the power to require long-term monitoring and inspection programs, which can be useful to help monitor changes to and the appropriateness of specific mitigation measures within the watershed.

Relationship to Watershed Management. The CEQA process in general focuses on a project-by-project analysis; however, tiered EIRs can help to analyze impacts on the watershed or subwatershed level. CEQA documentation for proposed development projects could refer to specific watershed management plans or assessments to help evaluate cumulative impacts of urbanization. Watershed management plans could also identify a menu of appropriate mitigation measures and define thresholds of significance appropriate to meeting the goal of the plan. This information can be used during the CEQA process to determine and address the impacts of additional planned development on a parcel-by-parcel basis. CEQA provides useful powers and responsibilities to municipalities to promote watershed management objectives in several ways.

- Municipalities can expand the model initial study checklist to include questions pertaining to watershed/hydrologic cycle impacts, and to add questions for assessing the cumulative environmental impacts on the South Bay when adopting or reviewing General Plans or Specific Plans.
- The appropriate sections of the watershed resource inventories that designate, among other things, sensitive areas, can be incorporated into the environmental setting section of the initial study or EIR.
- Lead agencies (municipalities) are also encouraged to define thresholds of significance for proposed project impacts within a watershed (Bass et al. 1999). If a well-documented, scientifically sound strategy is included in a watershed management plan, the municipality should be able to define different thresholds of significance for different areas within a watershed. These could focus on cumulative effects, such as defining thresholds for impervious surface area.
- The public is given opportunities to comment on the negative declarations and EIRs of proposed projects.

- For projects requiring mitigation measures via a Mitigated Negative Declaration or an EIR, municipalities must adopt a reporting or monitoring program, the results of which can be reviewed to ensure mitigation implementation or to increase knowledge of the watershed. Reporting is often made up of a compliance review for projects that have quantifiable or otherwise easy-to-measure mitigation activities. Monitoring is more often continual oversight for more complex mitigation measures, such as wetland restoration. CEQA requires monitoring the success of mitigation measures only if success monitoring is included as part of the mitigation measures (CEQA Guidelines Section 15097(e)(6)) (Bass et al. 1999). Therefore, to help ensure monitoring success, municipalities should specify the need for success monitoring, and detailed mitigation measures, including performance criteria by which success can be determined.
- At their decision, municipalities can adopt comprehensive monitoring programs within their jurisdictional boundaries to establish a basic framework for monitoring. This comprehensive program may include standard policies and requirements – such as standard enforcement procedures, processes for monitoring success, and methods for regularly improving recommended mitigation measures upon review of monitoring results—for project-specific monitoring or reporting programs (CEQA Guidelines Section 15097(e)) (Bass et al. 1999).
- Finally, Master EIRs could be prepared for projects on a subwatershed level, as well as for general, specific, and redevelopment plans. Master EIRs can be used to bring more attention to cumulative impacts and to set forth preferred mitigation measures based on a broader perspective. Tiered EIRs are a useful tool for examining impacts of development projects from a larger perspective.

An important watershed management tool, CEQA can be complex, requiring public hearings, notification requirements, and findings. There also is the potential for legal action. CEQA mitigation measures must also reasonably relate to the actions they are mitigating (*Santa Monica Beach, Ltd. v. Superior Court (Santa Monica Rent Control Board)* (Curtin 1999b)).

General Plan Law

Overview. Using text and approximate diagrams, the general plan covers physical land development for land both within and outside the municipality’s boundaries that relates to the municipality’s planning (California Government Code Sections 65300, 65302). Therefore, municipalities can comment on lands outside their territorial boundaries, but within the geographic boundaries of the watershed. Considered the “constitution for all future developments” by the California Supreme Court (Curtin 1999a), the general plan is used not only to outline future development but also to balance competing needs within the community (see Table 6-2).

Solely an advisory document before 1971, the general plan has become a significant tool for directing future land use, thanks to legislation³ that requires all land use approvals be consistent with the municipality’s general plan. Each land use decision (e.g., zoning ordinance, tentative map, growth control initiative, development decision) must be consistent with a legal, and current, general plan or it is considered “invalid at the time it is passed” (*Leshar Communications, Inc. v. City of Walnut Creek*, 52 California 3d 544 (1990)) (Curtin 1999a). Thus, having specific watershed management goals and objectives included in the general plan is a basis for effective watershed management. Anyone challenging a land use approval by arguing that a general plan is not adequate must show a nexus between the claimed deficiency in the general plan and the land use approval (Curtin 1999a). This can affect land use decisions, including conditional use permits (CUPs), zoning ordinances, building permits, subdivision approvals, and environmental review under CEQA (*Neighborhood Action Group v. County of Calaveras*, 156 Cal. App. 3d 1175 (1984); *Garat v. City of Riverside*, 2 Cal. App. 4th at 259; *Flavell v. City of Albany*, 19 Cal. App. 4th 1846 (1993)) (Curtin 1999a). Although state law requires municipalities to make land use decisions based on the plan, the municipalities maintain great decision-making leeway in determining the actions taken under the general plan.

Elements. California Planning, Zoning, and Development Law requires that each county and general law city develop a general plan, and that this plan includes, at a minimum, the following seven basic elements: land use, circulation, housing, conservation, open space, noise, and safety. Municipalities can include other elements or subjects that the city council or board of supervisors consider to be associated with physical development. Each general plan element (even the optional ones) is required to hold equal weight under the law (*Sierra Club v. Board of Supervisors*, 126 Cal. App. 3d at 708), and must correlate with one another (Government Code Section 65302, subd. (b)) (Curtin 1999a). The general plan is therefore a good venue in which to balance competing objectives. Those general plan elements that most pertain to watershed management are briefly described below.

The **land use element** describes how and to what intensity land will be distributed for residential, commercial and industrial, open space, natural resources, institutional, and other land use categories. This element must include population forecasts, building intensity (e.g., site coverage, floor-to-area ratio, building type and size, units per acre), and flood-prone and timber areas (*Twain Harte Homeowners Association v. County of Tuolumne*, 128 Cal. App. 3d 664, 696-97 (1982); *Camp v. Board of Supervisors*, 123 Cal. App. 3d 334, 349 (1981) (Curtin 1999a). Because building intensity directly relates to impervious cover, objectives for reducing impervious area may best be incorporated into the land use element.

The **circulation element** is an infrastructure plan showing the planned major thoroughfares, transportation ways and terminals, and other public utilities and facilities, including public transit, bicycle facilities, drainage facilities, and waterways (Government Code Section 65302 (b)). Watershed planning should consider coordinating with transportation planning to avoid

³ Chapter 1446, Statutes of 1971 and its amendments.

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migration corridors and minimize trip lengths. Watershed management objectives for creating drainage facilities that help slow and infiltrate stormwater flows could also be included here.

The **housing element** projects the amount of needed housing; and considers economic, environmental, and fiscal factors, as well as community goals. This element includes goals, policies, objectives, and scheduled programs for preserving, improving, and developing housing (Government Code Sections 65583, 65302(c)) (Curtin 1999a). The Legislature considers suitable housing for every California family “a priority of the highest order” (*Committee for Responsible Planning v. City of Indian Wells*, 209 Cal. App. 3d 1005 (1989); Government Code Section 65580 (a)) (Curtin 1999a). While most of the general plan needs to be reviewed periodically, the housing element must be revised as necessary, or at least every 5 years. Detailed provisions apply to housing needs within the coastal zone (Government Code Sections 65588(d), 65590, 65590.1) (Curtin 1999a). Discussion of watershed planning objectives in the housing element could lead to improved designs, such as considering density on a subwatershed level, and reductions in building footprint area to help minimize impervious surface area.

The **conservation element** should house most watershed-related objectives and goals because it focuses on identifying, conserving, developing, and using natural resources (e.g., water, soils, wildlife and fisheries) (Government Code Section 65302 (d)) (Curtin 1999a). Flood control, water pollution control, erosion control, and endangered species issues are included in this element. Government Code Section 65302(d) states that the water issues section of the general plan’s conservation element must be created with all local water-related agencies’ participation (Curtin 1999a).

With the intent to discourage both premature conversion of land to urban uses and “noncontiguous development patterns...”(Government Code Section 65561(b)), the **open-space element** is a required general plan element that gives municipalities power to support watershed management goals (Curtin 1999a). Open-space plans are powerful because, under Government Code Section 65563, each municipality is required to plan for long-range conservation of open-space land for natural resources, for managing resource production, for outdoor recreation, and for public health and safety (Government Code Sections 65302(e), 65560-65568) (Curtin 1999a). With the provision for outdoor recreation, some jurisdictions include parks and golf courses as open space; therefore, open-space designations are not necessarily solely comprised of undisturbed, natural landscape.

The open-space element must include an action program to implement specific programs such as adopting an open-space zoning ordinance that designates agriculture, large-lot, and other zones. The designation cannot result in a taking or damaging of private property without compensation (Government Code Sections 65564, 65910, 65912) (Curtin 1999a).⁴ Government Code Section 65567 disallows building permits, subdivision maps, and open-space zoning ordinances that are not consistent with the open-space plan (Curtin 1999a).

⁴ See discussion under “Takings Case Law” for more information on takings.

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The **safety element** creates programs to protect residents and property from risks from geologic hazards, floods, and wildfires. Some municipalities expand the element to include locally relevant issues such as hazardous materials transport, vegetation density and slope combinations for fire risk. Flood issues, vegetation density, wildfire, landslides, and slope considerations apply to watershed management planning.

Approval. Before a general plan can be approved, it must complete review under CEQA, and must be consistent with state laws and policies, including the California Coastal Act, Surface Mining and Reclamation Act (SMARA), and regulations for open-space, housing, and airport land use plans. Furthermore, Government Code Section 65352 advises that any proposal to adopt or significantly amend a general plan be referred to specific agencies, including immediately adjacent counties or cities, and any affected areawide planning agency, for a 45-day comment period before adoption.

Local Agency Formation Commissions (LAFCOs) have a pivotal role in approving general plans and general plan amendments. For more information on LAFCOs, see Section 6.12.

Influence on Implementing Watershed Management Objectives. In addition to policy statements, general plans can be used to illustrate a long-term vision of watershed renewal that maps areas for intense development and other areas for preservation or restoration. This strategy can assist balancing objectives of water supply management, habitat protection, flood management and land use, and can also help streamline the regulatory process for specific projects. Additionally, effective implementation of the watershed management plan will require that general plan policies have clear implementation measures and performance criteria.

General plan law gives municipalities the following powers and responsibilities:

- Comment on proposed actions on watershed lands outside their urban boundaries, but that relate to their planning area.
- Include in the general plan watershed protection plans, containing watershed goals and objectives to protect wetlands and stream environments and reduce pollutants in runoff. These plans provide a basis for an effective watershed management program because all land use decisions that are inconsistent with the general plan are invalid. This can impact zoning ordinances, tentative maps, growth control initiatives, and development decisions.
- General plan amendments can change goals and objectives, and municipalities must provide interested agencies with the opportunity to comment on proposed changes.

- Attach growth management objectives to general plans. To be appropriate, the growth control program must be shown to advance the community's general welfare. A growth management program that is included in the general plan is less likely to face legal challenge than one not included as part of the general plan. General plan information and objectives can act as the rationale for the growth control program (Curtin 1999a).
- Most watershed management strategy goals and objectives could be included in the conservation element, but could also be addressed as appropriate in the other elements. The general plan offers municipalities the opportunity to balance competing objectives within and among these elements.
- Watershed management strategies must comply with the requirements for municipalities to meet regional housing needs, although there is some mechanism for transference of shares of the regional housing needs.
- LAFCOs have influence over a municipality's general plan. LAFCOs have the power to set municipal spheres of influence (SOIs), and to approve or disapprove annexations and incorporations. These powers and others can be used to limit urban sprawl development.

Specific Plan Law

Overview. Governed by the same set of regulations as general plan law, specific plans are used to implement general plans in specific areas (Government Code Section 65450) (Curtin 1999a). Specific plans must be consistent with general plans and county airport land use plans. Zoning, subdivisions, public works, and developments must be consistent with the specific plan for the particular area. Specific plans are adopted like general plans, except no restrictions exist on the number of times specific plans may be amended (see Table 6-2).

The specific plan uses texts and diagrams to detail at least the following:

- Location and extent of land use and open space
- Proposed locations, extent, and intensity of major public facilities and transportation areas within, and needed to support, the plan
- Standards and criteria for how development will proceed, and standards applicable to natural resources
- An implementation program that includes regulations, programs, public works projects, and financing needed to implement the above
- A statement of relationship to the general plan (Curtin 1999a)

With some exceptions, residential development projects are exempt from CEQA requirements if they are implementing and are consistent with a specific plan for which an EIR has been certified (Government Code Section 65457) (Curtin 1999a).

Influence on Implementing Watershed Management Objectives. Specific plan regulations are actually a part of general plan law, so their influence is similar to that of general plans. Specific plans offer municipalities another useful tool for watershed management planning, especially detailing objectives and implementation measures on the subwatershed level. Specific plans can provide more detailed planning objectives and implementation program with which other land use decisions must comply. However, specific plans are not limited in the number of proposed amendments they must consider.

Subdivision Map Act

Overview. The ability to regulate the design of subdivisions can be important for incorporating site design measures that reduce the amount of impervious surface area. Under the Subdivision Map Act, municipalities are given the ability to regulate the land use type and design of subdivisions within municipal boundaries (Government Code Section 66411) (Curtin 1999a). Government Code Section 66418 defines design to include street alignments, grades, and widths; drainage and sanitary facilities, including alignments and grades thereof; location and size of rights-of-way, fireroads, and firebreaks; lot size and configuration; traffic access; grading; park and recreational land dedications; and other requirements and configurations “to ensure consistency with or implementation of, the general plan or any applicable specific plan” (Curtin 1999a). Municipalities must adopt ordinances regulating subdivisions that require a tentative and final or parcel map under the Map Act. In general, subdivisions of five or more parcels fall under the Map Act requirements to complete a tentative and final map. In most cases however, a municipality may regulate, via an ordinance, those subdivisions not covered under the Map Act if the regulations are as restrictive or less restrictive than those for Map Act subdivisions (see Table 6-2) (Government Code Section 66411; *City of Tiburon v. Northwestern Pacific Railroad Co.*, 4 Cal. App. 3d 160 (1970) (Curtin 1999a).

Second units may increase the amount of impervious surface area in a subdivision; however, they can also be useful for increasing density in built-out areas planned for higher density. “Granny” or second units are exempt from the Map Act until the unit is sold or transferred (Government Code Section 66412.2) (Curtin 1999a).

Even for map waivers, the Act has conditions to ensure environmental protections are met. For a parcel map or condominium project’s tentative and final maps to be waived, a municipality must have an ordinance that allows for the waiver, and that includes a finding that the land division complies with the Map Act and other local ordinances, including floodwater drainage control, water supply, and environmental protection (Government Code Section 66428) (Curtin 1999a).

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As long as they do not contradict the Map Act’s specific provisions, municipal regulations can affect the subdivision process when the Map Act is not explicit (*Shelter Creek Development Corp. v. City of Oxnard*, 34 Cal. 3d 733 (1983), *Soderling v. City of Santa Monica*, 142 Cal. App. 3d 501 (1983) (Curtin 1999a).

Conditions for Map Approval and Denial. Before approving a tentative parcel map, the municipality must find that the maps are consistent with the general plan and specific plan. In *Sequoyah Hills Homeowners Association v. City of Oakland*, 23 Cal. App. 4th 704 (1993), the court held that maps that are “in agreement with or in harmony with the general plan” are acceptable (Curtin 1999a). A map can be denied approval if it is not consistent with general and specific plans, is not physically suited to the site, may cause substantial environmental damage or serious public health problems, or does not allow for public access easements (Curtin 1999a). Additionally, a municipality may deny the map if the subdivision does not allow for future passive or natural heating and cooling opportunities, or if waste discharge from the subdivision would not meet Regional Board requirements (Curtin 1999a). In an appeal, the city council or board of supervisors is not tied to the findings of its advisory agency, so it can make its own decisions anew (*Cohan v. City of Thousand Oaks*, 30 Cal. App. 4th 547 (at 557) (1995).

A tentative map may be automatically approved if a municipality does not act within the Map Act’s time limits, except in certain cases (Curtin 1999a). In *Woodland Hills Residents Association, Inc. v. City Council*, 44 Cal. App. 3d 825 (1975), the court found that consistency must be found with the general plan before a tentative map can be approved.

Parcel Maps. Except where explicitly provided for in the Map Act (Government Code Section 66463), municipalities have power over determining the parcel map procedures via ordinances. The municipality must comply with notice and hearing requirements (*Horn v. County of Ventura* 24 Cal. 3d 605 (1979)) (Curtin 1999a). The municipality does not have as much leeway with a parcel map to require fees and exactions as it does with a tentative or final map. With a parcel map, the municipalities can require rights-of-way, easements, and “construction of reasonable offsite and onsite improvements for the parcels which are being created” (Government Code Section 66411.1(a)) (Curtin 1999a).

As per Government Code Section 66418.2, until January 1, 2003, regardless of how many parcels are created, only a parcel map is necessary for a division which is used to create an environmental subdivision of at least 20 acres⁵ (Curtin 1999a). Such a subdivision “allows a landowner to sell property for offsite mitigation based on defined criteria such as a subdivision for biotic and wildlife purposes” (Curtin 1999a).

Tentative Maps. Under Government Code Section 66426 of the Map Act, tentative maps are necessary if a final map is required, but not necessary for parcel maps unless the local subdivision ordinance requires such (Curtin 1999a). A typical 2-year tentative map life is extended by 36 months if the subdivider must build, improve, or finance public improvement

⁵ Multiple owners with contiguous land could combine to meet the 20-acre size minimum.

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projects of \$125,000 or more that are outside the tentative map's boundaries. When a tentative map's life is extended, the extension applies to state agencies' approvals as well (Coastal Commission, CDFG, Regional Board).

Certain properties may not need to meet subsequent watershed-related land use initiatives if they have a previously approved vested tentative or final map. Under Government Code Section 66498.1-66598.9, a "Vesting Tentative Map" can be approved, which provides the applicant the vested right to develop in compliance with the regulations and standards in effect at the time of application for approval (Curtin 1999a). The only exceptions are if the municipality determined that residents would otherwise be in risk to health or safety, or if a condition or denial is necessary to meet state or federal law (Government Code Section 66498.1(c)) (Curtin 1999a). The vesting tentative map will likely govern over any land use initiatives adopted afterwards, and an approved final map will govern if an unincorporated subdivision is annexed to a city. This does not hold true for a tentative or vesting tentative map, or for parcel maps that are not finalized (Government Code Section 66413) (Curtin 1999a).

Conditions need to be placed on the tentative map. Unless a new condition is necessary to protect public health and safety, to comply with state or federal law, or to comply with applicable zoning ordinances, a condition that could have been placed on a tentative map cannot be added later to the building or other type of permit for residential constructions unless five years have passed since the final map was approved and recorded (Government Code 65961, *Beck Development Co. v. Southern Pacific Transportation Co.*, 44 Cal. App. 4th 1160, 1199-1200 (1996)) (Curtin 1999a).

Moreover, municipalities cannot add additional conditions to tentative map extensions (*El Patio v. Permanent Rent Control Bd.*, 110 Cal. App. 3d 915 (1980)). A municipality could deny the extension if it could justify that the development without the condition would be harmful to public health, safety, or welfare. The subdivider would then have to apply for another tentative map.

If the general plan requires improvements, the subdivisions must provide conditions in order for the Subdivision Map Act to be consistent with the general plan (Government Code Section 66474) (Curtin 1999a). Under the Quimby Act (Government Code Section 66477), upon meeting certain criteria, a municipality can enact an ordinance to require land dedications or fees for parkland dedications, recreation, fire stations or other similar uses (*Associated Home Builders, Inc. v. City of Walnut Creek*, 4 Cal. 3d 633 (1971) (Curtin 1999a)). The dedication/fee in general should provide 3 acres of park per 1,000 subdivision residents (Government Code Section 66477; *Associated Home Builders Inc. v. City of Walnut Creek*, 4. Cal. 3d 633 (1971)) (Curtin 1999a). The location of land or amount of fees should be set so that the future subdivision inhabitants may benefit.

Additionally, under Government Code Sections 66474-66475, municipalities can adopt ordinances that impose, among other things:

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- Dedications for streets, alleys, access and abutter’s rights, drainage, public utility, and other public easements (Government Code Section 66475). Bicycle paths can be required if the subdivision contains over 200 parcels (Government Code Section 66475.1).
- Local transit facility dedications (for subdivisions with potential for over 200 dwelling units, or if developed to maximum density) (Government Code Section 66475.2).
- Drainage and sewer facilities fees (to defray actual or estimated capital improvement costs for local areas if the municipality has a general drainage or sanitary sewer plan) (Government Code Section 66483)⁶.
- Bridge and thoroughfare fees (Government Code Section 66484).
- Groundwater recharge (Government Code Section 66485.5).
- Supplemental improvements (sized to benefit neighboring subdivisions) (Government Code Sections 66585-66489).
- Soils investigations and reports (Government Code Sections 66490, 66491).
- Grading and erosion control requirements (Government Code Section 66411).
- Public access to public resources and dedication of public easements along river and streambanks (Government Code Section 66478.1-66478.14).
- Energy conservation (passive or natural heating or cooling opportunities) (Government Code Section 66473.1).
- Dedication for solar access easements (Government Code Section 66475.3).
- Offsite improvements (Government Code Section 66462.5). A final map cannot be postponed or refused if offsite improvements on land owned by someone else are not constructed or installed. The municipality must start the process to acquire the land within 120 days or the condition is waived. Municipalities can impose private condemnation of sewer or stormdrain easements as a tentative map condition of approval (*L&M Professional Consultants, Inc. v. Ferreira*, 146 Cal. App. 3d 1038 (1983)).
- Standards for public improvements in residential subdivisions (Government Code Section 65913.2). The standards a municipality imposes on a developer may not exceed the municipality’s own standards for the same improvements (Curtin 1999a).

⁶ If the municipality decides to use this section and not some other authority or power, the municipality must comply with the requirements that the local ordinance meet the following criteria: the municipality must have a general drainage or sanitary sewer plan; the fees be paid into a “planned drainage/sanitary sewer fund”; and the fees be apportioned fairly to areas based on benefits or needs. Surplus money must be disposed as per Government Code Section 66483.1-66483.2. The total acreage of the drainage area is the basis for calculating the maximum drainage fee (66 Ops. Cal Atty. Gen. 120 (1983)) (Curtin 1999a).

A municipality may require a dedication when an applicant proposes to convert a condominium or stock cooperative, even if no new dwelling units are added (*Norsco Enterprises v. City of Fremont*, 54 Cal. App. 3d 488 (1976)) (Curtin 1999a).

Final Maps. For a final map to be approved, the map must contain statements certifying dedication; all conditions must be satisfied, and improvement agreements entered into; and the municipality must require a performance security for improvement agreements (Curtin 1999a). The performance security will help ensure that the mitigation measures will be performed.

Beyond Municipal Boundaries. The Map Act allows municipalities to make recommendations on Map Act proposals outside the municipality’s boundaries. This can be used to take watershed planning beyond urban jurisdictional boundaries. Government Code Sections 66453 and 66455 indicates that “if an adjoining local agency or the California Department of Transportation files a map with the city indicating territory in which it desires to make a recommendation, the city must refer maps to the local agency or the Department of Transportation for their comments...” (Curtin 1999a).

Relationship to California Environmental Quality Act. Whereas CEQA does not give a municipality power to place conditions of approval under Public Resources Code Section 21004, the municipality may place conditions of approval based on the subdivision approval process under Government Code Section 66474 (e) (Curtin 1999a). Government Code Section 66474 (e) states: “...a city shall deny a subdivision if it finds that the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially injure fish or wildlife or their habitats” (Curtin 1999a). The EIR would be the basis for such a finding. The environmental impact review in Government Code Section 66474 (e) is separate from the CEQA review (*Topanga*, 214 Cal. App. 3d at 1348). Under Government Code Section 66474 (e), “substantial environmental damage” is defined the same as “significant effect” under CEQA.

In *Topanga*, the fact that a project was not located in a Significant Ecological Area was one reason the courts used to determine the subdivision would not substantially harm the environment (at 1356). Therefore, municipalities should designate sensitive areas if additional measures are needed to protect the areas.

Exclusions and Reversions. Municipalities can remove subdivision lands via rarely used exclusions, which require judicial action to remove land from a subdivision. A reversion removes the entire subdivision.

Map Act Violations. When the Map Act is violated, the municipality can sue in Superior Court for declaratory relief or to stop action; can request criminal charges be filed; or can withhold other necessary permits and approval (Government Code Section 66499.3).

Influence on Implementing Watershed Management Objectives. The Subdivision Map Act allows municipalities to regulate and control the design and improvements of subdivisions that are generally greater than or equal to five parcels. With these powers, municipalities can determine street widths, grades, and alignments; land dedications; and other requirements or configurations to implement the general or specific plan. Subdivision Map Act regulations can empower the municipality to make changes in the amount of impervious surface allowed on developing properties so as to reduce runoff rates and volumes. Additional powers and responsibilities bestowed upon municipalities are listed below:

- Municipal regulations can influence the subdivision process as long as they do not contradict the Map Act’s specific provisions.
- Landowners may sell property for offsite mitigation based on defined criteria until January 1, 2003.
- Tentative maps must comply with the general plan.
- Municipalities must provide some protection for the environment even if the parcel, tentative, or final map is waived.
- Municipalities can make recommendations on Map Act proposals outside of their territorial boundaries, provided that the proposals potentially impact the municipality’s planning area.
- Vested rights may limit the reach of new land use regulations.
- Under most circumstances, conditions must be placed on the tentative map.
- A municipality can use the Subdivision Map Act to attach conditions of approval based on the results of the CEQA review, even though CEQA does not give the municipality direct powers to attach conditions of approval. Based on findings made during the CEQA process, a municipality can deny subdivisions if they may cause substantial environmental damage.
- Municipalities must require a performance security fee for improvement agreements for a final map to be approved.
- Municipalities can require reasonable offsite and onsite improvements, but are limited in requiring fees or exactions for parcel maps.
- Municipalities can withhold necessary permits and approvals if the Map Act is violated.
- Municipalities cannot add additional conditions to tentative map extensions.

The Map Act also allows a municipality, with an appropriate ordinance, to implement public improvement standards in residential subdivisions if the standards do not surpass the municipality’s own standards. This can be a useful tool for implementing watershed management goals once municipalities require better design standards for their own capital improvement projects. Currently, municipal standards often require offsite drainage and restrict

innovative design solutions that would reduce the amount of disturbed and impervious areas. For municipalities using watershed-friendly design solutions, the Map Act provides a useful opportunity to require better drainage designs in residential subdivisions.

Zoning Regulations

Overview. Zoning ordinances are designed to translate the general plans broad policies into specific requirements for individual parcels of land. Zoning can be used to separate a city into districts within which the city regulates the land use, and the type and design (in terms of height, bulk, and density) of the buildings (see Table 6-2). Zoning regulations can be applied citywide as well. Whereby the California Zoning Law (Government Code Sections 65800-65912) applies to counties and general law cities, it applies to charter cities only in specific sections or to the degree that the municipality adopts the law by ordinance or charter (Government Code Section 65803) (Curtin 1999a).

A developer does not have a vested right to develop solely upon approval of a final or parcel map, until building or other like permits have been issued and a large proportion of work has been performed (*Avco Community Developers, Inc. v. South Coastal Regional Commission*, 17 Cal. 3d 785 (1976) (Curtin 1999a). Until then, the city can still change the zoning or other police power ordinances.

Zoning ordinances can be vague so long as their meaning does not need to be guessed. This allows governments to delegate widespread discretionary powers to administrative bodies (*Cal. Zoning Practice* (Cont. Ed. Bar), *supra*, at 148) (Curtin 1999a). Municipalities have a great deal of control over zoning issues as long as the city holds public zoning and planning hearings (*Beck Development Co. v. Southern Pacific Transportation Co.*, 44 Cal. App. 4th 1160 (1996)) (Curtin 1999a). Under judicial review, a zoning ordinance is lawful if it can be “reasonably related to the public welfare” of the citizens and the affected region.

Because a zoning ordinance is a legislative act, explicit findings are not required (Curtin 1999a). Therefore, the party challenging the constitutionality of an ordinance has the burden of proof, except if the ordinance—adopted either by the city council or through the initiative process—directly limits the number of dwelling units. In this case, the municipality has the burden of proof to justify the ordinance (Evidence Code Section 669.4; *Associated Home Builders, Inc. v. City of Livermore*, 18 Cal. 3d 582 (1976), *Lee v. City of Monterey Park*, 173 Cal. App. 3d 798 (1985); *Building Industry Association v. City of Camarillo*, 41 Cal. 3d 810 (1986)) (Curtin 1999a). The case of *Hernandez v. City of Encinitas*, 28 Cal. App. 4th 1048 (1994) found that Evidence Code Section 669.4 does not apply to challenges of the housing element (or regulations to implement the element) (Curtin 1999a). California law, however, requires findings by a city if it limits the number of housing units through the general plan or zoning adoption (Government Code Sections 65302.8, 65863.6) (Curtin 1999a).

Amendments. City councils or boards of supervisors can make amendments to zoning ordinances either via reclassification of the zoning district called “rezoning,” or by changing the

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uses or regulations within a zone called “text amendments.” Because both are legislative acts, findings are not necessary unless required by a state law or local ordinance (*Arnel Development Co. v. City of Costa Mesa*, 28 Cal. 3d 511 (1980)) (Curtin 1999a). Before amending an ordinance, the municipality must consider whether the amendment is consistent with the general and specific plan and with CEQA; and the impact on the welfare of the municipality and the surrounding region. In addition, all zoning ordinances can be changed via the initiative and referendum process (*Arnel*, 28 Cal. 3d at 511) (Curtin 1999a).

Variations and Conditional Use Permits. For fairness, if a landowner would “otherwise suffer unique hardship under the general zoning regulations because his particular parcel is different from the others to which the regulation applies...,” a variance can be issued under Government Code Section 65906 (Curtin 1999a). The variance allows activities that are basically consistent with the zoning regulations but with minor alterations (generally to certain development standards of the zoning code) that allow the owner to overcome the unique hardship (Curtin 1999a).

CUPs can also be used to overcome hardship resulting from comprehensive zoning ordinances. CUPs provide flexibility, and allow for additional land uses, with conditions to minimize potential impacts on the surrounding neighborhood (Campbell 1999). Local ordinances, not the California Zoning Law, as is the case with variances, establish the criteria for issuing or denying a CUP (Government Code Section 65901) (Curtin 1999a).

CUPs and variances could be used in limited circumstances to skirt or assist watershed management strategies incorporated into zoning regulations. For example, a CUP for a three-story home in a single-family zone was not upheld in court due to “view impairment and towering effect” (*Saad v. City of Berkeley*, 24 Cal. App. 4th 1206 (1994)) (Curtin 1999a).

The Legislature supports second units, and under Government Code Section 65852.2, a municipality that had not developed an ordinance to permit them must provide a CUP or special permit to allow the use if the applicant meets the state criteria (*Wilson v. City of Laguna Beach*, 6 Cal. App. 4th 543 (1992), Government Code Section 65852.150) (Curtin 1999a). This could affect areas designated for low imperviousness in a watershed management plan by increasing the amount of impervious surface areas, but it could be useful in areas where higher densities are encouraged. Under some circumstances and once a city has adopted an ordinance that makes the necessary findings, a municipality can disallow second units (Government Code Section 65852.2(c)) (Curtin 1999a).

Prezoning. As long as it is consistent with the general plan, a city can prezone unincorporated areas to determine the zoning if the land were annexed, under Government Code Section 65859. This could assist overall planning within watersheds that extend beyond municipal boundaries.

Interim Ordinances. In an emergency, a city can adopt interim ordinances that permit uses that would conflict with a general or specific plan or zoning proposal that is currently under consideration. In such cases, the municipalities do not need to comply with the notice or hearing

requirements typically necessary to approve a zoning ordinance. Watershed management goals, objectives, and implementation measures could be left out of interim ordinances.

Conditional Zoning. Conditional zoning allows a use of a specific property if it follows conditions that are not typically applied to other land in a similar zone (*Scrutton v. County of Sacramento*, 275 Cal. App. 2d 412, 417 (1969)) (Curtin 1999a)⁷. In this case, the court allowed the county to approve a property rezoning with conditions under the police power rationale, but indicated that the new zoning could not revert to the old zoning if the conditions were not met because the reversion would be a zoning amendment without the proper notice and hearings required under the California Zoning Law (Curtin 1999a). Conditional zoning could be used as a watershed management tool, but requires trust on behalf of the municipality.

Community Redevelopment Law’s Influence on Zoning Regulations. Municipalities that redevelop areas using the California Community Redevelopment Law (Health & Safety Code Sections 33000-33490) need to comply with both the redevelopment and the land use law (Curtin 1999a) (see discussion under “Community Redevelopment Law” elsewhere in this section). The redevelopment plan must be consistent with the general plan and have building use limitations (Health & Safety Code Sections 33331, 33333(b)), but it does not need to conform to zoning classifications (Curtin 1999a). Therefore, the redevelopment plan can be more restrictive than the zoning ordinance allows (Curtin 1999a). The California Community Redevelopment Law is superior to local building and zoning ordinances that conflict with it, and the redevelopment plan cannot be amended by either of the controlled ordinances (Curtin 1999a).

Density Bonus. Municipalities are required under Government Code Sections 65915-65918 (referring to California’s Housing Policy) to provide a density bonus or other like incentive to developers that construct housing affordable to lower incomes. Section 65915(a) requires municipalities to adopt ordinances that distinguish how such incentives will be provided. Courts have found that zoning initiatives that restrict growth through a numerical cap conflict with this section (*Building Industry Association v. City of Oceanside*, 27 Cal. App. 4th 744 (1994)) (Curtin 1999a). Incentives provided to developers could include reductions in site development standards; modification of zoning code requirements such as reducing setbacks, square footage requirements or parking places, or certain architectural design requirements; and approval of compatible mixed-use zoning if it reduces the development cost. Such affordable housing projects must still comply with the Congestion Management Program, the California Coastal Act, CEQA, and other state or local requirements (Government Code Section 65589.5) (Curtin 1999a). Municipalities may need to address the conflicts with watershed management objectives (e.g., reducing setbacks) as appropriate. Potential benefits to watershed planning included mixed-use development and higher densities in particular areas.

Zoning as Applied to Federal, California, and Other Lands. Federal laws preempt state and local laws, but NEPA and the Intergovernmental Coordination Act of 1968, and the

⁷ Conditional zoning should not be confused with “contract zoning,” which does not hold up under the law, but is a term that refers to land use reclassification where the owner agrees to perform conditions not imposed on other landowners (Curtin 1999a).

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Intergovernmental Coordination Executive Order require federal agencies to ask for and consider local views on their projects. Furthermore, the U.S. Supreme Court decided that states may require environmental controls on activities on federal lands (*California Coastal Commission v. Granite Rock Company*, 480 U.S. 572 (1987)).

The state is not required to meet a municipality’s (charter city or not) zoning regulations (*Hall v. City of Taft*, 47 Cal. 2d 177 (1956), but generally a municipality’s subdivision laws apply if they do not impact the basic purposes and functions of the state (62 Ops. Cal. Atty. Gen. 410 (1979); see also 75 Ops. Cal. Atty. Gen. 98 (1992). All local agencies must comply with local zoning ordinances except the state, a city, county, or other specified agencies named in the Government Code (e.g., Bay Area Rapid Transit) (Government Code Sections 53090-53096) (Curtin 1999a).

Congestion Management. Proposition 111, adopted in 1990, created the regional Congestion Management Agency that requires urbanized counties to prepare a Congestion Management Program that municipalities must implement to get their gas tax revenues. To do so, the municipalities must maintain explicit levels of service on the roadways. A Congestion Management Program must be created and biennially updated in every county with an “urbanized area” of 50,000 or more people (Government Code Section 65089). The Agency must develop the plan with input from the transportation planning agency, regional transportation providers, local governments, the Transportation Department, and the air pollution control district (APCD) or air quality management district (AQMD) (Curtin 1999a). When coordinating with the Congestion Management Agency, municipalities may want to consider watershed management objectives and planning strategies, such as allowing for mitigation corridors when planning for reduced congestion. The knowledge of the level of service on thoroughfares throughout the watershed can help focus the placement of some types of watershed protection measures.

Influence on Implementing Watershed Management Objectives. Zoning regulations can influence the implementation of watershed management objectives in the following ways:

- Municipalities can use zoning regulations to regulate the land use and design of buildings, and can indirectly influence the type of buildings in an area. This ability can be used by municipalities to help protect sensitive watershed areas from land uses that may be more likely to pollute or harm the sensitive areas. Zoning regulations can also be used to increase density in some regions, and reduce density in other, more protected areas. The ordinances allow municipalities to provide widespread discretionary powers to administrative bodies that could incorporate watershed management objectives in their decisions.
- California Zoning Law does not apply to charter cities unless the charter city has adopted the law by ordinance or charter. Charter cities that have not adopted the zoning law have one less tool to control land use type and design, such as building footprint and setbacks.

- Municipalities can change zoning ordinances after approval of a final or parcel map (if not a vesting map) until building and similar permits have been issued and a good proportion of the work has been completed. Therefore, upon changing a zoning ordinance, several projects in the application and review phase can be required to comply with watershed-management-related regulations in the revised zoning regulations.
- If the number of dwelling units is directly limited, the municipality has the responsibility to provide justification. This can influence the implementation of watershed objectives by requiring additional work by municipalities to justify protection of certain sensitive areas of a watershed, which under a watershed approach would best be kept at lower population densities.
- Zoning ordinances must be consistent with the general and specific plans, and must consider CEQA and the impacts on the municipality and surrounding regions. Zoning ordinances must therefore be created to take into account environmental concerns, such as watershed management objectives (especially if they are included in the general and/or specific plan).
- Variances and CUPs can be used to help landowners overcome hardships from zoning regulations. Because CUPs allow conditions to minimize potential impacts on the surrounding neighborhoods, CUPs give municipalities flexibility to require alternative watershed protection measures on projects where standard comprehensive measures may be onerous.
- Interim ordinances could influence watershed goals, as they can conflict with general or specific plans or zoning proposals. In emergencies, watershed management objectives could be superseded by an interim ordinance. Depending on the nature of the ordinance and the uses it allows, progress toward watershed objectives could be temporarily set back.
- Municipalities can zone for cluster developments, also known as planned-unit developments (PUDs). This gives municipalities regulatory power to use an important watershed management tool (See discussion in Section 6.7.1.2).
- The California Community Redevelopment Law is superior to zoning and building ordinances, and therefore a redevelopment plan cannot be amended by such ordinances (*Kehoe v. City of Berkeley*, 67 Cal. App. 3d 666 (1977)) (Curtin 1999a). The influence that this has on watershed objectives depends on the situation. A redevelopment plan could be developed that can provide more watershed-beneficial restrictions than the existing zoning ordinance allows, and those beneficial restrictions would need to be followed.
- Density bonuses could either positively or negatively influence implementation of watershed objectives. Density bonuses could work in parallel to watershed management objectives of increasing density in portions of the watershed, and reducing density in other sensitive portions of the watershed. A potential negative impact would occur if a municipality's incentives ordinance allowed for

reduced setbacks to sensitive areas. Municipalities should ensure that the incentives ordinance is created with attention to watershed management objectives as well.

- Zoning ordinances can play a role in the implementation of Transfers of Development Rights (TDRs). An effective approach to using TDRs is to specify goals and policies in the general plan and place implementation measures in the zoning ordinance (See also Section 6.7.1.2).

Community Redevelopment Law

Overview. The California Community Redevelopment Law (Health and Safety Code Section 33000 et. seq.) has provided municipalities with the ability to create redevelopment agencies that address urban blight and can apply for federal grants and loans to fund redevelopment projects (Beatty et al. 1995). A municipality can create a redevelopment agency by enacting an ordinance declaring the need for one (see Table 6-2). The redevelopment agency can be governed by the municipality itself, a separate governing body, or a community development commission (Beatty et al. 1995). Redevelopment agencies can:

- Buy real estate and use eminent domain.
- Develop properties (but not construct on them).
- Sell real estate without bidding.
- Move people who are interested in acquired properties.
- Borrow from federal and state government.
- Sell lands.
- Institute land use and development controls based on a comprehensive redevelopment plan (Beatty et al. 1995).

Redevelopment law places restrictions on acquiring property. The redevelopment agencies must obtain consent of the applicable public agency before obtaining public property or private property using eminent domain (Section 33395). If an existing building will not be removed, the redevelopment agency cannot acquire the property without the owner's consent, unless the building needs structural changes or if the owner refuses to pay for any standards or site restrictions and controls placed on the property by the redevelopment plan (Section 33394). Finally, the eminent domain process must start within 12 years of the adoption of the redevelopment plan (Beatty et al. 1995).

Under Community Redevelopment Law Section 33421, a redevelopment agency can also provide offsite public improvements such as streets, parks, playgrounds, and those other improvements in the project area necessary to implement the redevelopment plan (Beatty et al. 1995). Redevelopment projects can include mixed-use projects that involve master developers and provide open-space and recreational facilities. Examples of such projects include the

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California Center Project in Los Angeles and the Yerba Buena Gardens Project in San Francisco (Beatty et al. 1995). However, due to an increase in project area sizes, the state passed legislation (Section 33320.1) that requires that 80 percent of a project’s privately owned lands be developed for urban uses (Beatty et al. 1998). Furthermore, “enforceably restricted”⁸ agricultural and open-space lands cannot be included in redevelopment project areas (Beatty et al. 1998). Other restrictions are placed on inclusion of agricultural lands larger than 2 acres (Beatty et al. 1998).

Projects in a redevelopment plan can meet CEQA requirements through preparation of a Master EIR (Curtin 1999a). Because all projects in a redevelopment plan are considered one project under CEQA, they are approved once the redevelopment plan has complied with the CEQA process and been adopted (Bass et al. 1999). In some cases, a subsequent or supplemental EIR will be necessary to address additional impacts (Public Resources Code Section 21090, Guidelines Section 15180) (Bass et al. 1999).

Influence on Implementing Watershed Management Objectives. Incorporating watershed-management-oriented land use and development controls in a comprehensive redevelopment plan can be an effective strategy for subwatershed-level, specific areas:

- Mixed-use projects can be incorporated into redevelopment planning.
- Redevelopment plans can provide for open spaces as long as 80 percent of a redevelopment project’s privately owned lands are developed for urban uses.
- Redevelopment planning can simplify the CEQA process because all projects within a redevelopment plan are considered one project under CEQA, for which a Master EIR can be prepared.

Takings Case Law

When a law or ordinance places restrictions on a property that impacts that property’s development potential or property value, the owner must be justly compensated for the “taking” (*Hansen Brothers Enterprises v. Board of Supervisors*, 12 Cal. 4th 533, 551 (1996)) (Curtin 1999a). Property owners are protected from unjust takings under 42 USC Section 1983 (civil rights), the 14th Amendment of the U.S. Constitution (due process and equal protection), and the 5th Amendment of the U.S. Constitution (taking) (Curtin 1999a). The civil rights legislation has opened up police power and zoning regulations to scrutiny with regard to takings (Curtin 1999b). Takings can occur either through land use regulations or via development conditions (e.g., development impact fees). In *Monterey vs. Del Monte Dunes at Monterey*, 97-1235, the Supreme Court ruled that, under the Fifth Amendment’s “just compensation,” federal court plaintiffs that sue over local government land use regulations can receive a trial by jury (Carelli 1999).

⁸ As defined in the Revenue and Taxation Code Sections 422 and 422.5.

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In *Kavanau v. Santa Monica Rent Control Board* (16 Cal. 4th 761, 774 (1997)), the California Supreme Court found that an owner must be justly compensated for a taking even if the action or regulation still allows the landowner “some economically beneficial use” of the property. The determination of whether a taking has occurred is performed on a case-by-case basis in the courts. No set standards are available, although basic legal tests exist, as described below.

Agins Test. The U.S. Supreme Court found that general zoning law as applied to specific properties can be a taking if the ordinance either:

- (1) “does not substantially advance legitimate state interest” or
- (2) “denies an owner economically viable use of his land” (*Agins v. City of Tiburon*, 447 U.S. 255 (1980) at 260) (Curtin 1999a).

In *Agins*, the City of Tiburon modified its existing zoning ordinance and placed the Agins land in a Residential Planned Development and Open Space zone that permitted single-family residential dwellings. The Aginses sued, saying the action destroyed their property values. The U.S. Supreme Court supported open-space ordinances, stating that discouraging conversion of open space to land use prematurely and that protecting the city’s residents from urbanization are legitimate governmental goals (Curtin 1999a). The court stated that, although the ordinance limited development, it did not prevent the land’s best use or destroy the owners’ property value.

In other cases, the U.S. Supreme Court found that for the first prong of the Agins test, some government interests have higher legitimacy than others and are therefore more defensible, and that the type of alleged taking is critical in determining whether a take occurred (e.g., physical invasion versus public programs promoting common good) (*Keystone Bituminous Coal Association v DeBenedictis*, 480 U.S. 470 (1987)); (*Penn Central Transportation Co. v. New York City*, 438 (104, 124) (1978)) (Curtin 1999a). To determine if a landowner’s economically viable use was taken, the court examines the remaining property value, not the taken property value (Curtin 1999a).

Nollan-Dolan Tests. In *Nollan*, the U.S. Supreme Court indicated that a nexus, or connection between the imposed action and its ability to substantially advance a legitimate state interest is necessary. In *Dolan v. City of Tigard*, 512 U.S. at 374, the U.S. Supreme Court found that for adjudicative decisions, municipalities must show a “rough proportionality” between the impact of the development and the conditions imposed, where otherwise they would just need to show a “reasonable relationship” (Holloway and Guy 1994; Zischke 1994). *Dolan* does not apply to general legislative acts (e.g., zoning regulations) (*San Mateo County Coastal Landowners Assn. v. County of San Mateo*, 38 Cal. App. 4th 523 (1995)) (Curtin 1999a).

In *Santa Monica Beach, Ltd. v. Superior Court (Santa Monica Rent Control Board)*, the California Supreme Court found that as long as a regulation supports some, not necessarily a specific, legitimate interest, then it passes the first prong of the takings tests. Furthermore, the court found that land use ordinances and other legislative acts do not need to meet the higher standards of *Nollan-Dolan*. The *Nollan-Dolan* standards should be applied to adjudicative

decisions, such as ad hoc dedication conditions or individually tailored development fees (Curtin 1999b).

Similarly, *Ehrlich v. City of Culver City*, 12 Cal. 4th 854 (1996), found that legislative acts and fees that apply, or are applied, in general are not subjected to the increased *Nollan/Dolan* standard, but fees that are placed on an individual ad hoc basis are subject to the increased standards. The decision resulted in the following:

- Developers wishing to challenge ad hoc fees must file a written protest, pay the fee under protest, and bring suit within 180 days as prescribed by the Mitigation Fee Act (Government Code Sections 66000 – 66025).
- If a fee passes the *Nollan-Dolan* test, municipalities can impose mitigation fees as a condition of a land use change (e.g., general or specific plan, zoning) if the change from the original private land use will have public consequences.
- Municipalities may adopt ordinances to protect aesthetics (Curtin 1999a).

6.7.1.2 Strategies for Incorporating Watershed Management Planning on the Local Level

Overall strategies for watershed management involve assessing a watershed to determine sensitive and critical areas and the level of degradation. Based upon this assessment, a watershed management plan can be developed that discusses objectives and implementation measures to protect and enhance the watershed. Specific objectives and mitigation measures could focus on different areas, depending on how the areas were rated as a result of the watershed assessment. Several tools exist to protect and enhance the sensitive and critical areas and otherwise meet the objectives of the watershed management plan. These tools can be used as a watershed management plan in operation. These tools are discussed below in relation to the land use regulations that may influence their use. Then suggestions for using the tools to meet specific watershed objectives are provided (see also Table 6-3).

Strategy Tools

Specific Plans. After scientifically assessing the watershed and creating a watershed management plan that defines the objectives to be applied to specific watershed areas, specific plans can be developed that include the objectives for specific subwatersheds or other watershed areas. Using conditions of approval and CEQA documentation, specific requirements for

**Table 6-3
List of Regulations Applicable to Specific Watershed Objectives**

Objective	Land Use Regulation	Potential Tools
Watershed-Wide Planning	General & Specific Plan, Map Act, California Environmental Quality Act (Master Environmental Impact Report), Zoning Regulations	Specific Plans, Habitat Conservation Plans/Natural Community Conservation Plans, Transfers of Development Rights, Planned-Unit Developments, Conservation Credits, Purchases of Development Rights
Different Habitat Goals Within the Same Watershed	General & Specific Plans, Map Act, California Environmental Quality Act (Master Environmental Impact Report), Zoning Regulations	Specific Plans, Development Permits, Habitat Conservation Plans, Transfers of Development Rights, Conservation Credits, Mitigation Banking, Purchases of Development Rights, Local Land Trusts
Policies for Remodeling & Expansion of Buildings	General and Specific Plan, Zoning Regulations	Development Permits, Dedication and Impact Fees, Mitigation Banking
Acquiring “Sensitive” Watershed Lands	General and Specific Plan, California Environmental Quality Act, Endangered Species Regulations, Redevelopment Planning Act	Purchases of Development Rights, Planned-Unit Developments, Development Permits, Conservation Credits
Restoration Through Redevelopment	Redevelopment Law, General Plan & Specific Plan, California Environmental Quality Act, Wetland Regulations, Endangered Species Regulations	Redevelopment Plans, Planned-Unit Developments, Purchases of Development Rights
Restoration of Creeks and Floodplains	General & Specific Plan, Subdivision Map Act, California Environmental Quality Act, Zoning Regulations, Redevelopment Planning Act	Transfers of Development Rights, Conservation Banking, Purchases of Development Rights, Dedication and Impact Fees, Mitigation Bank, Local Land Trusts, Redevelopment Plans
Growth Management	General Plan, Specific Plan, Map Act, Zoning Regulations	Specific Plans, Development Permits, Transfers of Development Rights

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subwatersheds or project sites can be stated. Specific plans are governed by the general plan regulations and allow for planning on a subwatershed level. They can be implemented using open space, dedications, and impact fees. Their acceptance is generally quite high, and can be initiated by either the local municipality or a group of landowners (Glickfeld 1996). These often result in a development agreement and a vesting map. The property owners involved benefit from the economies of scale of shared planning costs.

Because specific plans must include necessary implementation measures such as regulations, programs, and finance measures, specific plans can define open-space protection and other land use goals. Also, specific plans can designate programs—such as TDRs, described below—and regulations to meet the goals (Pruetz 1993).

Specific plans can target the important issues of distinct portions of a municipality and better focus watershed planning strategies to fit local areas. Also, developers whose projects implement the mitigations in, and are consistent with specific plans may not need to undergo CEQA review, as the specific plan has already gained CEQA approval. If the project has additional impacts not addressed in the specific plan, it may require a separate focused EIR. Either way, the costs in time and money are reduced.

Case Study: City of Claremont. The City of Claremont is implementing an approved specific plan for its undeveloped hillside areas that it seeks to protect. The specific plan includes objectives to cluster development in the valleys while preserving the hillsides for open space. The city's general plan does not allow any additional subdivisions of the undeveloped hillsides (Pruetz 1993).

Case Study: City of San Jose's Evergreen Specific Plan. In late 1989, the San Jose City Council amended their general plan to create the Evergreen Planned Residential Community. The City Council required a specific plan be created before the 865-acre area was developed. In July 1991, a specific plan, which focused on a multidensity residential area (80 percent, 700 acres) that contained commercial and public support services and amenities, was adopted (City of San Jose 1991). The Evergreen Planned Residential Community lies within the Thompson Creek watershed.

The specific plan contains decisions made by the Evergreen Specific Plan Task Force on land use, circulation, public services, design standards, and phased developments. For open space and recreation, the plan focused on yards, pocket parks, trail systems and landscaped boulevards with bicycle lanes. Hillside areas incorporate narrower streets with no sidewalks. Commercial land was planned so as to maximize accessibility and minimize the need to travel by automobile. The plan encouraged:

- Planned development zoning whose design techniques include clustering and variable lot size or setbacks to maximize densities
- Construction techniques that work with the terrain

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- The preservation of existing trees and other features
- Minimization of street grading
- Shared parking to reduce total parking areas needed

The plan also discouraged development on steep slopes (greater than 30 percent). Creek areas were planned to be maintained in a natural state and to allow for recreational use. The storm drainage plan called for low flows to divert to natural creeks before exiting to flood control facilities located underneath the area's planned water features. The water features also serve as stormwater detention basins (City of San Jose 1991). Although not included in the Evergreen Specific Plan, flood control/recreational Lake Cunningham provides flood protection for the area.

Redevelopment Plans. Redevelopment plans are a popular tool because the costly infrastructure is already in place, so development is less expensive. Meanwhile, the goals of redeveloping existing urban areas are generally supported by local officials, and the redevelopment process allows for quick response to proposed projects (Beatty et al. 1995). Since redevelopment plans undergo their own CEQA review process, including a Master EIR, redevelopment projects that are consistent with the general plan will see cost and time savings from a less intensive CEQA process.

Case Studies: Davis, Santa Rosa, Sacramento. Redevelopment plans are prevalent throughout California and can inject new vitality into city core areas, which can help relieve urban sprawl. Examples of redevelopment projects in California that have helped protect watersheds include:

- City of Davis, CA. The parking lot for a multiscreen movie theater was built atop the cinema, reducing the site's building footprint and, thus, the amount of impervious area needed.
- City of Santa Rosa, CA. A main street in town, Fourth Street, was narrowed to curb recreational driving (cruising); and semipermeable cobblestone crosswalks were added.
- Sacramento, CA. The Riverview plaza, a high-rise building, was constructed to provide high-density, affordable housing to senior citizens in the downtown area (Beatty et al. 1995).

Planned-Unit Developments. A PUD, also known as a cluster development, is a type of development and a zoning classification that can be used to allow many different types of land uses (residential, commercial, industrial) within the same zoning district (Curtin 1999a). Typically, a PUD is designed to include separately owned lots that share common areas such as recreation, open-space, or street improvements. Depending on the local ordinance allowing a PUD, either the approved general or precise development plan could be used for the zoning restrictions for the property, for which any significant changes could require a rezoning, or the

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plan could be adopted by a quasi-judicial permit process, which means it could not be amended by ordinance (Curtin 1999a).

California courts support PUDs (*Orinda Homeowners Comm. v. Board of Supervisors*, 11 Cal. App. 3d 768 (1970)) (Curtin 1999a).

Case Study: Gurnee Village Hall (Illinois). The Gurnee Village Board approved the annexation and planned unit development for a 68-acre site that includes a lake. On 30 percent of the site, 300 apartments will be constructed, along with recreation facilities. A wooded area will be protected, a berm and retention pond will offer stormwater treatment, and a land bank will be provided on part of the property for future parking, if needed (Gurnee Village Board 1996).

Transfers of Development Rights. To preserve open space, views, ridgelines, agricultural lands, and other resources, municipalities have begun using TDRs in general plans, specific plans, and/or zoning ordinances. Under these, future development rights are transferred from one property to another. The property that sent its future development rights to the other is legally restricted from development, while the receiving site can be developed with added floor area, units or parking spaces (Curtin 1999a). California statutory law has not yet addressed TDRs.

The U.S. Supreme Court upheld the use of TDRs to protect Grand Central Station in *Penn Central Transportation Company v. City of New York*, 438 U.S. 104 (1978) (Curtin 1999a). The Court held that the TDR was not considered a “taking.” In *Suitum v. Tahoe Regional Planning Agency* (520, U.S. 725 (1997)), the Supreme Court determined that a TDR could form part or all of the compensation required for a taking and may help mitigate the loss from property restrictions that are not to the level of compensable taking (Curtin 1997). In *Barancik v. County of Marin*, 872 F. 2d 834 (9th Cir. 1988), the court decided that the TDR concept did not violate the nexus-taking law of *Nollan v. California Coastal Commission*, (483 U.S. 825 (1987)) (Curtin 1999a). However, the *Suitum* court found that when used as compensation, TDRs must be worth as much as the taken property’s value (Curtin 1997).

According to Curtin (1999a), TDRs should be upheld “if applied in a manner that is not arbitrary, capricious, or unrelated to the public health, safety, and welfare.” Curtin (1999a) suggests that municipalities using TDRs should create a program that first details specific goals and policies as a part of the general plan, and then places implementation measures in the zoning ordinance. These should include the land use categories for sending and receiving sites (Curtin 1999a).

Case Study: Tahoe Regional Planning Agency. The Tahoe Regional Planning Agency (TRPA) implements a TDR program to protect the Lake Tahoe watershed. One program allows for the transfer of the right to construct impervious areas, another allows the TDR from more sensitive to less sensitive areas. TRPA places annual building quotas, which creates a demand for TDRs. When an existing dwelling is on the sending site, it must be destroyed and the area restored to its natural state. If the sending site is undeveloped, a deed restriction or title transfer to a public

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agency or nonprofit organization is enacted to prevent future development. The TRPA get 25 to 35 transfers per year (Pruetz 1993).

Development Permit. Development Permits can be used to place conditions on a project. The Subdivision Map Act gives municipalities the right to control the design and land use type of the project, and to attach conditions of approval based on findings made in the CEQA process. If the requirements to obtain the development permit are generally legislative, the municipality must show reasonable relationship between the project impacts and the requirements (*Ehrlich v. City of Culver City*, 12 Cal. 4th 854 (1996)) (Curtin 1999a). If the fees are ad hoc or more individualized in nature, then the municipality must meet the more strict tests of the *Nollan* and *Dolan* decisions. See the discussion of Dedications and Impact Fees, below, for more information.

Case Study: City of Edmonton (Canada). Private property development has led to overload of the City of Edmonton’s combined sewer system due to the increase in stormwater runoff. Citing authority via the City’s Sewers Bylaw—adopted, among other things, to ensure proper management of, and prevent illicit discharges and undesirable flows from, the sewage system—the city requires onsite stormwater management systems to control the amount of runoff from private properties. The program applies to private new and redevelopment projects except single-family and duplex residential. Under the guidelines, the maximum release rate is generally 0.03397 inch/acre. The storage facilities are generally sized for a 5-year design storm event with maximum pond depth less than or equal to 1 foot. A maximum orifice size is 2 inches and the minimum storm service pipe is 5.85 inches. The guidelines require storage and control in specific areas of the city for lots greater than or equal to 0.4 acre, and rezoned properties that result in increased runoff; and improvement on existing sites that are greater than 0.4 acre (City of Edmonton 1999). The City of Edmonton enforces the guidelines via fines if stormwater controls are removed, changed, or destroyed (City of Edmonton 1999).

Case Study: County of Santa Clara. Santa Clara County has zoning regulations that require applicants for development in certain hillside areas to determine minimum lot size requirements based on a slope-density calculation performed by a registered civil engineer or licensed land surveyor. The total number of dwelling units allowed within a subdivision is calculated “...by dividing the gross land area by the average land area per dwelling unit...” (Santa Clara County, nd). The slope density formulas are adjusted based on the availability of public utilities.

The County requires hillside zoning districts to have a minimum size of 160 acres for newly subdivided lots, except in the case of (1) a one-time split into two lots and (2) cluster subdivisions. For cluster subdivisions, the County has a chart that displays the maximum density allowed for residential sites, depending on the slope. The County requires that the minimum subdivision lot size not be less than 20 acres in a hillside zoning district. The minimum amount of acreage necessary increases with the slope. The County states that cluster development should include provision for at least 90 percent of the site to be left as open space, with binding restrictions on future development (Santa Clara County, undated).

Dedications and Impact Fees. Standard dedications or development fees can come from municipal zoning ordinances, subdivision ordinances, or use permit regulations such as building permits and/or certificates of occupancy. In the subdivision approval process, dedications and development fees may come from specific conditions in local ordinances created via the statutory authorization in the Subdivision Map Act; environmental mitigations via CEQA and through Government Code Section 66474(e), which states that maps that may cause substantial environmental damage must be denied; or conditions created through expanded “design” and “improvement” definitions in the Map Act and as required for general plan consistency (Curtin 1999a). Municipalities can also use general plans or applicable specific plans to support such fees and dedications not directly allowed under state law (*J.W. Jones Companies v. City of San Diego*, 157 Cal. App. 3d 745 (1984)) (Curtin 1999a). Municipalities can amend their general plans to adopt goals and policies that are related to the area they want funded by developer fees. If the fees are appropriately related to the burden that would be caused by the proposed development, then they are valid (*Dolan v. City of Tigard*, 512 U.S. 374 (1994)) (Curtin 1999a).

Determining the degree to which a city can impose dedications or impact fees without causing a taking of property value causes legal controversy. The theory is that a subdivider will agree to donate a certain portion of land or money to the municipality. The dedication or fee would be used to provide the services needed by the new residents, in return for obtaining the subdivision map needed to ultimately develop the property (Curtin 1999a). The municipality must have proper nexus and findings for the conditions to be reasonable and to avoid a taking (Curtin 1999a).

The definitions of design and improvement have been expanded to include general and specific plan consistency, by evaluating the subdivision as a whole (1971 Cal. Stat. Ch. 1446, “McCarthy, The Consistency Legislation”) (Curtin 1999a). Because of the tie-in with the general plan, the municipalities can condition developments by requiring dedications and fees to support more than just streets and parks. Municipalities can require fees or land dedications for improvements required by the general plan so that the map will be consistent with the general plan (Government Code Section 66474). *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987) and *Dolan v. City of Tigard*, 512 U.S. 374 (1994) required a legal nexus, so the extent of a municipality’s actions must be proportional to the subdivision’s size, and the burden the subdivision creates on the community. Additionally, the municipality must document the findings establishing the nexus.

Case Study: Ehrlich. In *Ehrlich v. City of Culver City*, the California Supreme Court upheld the right of municipalities to require mitigation fees from developers for changes in land use designations. It also held that the more intensive *Nollan-Dolan* tests do not apply to development fees or other generally applied legislative acts (McCutchen et al. 1996b). In *Nollan v. California Coastal Commission*, the U.S. Supreme Court found that there must be a connection, “an essential nexus,” between the legitimate government interest and the development condition of approval. The U.S. Supreme Court found in *Dolan v. City of Tigard* that the government must prove a “rough proportionality” between the condition of approval and the impact of the proposed project. The California Supreme Court found that the *Nollan* and

Dolan tests might apply to ad hoc fees such as individualized monetary exactions and dedications, in which conditions for individual projects are discretionary. However, for generally applied legislative acts, municipalities need only be reviewed by the test of “reasonable relationship” (McCutchen et al. 1996b). In *Ehrlich*, the court also found that a municipality could require fees for a change in land use designation.

Local Land Trust. Local land trusts are becoming a more popular tool to help implement watershed management strategies. Local land trusts each have a Board of Directors who are involved in land use and environmental planning. The Board of Directors is comprised of local community members who are cooperative and know local politics, and can gain the trust of all stakeholders to form a voluntary cooperation of land owners. Local land trusts are involved with land acquisition (feasibility/gift/purchase), local stewardship (monitoring and management), and land restoration (mitigation measures and independent projects) activities (Belknap 1996).

Case Study: Baywood/Los Osos Greenbelt and Conservation Plan. The Baywood/Los Osos Greenbelt and Conservation Plan was created for more than 1,000 acres to protect the Morro Bay Kangaroo Rat, rare plants, and other sensitive species. No money was available to purchase the land. A land trust was created to work with regulators and private owners to create a step implementation plan for long-term management of the open space. The first step was a conservation agreement and Safe Harbor program. The second was a permanent conservation easement and a final development plan (Belknap 1996).

Purchase of Development Rights (also known as Conservation Easements). A voluntary program, purchase of development rights (PDR) programs usually entail a land trust or other agency that may be linked to the local municipality. The land trust offers to purchase the development rights to a property from the property owner. Property owners can reject or negotiate the offer. Upon agreeing, a legally binding permanent deed restriction is placed on the property restricting the type of land use activities (Daubenmire and Bline 1998).

Case Study: Town of Dunn. The Town of Dunn, Wisconsin, created an ordinance for their Rural Preservation Program and Land Trust Commission Ordinance (Town of Dunn 1997). The Town implemented the voluntary conservation easement program to protect farmland and open space, including buffer zones around sensitive areas. The Town of Dunn Land Trust Commission was created by the ordinance to create and implement the Rural Preservation Program. The Commission accepts applications year-round and reviews and ranks them every October. The ordinance authorizes the Board of Supervisors to acquire conservation easements or to pay nonprofit conservation organizations to preserve the properties.

Conservation Credits. These programs trade conservation credits rather than development credits. They provide a good incentive to protect the most critical areas and allow the property owners to choose whether to pay credits and develop the land, or preserve the land and receive interchangeable credits that they can easily trade elsewhere (Glickfeld 1996). While this type of program avoids parcel-specific disputes, having several property owners in the planning area is beneficial in terms of cost efficiency for transaction costs. Tradable conservation credits can be

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supported in general and specific plans, and the municipality's rights under zoning regulations and the Map Act to control land use type and building design could provide the necessary regulatory power to set up such a program.

Case Study: Ormond Beach Consensus Plan. Community groups in Oxnard, California, concerned that a 4,000-home development might harm a sensitive wetland and a freshwater lagoon area at Ormond Beach, formed a coalition and produced a "Consensus Plan" composed of a blueprint for 1,404 acres, and designating conservation credits. The coalition included the California Coastal Conservancy, CDFG, California Coastal Commission, USFWS, ACOE, Ventura County Flood Control District, property owners, businesses, the City of Oxnard, Ormond Beach Observers, League for Coastal Protection, Oxnard Beautiful, and a facilitator (California Biodiversity Council 1997). The land area in the consensus plan is mostly privately owned by developers, or for agricultural and industrial uses. The plan includes one area adjacent to the beach for "conservation credits," where a developer could sell or trade credits to develop elsewhere. The City of Oxnard is reviewing the plan as an alternative to the 4,000-home development proposal, but the plan still needs a funding mechanism if accepted (California Biodiversity Council 1997).

Mitigation Banking. Mitigation banking is a tool used when habitat losses due to development cannot be avoided. In this case, habitats are located and replaced elsewhere, generally at a ratio higher than one to one. Mitigation banking is a highly acceptable form of conservation strategy in general, and statewide transportation agencies support mitigation banking (see case study, below). However, mitigation banking requires a lot of money to obtain, restore, and maintain a land mitigation bank, and mitigation banks have high administrative and legal complexities (Glickfeld 1996). Furthermore, when conducted in a piecemeal manner, mitigation banking can lead to habitat fragmentation and small, disconnected islands of protected areas. The use of contaminated sites to serve as restoration sites can also be problematic (Valiela 1999). Development permit requirements and conditions of approval could be used to support mitigation banks. Smaller property owners could purchase mitigation from an existing offsite bank.

Case Study: CalTrans. The California Department of Transportation (CalTrans) considers mitigation banking to be the most effective and efficient tool to mitigate environmental damage from their projects (CalTrans 1997). With the Department of Interior coordinating the effort, funding and/or contributions from the San Diego Association of Governments, CalTrans, Otay Water District, the County of San Diego, the Conservation Fund, and U.S. Fish and Wildlife Services, CalTrans initiated the purchase of roughly 1,900 acres of Rancho San Diego for \$8.2 million (CalTrans 1997). The sites will be used as a mitigation bank for biological resources, including coastal sage scrub, California gnatcatcher, Least Bell's vireo, wetlands/riparian areas, and oak woodlands.

Habitat Conservation Plans/Natural Community Conservation Planning. HCPs, which allow for the incidental taking of listed species under the federal ESA, are available to property owners or anyone with regulatory control over the property that is covered by an HCP. Several California municipalities are creating HCPs, along with implementing the Natural Communities

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Conservation Planning Act (McCutchen et al. 1996a). HCPs address a more encompassing level of protection than plans and approvals that are made on a project-by-project level. HCPs include habitat preserve areas, and then allow development in other areas, even if additional or other sensitive species may be impacted. This “no surprises” policy ensures property owners that no extra land dedication, land use restrictions, or monetary support will be necessary for lawful development activities under the properly working HCP (See 50 of Code of Federal Regulations Section 17.22(b)(5)) (Curtin 1999a). Thus, the plans allow for incidental takes, but incorporate long-term (30 to 50 years) mitigation measure implementation and can protect nonlisted species as well. A legally binding implementing agreement is signed once a plan has been developed, and specific tasks have been agreed upon. With this agreement, agencies cannot ask for additional mitigation efforts in future years (McCutchen et al. 1996a).

Case Study: South Coast Sage NCCP Region Programs. The Southern Coastal Sage Scrub Region of the California Resources Agency’s and the CDFG’s NCCP program is implementing several subregional multispecies protection plans. The NCCP uses an ecosystem approach to plan for protection of plants, animals, and habitats while allowing compatible economic development. Approved in 1996, the San Diego Multiple Species Conservation Program (MSCP) preserves 172,000 acres of the 582,000-acre planning area in southwestern San Diego County. Covering 85 plant and animal species, the MSCP subregional plan includes eleven smaller planning areas, which are developing subarea plans. In the northwestern portion of San Diego County, the County, state agencies, and several private and public partners are developing a subregional plan called the San Diego Multiple Habitat Conservation Program (MHCP). As part of the MHCP, each of the six cities in that subregion is creating subarea plans to define the planning area, design open space and reserves, assess habitat lands, and in some cases acquire conservation land. Also located in the Southern Coastal Sage Scrub NCCP Region, Western Riverside County, Orange County, and San Bernardino County are developing similar habitat and species conservation plans (California Resources Agency 1998).

Geographic Scale

Four geographic scales can be considered—ecosystem, watershed, subwatershed, or parcel. In analyzing potential impacts from urbanization, the parcel-by-parcel basis has most often been used. This level of analysis has been found lacking in that it does not adequately take into account cumulative or growth-inducing effects. For more effective planning, preparation of an overall watershed assessment and management plan for each watershed is recommended. These plans should then be implemented on a subwatershed basis using specific and redevelopment plans. In addition to allowing a more accurate accounting of cumulative effects, planning at this scale can help streamline the permit and regulatory process for individual parcel development.

Depending on the type and location of natural resources in the area, ecosystem management may also be a useful strategy in some situations and locations. Ecosystem management can be integrated into watershed management plans, but the coordination efforts may be more intensive as ecosystem boundaries often extend beyond watershed boundaries and involve more stakeholders. For most planning situations, the recommended strategy is a combination of

watershed-level overviews (which can take into account ecosystem management goals) and planning policies, which incorporate well into the general plan. Additionally, incorporating subwatershed-level planning using specific and redevelopment plans, as appropriate, to detail watershed planning goals in specific areas is recommended.

Watershed Management Objectives

Watershed-Wide Planning. One objective in watershed planning is to manage urbanized and urbanizing watersheds using watershed-wide planning to avoid creating or exacerbating imperviousness and changes to drainage patterns (see Table 6-3).

To meet this objective, municipalities can include overall policies, implementation measures, and performance criteria in their general plans and specific plans. Because the Subdivision Map Act, zoning regulations, and redevelopment plans must be consistent with general and specific plans, incorporating watershed-wide principles in these oversight plans will give the municipality needed powers to implement the objective. Specific Plans can be used to outline watershed-related planning and mitigation measures for specific areas at the subwatershed level. Municipalities may also provide comment on general plans outside and adjacent to their boundaries, but that fall within the same watershed.

To avoid creating and exacerbating imperviousness and changes to drainage patterns, municipalities can define thresholds of significance for these impacts, dependent on the sensitivity of specific areas. The thresholds could be used to help define substantial or significant impacts for the CEQA process and for Government Code Section 66474(e), which denies map approval if the subdivision may cause substantial environmental damage. Master or tiered EIRs can be developed to better identify cumulative impacts of developments at a watershed or subwatershed level.

Using powers under the Subdivision Map Act, municipalities can control the street grade and other design and improvement issues to avoid detrimental changes to drainage patterns and to implement imperviousness-reduction measures. As with general plan comments, municipalities can comment on Map Act proposals outside of their territorial boundaries.

The watershed plan should also take into consideration regional housing needs. As part of general plan regulations, the Council of Governments (COG)⁹ determines each community's share of the regional housing needs (Government Code Section 65584) (Curtin 1999a). Under this code section, the COG can transfer a share of a municipality's regional housing needs to another jurisdiction if they are within 10 miles of one another, in the same COG, and the same "housing market." For the transfer to occur, the jurisdiction that will be transferring housing shares must first meet 15 percent or more of its regional share, and both jurisdictions must find that the transfer will result in lower-cost housing. This ability to transfer could help or hinder municipalities in planning developments to best preserve and enhance overall watershed quality.

⁹ Or the Department of Housing and Community Development in areas with no COG.

Different Habitat Goals within the Same Watershed. Another strategy in watershed planning is to determine where to place migration corridors in more developed reaches of the watershed, and where to maintain natural areas for water quality protection and wildlife habitat. This strategy involves providing and protecting continuous riparian buffer corridors along streams, buffers around wetlands, and large, connected areas of tidal marsh habitat (see Table 6-3).

General plan/specific plan regulations can be used to determine the placement of migration corridors and sensitive habitats. Zoning regulations could include sensitive area designations. In redevelopment areas, stricter regulations can be incorporated. Watershed management plans can include mitigation measures that could be used during the CEQA process, and required as conditions of approval under the Subdivision Map Act regulations. Thresholds of significance in these areas can be defined and mitigation measures from the watershed management plan can be incorporated into project plans.

Until January 1, 2003, landowners may sell property for offsite mitigation under Map Act regulations (Curtin 1999a). The Map Act also gives municipalities the ability to impose dedication and development fees and conditions through the “design and improvement” definitions to comply with the general and specific plans.

Specific areas of the watershed could be zoned as PUDs that allow mixed use and cluster development, and can include zoning restrictions. Zoning ordinances can also play a role in implementing TDRs and other similar tools. Municipalities could also enact ordinances for local wetland protection.

Planning for mitigation corridors, TDRs, and housing developments should involve coordination with transportation planning and the Congestion Management Program (Proposition 111, adopted in 1990).

Policies for Remodeling and Expansion of Houses and Buildings. A third objective of watershed planning is to include policies for the remodeling and expansion of homes and other buildings near sensitive areas (see Table 6-3). Zoning regulations are useful for implementing this objective, as they can control the type and design of buildings. Zoning regulations must be reasonably related to public welfare, consistent with the general and specific plans, consider CEQA¹⁰, and consider the impacts on the municipality and surrounding regions. Therefore, if policies to reduce imperviousness are included in the oversight plans, then zoning regulations would need to address design issues near sensitive areas. Conditions of approval can be placed on building permits.

Acquiring “Sensitive” Watershed Lands. Outright acquisition of sensitive areas is another strategy to protect watershed features (see Table 6-3). Municipalities can work together with land trust and nonprofit groups to purchase outright properties. Alternatively, the municipality

¹⁰ The majority of remodeling and expansion projects would, however, be exempt from the CEQA process.

can adopt an ordinance to preserve the sensitive areas by setting up a method through a land trust to allow for PDR. Some properties may be purchased through eminent domain if the area is critical. PDR programs could be developed via an ordinance and used to establish legally binding conservation easements to protect the lands in perpetuity. Sensitive areas could also be designated and acquired as part of a redevelopment plan.

Restoration through Redevelopment. Redevelopment plans can include measures that will help restore watersheds in urbanized areas (see Table 6-3). Municipalities can enact ordinances creating redevelopment agencies to begin the redevelopment process. Redevelopment plans must be consistent with the general plan, as per Health and Safety Code Section 33331; however, the California Community Redevelopment Law is superior to local building and zoning ordinances that may conflict with it (Curtin 1999a). Redevelopment projects are enticing to developers because costly infrastructure is already in place. The CEQA process can assist with incorporation of watershed planning measures in the redevelopment plan. A type of Master EIR called a Redevelopment EIR can be used to analyze the project as a whole. If policies and implementation measures to help restore watersheds are included in the general plan, then the redevelopment plan must be created to be consistent with these objectives.

Restoration of Creeks and Floodplains. Future development projects could be integrated with plans for creek and floodplain restoration (see Table 6-3). Creek and floodplain restoration policies, implementation measures, and performance criteria should be included in the general plan and specific plans. Through the Subdivision Map Act and using the findings from CEQA, mitigation measures can be incorporated as conditions of approval. Zoning regulations can zone for creek and floodplain restoration areas. Redevelopment plans can include offsite improvements and must be consistent with general and specific plans.

Dedications and impact fees can be used to protect sensitive areas such as riparian corridors. Dedications and impact fees can come from specific conditions in the local ordinance via the statutory authorization of the Subdivision Map Act; as mitigation measures resulting from the CEQA process; via Government Code Section 66474(e), which prevents the approval of maps that may cause substantial environmental damage; and conditions created through the expanded “design” and “improvement” definitions in the Map Act, based on the need to maintain consistency with the general plan.

Growth Management. If developing a growth management plan is one part of a municipality’s desired watershed management strategy, the general plan is the best place to house it (see Table 6-3). If growth management measures are included in the general plan, they will likely be more effective and may be more protected from legal challenges than if the growth management plan was housed elsewhere. To be included in the general plan, the growth regulations should be shown to promote the community’s general welfare (*Long Beach Equities, Inc. v. County of Ventura*, 231 Cal. app. 3d 1016 (1991)) (Curtin 1999a). Policies and information in the general plan, including population forecasts, can be used to support growth management objectives. Another reason to incorporate growth management in general plans is that the general plan is a forum in which to balance competing interests, and requires consistency among elements.

6.7.2 Basinwide Planning (County General Plans)

The California Planning, Zoning, and Development Law (Government Code Section 65030 et seq.) mandates that counties and general law cities prepare a general plan. These plans must include seven basic elements, including land use, circulation, housing, conservation, open space, noise, and safety. The land use element addresses standards for population density, building density, and distribution of land uses. The circulation element addresses major transportation improvements. The housing element assesses the need for housing for all income groups, and establishes a program to meet those needs. The conservation element deals with natural resource issues. The open-space element provides a plan for long-term conservation of open space. The noise element identifies potential noise problems and measures for noise abatement. The safety element identifies seismic, other geologic, flood, and wildfire hazards, along with policies to protect the community from these hazards. In addition to the requirement that general plans be consistent with zoning ordinances, the general plan elements must be consistent among the elements.

6.7.3 Local Planning Policies

In addition to general plans, local planning policies include zoning ordinances and subdivision maps. Zoning ordinances (authorized by Government Code Section 65850 et seq.) are designed to translate the general plan's broad statements of policy into specific requirements for individual parcels of land. The Subdivision Map Act (Government Code Section 66410 et seq.) establishes a procedure that local governments must use when considering subdividing land into more than four separate parcels.

6.7.4 Implementing Agencies

The Association of Bay Area Governments (ABAG) was created by the Legislature in 1961 to protect local control, plan for the future, and promote cooperation on areawide issues (ABAG 1998). ABAG develops comprehensive planning programs in cooperative ventures with the Metropolitan Transportation Commission (MTC) and the Bay Area Air Quality Management District (BAAQMD). ABAG provides a forum to resolve local differences and encourage citizen involvement in planning and policy decisions.

LAFCOs and local municipalities have responsibility for implementing general plans that comply with CEQA. CEQA is implemented by the public agency whose project is subject to the CEQA requirements. In addition, two state agencies, the Governor's Office of Planning and Research and the California Resources Agency, are responsible for CEQA administration and oversight.

6.8 Regulation of Transportation

Programs associated with transportation planning are discussed below.

6.8.1 Laws and Regulations

The Federal Transportation Equity Act for the 21st Century (TEA-21) was adopted in 1998 and authorizes highway safety, transit, and other surface transportation programs (U.S. Department of Transportation 1998). TEA-21 is an extension of the Intermodal Surface Transportation Efficiency Act of 1991, which was the previous authorizing legislation for surface transportation. The focus of TEA-21 is to improve safety, protect and enhance communities and the environment, and advance economic growth through efficient and flexible transportation. Elements of TEA-21 dealing with environmental issues focus primarily on air pollution. Two such elements are the Congestion Mitigation and Air Quality Improvement Program, and support of ozone and particulate matter standards. Under the Congestion Mitigation and Air Quality Improvement Program, TEA-21 provides a funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Some eligible activities include transit improvements, travel demand management strategies, traffic flow improvements, and public fleet conversion to cleaner fuels. In addition, TEA-21 ensures the establishment of a monitoring network for fine particle evaluation.

6.8.2 Implementing Agencies

In the Bay Area, TEA-21 is carried out by the MTC. The MTC is the transportation planning, coordinating and financing agency for the nine-county San Francisco Bay Area (MTC 1999). Created by the California Legislature in 1970, MTC functions as both the regional transportation planning agency, and for federal purposes, as the region's metropolitan planning organization (MPO). As such, it is responsible for the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities. The Commission also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan. In addition to the RTP, MTC is coordinating a regional effort to integrate various strategies to address transportation needs, called the Bay Area Transportation Blueprint for the 21st Century. This planning effort is being conducted in cooperation with ABAG and the region's major transportation and environmental agencies.

6.9 Regulation of Vector Control (Mosquito Abatement)

Programs associated with vector control are discussed below.

6.9.1 Laws and Regulations

California Public Health Codes include statutes addressing vector control. The statutes provide local districts wide latitude in determining the level of threat posed and the extent of abatement necessary. These local districts are governed by a Board of Directors, which delegates abatement powers to a District Manager, who through District staff, monitors mosquito populations and determines whether or not a threat to public health exists. If mosquito

population levels are determined to constitute a potential threat to local health and comfort, the District Manager may issue an "abatement order," and take measures to remove any known mosquito production sources or apply pesticides to kill the mosquitoes. These abatement rights extend to both public and private property within the district's boundaries. It is generally the District Manager and his/her staff who determine whether or not a threat to public health actually exists. Thus, the degree of enforcement is often left to local discretion, and can vary widely between districts.

Laws regulating these local agencies are found in the Health and Safety Code. These statutes provide wide latitude for local discretion in abatement matters. For instance, no numerical mosquito population level exists at which abatement must take place. Rather, district personnel need only find "evidence of the presence of mosquitoes" to issue an abatement order. Most districts take a proactive role in identifying potential public nuisances, electing to educate property owners on mosquito source control rather than litigating against them, and abating sources before problems arise. Property owners are liable for the costs of any abatement procedures taking place on their property. Monitoring and abatement in areas not incorporated within a special district is usually undertaken by the California Department of Health Services, but this generally occurs only in sparsely populated regions.

6.9.2 Implementing Agencies

Mosquito monitoring and abatement in California is generally undertaken at the local level, with oversight from the California Department of Health Services. The agencies performing these duties are usually in the form of "special districts," which generally arise from joint powers agreements between cities. Local districts in the Santa Clara Basin are the Santa Clara County Vector Control District, the Alameda County Mosquito Abatement District, and the San Mateo County Mosquito Abatement District. In addition to mosquito abatement, Santa Clara County Vector Control also has established programs targeting other pests, including rodents, cockroaches, head lice, wasps, and wildlife (e.g., raccoons, opossum, skunks, etc.).

6.10 Regulation of Pesticides

Programs associated with the regulation of pesticides are described below.

6.10.1 Laws and Regulations

The regulations addressing pesticide use in California are the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Food Quality Protection Act (FQPA), and the California Food and Agricultural Code as described below.

6.10.1.1 Federal Regulation of Pesticides

FIFRA requires that pesticide products be registered federally before distribution or sale to any person. Registration includes submission of required data by the person seeking registration,

evaluation and acceptance of these data by EPA, submission of a proposed label by the registrant, review and acceptance of the final labeling by EPA, establishment of a tolerance (maximum residue level) for pesticides used on food or feed commodities, and the classification by EPA of the pesticide product for restricted use or general use as appropriate.

Once a pesticide product is registered federally, FIFRA Section 24(a) authorizes a state to regulate the sale or use of pesticides with the restriction that any sale or use prohibited federally is not permitted by the state. Section 24(b) requires uniformity of pesticide labeling and restricts a state from requiring changes to the federally accepted pesticide label. A state may register a federally registered pesticide product for additional uses to meet a special local need within the state in accord with FIFRA Section 24(c). The California Department of Pesticide Regulation (DPR) has primary enforcement responsibility for pesticide use violations in California.

FIFRA Section 11(2) authorizes states to certify applicators of federally restricted use pesticides if states submit a plan for EPA approval. DPR has submitted a plan and is authorized by EPA to certify applicators.

The FQPA of 1996 amended the FIFRA and the Federal Food, Drug, and Cosmetic Act (FFDCA). The FQPA has fundamentally changed the approach risk assessment and management of the regulation of pesticides. The requirements included a new safety standard – reasonable certainty of no harm – that must be applied to all pesticides used on foods. The 1996 law amended both major pesticide laws, FIFRA and FFDCA, to establish a more consistent, protective regulatory scheme, grounded in sound science. It mandates a single, health-based standard for all pesticides in all foods; provides special protection for infants and children; expedites approval of safer pesticides; creates incentives for the development and maintenance of effective crop protection tools for American farmers; and requires periodic reevaluation of pesticide registrations and tolerances to ensure that the scientific data supporting pesticide registrations will remain up to date in the future.

6.10.1.2 California Regulation of Pesticides

Under the Food and Agriculture Code, California has an extensive pesticide program that enables DPR to evaluate and register pesticide products before their use in the state, monitor sales within the state, and regulate and record their use.

In 1985, California enacted the Pesticide Contamination Prevention Act (PCPA) (Food and Agricultural Code Division 7, Chapter 2, Article 15). The purpose of PCPA is to prevent further pesticide pollution of groundwater from legal agricultural use of currently registered pesticides. The PCPA requires DPR to identify the active ingredients in pesticides with the potential to pollute groundwater by leaching based on their chemical and physical properties and uses. These chemicals are placed on the Groundwater Protection List and are monitored by DPR in groundwater. When a pesticide is found in groundwater or in soil under certain conditions as a result of legal agricultural use, DPR may review and modify its use. For this purpose, DPR collects environmental fate data for pesticides used in agriculture, and uses the data to identify

pesticides with potential to pollute groundwater. DPR also maintains a database of wells sampled in the state for pesticides.

California law requires DPR to thoroughly evaluate and register pesticides before they are sold or used in California. During the evaluation and registration process, DPR evaluates potential water quality problems associated with uses of pesticides, including use on sites where pesticides are likely to move with runoff from irrigated agricultural fields into surface waterways. DPR gives special attention to the potential for toxicity to the aquatic biota and to factors that may interfere with attaining water quality objectives. If DPR determines that such uses will likely result in significant adverse impacts that cannot be avoided or adequately mitigated, registration is not granted unless the Director indicates otherwise, as provided in California Code of Regulations Section 6158.

6.10.2 Department of Pesticide Regulation/State Water Resources Control Board Management Agency Agreement

The agency with primary responsibility for these programs is the DPR. In 1997, the State Board and DPR entered into a Management Agency Agreement (MAA) to work together to protect water quality from the potential adverse effects of pesticides (Cal-EPA 1997). Pesticides have been found to be a significant contributor to water pollution through both agricultural and urban runoff. The California Pesticide Management Plan for Water Quality outlines how the agencies will work under the MAA to protect water quality from the use of pesticides. The Plan is part of an effort to make state programs addressing pesticides and water quality, and their overlapping as well as sometimes conflicting authorities, better serve the goal of addressing water quality problems and their resultant impacts on the aquatic environment and human health. The Plan contains provisions for outreach programs, compliance with water quality standards, groundwater and surface water protection programs, self-regulatory and regulatory compliance, interagency communication, and dispute and conflict resolution.

DPR and the State Board have adopted a four-stage approach to minimize the potential for pesticide movement to groundwater and surface waters. This approach is consistent with the State Board's Nonpoint Source Management Plan approach. In Stage 1, prevention of pesticide contamination of groundwater and surface water is promoted through educational outreach. Stage 2 is initiated following detection of pesticides that require response. This stage relies on self-regulating or cooperative efforts to identify and implement the most appropriate site-specific, reduced-risk practices. Stages 1 or 2 may include label changes and implementation of registrant stewardship programs that address water quality issues on a statewide or regional basis. If adequate protection cannot be achieved by Stage 2, DPR and the Commissioners implement Stage 3. In this stage, reduced-risk practices will be implemented by restricted material use permit requirements, regulations, and other regulatory authority used by DPR and the Commissioners. If Stage 4 is necessary, the State and Regional Boards will use water quality control planning programs or other appropriate regulatory measures to protect water quality. These four stages will be implemented, not necessarily in sequential order, as necessary to protect water quality. The MAA does not preclude the Regional Board from taking any listing or

enforcement action related to water quality violations, nor the DPR from continuing to permit the use of a pesticide that has been found in listed waterbodies.

6.11 Regulation of Air Quality

Pollutants can enter watersheds through routes other than direct sources of water contamination. In particular, deposition from the air is one source of several pollutants, including dioxins, pesticides and some heavy metals. Emissions from motor vehicles enter the air first, but may enter water ultimately through rainfall or dry deposition; therefore, efforts to control air quality may have a direct impact on water quality. Programs addressing air quality are described below.

6.11.1 Laws and Regulations

At the federal level, air quality is regulated by the EPA under the Clean Air Act (42 USC Section 7401 et seq.). The Clean Air Act requires the adoption of national primary and secondary air quality standards, state implementation plans to meet these standards, programs to prevent the significant deterioration of air quality, and programs for areas that are not attaining standards. The Clean Air Act and local implementation plans do not directly address air impacts on water quality.

6.11.2 Implementing Agencies

The California Air Resources Board (CARB) is the state agency charged with implementing the Clean Air Act in California, coordinating efforts to attain and maintain air quality standards, supervising the statewide regulatory scheme for toxic air pollutants, regulating motor vehicle emissions, and conducting air pollution source research. The CARB is responsible for setting air quality and emission standards.

In 1947, the California Legislature authorized the establishment of APCDs. The Health and Safety Code currently provides for four types of APCDs: (1) countywide APCDs having geographic boundaries within a single county, (2) unified APCDs comprising several adjoining counties, (3) regional APCDs, similar in structure to unified APCDs but with representatives from cities within the region on the governing board, and (4) AQMDs. Air quality in the San Francisco Bay Area is regulated by the BAAQMD, which comprises all or part of nine counties in the area.

The BAAQMD is responsible for enforcing standards and regulating individual sources. Staff is divided into two main divisions: one for enforcement and one for engineering and permitting. Other staff divisions are responsible for rule making, planning, source testing, and air quality monitoring and forecasting.

The CARB and BAAQMD have been cooperating with the San Francisco Estuary Institute and the Bay Area Stormwater Management Agencies Association on air deposition pilot projects since 1999.

6.12 Regulation of Local Agency Formation

LAFCOs have a pivotal role in approving general plans and general plan amendments as described below.

6.12.1 Laws and Regulations

Although LAFCOs have no direct land use planning or regulatory authority, they do determine the limits of where urban expansion may occur, and the provision of urban services. Because the change of land use from rural to urban may affect the amount and types of pollutants that reach the Estuary, LAFCOs have an important land use management role in determining what kinds of pollutants are carried to the Estuary. Their responsibilities include controlling, via approval or disapproval, annexation (the act of adding territory to an existing municipality), and incorporation (the act of creating a new city) (Government Code Section 56000 et. seq.) (Governor’s Office of Planning and Research 1990; California Association of LAFCOs 1999). LAFCOs also have the responsibility to prepare an SOI for each city and special district in the county, and to conduct special studies on how to improve municipal services and reduce costs. The LAFCO delineates and adopts a line around each city or special district in the county, which is deemed to be that entity’s SOI. An annexation to a city or special district can occur if it is proposed within the entity’s SOI. LAFCOs were developed to control premature and unplanned development and to ensure that public services are provided in an efficient and cost-effective manner (California Association of LAFCOs 1999). LAFCOs must consider the effects that proposals will have on existing agricultural lands, and they discourage urban sprawl (California Association of LAFCOs 1999).

6.12.2 Implementing Agencies

Generally comprised of two county supervisors, two city council representatives, and one member of the public, LAFCOs have been established in each county of the state except San Francisco County. Twelve LAFCOs are in the San Francisco Estuary (SFEP 1992). The LAFCOs in the Santa Clara Basin are the Alameda, San Mateo, and Santa Clara LAFCOs. LAFCOs are influential in determining land use changes and urban growth patterns.

6.13 Flood Management and Control

Maintenance of local streams and other waterbodies necessary for flood control may have direct impacts on wildlife and aquatic habitats in the watershed. Some specific programs and regulations pertaining to flood management are discussed below.

6.13.1 Laws and Regulations

The Water District undertakes a wide variety of flood protection projects in Santa Clara County. Projects are based on several factors, including how much right-of-way is available, cost, community concerns, environmental factors, and other issues. Typical solutions to flood hazards

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include floodplain zoning, maintaining existing facilities, levee and floodwall construction, or structural work in channels with rock, gabions, concrete, earth-lining, or other material.

Water Code Division 5 has several provisions that address flood management and watershed protection. Some of these provisions are discussed below.

Water Code Section 8100 et. seq. contain provisions for the construction of works, improvements, levees or check dams to prevent overflow and flooding, the protection and reforestation of watersheds, the conservation of the floodwaters, and for the construction of projects outside the county if the rivers or streams affected flow in or through more than one county.

Water Code Section 12840 et. seq. contain provisions pertaining to watershed protection and flood prevention projects. Policies associated with watershed protection and flood prevention state that in order to protect the general health and welfare of the public, it is necessary to provide for the preservation and enhancement of the state's fish and wildlife resources in connection with flood control and watershed protection projects, and to realize the full potential of such projects to provide recreational opportunities to the general public. In addition, the policies state that fish and wildlife enhancement and recreational development should be among the purposes of all federal flood control and watershed protection projects.

6.13.2 Implementing Agencies

Agencies responsible for flood management include the Federal Emergency Management Agency (FEMA), the DWR, and local flood control districts (i.e., the Santa Clara Valley Water District). FEMA is the federal agency responsible for responding to natural disasters and emergencies, including flooding. FEMA's mission is to reduce loss of life and property and protect our nation's critical infrastructure from all types of hazards through a comprehensive, risk-based, emergency management program of mitigation, preparedness, response, and recovery. While DWR has statewide responsibility for flood control, flood management in California is primarily conducted by local flood control districts. The Water District has responsibility for flood control in Santa Clara County. **San Francisquito Creek presents jurisdictional challenges because it contains portions of both Santa Clara and San Mateo Counties. To deal with this situation, the San Francisquito Creek Joint Powers Authority (JPA) has been created. The JPA is a coalition of local government agencies formed to plan and implement flood management and watershed protections plans in the San Francisquito Creek Watershed.**

6.14 Summary

Table 6-4 lists legislation and permits associated with the regulatory topics discussed in this chapter.

Table 6-5 summarizes regulatory issues and federal, state, and regional agencies involved in addressing these issues. Table 6-6 lists contact information for agencies to use before initiating a project with environmental impacts in the Santa Clara Basin, or to gather information on local programs.

INSERT TABLE 6-4

INSERT TABLE 6-5

**Table 6-6
Agency Contact Information**

Agency	Phone Number	Web Site
Association of Bay Area Governments	(510) 464-7900	www.abag.ca.gov
San Francisco Bay Regional Water Quality Control Board	(510) 622-2300	www.swrcb.ca.gov/~rwqcb2/
Metropolitan Transportation Commission	(510) 464-7700	www.mtc.ca.gov
Palo Alto Regional Water Quality Control Plant	(650) 329-2295	www.city.palo-alto.ca.us/environmental/
San Jose/Santa Clara Water Pollution Control Plant	(408) 945-5300	www.ci.san-jose.ca.us/esd/wpcp.htm
Sunnyvale Water Pollution Control Plant	(408) 730-7260	www.ci.sunnyvale.ca.us/public-works/environ.htm
Santa Clara Valley Water District	(408) 265-2600	www.scvwd.dst.ca.us
Bay Area Air Quality Management District	(415) 771-6000	www.baaqmd.gov
San Francisco Bay Conservation and Development Commission	(415) 557-3686	www.ceres.ca.gov/bcdc/
Department of Toxic Substances Control	(510) 540-3919	www.dtsc.ca.gov
Department of Fish and Game	(707) 944-5500	www.dfg.ca.gov
Department of Health Services	(916) 445-0498	www.dhs.cahwnet.gov/ps/ddwem/
Integrated Waste Management Board	(916) 255-2296	www.ciwmb.ca.gov
Department of Pesticide Regulation	(916) 445-4300	www.cdpr.ca.gov
Department of Water Resources	(916) 653-5791	www.dwr.water.ca.gov
U.S. Fish and Wildlife Service (Pacific Region)	(503) 231-6828	www.pacific.fws.gov
National Marine Fisheries Service (Southwest Regional Office)	(562) 980-4000	www.swr.ucsd.edu
California State Office of Historic Preservation	(916) 445-8006	www.calhist.org
U.S. Environmental Protection Agency – Region IX	(415) 744-1500	www.epa.gov/region09
California State Lands Commission	(916) 574-1800	www.slc.ca.gov/

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