

4.9 HYDROLOGY AND WATER QUALITY

This section describes the regulations pertaining to, and the existing conditions of, surface water, groundwater, water quality, and water supply existing within the planning area, and an evaluation of impacts associated with implementation of the Draft General Plan.

4.9.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Clean Water Act

The Clean Water Act of 1972 (CWA) is the primary federal law that governs and authorizes water quality control activities by the U.S. Environmental Protection Agency (EPA), the lead federal agency responsible for water quality management. By establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the CWA seeks to restore and maintain the chemical, physical, and biological integrity of surface waters to support “the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.” EPA is the federal agency with primary authority for implementing regulations adopted pursuant to CWA, and has delegated the state of California as the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 described below.

Water Quality Criteria and Standards

EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. Section 303(d) mandates the creation of a list of waterbodies and associated pollutants that exceed water quality criteria.

National Pollutant Discharge Elimination System Permit Program

The National Pollutant Discharge Elimination System (NPDES) permit program was established to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

More specifically, the discharge prohibitions and limitations in an NPDES permit for wastewater treatment plants are designed to ensure the maintenance of public health and safety, protection of receiving water resources, and safeguarding of the designated beneficial uses. Discharge limitations typically define allowable effluent quantities for flow, biochemical oxygen demand (BOD), total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, pH, and toxic pollutants. Limitations also typically encompass narrative requirements regarding mineralization and toxicity to aquatic life.

In November 1990, the EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase I of the permitting program applied to municipal discharges of stormwater

in urban areas where the population exceeded 100,000 persons. Phase I also applied to stormwater discharges from a large variety of industrial activities including general construction activity if the project would disturb greater than 5 acres. Amador County is subject to the requirements of Phase II of the NPDES stormwater permit regulations, which became effective in March 2003 and required NPDES permits be issued for construction activity for projects that disturb between 1 and 5 acres. Phase II of the municipal permit system (i.e., known as the NPDES General Permit for Small MS4s) required small municipality areas of less than 100,000 persons to develop stormwater management programs. The Regional Water Quality Control Boards (RWQCBs) in California are responsible for implementing the NPDES permit system (refer to additional details in the section “State Plans, Policies, Regulations, and Laws” below).

Section 401 Water Quality Certification or Waiver

Section 404 of the Federal Clean Water Act (CWA) requires a project proponent to obtain a permit from the U.S. Army Corps of Engineers (USACE) before engaging in any activity that involves any discharge of dredged or fill material into waters of the U.S., including wetlands. Fill material, waters of the U.S., and wetlands are defined as follows:

- ▶ Fill material is material placed in Waters of the U.S. where the material has the effect of replacing any portion of a water of the United States with dry land, or of changing the bottom elevation of any portion of a water of the United States.
- ▶ Waters of the U.S. consist of navigable waters of the U.S.; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and wetlands adjacent to these waters.
- ▶ Wetlands are those areas that are inundated or saturated by surface water or groundwater 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.

Under Any applicant for a Section 404 permit must obtain a Section 401 Water Quality Certification under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate State agency stating that the fill is consistent with the state’s water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirements is delegated by the State Water Resources Control Board (SWRCB) to the nine regional boards. Activities associated with the proposed project that would require a permit under Section 404 of the CWA would also require Water Quality Certification under Section 401 of the CWA.

Federal Antidegradation Policy

The federal antidegradation policy is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions: (1) existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Safe Drinking Water Act

Under the Safe Drinking Water Act (Public Law 93-523), EPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by

EPA's primary and secondary maximum contaminant levels (MCLs), which are applicable to treated water supplies delivered to the distribution system. MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act established an accelerated schedule for setting MCLs for drinking water.

EPA has delegated to the California Department of Public Health (CDPH) the responsibility for administering California's drinking-water program. CDPH is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA. The applicable state primary and secondary MCLs are set forth in Title 22, Division 4, Chapter 15, Article 4 of the California Code of Regulations, and described in "Title 22 Standards" below.

Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. The EPA must either approve a TMDL prepared by the state or disapprove the state's TMDL and issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. The goal of the TMDL program is that, after implementation of a TMDL for a given pollutant on the 303(d) list, the causes that led to placement on the pollutant on the list would be remediated.

Federal Emergency Management Agency

Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. Amador County is a participant in the NFIP. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development to be the 1-in-100 Annual Exceedance Probability (AEP), defined as a flood that has an average frequency of occurrence on the order of once in 100 years although such a flood may occur in any given year. Participants in the NFIP must satisfy certain mandated floodplain management criteria. For instance, where levees provide flood protection, the levee crown must have 3 feet of freeboard above the 1-in-100-AEP water surface elevation, except in the vicinity of a structure such as a bridge, where the levee crown must have 4 feet of freeboard for a distance of 100 feet upstream and downstream from the structure. The County is occasionally audited by the California Department of Water Resources (DWR) to insure the proper implementation of FEMA floodplain management regulations. Flood Zone areas in Amador County are shown in Exhibit 4.9-1.

As developments are proposed and constructed FEMA is also responsible for issuing revisions to FIRMs, such as Conditional Letters of Map Revision (CLOMR) and Letters of Map Revision (LOMR) through the local agencies that work with the NFIP.

Executive Order 11988

Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project in a floodplain to do the following:

- ▶ avoid incompatible floodplain development,
- ▶ be consistent with the standards and criteria of the NFIP, and
- ▶ restore and preserve natural and beneficial floodplain values.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) is responsible for issuing permits for discharge of dredged or fill material into waters of the United States. These permits are required under Sections 401 and 404 of the Clean Water Act. Water supply projects that involve instream construction, such as dams or other types of diversion structures, trigger the need for these permits and related environmental reviews by USACE. USACE also is responsible for flood control planning and assisting state and local agencies with the design and funding of local flood control projects.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

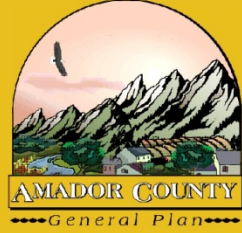
State Water Resources Control Board

In California, the SWRCB has broad authority over water-quality control issues for the state. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other state agencies with jurisdiction over water quality regulation in California include CDPH (for drinking-water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Wildlife (CDFW), and the Office of Environmental Health and Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt Basin Plans for all areas in the region and establish water quality objectives in the plans. California water quality objectives (or “criteria” under the Clean Water Act) are found in the Basin Plans adopted by the State Water Resources Control Board and each of the nine Regional Water Quality Control Boards. The Central Valley RWQCB is responsible for Amador County. State regulations applicable to the demonstration of adequate water supply for the future water demands resulting from implementation of the proposed project are addressed further in Section 4.13, “Public Services and Utilities.”

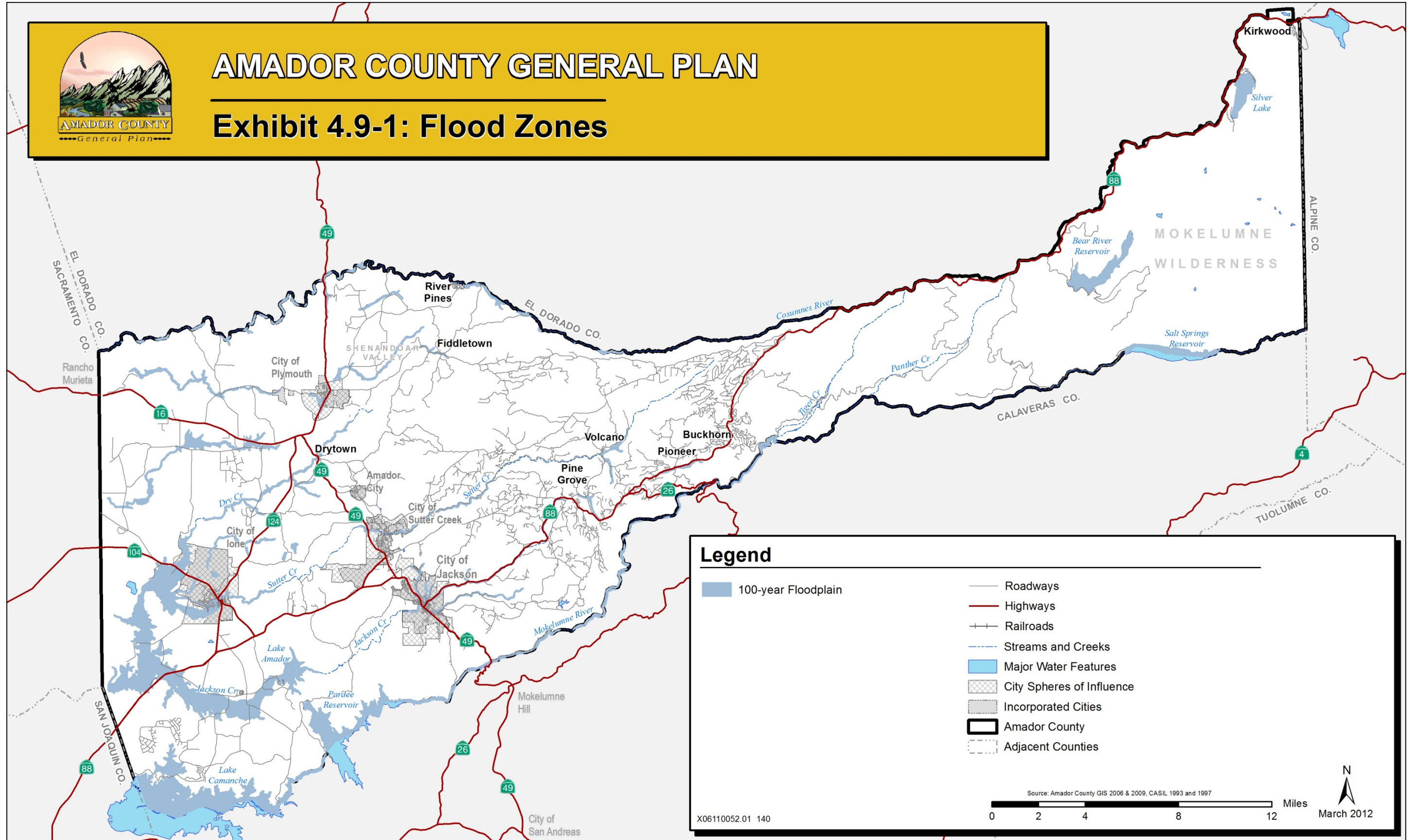
Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is California’s statutory authority for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state’s waters for the use and enjoyment of the people. The act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update Basin Plans. Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The act also requires waste dischargers to notify the RWQCBs of their activities through the filing of reports of waste discharge (RWDs) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWDs and/or WDRs for broad categories of “low threat” discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.



AMADOR COUNTY GENERAL PLAN

Exhibit 4.9-1: Flood Zones



Legend

- 100-year Floodplain
- Roadways
- Highways
- Railroads
- Streams and Creeks
- Major Water Features
- City Spheres of Influence
- Incorporated Cities
- Amador County
- Adjacent Counties

Source: Amador County GIS 2006 & 2009, CASIL 1993 and 1997

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Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Central Valley RWQCB is responsible for the preparation and implementation of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan), adopted in 1998 and revised periodically (CVRWQCB 2011). The Basin Plan identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and San Joaquin River hydrologic regions, which includes waters within the planning area. State and federal laws mandate the protection of designated “beneficial uses” of water bodies. State law defines beneficial uses as “...domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves” (Water Code Section 13050(f)). Although specific surface waters have not been identified for groundwater recharge or freshwater replenishment in the Basin Plan, these additional protected beneficial uses are designated in the Basin Plan. Beneficial uses of the major waterbodies in the planning area are shown on Table 4.9-1.

	Municipal and Domestic Supply	Agricultural Supply	Industrial Supply/ Power	Recreation	Freshwater Habitat	Migration	Spawning	Wildlife Habitat
Sutter Creek	X	X		X	X	X	X	X
Jackson and Dry Creeks	X	X		X	X	X	X	X
Mokelumne River	X		X	X	X	X	X	X
Pardee Reservoir	X		X	X	X		X	X
Lake Amador	X	X	X	X	X			X
Camanche Reservoir	X	X		X	X	X	X	X
Cosumnes River	X	X		X	X	X	X	X
Groundwater ²	X	X	X					

Note:

¹ As stated in the Basin Plan (CVRQCB 2011: II-2.00) the beneficial uses of any specifically identified water body generally apply to its tributary streams.

² All ground waters in the Sacramento and San Joaquin River drainage basins are considered as suitable or potentially suitable, at a minimum, for the beneficial uses represented in this table.

Source: CVRWQCB, 2011; CVRWQCB 2013

The Basin Plan contains specific narrative and numeric water quality objectives for a number of physical properties (e.g., temperature, dissolved oxygen, turbidity and suspended solids), biological constituents (e.g., coliform bacteria), and chemical constituents of concern including inorganic parameters and trace metals and organic compounds. Water quality objectives for toxic priority pollutants (i.e., select trace metals and synthetic organic compounds) are included in the Basin Plan and the California Toxics Rule described below.

State Nondegradation Policy

In 1968, the SWRCB adopted the nondegradation policy, a policy aimed at maintaining high-quality waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated so as to achieve the highest water quality consistent with maximum benefit to the people of the state and so as to promote the peace, health, safety, and welfare of the people of the state. The policy prescribes the following:

Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.

Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements which would ensure (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the state would be maintained.

California Toxics Rule and State Implementation Policy

The California Toxics Rule (CTR) was promulgated in 2000 in response to requirements of the EPA National Toxics Rule (NTR), and establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The CTR criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are on the CWA Section 303(c) listing for contaminants. The CTR includes criteria for the protection of aquatic life and human health. Human health criteria (water and organism based) apply to all waters with a Municipal and Domestic Water Supply Beneficial Use designation as indicated in the Basin Plans. The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, also known as the State Implementation Plan (SIP), was adopted by the SWRCB in 2000. It establishes provisions for translating CTR criteria, NTR criteria, and basin plan water quality objectives for toxic pollutants into:

- ▶ NPDES permit effluent limits,
- ▶ effluent compliance determinations,
- ▶ monitoring for 2,3,7,8-TCDD (dioxin) and its toxic equivalents,
- ▶ chronic (long-term) toxicity control provisions,
- ▶ initiating site-specific water quality objective development, and
- ▶ the granting of effluent compliance exceptions.

The goal of the SIP is to establish a standardized approach for the permitting of discharges of toxic effluents to inland surface waters, enclosed bays, and estuaries in a consistent fashion throughout the state.

Sustainable Groundwater Management Act (Senate Bill 1168)

The California Legislature enacted a three-bill law (AB-1739, SB-1168, and SB-1319), known as the Sustainable Groundwater Management Act (SGMA) on September 16, 2014. The SGMA was created to provide a framework for the sustainable management of groundwater supplies, and to strengthen local control and management of groundwater basins throughout the state with little state intervention. The SGMA is intended to empower local agencies to adopt groundwater management plans that are tailored to the resources and needs of their communities, such that sustainable management would provide a buffer against drought and climate change, and ensure reliable water supplies regardless of weather patterns. The SGMA is considered part of the statewide, comprehensive California Water Action Plan that includes water conservation, water recycling, expanded water storage, safe drinking water, and wetlands and watershed restoration. The SMGA protects existing surface water and groundwater rights and does not affect current drought response measures (Association of California Water Agencies [ACWA] 2014a).

The SGMA requires that local agencies form a local groundwater sustainability agency (GSA) within 2 years (i.e., by 2017). Agencies located within high- or medium-priority basins must adopt groundwater sustainability plans (GSP) within 5 to 7 years. The time frame for basins determined by DWR to be in a condition of “critical overdraft” is 5 years (i.e., by 2020). Local agencies will have 20 years to fully implement GSPs after the plans have been adopted. Intervention by the SWRCB would occur if a GSA is not formed by the local agencies, and/or if a GSP is not adopted or implemented (DWR 2014a). DWR is targeted to identify basins subject to critical conditions of overdraft by June 1, 2016 (ACWA 2014b).

DWR has designated the Cosumnes groundwater subbasin, which extends to the extreme eastern portion of Amador County, as medium priority (DWR 2014b), and this subbasin is not included on DWR's August 6, 2015 draft list of critically overdrafted basins (DWR 2015). Amador County is not required to take action to designate a groundwater sustainability agency until 2017, and groundwater sustainability plans are not required until 2020 at the earliest.

NPDES Permit System And Waste Discharge Requirements For Construction

The SWRCB and Central Valley RWQCB have adopted specific NPDES permits for a variety of activities that have the potential to discharge wastes to waters of the state. The SWRCB's statewide stormwater general permit for construction activity (Construction General Permit; Order 2009-0009-DWQ, as amended by Order 2010-0014-DWQ) is applicable to all land-disturbing construction activities that would disturb 1 acre or more. The Central Valley RWQCB's general NPDES permit for construction dewatering activity (Order 5-00-175) authorizes direct discharges to surface waters up to 250,000 gallons per day for no more than a 4-month period each year.

All of the stormwater NPDES permits involve similar processes, which include submitting notices of intent to discharge to the Central Valley RWQCB and implementing stormwater pollution prevention plans (SWPPPs) that include best management practices (BMPs) to minimize those discharges. As mentioned above, the Central Valley RWQCB may also issue site-specific WDRs or waivers to WDRs for certain waste discharges to land or waters of the state. In particular, Central Valley RWQCB Resolution R5-2003-0008 identifies activities subject to waivers of RWDs and/or WDRs, including minor dredging activities and construction dewatering activities that discharge to land.

Clearing, grading, stockpiling, and excavation are subject to the Construction General Permit. Dischargers are required to eliminate or reduce nonstormwater discharges to storm sewer systems and other waters. Discharges subject to the Construction General Permit are subject to development and implementation of a SWPPP. The SWPPP must include a site map, a description of construction activities, and identification of BMPs that would be employed to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, and cement) that could contaminate nearby water resources. The Construction General Permit also requires dischargers to consider using permanent postconstruction BMPs that would remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

In addition, in response to a court decision, the Central Valley RWQCB's Resolution 2001-046 implemented water quality sampling requirements for visible and nonvisible contaminants present in discharges from construction activities. Water quality sampling is now required if the activity could result in the discharge of turbidity or sediment to a water body that is listed as impaired under Section 303(d) because of sediment or siltation, or if a release of a nonvisible contaminant occurs. Where such pollutants are known or should be known to be present and have the potential to contact runoff, sampling and analysis is required. NPDES permits require that design and operational BMPs be implemented to reduce the level of contaminant runoff. Types of BMPs include source controls, treatment controls, and site planning measures.

On September 2, 2009, the SWRCB approved a new construction general permit (Order 2009-0009-DWQ), which went into effect and replaced Order 99-08-DWQ on July 1, 2010. The new permit requirements include:

- ▶ **Risk-Based Permitting Approach:** The new general permit establishes three levels of risk possible for a construction site. Risk is calculated in two parts: Project Sediment Risk and Receiving Water Risk. Risk Level 1 is considered the lowest risk and Level 3 is considered the highest.
- ▶ **Rainfall Erosivity Waiver:** The new general permit includes an option allowing a small construction site (>1 and <5 acres) to self-certify if the rainfall erosivity value (R value) for their project's given location and time frame compute to be less than or equal to 5.

- ▶ **Monitoring and Reporting of Project Site Soil Characteristics:** The new general permit provides the option for dischargers to monitor and report the soil characteristics at their project location. The primary purpose of this requirement is to improve risk determination and eventually improve program evaluation.
- ▶ **Minimum Requirements Specified:** The new general permit imposes more minimum BMPs and requirements that previously were required only as elements of the SWPPP or were suggested by guidance.
- ▶ **Technology-Based Numeric Action Levels (NALs):** The new general permit includes daily average NALs for pH and turbidity, applicable to projects in Risk Level 2.
- ▶ **Effluent Monitoring and Reporting:** The new general permit requires effluent monitoring and reporting for pH and turbidity in stormwater discharges. The purpose of this monitoring is to determine compliance with the NELs and evaluate whether NALs included in the general permit are exceeded.
- ▶ **Receiving Water Monitoring and Reporting:** The new general permit requires some Risk Level 3 dischargers to monitor receiving waters and conduct biological assessments.
- ▶ **Postconstruction Stormwater Performance Standards:** The new general permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES permit, to avoid, minimize, and/or mitigate postconstruction stormwater runoff impacts. These requirements would not apply to the project because of the Phase 1 NPDES MS4 permit described below.
- ▶ **Rain Event Action Plan:** The new general permit requires certain sites to develop and implement a rain event action plan that must be designed to protect all exposed portions of the site within 48 hours before any likely precipitation event.
- ▶ **Annual Reporting:** The new general permit requires the proponent of any project that is enrolled for more than one continuous 3-month period to submit information and annually certify that its site is in compliance with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and public information.
- ▶ **Certification/Training Requirements for Key Project Personnel:** The new general permit required that key personnel (e.g., SWPPP preparers, inspectors) have specific qualifications or certifications and attend state-approved training by September 2, 2011, to ensure that their level of knowledge and skills would be adequate to ensure their ability to design and evaluate project specifications that would comply with the general permit's requirements.
- ▶ **Linear Underground/Overhead Projects:** The new general permit includes requirements for all linear underground/overhead projects.

NPDES Permits And Waste Discharge Requirements for Point Sources

Amador County has a number of wastewater treatment systems, generally operating under NPDES permits or WDRs issued by Central Valley RWQCB, although EPA issues permits for systems used by the Buena Vista and Jackson Rancherias. Central Valley RWQCB defines WDRs, monitoring, and reporting requirements for each permitted facility.

Wastewater treatment facilities are listed below, along with any current enforcement actions (CVRWQCB 2014a):

- ▶ **City of Jackson Wastewater Treatment Plant.** Jackson is currently implementing a compliance project to respond to WDR violations.
- ▶ **Buena Vista Rancheria (NPDES permit is issued by EPA).**

- ▶ Jackson Rancheria (overseen by EPA under a Class V Underground Injection Control (UIC) permit).
- ▶ Amador City Wastewater Treatment and Export System.
- ▶ Gayla Manor Wastewater Treatment Facility
- ▶ Pine Grove Community Leachfield System.
- ▶ Wildwood Estates Community Leachfield System.
- ▶ Lake Camanche Village Wastewater Treatment Plant. Central Valley RWQCB issued an Administrative Civil Liability Order in January 2006.
- ▶ Fairway Pines/Mace Meadow Community Leachfield Systems
- ▶ Buckhorn Water Treatment Plant and Reuse Site.
- ▶ Mule Creek State Prison Wastewater Treatment Plan. Central Valley RWQCB issued an Administrative Civil Liability Order in August 2007.
- ▶ City of Ione Wastewater Treatment Plant. Central Valley RWQCB issued a series of Cease and Desist orders, and the City has proposed actions to address violations.
- ▶ City of Plymouth Wastewater Treatment Facility.
- ▶ City of Sutter Creek Wastewater Treatment Facility.
- ▶ Camanche North Shore Wastewater Treatment Plant.
- ▶ Pardee Reservoir Recreational Area Water Treatment Plant
- ▶ The Oaks Community Association Treatment Facility.
- ▶ Villa Toscano Winery Treatment Facility.

NPDES Municipal Storm Water Permitting Program

The SWRCB's Municipal Storm Water Permitting Program regulates stormwater discharges from MS4s. MS4 permits are issued in two phases:

Under Phase I, which started in 1990, the RWQCBs have adopted NPDES stormwater permits for medium and large municipalities (serving 100,000–250,000 people and 250,000 or more people, respectively). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area.

As part of Phase II, the SWRCB adopted the General Permit for the Discharge of Storm Water from small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities. Amador County is subject to the requirements of Phase II of the NPDES stormwater permit regulations, which became effective in March 2003 and required NPDES permits be issued for construction activity for projects that disturb between one and five acres. The MS4 permits require the discharger to develop and implement a stormwater management plan/program with the goal of reducing the discharge of pollutants to the maximum extent practicable. "Maximum extent practicable" is the performance standard specified in Section 402(p) of the CWA. Landowners are responsible for applying for coverage under the permit and complying with permit requirements, but may delegate specific duties to developers and contractors by mutual consent. Permit applicants are required to prepare and

implement a SWPPP which describes the site; erosion and sediment controls; means of waste disposal; implementation of local plans; control of post-construction sediment and erosion control measures and maintenance responsibilities; and non-stormwater management control.

The management programs specify what BMPs will be used to address certain program areas—namely, public education and outreach, detection and elimination of illicit discharges, construction and postconstruction, and municipal operations. In general, medium and large municipalities are required to conduct water quality monitoring, and small municipalities are not.

Irrigated Lands Regulatory Program

Water discharges from agricultural operations in California include irrigation runoff, flows from tile drains, and stormwater runoff. These discharges can affect water quality by transporting pollutants, including pesticides, sediment, nutrients, salts (including selenium and boron), pathogens, and heavy metals, from cultivated fields into surface waters. Many surface water bodies are impaired because of pollutants from agricultural sources. Groundwater bodies have suffered pesticide, nitrate, and salt contamination.

To prevent agricultural discharges from impairing the waters that receive these discharges, the Irrigated Lands Regulatory Program (ILRP) was initiated in 2003 and regulates discharges from irrigated agricultural lands. The Central Valley RWQCB has adopted WDRs for discharges from irrigated lands to protect both surface water and groundwater throughout the Central Valley (CVRWQCB, 2014). The WDRs replace the interim regulatory requirements under a Conditional Waiver of Waste Discharge Requirements. Under the ILRP, the Central Valley RWQCB issues WDRs or conditional waivers of WDRs (Orders) to growers. These orders contain conditions requiring water quality monitoring of receiving waters and corrective actions when impairments are found.

All commercial irrigated lands, including nurseries and managed wetlands, are required to obtain regulatory coverage from the Central Valley RWQCB. Regulatory coverage is not required if a property is not used for commercial purposes, or if commercial irrigated lands are covered under the dairy program. Options for regulatory coverage include joining a coalition group (e.g., Order R5-2014-0029 includes a portion of Amador County), obtaining coverage as an individual grower under general WDRs (Order R5-2013-0100), or obtaining an individual permit. The coalition groups work directly with their member growers to assist in complying with requirements by conducting monitoring and preparing regional plans to address water quality problems (CVRWQCB 2014b).

Mining Program

The Central Valley RWQCB's Mining Program includes adoption of policies, standards, and regulations for discharges of mining waste that are intended to ensure compliance with surface water and groundwater protection and monitoring requirements of the California Health and Safety Code (Chapter 6.5, Division 20, Article 9.5) and U.S Code Title 42 (Chapter 82, Section 6941) related to discharges of mining waste.

The Mining Program oversees the discharge to land of mining waste from active and inactive mines. Some of this waste should not be discharged directly to the ground surface because of the contaminants contained in the waste stream that could impair surface and groundwater. Discharges from active mines are regulated through the issuance of WDRs that usually regulate all surface impoundments, tailing ponds, and waste piles or overburden waste rock dumps. The regulations applicable to these discharges are found in California Code of Regulations Title 27, which apply to discharges of solid waste and designated liquid waste, used for regulation of surface impoundments, waste piles, land treatment units, and mines. These regulations have both prescriptive and performance standards for waste containment, monitoring, and closure. (CVRWQCB 2014c.)

California Surface Mining and Reclamation Act

The California Surface Mining and Reclamation Act (SMARA) (Public Resources Code [PRC] Section 2710 et seq.) was enacted by the California Legislature in 1975 to regulate activities related to mineral resource extraction. The act requires the prevention of adverse environmental effects caused by mining, the reclamation of mined lands for alternative land uses, and the elimination of hazards to public health and safety from the effects of mining activities. At the same time, SMARA encourages both the conservation and the production of extractive mineral resources, requiring the State Geologist to identify and attach levels of significance to the state's varied extractive resource deposits. Under SMARA, the mining industry in California must plan adequately for the reclamation of mined sites for beneficial uses and provide financial assurances to guarantee that the approved reclamation will actually be implemented. The requirements of SMARA must be implemented by the local lead agency with permitting responsibility for the proposed mining project.

Recycled Wastewater Requirements

Wastewater recycling in California is regulated under Title 22, Division 4 of the California Code of Regulations under the jurisdiction of CDPH. The intent of these regulations is to ensure protection of public health associated with the use of recycled water. Title 22 regulations establish acceptable levels of constituents in recycled water for a range of uses and stipulate means for ensuring reliability in the production of recycled water. Recycled water is commonly utilized for non-potable uses throughout the state and is an effective means of maximizing use of water resources in water-short communities. CDPH has jurisdiction over the distribution of recycled wastewater and the enforcement of Title 22 regulations. The RWQCB is responsible for issuing waste discharge requirements (including discharge prohibitions, monitoring, and reporting programs). The RWQCB is also responsible for user re-use requirements associated with the implementation of wastewater reclamation projects. Title 17, Division 1 of the California Code of Regulations establishes requirements for protection of potable water systems where there is a potential for cross-contamination with recycled water.

Title 22 Standards

Water quality standards are enforceable limits composed of two parts: (1) the designated beneficial uses of water and (2) criteria (i.e., numeric or narrative limits) to protect those beneficial uses. Municipal and domestic supply is among the "beneficial uses" as defined in Section 13050(f) of the Porter-Cologne Act, which defines them as uses of surface water and groundwater that must be protected against water quality degradation. Maximum contaminant levels, MCLs, are components of the drinking water standards adopted by CDPH pursuant to the California Safe Drinking Water Act. California MCLs may be found in Title 22 of the California Code of Regulations (CCR), Division 4, Chapter 15, Domestic Water Quality and Monitoring. CDPH is responsible for Title 22 of the CCR (Article 16, Section 64449) as well, which also defines secondary drinking water standards, established primarily for reasons of consumer acceptance (i.e., taste) rather than because of health issues.

Drinking water MCLs are directly applicable to water supply systems "at the tap," i.e. at the point of use by consumers in their home, office, etc., and are enforceable by CDPH and Amador County Environmental Health Department. California MCLs, both Primary and Secondary, are directly applicable to groundwater and surface water resources when they are specifically referenced as water quality objectives in the pertinent Basin Plan. In such cases, MCLs become enforceable limits by the State and Regional Water Boards. Regional Water Boards may also apply more stringent limits to protect all beneficial uses. When fully health protective, MCLs may also be used to interpret narrative water quality objectives prohibiting toxicity to humans in water designated as a source of drinking water in the Basin Plan.

California Department of Water Resources

The California Department of Water Resources (DWR) is responsible for preparation of the California Water Plan, management of the State Water Project (SWP), regulation of dams, provision of flood protection, and other

functions related to surface water and groundwater resources. These other functions include helping water agencies prepare their UWMPs, which are discussed in Section 4.13 “Public Services and Utilities.”

Assembly Bill 162 of 2007

Assembly Bill 162 (AB 162) requires additional consideration of flood risk in local land use planning throughout California. For Amador County, General Plan requirements include:

- ▶ The Land Use Element must identify those areas that are subject to flooding, and provide for annual review
- ▶ The Land Use Element must consider the location of resources that are used for groundwater recharge and stormwater management
- ▶ The Safety Element must identify flood hazard information; and establish goals, policies, objectives, and feasible implementation measures to protect communities from unreasonable risks of flooding.
- ▶ Under AB 162, the County may not approve a development agreement or permits for projects that would place residences in a flood hazard zone unless flood protection for the area has been demonstrated.

Central Valley Flood Protection Plan

In June 2012, DWR adopted the Central Valley Flood Protection Plan (CVFPP), as required by SB 5, the Central Valley Flood Protection Act of 2008 (California Water Code, Section 9600 et seq.). The CVFPP is intended to provide a foundation for prioritizing Central Valley flood risk reduction and ecosystem restoration investments, including feasibility studies on appropriate scales. Cities and counties in the Sacramento-San Joaquin Valley are required to amend their general plans to be consistent with applicable provisions of the CVFPP by July 2, 2015, and to amend their zoning ordinances to be consistent with these amendments within 12 months of adopting the general plan amendments. (Government Code Section 64302.9)

Amador County contains lands that are subject to flooding under the current facilities and operations of the Sacramento-San Joaquin River Flood Management System (lands along the Cosumnes and Mokelumne rivers). However, there are no areas protected by levees subject to the State Plan of Flood Control, and the CVFPP does not identify new flood control structures or changes in Amador County.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Integrated Regional Water Management Plan

As a result of the passage in 2002 of Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act, Integrated Regional Water Management Plans (IRWMPs) were authorized for regional management of water resources in at least four main areas: water supply, groundwater management, ecosystem restoration, and water quality. Projects and programs included in the IRWMP are designed to integrate multiple strategies and projects in order to provide multiple benefits both locally and regionally. These Benefits include:

- ▶ support and improvement of local and regional water supply reliability,
- ▶ contribution to the long-term attainment and maintenance of water quality standards,
- ▶ elimination or significant reduction of pollution in impaired waters and sensitive habitat areas,
- ▶ implementation of safe drinking water and water quality projects that serve disadvantaged communities, and
- ▶ implementation of groundwater management and recharge projects.

Although not a regulatory program per se, the IRWMP prepared for the Mokelumne, Amador and Calaveras County region is consistent with State guidelines, priorities and objectives for regional planning, and reflects the local resources and environment as contained in California Water Code (CWC) §79570 et seq., and additionally

serves as a basis for a longer-term process that exceeds the minimum requirements of that section. Formation of the IRWM region which includes Amador County was based on a cooperative effort by Amador Water Agency (AWA), Calaveras County Water District (CCWD), Amador County, City of Jackson, City of Sutter Creek, City of Plymouth, Amador Regional Sanitation Authority (ARSA), and East Bay Municipal Utility District (EBMUD). These agencies entered into a Memorandum of Understanding (MOU) for the purpose of coordinating water resources planning and implementation activities associated with the IRWMP (MAC IRWMP 2006).

An overall goal of the MAC IRWMP is to sustain the quantity and quality of groundwater in the County. MAC IRWMP projects with groundwater management elements affecting the County are: the Inter-Regional Conjunctive Use Project, Lake Camanche Wastewater Improvement Program, AWA Leak Testing and Repair Program, AWA Plymouth Pipeline Improvement Project, AWA River Pines Water and Wastewater Improvements, South Shore Camanche Regional Water Treatment Plant Project, and the Upper Mokelumne River Watershed Management Plan. The plans will implement conjunctive use (i.e., utilization of more groundwater in dry years when less surface water is available, and more surface water in wet years when supplies are plentiful and aquifers recharge); perennial yield (i.e., the sustainable rate at which groundwater can be withdrawn from a basin by pumping without lowering water levels); and avoidance of overdraft (i.e., pumping groundwater from a basin at a rate that exceeds recharge and perennial yield, thereby lowering water levels).

Amador County Office of Emergency Services

The Amador County Sheriff's Office of Emergency Services (OES) is charged with providing the necessary planning, coordination, response support and communications with all agencies affected by large scale emergencies or disasters including flooding as a result of dam or levee failure. OES works in a cooperative effort with other governmental jurisdictions within the County, disciplines such as law enforcement, fire, and emergency medical services, state and federal agencies, utilities, private industry and volunteer groups in order to provide a coordinated response to disasters. The Emergency Services Coordinator also manages the County Emergency Operations Center (EOC) which becomes the single focal point in any disaster for centralized management and coordination of emergency response and recovery operations during a disaster or emergency affecting the Amador Operational Area. The EOC is activated when an emergency situation occurs that exceeds local capabilities to adequately respond to and mitigate the incident. The County has adopted the Standardized Emergency Management System (SEMS) for responding to large scale disasters requiring a multi-agency and multi-jurisdictional response (Amador County 2009a).

SEMS, developed for managing multi-agency and multi-jurisdictional responses to emergencies in California, provides effective management of emergencies by unifying all elements of California's emergency management community into a single integrated system and standardizing key elements of the emergency management system. The use of SEMS is required for state agencies and as a condition to local government agencies seeking eligibility for state funding of response-related personnel cost. The Amador County Emergency Services Coordinator serves as the Operational Area Coordinator.

Amador County Water Quality Regulations

Title 15 of the County Code ("Buildings and Construction") describes the County's regulations, provisions, and ordinances for floodplain management, standards for erosion control during and post construction, and enforcement. Chapter 15.16 ("Floodplain Management Regulations") includes the County's adopted methods and provisions for restricting or prohibiting land uses in flood zones and mudflow prone areas; performance standards to ensure the containment and/or conveyance of the 100-year storm without inundating or damaging any structure or increasing flood levels; controlling the alteration of natural floodplains, stream channels, and other natural features that help accommodate or channel flood waters; and filling, grading or other development that could impede, increase, or redirect flood flows. Chapter 15.40 ("Erosion Control Ordinance") sets forth the County's rules and regulations for review and permitting of excavation, grading, and earthwork construction, including fills and cuts, embankments and impoundment structures are required to be reviewed and permitted. This chapter

establishes an administrative procedure for the issuance of required permits involving excavation, the approval of plans and inspection of all permitted excavation, and the establishment of measures to control erosion and other adverse impacts of excavation (i.e. erosion control measures). Chapter 17.48 sets forth standards for drainage facilities, and Section 17.90.120 “Drainage Standards” for streets and roads. All building permits are required to include erosion control measures as part of the building permit (Ord. 1619 §2(part), 2005). The County’s Public Works Department has jurisdiction over the permitting, inspecting, and enforcing of erosion control measures and grading permits (Ord. 1619 §2(part), 2005).

Section 15.16.200 “Floodways” contains performance standards such that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge and flood damage shall be minimized.

Chapter 14.12.090 (“General Criteria for Sewage Permit Issuance”) sets performance standards that must be met by On-site Wastewater Treatment Systems (OWTS) and supplemental systems, including types of systems permitted, distance between point of OWTS discharge and groundwater and minimum depth of earthen material, and surface application and percolation rates. The County’s Environmental Health Department conducts or oversees evaluations of the site and soil to determine the best design for a septic system to assure proper disposal of sewage. Pursuant to the County Code, the County health officer “shall not issue a sewage permit if the means or proposed means for the discharge will permit:

- ▶ The escape of any noxious odors, vapors or gases;
- ▶ Ingress or egress of flies, rodents, or other insects or animals;
- ▶ The sewage to empty, flow, seep, drain, or otherwise enter and pollute any stream, river, lake, groundwater, or other waters that may be used or suitable for use for domestic or agricultural purposes; or
- ▶ Discharge of the sewage on the surface of the ground (Ord. 1073 §2(part), 1985).”

Chapter 14.12.100 establishes criteria for conventional OWTS. Sites not complying with criteria for conventional systems are subject to design guidelines established by the County’s Environmental Health Department.

Amador County Surface Mining and Reclamation Ordinance

Amador County Municipal Code Chapter 7.36 governs surface mining and reclamation. "Reclamation" means the combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations, including adverse surface effects incidental to underground mines, so that mined lands are reclaimed to a usable condition which is readily adaptable for alternate land uses and create no danger to public health or safety. Section 7.36.130 requires the mining operator to prepare a reclamation plan subject to County approval. Among other requirements, the reclamation plan must contain a description of the manner in which reclamation will be accomplished, including:

- ▶ A description of the manner in which contaminants will be controlled, and mining waste will be disposed;
- ▶ A description of the manner in which rehabilitation of affected streambed channels and streambanks to a condition minimizing erosion and sedimentation will occur; and
- ▶ A description of the reclamation methods and procedures and how each meets or exceeds the respective reclamation standards regulations adopted by the state Mining and Geology Board in accordance with PRC Section 2773, otherwise known as the Reclamation Standards, CCR Section 3700 et seq.

Amador County Erosion Control Ordinance

Amador County Municipal Code Chapter 15.40 regulates excavation, grading, and earthwork construction, including fills and cuts, embankments, and impoundment structures. Erosion control measures are required, and for excavations involving 5,000 cubic yards or more, a grading plan must also be prepared by an engineer. BMPs for use in erosion control are described in the *Amador County Guidelines for Grading and Erosion Control* (Amador County Department of Transportation and Public Works 2010).

Sacramento-Amador Water Quality Coalition (SAWQA)

The Amador County Resource Conservation District (RCD) works in cooperation with the Lower Cosumnes RCD to coordinate the Sacramento-Amador Water Quality Coalition (SAWQA). SAWQA is one of 10 sub-watershed groups of the larger Sacramento Valley Water Quality Coalition (SVWQC). The SAWQA and other sub-watershed groups operate under a Memorandum of Understanding (MOA) to meet the requirements of the Central Valley Regional Water Quality Control Board's Irrigated Lands Regulatory Program (ILRP) (Amador RCD 2015).

4.9.2 ENVIRONMENTAL SETTING

REGIONAL SETTING

Amador County, located approximately 30 miles southeast of Sacramento on the western slope of the Sierra Nevada, is situated in a transitional zone between the San Joaquin Valley and the Sierra Nevada range and can be divided into two distinct physical regions, the forested “upcountry” to the east and the lower foothills to the west. The upcountry is generally steep and rugged, and the foothills are typically rolling hills, oak, and grassland habitat. Elevation ranges from 250 feet in the low foothills to over 9,000 feet in the Sierra Nevada peaks on the County’s eastern boundary. Temperature and precipitation vary greatly between these regions. The Sierra Nevada foothill areas experience hot, dry summers and mild winters, with temperature ranging from the middle 30s to the high 90s degrees Fahrenheit. The higher elevations (approximately 5,000 feet and above) experience long and severe winters with heavy snowfall. The mountainous eastern region of the County is characterized by mild summers and cold winters with temperatures ranging from the low 20s to the middle 80s (MAC IRWMP 2006:3-1).

The primary sources of water in the County are the Upper Mokelumne and, to a lesser extent, the Upper Cosumnes River watersheds, and the South Fork American River watershed in the far northeast around the Kirkwood area, with snowmelt and rainfall from the Sierra transported via the rivers and their tributaries. In Amador County, only 2% of the public domestic or treated water supply is from groundwater and 98% of the total supply is from the Mokelumne River (MAC IRWMP 2006:3-23). These surface water features are identified in Exhibit 4.9-1.

HYDROLOGY

Surface Water

Amador County encompasses multiple rivers, streams, creeks, and associated watersheds. The County is situated in a region that dramatically drops in elevation from the Sierra Nevada Mountains in the east to the central and western portions, where excess rain or snow can contribute to downstream flooding. The Cosumnes and Mokelumne Rivers, which border the planning area to the north and south, respectively, are both tributary to the San Joaquin River. The North Fork Mokelumne River originates in the Sierra Nevada and flows west to its confluence with the San Joaquin River in the Central Valley. With a watershed encompassing approximately 660 square miles, the annual average runoff of the Mokelumne River at Pardee Reservoir is 753,000 acre-feet, with the majority of flow derived from snowmelt. Annual precipitation and streamflow in the Mokelumne River is

extremely variable both month to month and year to year. Stream flow is modified by upstream diversions and regulated by reservoir storage operations for hydroelectric power generation and water supply. The Mokelumne River watershed is typically subdivided into the Upper Mokelumne River Watershed, extending from its upper reaches in eastern Alpine County to the southwestern side of Pardee Reservoir, and the Lower Mokelumne River watershed, extending from its shared boundary with the upper watershed, southwest through the river's confluence with the Cosumnes River (MAC IRWMP 2006:3-3).

The Cosumnes River forms the northern boundary of the western portion of Amador County. The South and Middle Forks of the River converge into the main stem of the Cosumnes River near State Highway 49. The Cosumnes passes through southern Sacramento County in the Sacramento Valley, joining with the Mokelumne River in San Joaquin County and emptying into the Sacramento-San Joaquin Delta.

Other significant rivers or streams in the western foothills region include Sutter Creek and Jackson Creek. With headwaters near Pine Grove, Sutter Creek flows through the cities of Sutter Creek and Ione. West of Ione, below Lake Camanche, Sutter Creek flows into Dry Creek which eventually discharges to the Mokelumne River. The cities of Sutter Creek and Ione both operate wastewater treatment plants adjacent to Sutter Creek. Jackson Creek, with headwaters east of the community of Pioneer, flows through the City of Jackson, west through Jackson Valley and into Dry Creek. The City of Jackson wastewater treatment plant is located adjacent to Jackson Creek and discharges into that water body. Significant rivers or streams east towards the upland County area are Tiger Creek, Panther Creek, Bear River, and Cole Creek.

Lake Amador (also known as Jackson Valley Reservoir) is an impoundment on Jackson Creek located southwest of Jackson, downstream of that community's wastewater treatment plant discharge and east of the community of Buena Vista. The spillway elevation of Lake Amador is approximately 500 feet. Lake Amador serves as an irrigation water supply for the Jackson Valley area and is managed by the Jackson Valley Irrigation District. Jackson Creek flows out of Lake Amador and eventually into Dry Creek which joins the Mokelumne River to the west.

Construction of Pardee Dam (1929) and Camanche Dam (1963) on the Mokelumne River created Pardee and Camanche Reservoirs, respectively. These are the Jackson Valley Irrigation District's primary water sources. Pardee Reservoir is upstream of Camanche Reservoir and several hundred feet higher in elevation. The reservoir extends upriver from Pardee Dam Road to near Middle Bar Road, located approximately 2 miles west of SR 49. Pardee Reservoir provides water directly to the EBMUD water treatment and distribution system.

The Mokelumne River flows into Pardee Reservoir and subsequently, Camanche Reservoir. Both reservoirs are located along the southwestern boundary of Amador County. With a spillway crest elevation of 568 feet, Pardee Reservoir, created by construction of Pardee Dam in 1929, serves as the primary water supply for EBMUD. The 28.65-megawatt Pardee Powerhouse is located at the base of the dam. Camanche Reservoir, created by construction of Camanche Dam in 1963, is located downstream of Pardee Reservoir and several hundred feet lower in elevation. Camanche Reservoir is operated jointly with Pardee Reservoir, storing water for irrigation and stream-flow regulation, providing flood protection, fisheries habitat management, storing water to meet the demands of downstream water rights holders, and also used for a significant amount of recreation. Recreational use on Pardee Reservoir is limited to non-body contact use, and other restrictions are also imposed. Camanche Reservoir is a multi-purpose facility. It regulates river flows for down-river water supply, flood control, and fisheries habitat management. Camanche Reservoir is where most water-oriented recreation occurs. Unlike the upper water supply reservoir, contact recreational use is permitted on Camanche Reservoir. (EBMUD 2008:6)

PG&E operates several reservoirs in the eastern upland area of the County. Bear River Reservoir is an impoundment of the Bear River, a tributary to the Mokelumne River. The Lower Bear River Dam is 253 feet high, and the reservoir stores 48,750 acre feet of water, which is used for irrigation, domestic water supply, and power generation. Salt Springs Reservoir is an impoundment of the North Fork Mokelumne River. The Salt Springs Dam, 332 feet high, impounds the North Fork Mokelumne River. Storage capacity for Salt Springs

Reservoir, utilized for power generation, is 141,900 acre feet. Silver Lake, in the northeast portion of the County approximately 3.5 miles southwest of Kirkwood, is a tributary of the Silver Fork of the South Fork American River. It is a water storage reservoir with a capacity of 8,590 acre feet. (Amador County 2007:WQ-26.)

Flood and Dam Inundation Zones

Flood Zone areas in Amador County are shown in Exhibit 4.9-1. The planning area has three basic types of potential flood hazards: stream-side overbank flows, slow surface drainage from areas of flat terrain, and inundation due to structural dam failure. Documented flooding in the past has caused the following general damages and impacts to areas within Amador County:

- ▶ Property Damage: Extensive water damage to building contents.
- ▶ Structural Damage: Structural damage to residential and commercial buildings, as well as sewer system pipes/infrastructure.
- ▶ Business/Economic Impact: Some businesses must close for a period of time after flooding.
- ▶ Road/School/Other Closures: Bridges routinely close during high-water periods and floods.

There is no substantial evidence to suggest that dam failure is likely, and implementation of the Draft General Plan would do nothing to increase the potential for dam failure. Dam Inundation Mapping Procedures (Title 19, Sec 2575), are required by the California Governor’s OES for all dams where human life is potentially endangered by dam flooding inundation. Dam owners are responsible for obtaining recent hydrologic, meteorological, and topological data as well as land surveys denoting the flood plain, to be utilized for the preparation of a dam inundation map.

Groundwater

The groundwater aquifers and basins in most of Amador County are not well defined. The majority of available groundwater is transient and found in fractured rock. A small portion of the eastern edge of the San Joaquin Valley Groundwater Basin, Subbasin Cosumnes (Subbasin number 5-22.16), is found in the southwestern portion of Amador County, extending as far east as Ione. The groundwater level in the Cosumnes Subbasin has risen and fallen in parallel to the available surface water supply over the past 25 years. Table 4.9-2 summarizes the rise and fall of the groundwater levels. The groundwater storage capacity is estimated to be about 6,000,000 acre-feet (AF) with an average specific yield of 7.4 percent of that capacity. Basin inflows are estimated to be about 269,500 acre-feet per year (AFY) (DWR 2006).

Table 4.9-2 Historic Groundwater Levels in Cosumnes Subbasin		
Time Period	Change in Level	Change From Reference Level^a
Mid-1960s	0	0
Mid-1960s–1980	-20 to -30 feet	-20 to -30 feet
1980–1986	5 to 10 feet	-10 to -25 feet
1987–1992	-10 to -15 feet	-20 to -40 feet
1993–2000	15 to 20 feet	-5 to -20 feet

Note: ^a Reference level is taken to be the groundwater level during the mid-1960s.
Source: AWA UWMP, 2011

Typical groundwater inflow sources include:

- ▶ natural recharge from precipitation;
- ▶ recharge from surface water channels;
- ▶ intentional recharge via ponds, ditches, and injection wells and other groundwater recharge programs;
- ▶ recharge from percolation of water for agricultural and other irrigation uses;
- ▶ unintentional recharge from leaky conveyance pipelines; and
- ▶ subsurface inflows from outside groundwater basin boundaries.

Water leaves the subbasin through subsurface groundwater flows out of the basin, to surface waterbodies and springs, and by evaporation (144,600 AFY). Other outflows are groundwater extraction (i.e., pumping) for urban use (35,000 AFY), and for agricultural use (94,200 AFY). Based on this water balance, the subbasin is in overdraft by about 4,300 AFY. In other words, more water (4,300 AF) is leaving the groundwater basin than entering it on an annual basis.

The majority of the planning area is not in a defined groundwater basin. In the undefined region, where water is drawn from fractured bedrock, groundwater quantity and quality varies greatly from well site to well site due to the small and unpredictable yields of the fractured rock system that typifies the foothill geology.

WATER QUALITY

Surface and groundwater water quality in Amador County is generally good. The western portion of Amador County holds the majority of population and associated developed land uses, and therefore has the greatest potential for water quality problems. In the Sutter Creek watershed (encompassing more populated western foothill areas), Caltrans has identified several common contaminants from road runoff found in measurable quantities: Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Dissolved and Total Organic Carbon (DOC and TOC), nutrients (ammonia, nitrate, phosphorus, ortho-phosphate), and metals (arsenic, cadmium, chromium, copper, lead, nickel, and zinc). (Amador County 2007:WQ-28.)

Jackson Creek is currently the only water body in the western portion of Amador County receiving wastewater effluent discharge directly, from the city of Jackson’s wastewater treatment plant (WWTP). This treated wastewater also has the potential to affect water quality in the Mokelumne River, since Jackson Creek is a tributary to the Mokelumne.

The waterbodies listed under the CWA as impaired (i.e., on the 303(d) list) are shown in Table 4.9-3. Mercury has a higher priority for the establishment of TMDLs (described on page 3 above) than do copper and zinc, due to its greater potential for adversely affecting the beneficial uses of the waterbodies where it is found.

Water Body	Pollutant	Potential Historic and/or Ongoing Sources	Estimated Area Affected	Expected Development of TMDL
Cosumnes River	Invasive Species	Unknown	53 Miles	2019
Camanche Reservoir	Copper, Mercury, and Zinc	Historical Resource Extraction	7,389 acres	2020, 2021
Lower Bear River Reservoir	Copper	Resource Extraction	725 acres	2021
Note: TMDL = total maximum daily load Source: USEPA 2010				

Copper and zinc, while essential in the diet as nutrients, are toxic at high exposures. Exotic species are plants, animals, or disease agents that are not native to an ecosystem (i.e., waterway), and which can cause effects to native species including predation, out-reproducing, or modification of the food web. This can result in non-attainment of water quality standards for beneficial uses including freshwater habitat and wildlife habitat.

4.9.3 IMPACTS AND MITIGATION MEASURES

ANALYSIS METHODOLOGY

This section addresses hydrology and water quality effects that would result from the adoption and implementation of the Draft General Plan. The impact analysis is based on evaluation of conditions in the County based on available information from local, state, and federal sources.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, a hydrology and water quality impact is considered significant if implementation of the Draft General Plan would do any of the following:

- ▶ violate any water quality standards or waste discharge requirements;
- ▶ substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- ▶ substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation, or result in increased on- or off-site flooding or siltation;
- ▶ create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- ▶ otherwise substantially degrade water quality;
- ▶ place housing within a flood hazard area;
- ▶ expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- ▶ result in inundation by seiche, tsunami, or mudflow.

For purposes of this analysis, “flood hazard area” means an area that does not meet the minimum level of flood protection required by state or federal law, whichever is more stringent. The applicable standard is governed by SB 5, namely, either 200-year protection or “adequate progress” towards meeting the 200-year protection standard by 2025.

The project site is located in an area not subject to tsunami. Mudflows and seiche are discussed in Chapter 4.6, “Geology, Soils, and Mineral and Paleontological Resources.”

IMPACT ANALYSIS

IMPACT 4.9-1 ***Violation of Water Quality Standards or Waste Discharge Requirements, or Otherwise Substantially Degrade Water Quality.*** *Implementation of the Draft General Plan would result in new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. An increase in the amount of impervious surfaces (e.g., rooftops, sidewalks) as a result of implementation of the Draft General Plan would result in higher rates of runoff during rain events. Surface runoff from impervious surfaces can be a source of surface water pollution. ~~This new development would result in additional discharges of pollutants to receiving water bodies from point and nonpoint sources. Such pollutants could result in adverse changes to the water quality of local water bodies.~~ This impact would be **significant**.*

As described below, implementation of the Draft General Plan could result in additional water pollutant discharges from surface runoff, construction activities, on-site wastewater treatment systems, mining activities, agricultural activities, and municipal and industrial point sources. Some of these discharges could occur in the watersheds of the impaired water bodies listed in Table 4.9-3.

An increase in the amount of impervious surfaces (e.g., rooftops, sidewalks, driveways, streets, parking lots) as a result of implementation of the Draft General Plan would result in higher rates of runoff during rain events. Surface runoff from impervious surfaces can be a source of surface water pollution, and this nonpoint source impact would be significant. Sediment, organic contaminants, nutrients, trace metals, pathogens (e.g., bacteria and viruses), and oil and grease compounds are common urban runoff pollutants. Sources of these pollutants may be erosion from disturbed areas, deposition of atmospheric particles derived from automobiles or industrial sources, corrosion or decay of building materials, rainfall contact with toxic substances, and spills of toxic materials on surfaces that receive rainfall and generate runoff. New industrial and commercial development, including mining activities, can generate nonpoint source pollution from parking areas, as well as any open areas of hazardous materials storage exposed to rainfall, and point source pollution from waste discharge to surface or groundwater bodies.

Sediment sources include roads and parking lots, destabilized landscaped areas, streambanks, unprotected slopes, and denuded or disturbed areas. Sediments, in addition to being contaminants in their own right, transport other contaminants such as trace metals, nutrients, and hydrocarbons that adsorb to suspended sediment particles. Nutrients include nitrogen, phosphorus, and other organic compounds that can be found in organic litter, fertilizers, food waste, sewage, and sediment. Animal wastes, sanitary sewer overflow, and improperly sited or functioning septic systems can contribute bacteria and viruses either to surface waters or to groundwater through percolation. Sources of oil and grease compounds include motor vehicles, food service establishments, and fueling stations.

Construction activities associated with Draft General Plan implementation would occur throughout the planning area, and construction-related alteration of drainages could result in soil erosion and stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from construction sites, as contaminated runoff to on-site and ultimately off-site drainage channels. This is discussed in Impact 4.5-3 below.

OWTS, otherwise known as on-site septic tank and leach field systems, are commonly used in the areas of the County not served by municipal wastewater treatment systems. OWTS serve approximately 64% of the total housing units in the entire County (including areas within city limits that are not included in the planning area) according to a recent survey (Cal State Chico 2003). With development that could occur under the plan, the potential exists for contamination of groundwater and surface water resources from several factors: increased density of OWTS, placement near domestic wells, improperly designed or constructed systems, seasonal or year-round high water tables, or placement in areas with insufficient soil depths or improper soil types. Existing and new OWTS will conform to standards that protect the underlying groundwater and surface water. Chapter 14.12.090 “General Criteria for Sewage Permit Issuance” of the Amador County Code, described in “County and City Water Quality Policies” above, require that OWTS and supplemental systems be designed to function

effectively based on soil conditions at individual sites. These existing regulations set design guidelines and performance standards for OWTS and oversight by the County's Environmental Health Department of site and soil conditions prior to issuance of a sewage permit assures that impacts from OWTS's would be **less than significant**. In addition, the Draft General Plan includes Policy C-3.1 to guide future development to areas of the County with the ability to obtain adequate wastewater service and treatment capacity, and Policy C-3.4 to work with landowners and wastewater providers to provide alternative systems for inadequate or failing septic and sewer systems.

Discharges from mining activities could adversely affect both surface and groundwater quality as well as aquatic ecosystems. There are a number of types of water associated with mining operations and mine sites which have the potential for contamination, including surface or groundwater present at the mine site, water which has come into contact with any mine workings, water used to crush and grind ore, water used in the chemical extraction of metals, and process water which is discharged into surface water, often after being treated. Various chemicals used in the mining process (e.g., cyanide, sulphuric acid, organic chemicals), as well as the potentially damaging compounds and metals removed from the ground with the ore (e.g., dissolved minerals, metals), could result in both surface and groundwater contamination if not handled properly. Indirect groundwater degradation can also result from blasting, allowing for vertical leakage of ponded mine drainage to underlying aquifers. Mining discharges are regulated under Central Valley RWQCB's Mining Program (described in the "Regulatory Setting" above), which issues permits and WDRs to each individual mine operator depending on the proximity to streams and the type and amount of waste discharge. Mining Program regulations would assure impacts from mining discharges would be **less than significant** because they include both prescriptive and performance standards for waste containment, monitoring, and eventual closure. In addition, the Draft General Plan includes Policy C-4.2 to limit effects of mining activities on surface and groundwater.

Discharges from agricultural activities could adversely affect water quality through the discharge of nutrients, sediment, pathogens, pesticides, metals, and salts into surface waters, or through percolation to groundwater. At high enough concentrations, these pollutants can harm aquatic life or make water unusable for drinking water or agricultural uses. Rain water can carry exposed sediment and deposits into nearby lakes or streams. In addition, other pollutants like fertilizers, pesticides, and heavy metals are often attached to the soil particles and wash into water bodies, causing algal blooms and depleted oxygen (EPA 2005). Agricultural activities are regulated under Central Valley RWQCB's ILRP (described in the "Regulatory Setting" above). Central Valley RWQCB issues WDRs or conditional waivers of WDRs (Orders) to growers. All commercial irrigated lands, including nurseries and managed wetlands, are required to obtain regulatory coverage from Central Valley RWQCB. The ILRP would assure impacts from agricultural discharges would be **less than significant** because associated WDRs contain requirements for implementation of water quality management practices including maintenance of such systems; specific prohibitions for discharges; receiving water limits for both surface and groundwaters; conditions requiring water quality monitoring of receiving waters; and corrective actions when impairments are found. In addition, the Draft General Plan includes Policy C-4.3 to promote agricultural and development practices which limit soil erosion and runoff.

Finally, discharges from municipal and industrial point sources (such as wastewater treatment plants) could result in surface and groundwater contamination if effluent is discharged without appropriate treatment. Unregulated or improperly treated discharges from point sources could result in unsafe drinking water, could restrict recreational activities in receiving waters, and could negatively impact the aquatic environment. These point sources are regulated under Central Valley RWQCB NPDES permits and/or WDRs, which include requirements governing the types and amount of discharge and monitoring and reporting requirements specific to each permitted facility. NPDES permits and WDRs, and RWQCB enforcement of these permits, would assure impacts from municipal and industrial discharges would be **less than significant** because these permits set limits on the amount of pollutants that can be discharged to waterbodies through technology-based and/or water quality based effluent limits and monitoring is required to verify performance.

Regarding water quality impacts from municipal stormwater, the Draft General Plan includes policies (Policy C-4.1, C-5.1 and C-5.2) which support use of Low Impact Development (LID) practices. LID can be defined as “a stormwater management strategy that emphasizes conservation and use of existing natural site features integrated with distributed, small-scale stormwater controls to more closely mimic natural hydrologic patterns in residential, commercial, and industrial settings” (Sacramento Stormwater Quality Partnership 2007). Several technical studies have been conducted regarding the impacts of these water quality control features on surface water (e.g., Preliminary Data Summary of Urban Storm Water Best Management Practices [EPA 1999]; Truckee River Basin Stormwater Management Program [County of Placer 2007]) and groundwater (e.g., California Storm Water Best Management Practices Handbook prepared by the Stormwater Quality Task Force [CASQA 2003]). These studies have shown that water quality control features that would be incorporated into the Draft General Plan —such as revegetation, erosion control measures, detention and infiltration basins, and LID features—have been successful in controlling water quality and avoiding water quality impacts (metals and organic compounds associated with stormwater are typically lost within the first few feet of the soil of the retention basins associated with groundwater). Technical studies associated with the Truckee River Basin Stormwater Management Program demonstrated that the use of a variety of BMPs such as source control, detention basins, revegetation and erosion control, have been able to maintain surface water quality conditions in adjacent receiving waters.

Although the goals and policies of the Draft General Plan include LID and other stormwater management and pollution prevention practices, implementation requirements are not specified and cannot be relied upon to reduce impacts below the level of significance. Therefore, this impact would be **significant**.

Mitigation Measure 4.9-1a: Implement Program P-5b, Stormwater Management

- a. Develop a recommended menu of best management practices (BMPs) to limit soil erosion and runoff from residential, commercial, mining, industrial and hazardous materials sites, which may include (but are not limited to) reduced pavement cover, permeable pavement, and drainage features which increase infiltration and groundwater recharge. The County will require use of some or all of these measures as permit conditions to reduce or avoid adverse erosion, water quality, and hydrology effects, including potential effects on the lifespan of existing water storage facilities. The menu may include low-impact development practices (such as naturalized stormwater management techniques and climate appropriate landscaping) which should be reviewed as part of Program P-1(e).

Responsible Agencies/Departments: Transportation and Public Works Department, Building Department, Planning Department, Department of Agriculture

Time Frame: ~~December 2015~~ Within 12 months of adoption of General Plan

Mitigation Measure 4.9-1b: Implement Program P-5a, Stormwater Management

- a. The County will develop and implement a comprehensive stormwater management program. The objective of this program is to reduce adverse hydrology and water quality impacts by limiting the quantity and increasing the water quality of runoff flowing to the County’s streams and rivers.

This program will incorporate stormwater management programs for agricultural land that are developed and maintained within the Amador County Department of Agriculture and follow state agricultural guidelines.

Responsible Agencies/Departments: Transportation and Public Works Department, Building Department, Planning Department, and Department of Agriculture

Time Frame: ~~December 2015~~ Within 12 months of adoption of General Plan

Mitigation Measure 4.9-1c: Implement Program P-1e, Zoning Code and Development Regulations

- a. The County will review its design and improvement standards (in Chapter 17 of the Amador County Code), and modify codes and specifications as needed to provide for the use of low impact development techniques. The objective of these changes is to maintain the County's surface- and groundwater quality.

Responsible Agencies/Departments: Planning Department, Building Department, and Transportation and Public Works Department

Time Frame: ~~December 2015~~ Within 12 to 24 months of adoption of General Plan

Significance after Mitigation

Mitigation Measure 4.9-1a would include development of a menu of BMPs to be implemented by future projects under the Draft General Plan. Under Mitigation Measure 4.9-1b, implementation of a comprehensive stormwater management program and improvement of existing drainage and development of new infrastructure, when needed, would be protective of water quality. Mitigation Measure 4.9-1c would require that LID techniques be used for new development.

Implementation of Mitigation Measures 4.9-1a, 4.9-1b, and 4.9-1c, would reduce water quality effects from nonpoint sources to a **less-than-significant** level because appropriate BMPs and LID features would prevent violations of water quality standards or WDRs, or substantial degradation of water quality.

IMPACT 4.9-2 ***On-Site and Downstream Erosion, and Sedimentation.** Implementation of the Draft General Plan would result in new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. This would increase the amount of impervious surfaces, thereby increasing the total volume and peak discharge rate of stormwater runoff, potentially altering local drainage patterns and increasing watershed flow rates above the natural background level (i.e., peak flow rates). Increased peak flow rates may exacerbate erosion in overland flow and drainage swales and creeks, and result in downstream sedimentation. Sedimentation, in turn, could increase the rate of deposition in natural receiving waters and reduce conveyance capacities, resulting in an increased risk of flooding. Erosion of upstream areas and related downstream sedimentation typically leads to adverse changes to water quality and hydrology. This impact would be **significant**.*

Storm drainage and flood control are addressed in Amador County Code Chapter 15.16 "Floodplain Management Regulations", Chapter 15.40 "Erosion Control Ordinance", and Chapter 17.48 "Minimum Improvement Requirements" of the Amador County Code (see "County Water Quality Policies" section above). These design criteria, ordinances, and design standards would reduce downstream flooding and erosion because they contain elevation and flood proofing performance standards that would apply to projects under the Draft General Plan such that that flood levels would not increase and flood damage would be minimized during the occurrence of the base flood discharge; and performance standards insuring that the 100-year storm would be contained and/or conveyed without inundating or damaging any structure or increasing flood levels.

The Amador County Code includes requirements to restrict or prohibit developed uses in flood zones; control the alteration of natural floodplains, stream channels, and other natural features that help accommodate or channel flood waters; and filling, grading or other development that could impede, increase, or redirect flood flows.

Adoption and implementation of the proposed policies of the Draft General Plan (Policies C-2.6, C-4.1, C-4.3, C-5.1, and C-5.2) would result in the incorporation of LID standards and other BMPs into the County's development ordinances that lessen the potential for erosion and sedimentation; however implementation requirements are not specified and cannot be relied upon to reduce impacts below the level of significance. Therefore, this impact would be **significant**.

Mitigation Measure: Implement Mitigation Measure 4.9-1a.

Mitigation Measure 4.9-2: Implement Program P-1c, Zoning Code and Development Regulations

- a. The County will adopt development regulations with the objective of reducing the potential for erosion and landslides. These regulations include requirements to avoid locating development on a geologic unit or soil that is unstable or would become unstable as a result of the project. The regulations will also include site grading standards to avoid making unstable slopes steeper.

Responsible Agencies/Departments: Planning Department, Building Department, Transportation and Public Works Department, and Environmental Health Department

Time Frame: ~~December 2015~~ Within 12 to 24 months of adoption of General Plan

Significance after Mitigation

Implementation of ~~existing County grading, erosion, and flood control regulations in addition to~~ Mitigation Measures 4.9-1a and 4.9-2 would reduce this impact to a **less-than-significant** level because the LID standards and other BMPs would assure that implementation of the Draft General Plan would not result in substantial on- or off-site erosion or siltation, result in increased on- or off-site flooding or siltation, or exceed the capacity of stormwater drainage systems.

IMPACT 4.9-3 **Construction-Related Water Quality Effects.** *Construction and grading activities during development consistent with the Draft General Plan could result in soil erosion and stormwater discharges of suspended solids and increased turbidity. Such activities could mobilize other pollutants from project construction sites as contaminated runoff to on-site and ultimately off-site drainage channels. Many construction-related wastes have the potential to degrade existing water quality. Project construction activities that are implemented without mitigation could violate water quality standards or cause direct harm to aquatic organisms. This impact would be **significant**.*

Construction and grading activities during development consistent with the Draft General Plan could result in soil erosion and stormwater discharges of suspended solids and increased turbidity. Many construction-related wastes have the potential to degrade existing water quality by altering the dissolved-oxygen content, temperature, pH, suspended-sediment and turbidity levels, or nutrient content, or by causing toxic effects in the aquatic environment. Project construction activities that are implemented without proper safeguards could violate water quality standards or cause direct harm to aquatic organisms.

Localized erosion hazards are prone to occur where construction sites are sloped. Even in areas where construction sites are generally flat, intense rainfall and associated stormwater runoff could result in short periods of sheet erosion within areas of exposed or stockpiled soils. If uncontrolled, exposed soil materials could cause sedimentation and blockage of drainage channels. Further, the compaction of soils by heavy equipment may reduce the infiltration capacity of soils and increase the potential for runoff and erosion. Non-stormwater discharges could also result from activities such as construction dewatering procedures, and discharge or accidental spills of hazardous substances, such as fuels, oils, concrete, paints, solvents, cleaners, or other construction materials. This impact would be **significant**.

Mitigation Measure 4.9-3: Implement Program D-5, Stormwater Protection

- a. Prior to the approval of project construction and grading activities, project applicant(s) shall prepare a Stormwater Pollution Prevention Plan consistent with the statewide National Pollution Discharge and Elimination System stormwater permit for general construction activity. Project applicant(s) shall also prepare and submit the appropriate Notices of Intent and any other necessary engineering plans and

specifications for pollution prevention and control (including a Stormwater Pollution Prevention Plan) to Amador County and the Central Valley Regional Water Quality Control Board. Where practical, stormwater management requirements related to the County's comprehensive stormwater management program (described in Program P-5) may be incorporated into the SWPPP. The objective of this program is to reduce or avoid impacts related to stormwater pollution.

- b. Where required by law, best management practices (identified in the Stormwater Pollution Prevention Plan) shall be in place throughout all site work.
- c. All construction contractors shall retain a copy of the approved Stormwater Pollution Prevention Plan on the construction site, when required by law.

Responsible Agencies/Departments: Transportation and Public Works Department, Building Department

Time Frame: Ongoing

Significance after Mitigation

Implementation of Mitigation Measure 4.9-3 would substantially reduce this impact to a **less-than-significant** level because preparation and implementation of a SWPPP with appropriate BMPs such as source control, detention basins, revegetation and erosion control would be required, in order to conform with the SWRCB statewide NPDES stormwater permit for general construction activity, and any other necessary site-specific WDRs or waivers under ~~the Porter-Cologne Act (see "State Plans, Policies, Regulations, and Laws" above), as well as Amador County Department of Public Works Design Standards and Codes and Ordinances that regulate construction discharges (see "Regional And Local Plans, Policies, Regulations, And Ordinances" above)~~State or local regulations. This mitigation measure would assure that construction and grading activities would not violate water quality standards, otherwise substantially degrade water quality, or cause substantial harm to aquatic organisms.

IMPACT 4.9-4 ***Interference with Groundwater Recharge or Substantial Depletion of Groundwater Supplies.** Implementation of the Draft General Plan would result in new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. This new development would result in additional impervious surfaces and could reduce groundwater recharge and the yield of hydrologically connected wells. This impact would be **significant**.*

Implementation of the Draft General Plan would result in new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. This development would result in additional impervious surfaces and the diversion of groundwater to surface water through subsurface drainage features, additional domestic groundwater wells, or localized dewatering measures. As a result, groundwater recharge in the planning area would decline. Reductions in groundwater recharge in a given area could affect groundwater levels and the yield of hydrologically connected wells.

Although the southwestern portion of Amador County is within the Cosumnes Subbasin, the majority of the planning area is not in a defined groundwater basin. In the undefined region, where water is drawn from fractured bedrock, groundwater quantity and quality varies greatly from well site to well site due to the small and unpredictable yields of the fractured rock system that typifies the foothill geology.

Groundwater makes up approximately 3 percent of the Amador Water Agency's total public water supply and is only used in the communities of La Mel Heights and Lake Camanche Village (Amador Water Agency 2011:4-19). Although public water supply in Amador County is primarily from surface sources, the majority of housing units in the County outside of the AWA service area rely on individual groundwater wells not subject to groundwater management oversight. There is no county- or basin-wide coordinated groundwater management plan to safeguard against groundwater overdraft. Therefore this impact would be **significant**.

Mitigation Measure 4.9-4a: Implement Program F-2a, Future Water Supplies and Funding

- a. In consultation with the County’s water suppliers and local agencies, the County will identify and pursue alternative funding sources for projects that improve water resources and management in Amador County.

Responsible Agencies/Departments: ~~Board of Supervisors~~, Planning Department, in consultation with water suppliers

Time Frame: Ongoing, as requested by water suppliers

Mitigation Measure 4.9-4b: Implement Program P-3 a1-3 and b, Future Water Supply

- a. The County will provide input to water providers in their efforts to plan for coordinated response to future water demand, and future water supply emergencies, including needed capacity during wildfires, and droughts. These efforts would include integrated regional water management plans (addressing surface and groundwater resource, wastewater, stormwater treatment and use, development of reclaimed water, and flooding). These plans should include information on areas with water service capacity. The objective of this planning effort is to assure sufficient reliable water supplies are available to serve new projects, as well as existing and planned development. This planning effort will include:

- 1. Planning for adequate water supply and water treatment capacity to support future development.
- 2. Development and implementation of reasonable best management practices for water conservation. These may include (but are not limited to) use of graywater, reclaimed, or recycled water for irrigation, water-conserving plumbing fixtures, and low-water landscapes.
- 3. Development of water-use standards and regulations to limit demands during water supply emergencies and droughts.
- ~~4. Communicate to all appropriate federal elected officials, federal agencies and departments, that Federal Wild and Scenic, National Recreation Area, or similar designations of surface waters in or adjacent to the County would be incompatible with the long term water needs of Amador County.~~

- b. The County will consult with water suppliers as they pursue water and wastewater plans to develop adequate water supplies through expansion of surface water storage, conjunctive use of surface water and groundwater, water conservation, and water recycling.

Responsible Agencies/Departments: Planning Department, Transportation and Public Works Department, and Environmental Health Department

Time Frame: Ongoing; Urban Water Management Plans updated at 5-year intervals

Mitigation Measure 4.9-4c: Adequate Water Supply

- a. Where required by State law, the County shall prepare water supply assessments pursuant to the California Water Code (§10910-10915) at the applicants’ expense to analyze the ability of water supplies to meet the needs of regulated projects, The County shall not approve projects which cannot demonstrate an adequate water supply.

Responsible Agencies/Departments: Planning Department

Time Frame: Ongoing.

Mitigation Measure: Implement Mitigation Measure 4.9-1c : Implement Program P-1e, Zoning Code and Development Regulations.

- a. The County will review its design and improvement standards (in Chapter 17 of the Amador County Code), and modify codes and specifications as needed to provide for the use of low impact development techniques. The objective of these changes is to maintain the County’s surface- and groundwater quality.

Responsible Agencies/Departments: Planning Department, Building Department, and Transportation and Public Works Department

Time Frame: ~~December 2015~~ Within 12 to 24 months of adoption of General Plan

Significance after Mitigation

Implementation of Mitigation Measures 4.9-4a, 4.9-4b, 4.9-4c, and 4.9-1c would reduce the potential for impacts on groundwater levels, but not to a less-than-significant level because the Draft General Plan could still substantially deplete groundwater supplies and interfere substantially with groundwater recharge. These mitigation measures would require water conservation BMPs, standards, and regulations to limit demand in normal and drought years. Mitigation Measure 4.9-4c would require that any developments as a result of the Draft General Plan have adequate water supplies, both in the AWA service area and the fractured rock groundwater environments outside of the service area and DWR-defined groundwater basins in the western portion of the County under the auspices of the MAC IRWMP. Mitigation Measure 4.9-4b would also require that the County consult with water suppliers to insure adequate water supplies without depleting groundwater, would implement conjunctive use and other approaches to insure sustainable perennial yield and avoidance of overdraft to help ensure reliable groundwater levels, and would involve County support of groundwater studies and management plans by local and state agencies. Mitigation Measure 4.9-1c would require the use of LID techniques in new development, which would help to maintain the surface area available for recharge. However, since the majority of groundwater use in the planning area would continue to come from individual private wells, and data concerning groundwater yield is not consistently available, and no additional feasible mitigation is available to reduce this impact to a less-than-significant level, this impact would remain **significant and unavoidable.**

IMPACT 4.9-5 ***Exposure of People or Structures to Flood Hazards.** Implementation of the Draft General Plan would result in new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. This could result in the exposure of people or structures to flood hazards. This impact would be **significant.***

Low-lying areas located near streams and rivers, including Dry Creek, Sutter Creek, and Jackson Creek are subject to higher flood risk, the increased stormwater runoff caused by development under the Draft General Plan would increase these risks. Flood risk associated with dam failure is also a factor near rivers and streams. Developed uses are already present within the 100-year floodplain, particularly within incorporated areas of the county. Flood Zone areas in Amador County are shown in Exhibit 4.9-1. There are currently no 200-year flood zones defined for the County. Adoption and implementation of the proposed policies in the Draft General Plan (Policies S-1.1, S-1.2, S-1.3, and S-1.4) would require enforcement of and compliance with existing state and federal flood control regulations that would minimize the exposure of people or structures to flood hazards resulting from development under the Draft General Plan. Although these policies and programs include coordination and design that would ensure adequate drainage and detention of stormwater in the appropriate facilities, implementation requirements are not specified and cannot be relied upon to reduce impacts below the level of significance. Therefore, this impact is **significant.**

Mitigation Measure 4.9-5a: Implement Program P-4, Flood Planning

- a. In order to avoid or substantially reduce the risk that flooding poses to people and property, the County will conduct an annual review of the floodplain map shown in Figure S-1 of the Safety Element, comparing Figure S-1 to flood mapping available from state and federal agencies such as the Federal Emergency Management Agency and the Department of Water Resources. The purpose of this review is to ensure changes are noted and corresponding portions of the General Plan, including land use designations if necessary, are revised.
- b. The County will update flood protection policies and programs in the General Plan and applicable land use regulations (including the Zoning Code) to integrate data from the State Plan of Flood Control and the Central Valley Flood Protection Plan on an annual basis, if required, based on the annual review. For flood-related revisions to the Safety Element, the County will consult with relevant agencies serving the County, consistent with State law. Subsequent subdivision approvals, development agreements, permits, and other County entitlements will incorporate these revised policies and regulations.
- c. The General Plan's description of locations which may accommodate floodwater for groundwater recharge and stormwater management will be updated following subsequent annual reviews, as necessary.

Responsible Agencies/Departments: Planning Department, Transportation and Public Works Department, Building Department, and Office of Emergency Services

Time Frame: Annually, concurrent with General Plan report, or as specified

Mitigation Measure 4.9-5b: Implement Program P-1b, Zoning Code and Development Regulations

- a. The County will update development regulations to require on-site retention and detention of stormwater, with the objective of avoiding potential increases in downstream flood flows. The County will not regulate stormwater retention and detention to a greater degree than state or federal requirements, unless it is determined by the Board of Supervisors that a clear and overarching need exists.

Responsible Agencies/Departments: Planning Department, Building Department, and Transportation and Public Works Department

Time Frame: ~~Ongoing~~ Within 12 to 24 months of adoption of General Plan

Mitigation Measure 4.9-5c: Implement Program D-1a(11), Development Proposal Evaluation

- a. The County will review proposed projects for consistency with goals, policies, and implementation programs of this general plan.

Evaluation criteria for discretionary development proposals include:

- ▶ Proximity to and compatibility with flood prone areas. In order to substantially reduce or avoid flood hazards, no development (as defined in 15.16.050 of the Amador County Code) may be proposed in floodways, and floodproofing must be adequate (including elevation above 100-year flood stage) for all developed uses proposed within the floodplain.

Responsible Agencies/Departments: Planning Department, Transportation and Public Works Department, and Environmental Health Department

Time Frame: Ongoing

Significance after Mitigation

Implementation of Mitigation Measures 4.9-5a, 4.9-5b, and 4.9-5c would require enforcement of and compliance with existing state and federal flood control regulations, and would minimize the exposure of people or structures to flood hazards resulting from development under the Draft General Plan. Mitigation Measure 4.9-5a would require that the latest and most accurate flood mapping be used in County design standards. Mitigation Measure 4.9-5b and 4.9-5c include requirements that would prohibit development of structures in floodways, and ensure adequate drainage and detention of stormwater in the appropriate facilities, avoiding increases in severity for downstream flooding. Through these mitigation measures, implementation of the Draft General Plan would not place housing within a floodways or expose people or structures to a significant risk of loss, injury, or death involving flooding. Therefore, this impact would be **less than significant** after mitigation.

IMPACT 4.9-6 ***Potential for Failure of a Levee or Dam.** When levees or dams fail, people and structures are exposed to inundation, and death, injury, or loss of property could result. There are no levee flood protection zones within Amador County. The Pardee, Salt Springs, Lower Bear River, and Jackson Creek dams have been constructed and are maintained consistent with California Water Code Division 3. There is no substantial evidence to suggest that dam failure is likely, and implementation of the Draft General Plan would do nothing to increase the potential for dam failure. This impact would be **less than significant**.*

Portions of Amador County are subject to inundation in the unlikely event of the failure of the Pardee Dam on the Mokelumne River, Salt Springs Dam on the North Fork Mokelumne River, Lower Bear River Dam on the Bear River, and Jackson Creek Dam on Jackson Creek. There are no levee flood protection zones in Amador County (DWR 2009).

The Pardee, Salt Springs, Lower Bear River, and Jackson Creek dams have been constructed and are maintained consistent with California Water Code Division 3, which has regulatory jurisdiction over these dams and contains specific requirements for maintenance and operations, emergency work, investigations and studies (Part 1, Chapter 4), repairs and alterations (Part 1, Chapter 5) and inspections and approvals (Part 1, Chapter 7). There is no substantial evidence to suggest that dam failure is likely, and implementation of the Draft General Plan would do nothing to increase the potential for dam failure. Adoption and implementation of the proposed policies in the Draft General Plan, combined with other relevant state and local regulations, would minimize the potential for effects on the General Planning Area from inundation as a result of dam failure. This impact would be **less than significant**.

Mitigation Measure: No mitigation measures are required.

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