

Appendix C.6

Land Use Planning and Water Management

C.6 Land Use Planning and Water Management

Numerous plans and studies related to water resources and land use management in the Westside Region have been reviewed to support the development of the Westside IRWM Plan. The Westside IRWM Plan contains information from local planning efforts in the Region, and is consistent with and supports locally-led planning and implementation of integrated water management as discussed in this Appendix.

Local Water Planning

This section summarizes the specific local water management activities that have been addressed by or incorporated into the Westside IRWM Plan.

Groundwater Management Planning

In 1992, the State Legislature provided guidance for more formal groundwater management with the passage of Assembly Bill (AB) 3030, the Groundwater Management Act (Water Code sections 10750 through 10756). Groundwater is a valuable natural resource in California, and should be managed to ensure both its safe production and its quality. AB3030 encourages local agencies to work cooperatively to manage groundwater resources within their jurisdictions and provides a systematic procedure for local agencies to develop a groundwater management plan. Groundwater management plans may cover a wide range of groundwater-related issues, including saline intrusion, contamination, well construction and abandonment, conjunctive use, groundwater levels, and overdraft. They can also be used to evaluate groundwater basins to help determine the capability of meeting water demands for existing and future conditions.

The following groundwater management plans have been adopted within the Westside Region:

- City of Davis/UC Davis Groundwater Management Plan (City of Davis/UC Davis, 2006)
- Groundwater Evaluation for the City of Rio Vista (City of Rio Vista, 2002)
- City of Vacaville Groundwater Management Plan Update (City of Vacaville, 2011)
- City of Woodland Groundwater Management Plan (City of Woodland, 2011)
- Colusa County Groundwater Management Plan (Colusa County, 2008)
- Big Valley Groundwater Management Plan (Lake County, 1999)
- Lake County Groundwater Management Plan (Lake County, 2006)
- Solano Irrigation District Groundwater Management Plan Upgrade (SID, 2006)
- Groundwater Management Plan (YCFWC, 2006)

Relevant data and planning actions developed in these groundwater management plans have been considered and incorporated into this IRWM Plan.

Urban Water Management Planning

The Urban Water Management Planning Act is codified in the Water Code, Division 6 Part 2.6 and identifies the requirements for developing Urban Water Management Plans (UWM Plans). UWM Plans are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves more than 3,000 or more connections is required to assess the reliability of its water

sources over a 20-year planning horizon considering normal, dry, and multiple dry years. This assessment is to be included in its UWM Plan, which are to be prepared every 5 years and submitted to the Department of Water Resources. The planning process is heavily focused on water resources and water demands, which are dependent on population projections and land use patterns.

UWM Plans have been prepared by the following water purveyors in the Westside region:

- SCWA (voluntarily, because it is not an urban water supplier)
- City of Davis
- CalWater (for City of Dixon)
- City of Rio Vista
- City of Vacaville
- City of West Sacramento
- City of Woodland

The water demand forecasting in the UWM Plans and other relevant planning activities from these UWM Plans have been reviewed and are incorporated in this IRWM Plan.

Agricultural Water Management Planning

The Water Conservation Act of 2009 (Senate Bill X7-7 of 2009) was enacted in November 2009, requiring all water suppliers to increase water use efficiency. The legislation covers Urban Water Conservation and Agricultural Water Conservation. The highlights of this legislation for Agricultural Water Conservation are:

- Agricultural water suppliers shall prepare and adopt agricultural water management plans by December 31, 2012, and update those plans by December 31, 2015, and every 5 years thereafter.
- Agricultural water suppliers shall:
 - Measure the volume of water delivered to customers. The Department of Water Resources issued a report in May 2012 that provides the proposed methodology for quantifying the efficiency of agricultural water use. The State regulation for agricultural water measurement was approved on 11 July, 2012 (Title 23, Division 2 of the California Code of Regulations, Chapter 5.1). It applies to agricultural water suppliers providing water to 25,000 irrigated acres or more, excluding acres that receive only recycled water.
 - Adopt a pricing structure for water customers based at least in part on quantity delivered.
 - Implement Efficient Water Management Practices (EWMPs) (CA Water Code section 10608.48 (b) and (c))
 - Preparation of Agricultural Water Management Plan (CA Water Code section 10826).
- Effective 2013, agricultural water suppliers who do not meet the water management planning requirements established by this bill are not eligible for state water grants or loans.

The Agricultural Water Management Plan is required to:

- Demonstrate compliance with agricultural water measurement requirements,
- Describe best professional practices about the collection of water measurement data, frequency of measurements, method for determining irrigated acres, and quality control and quality assurance procedures, and
- Facilitate the use of EWMPs in an effort to use water efficiently.

For the Westside Region, the agricultural water suppliers to which SBx7-7 applies are:

- YCFCWCD: Service Area 195,780 acres
- Reclamation District 999: Service Area 26,136 acres
- Knights Landing Ridge Drainage District: Service Area 72,000 acres
- Solano County Water Agency: Service Area 538,782 acres

The agricultural water management planning process provides an opportunity for local water managers to collaborate with each other and with the RWMG. The RWMG encourages water managers to review the Westside IRWM Plan and to coordinate with the RWMG during development of agricultural water management plans to ensure that agricultural water management plans within the Region are consistent with the goals and objectives of this IRWM Plan.

General Plans

California law requires that each county and city in the state develop and adopt a general plan, which is a comprehensive long-term plan for the physical development of the county or city. A city or county general plan must contain the following seven state-mandated elements: Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety. In addition to the mandatory elements, a city or county may adopt any other elements that relate to its physical development.

Water resource planning is addressed within a general plan due to its close interdependence with land use, housing, conservation, and safety. Because water resources and infrastructure planning is not a separate State-mandated element of a general plan, it is often addressed within one of the mandated elements or as part of an optional element. For instance, Lake County General Plan and Colusa County General Plan (Draft) both include a Public Facilities and Services element that provides goals and policies related to water supply and infrastructure. The Napa County General Plan addresses water resource planning in the Conservation element and the City of Lakeport General Plan includes water resource and infrastructure planning in the Land Use element.

A challenge presented within the general plan framework is that general plans often do not include water demand forecasting in relation to land use and water supply. Additionally, the determination for allowing or disallowing any particular development project lies with the decision-making body on a case-by-case basis. These decisions do not always include detailed analysis of water demands and available supplies, particularly at a regional level. Therefore, an opportunity for

better collaboration is for land use planners to explicitly consider the link between water resources planning and land use planning. The RWMG therefore encourages land use planners to specifically consider and evaluate water supply goals when carrying out the goals and policies of a general plan.

Another challenge to water use planning as it relates to land use planning is that institutional boundaries for land use planning agencies typically do not match the watershed boundaries or water supply boundaries. This introduces a complexity in water resources planning, particularly when multiple land use agencies are competing for water supplies.

General plans within the Westside Region are listed below:

- Colusa County General Plan (1989, Update In-Progress)
- Lake County General Plan (2008)
- Napa County General Plan (2008)
- Solano County General Plan (2008)
- Yolo County General Plan (2009)
- City of Clearlake General Plan
- City of Davis General Plan (2007)
- City of Dixon General Plan (1993)
- City of Lakeport General Plan (2009)
- City of Rio Vista General Plan (2001)
- City of Vacaville General Plan (1990, Update In-Progress)
- City of West Sacramento General Plan (1990, Update In-Progress)
- City of Winters General Plan (1992)
- City of Woodland General Plan (2002)

These general plans have been reviewed in preparation of the Westside IRWM Plan and relevant planning information has been incorporated into the Westside IRWM Plan.

Area Plans and Community Plans

According to the California General Plan Guidelines, an “Area Plan” or “Community Plan” focuses on a particular region or community within the overall general plan area. An area or community plan is adopted by resolution as an amendment to the general plan. It refines the policies of the general plan as they apply to a smaller geographic area and is implemented by ordinances and other discretionary actions, such as zoning. The area or community plan process also provides a forum for resolving local conflicts. Several Area Plans have been developed within the Westside Area, as described below:

- The Shoreline Communities Area Plan (2009) is a guide for long-term growth and development in the area east of Clear Lake and is a complement to the Lake County General Plan. The Area Plan provides land use allocations to meet the community’s needs while also protecting vital natural resources. This Area Plan includes five special study areas (The Promenade in Lucerne, The Strand in Lucerne, The Plaza in Clearlake Oaks, Short Street in Clearlake Oaks and the East Clearlake Oaks Commercial District). Water resources and infrastructure are addressed in the Area Plan’s Natural Resources, Safety, and Community Development elements and have been integrated into the area’s land use planning.

- The Middletown Area Plan (2010) is a guide for long-term growth and development in the Middletown area and is a complement to the Lake County General Plan. Water resources and infrastructure are addressed in the Area Plan's Natural Resources, Safety, and Community Development elements and have been integrated into the area's land use planning.

Flood Protection

Flood management and flood protection planning in the Westside Region is influenced by state and federal regulations and programs:

- Counties and communities regulate the floodplain in order to protect people and property and reduce future flood losses. Six bills were enacted in October 2007 - AB162, AB70, AB5, AB156, SB5 and SB17 - to address statewide flood problems, including assessing the capabilities of the Central Valley levee system, developing plans to better manage the flood protection system, and mandating that local planning efforts recognize the risks of flooding. Together, these bills outline a comprehensive approach to improving flood management at the State, regional and local levels.
- DWR's FloodSAFE California Program partners with local, regional, state, tribal, and federal officials in creating sustainable, integrated flood management and emergency response systems throughout California. The goals of FloodSAFE California are to reduce the chances and consequences of flooding, sustain economic growth, protect and enhance ecosystems and promote sustainability.
- The National Flood Insurance Program (NFIP) makes federally backed flood insurance available for all buildings. FEMA-issued Flood Insurance Studies document the existence and severity of flood hazards and are used by local and regional planners to promote sound land use and floodplain development, such as Floodplain Management Plans. Flood management and flood protection planning in the Westside Region is often influenced by the parameters of participating in the NFIP.

The following documents are examples of those that have been prepared to address flood protection planning in the Westside Region:

- Lake County Flood Insurance Study (FEMA, 2011)
- Solano County Flood Insurance Study (FEMA, 2009)
- Yolo County Flood Insurance Study (FEMA, 2010)
- Lake County Floodplain Management Plan (Lake County, 2009)
- Middle Creek Flood Damage Reduction and Ecosystem Restoration, Final Integrated Feasibility Report and Environmental Impact Statement/Environmental Impact Report (US Army Corps of Engineers, 2002)
- Lower Cache Creek, City of Woodland and Vicinity Feasibility Report for Potential Flood Damage Reduction Project

These flood insurance studies and flood protection planning documents serve as a foundation for the flood protection projects developed within the Westside IRWM Plan. The Westside IRWM Plan therefore inherently incorporates and is consistent with local flood protection planning.

Watershed Management

Watershed management planning encompasses several types of documents: watershed assessments, watershed management plans, and sanitary surveys.

Watershed assessments provide an understanding of watershed condition and why the watershed is in a certain condition. In this way, the assessment becomes a useful tool to help direct further actions.

California Code of Regulations, Title 22, Chapter 17, requires all water suppliers to develop a sanitary survey of their watersheds completed every five years to provide an understanding of the state of a watershed and the watershed's affect on receiving water bodies and water quality. The watershed sanitary survey provides a summary of source water quality monitoring data, a description of activities and sources of contamination, a description of any significant changes within the watershed that could impact the quality of the source water, a description of watershed control and management practices, and recommendations for corrective actions.

The following watershed management planning documents have been prepared within the Westside Region:

- Clear Lake Integrated Watershed Management Plan (Lake County, 2010)
- Water Management Plan (YCFCWC, 2000)
- Kelsey Creek Watershed Assessment (East Lake & West Lake RCDs, 2010)
- Bear Creek Watershed Assessment (BLM/Colusa County RCD, 2007)
- Middle Creek Watershed Assessment (West Lake RCD, 2010)
- Scotts Creek Watershed Assessment (West Lake RCD, 2010)
- Clear Lake Watershed Sanitary Survey (Clear Lake water utilities, 2002)
- Lower Putah Creek Watershed Management Action Plan (Lower Putah Creek Coordinating Committee, 2005)
- Watershed Sanitary Survey update: Lake Berryessa/Solano Project Watershed (Solano County Water Agency and Napa County, 2001)

These watershed management planning documents serve as a foundation for the watershed management projects developed within this Westside IRWM Plan and projects from these previous planning documents have been reviewed for consistency with the goals and objectives of the Westside IRWM Plan.

Stormwater Management

The water quality impacts of stormwater runoff from both urbanized (i.e. paved) and agricultural areas are well documented but difficult to manage as they are non-point source discharges (i.e. there are many discharge points to surface water bodies). The State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board's (RWQCB) regulate municipal stormwater discharges (from Municipal Separate Storm Sewer Systems, or MS4s) and oversee irrigated lands regulatory programs for agricultural stormwater discharges.

Municipal Stormwater Management

Polluted stormwater runoff is commonly transported through MS4s, from which it is often discharged untreated into local waterbodies. Permits for MS4s were issued in two phases under the National Pollutant Discharge Elimination System (NPDES) General Permit. Under Phase I, which started in 1990, the RWQCB adopted storm water permits for municipalities greater than 100,000 people while SWRCB issued the General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems WQO No. 2003-0005-DWQ (Small MS4 General Permit) for the Phase II communities less than 100,000 people.

The Small MS4 General Permit requires that Dischargers develop and implement a Storm Water Management Program (SWMP) that describes six program areas including:

1. Public Education
2. Public Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Storm Water Runoff Control (this program area is duplicated for sites greater than one acre by the SWRCB's Construction General Permit Order No. 2009-0009-DWQ as amended)
5. Post Construction Storm Water Management with focus on Low Impact Design, source controls, and treatment controls
6. Pollution Prevention/Good Housekeeping for Municipal Operations

The General Permit requires all Permittees to develop and implement a SWMP designed to reduce the discharge of pollutants through their MS4s to the Maximum Extent Practicable (MEP). There are no Phase I communities in the Region and 10 Phase II Permittees with the year of their SWMP is:

- UC Davis (2010)
- City of Davis (2006)
- City of Vacaville (2003)
- City of West Sacramento (2003)
- Yolo County (2003)
- Solano County (2003)
- City of Clearlake¹ (2003)
- City of Lakeport¹ (2003)
- Lake County¹ (2003)
- City of Woodland (2004)

All NPDES permits are subject to renewal every 5 years and the Phase II Small MS4 Permit is currently undergoing update with a second draft issued in mid-2012. The draft Small MS4 Permit

¹ Lake County and the Cities of Lakeport and Clearlake prepared a single SWMP.

contains changes that include Community-based Social Marketing requirements for Public Education and Outreach; linkage to TMDL constituents with urban runoff sources such as diazinon, chlorpyrifos, methylmercury in the Sacramento River/Delta and nutrients in Clear Lake; monitoring requirements; hydromodification; regulation of projects that create/replace 2,500 square feet or more of impervious surface; and watershed process-based stormwater management strategies that will have to be addressed in future SWMPs.

Irrigated Lands Management

The RWQCB has adopted a Conditional Waiver of Waste Discharge Requirements that allows growers, individually or in coalition, to obtain regulatory coverage for their discharges from irrigated lands including tailwater, water from underground drains, and stormwater to surface waters and groundwater. The growers in the Region can be a part of the Sacramento Valley Water Quality Coalition which works directly with their member growers to assist in complying with Central Valley Water Board requirements by conducting surface water monitoring and preparing regional plans to address water quality problems. Each sub-watershed within the Sacramento Valley is represented locally, often by farm bureau or resource conservation district staff. The RWQCB anticipates preparation of waste discharge requirements for irrigated lands discharges in the 2012 timeframe.

Low Impact Development

The water quality and drainage impacts of urbanization are well documented and regulated through the municipal stormwater management permits discussed in Section 0. However, after hundreds of years of drainage management that has resulted in concentrating both flows and pollutants by collecting stormwater into pipes, detention and retention ponds, and discharging it into water ways, an alternative means of stormwater management called low impact design or development (LID) has developed since the 1990s. LID measures manage the dirtiest stormwater from the first flush storm events on-site by retaining and/or returning the site to more natural hydrologic conditions where stormwater can be infiltrated; evaporated through vegetation; or otherwise treated and retained. LID measures are best planned for early in a new development or redevelopment project design when the measures can be incorporated into the site layout to maximize the use of vegetation and landscape.

The SWMPs prepared in the Region address LID in Program Area 5: Post Construction Stormwater Management by means such as updating land development review and construction inspection processes, updates to general plans and ordinances, and education of the development community. The draft Small MS4 Permit has additional requirements such as regulation of projects that create/replace 2,500 square feet or more of impervious surface and other specific LID measures that will have to be addressed in future SWMPs.

Salt and Salinity Management

Salt and salinity management is a new strategy to the California Water Plan, however it has long been a problem needing to be addressed as salts in irrigation water and other land applications of treated effluent have been mismanaged.

The Central Valley Regional Water Quality Control Board (CVRWQCB) has been aware of the growing problem of increasing salinity in the Central Valley, but many of the key decisions that

must be made in order to control Valley salinity are outside of CVRWQCB's jurisdiction. *Salinity in the Central Valley* (CVRWQCB, 2006) was a first step in opening a dialogue between the stakeholders and decision makers that will need to be involved in a comprehensive, sustainable, salinity management program for the Central Valley and for the State of California.

The Central Valley Salinity Alternatives for Long-Term Sustainability initiative (CV-SALTS) is a collaborative effort initiated in 2006 to find solutions to the salt problem in the Central Valley. The Central Valley Salinity Coalition is non-profit and formed in July 2008 to organize, facilitate and fund efforts needed for the efficient management of salinity in the Central Valley.

Agricultural land irrigation and wastewater discharges in the form of land application and wetland habitat and aquifer recharge are the primary contributors of salts in the Region. Reducing Total Dissolved Solids (TDS) in wastewater discharges is a primary focus of salt and salinity management and is a driver for some projects already being planned in the Westside Region, like the Davis-Woodland Water Supply Project, and is also an underlying issue of many of the Westside IRWM Plan objectives related to water quality and beneficial uses of water resources.

Land Use Planning

This section provides an assessment of land use management, which builds on the information developed in the region description and provides additional details about collaboration between the RWMG and land use planners.

Land Use Management Assessment

Cities are the regulatory agencies for land use planning in incorporated communities and counties are the regulating agencies for land use planning in unincorporated areas. Public lands in the Westside Region are managed by BLM, Mendocino National Forest, USBR and California Department of Fish and Wildlife (CDFW). Cities make up a very small portion of land use in the region, approximately 5% of total land. Therefore, the remaining 95% of unincorporated lands are managed by the counties, federal agencies, and state agencies.

Land use in incorporated cities and unincorporated county areas is guided by general plans. BLM, Mendocino National Forest, and CDFW each issue management plans that guide land use in public lands under their jurisdiction.

As discussed in Section 2, the Westside Region is dominated by open space and agriculture. In general, land use planning in the Westside Region is focused on retaining the existing rural character, which translates to preserving open space and limiting development to existing communities. However, land use and economic trends vary by planning area. The land use management assessment provided in this section includes a summary of land use trends by planning area

Upper Cache Creek Planning Area Land Use and Trends

The Upper Cache Creek Planning Area is comprised of approximately 606,000 acres, approximately 82% of which is native vegetation. An additional 8% of the land is designated as

water and 6% of the land is designated as agricultural. Preserving the rural and recreational character of the region is strongly supported by the Lake County General Plan.

Approximately 4% of the land use in the Upper Cache Creek Planning Area is developed communities. The principal urban centers are located along the rim of Clear Lake. The rate of population growth in lakeshore areas is (and is projected to be) greater than for the county as a whole. The recreation-vacation industry is the most significant segment of the region's economy. Emphasis on tourism continues to grow as the demand for summer residence increases. Also, a trend has developed in which retired people are taking up permanent residence in the areas surrounding the lake. Commercial development in Lake County is largely concentrated along the rim of Clear Lake and is dominated by enterprises serving the needs of the recreation industry. Another important segment of the commercial community serves the needs of farms, orchards, and vineyards. Approximately 30% of the planning area population lives within the two incorporated cities of Clearlake and Lakeport, with Clearlake being the largest urban center in the Cache Creek Planning Area. Approximately 45% of the planning area population lives in unincorporated communities, including Clearlake Oaks, Clearlake Riviera, Kelseyville, Lower Lake, Lucerne, Nice, North Lakeport, Soda Bay, South Lakeport and Upper Lake.

The Lake County General Plan indicates that population in the unincorporated communities is anticipated to increase by approximately 20,000, or 60% by the year 2030. However, urban development in unincorporated areas of the County is limited to the areas within designated Community Growth Boundaries. According to the City of Lakeport General Plan, the conversion of agricultural lands to urban uses and the provision of urban services by growing communities are important issues to the County and LAFCO. Lakeport is planning to extend its Sphere of Influence (SOI) to include public and privately held lands south of the City, designated as the Specific Plan Area. Development of this area could result in 600 to 1,200 additional residential units at buildout. The City will develop a Specific Plan in accordance with state Planning and Zoning laws prior to submitting an application to LAFCO to amend the City's SOI. The Lakeport area's planned growth will, at some time, require annexation to the City.

Agriculture still forms a highly important segment of the economy, with over half the area under cultivation in pear and walnut orchards. However, recent market conditions have forced many pear farmers in the watershed to remove their orchards, which may have a substantial impact on agricultural land use. Pear orchards are located on level ground that is generally well-suited to urban development or subdivision into small parcels for rural residential development. Walnut acreage has also decreased substantially since the 1980s. Production of wine grapes has recently been introduced, and some walnut orchards are being converted to vineyards. Agriculture is the largest user of water in the planning area and the introduction of permanent crops in areas served by small groundwater basins presents a challenge for water supply, especially during multi-year droughts. Mining, lumbering, and other traditional extractive industries now form a relatively minor segment of the economy; however, the existence of geothermal resources in the county has resulted in exploratory drilling and the expectation of significant development activities. About 79% of the wetlands around Clear Lake have been lost due to reclamation for agriculture and other development.

Lake County has been pursuing the Middle Creek Flood Damage Reduction and Ecosystem Restoration Project (Middle Creek Project) since 1995. This project has been identified as the single largest recommended water quality improvement to Clear Lake. It would restore the largest damaged wetland area around the lake, the outlet of the two largest tributaries to Clear Lake, Scotts and Middle Creeks. The project would restore approximately 1,650 acres by breaching levees and allowing the land to flood. About 1,400 acres of this land would become wetlands and open water, which would double the current area of wetlands around Clear Lake.

The portion of Colusa County within the Upper Cache Creek Planning Area is the Bear Creek watershed. The primary land use in this area is Native with a few small agricultural parcels. According to the Bear Creek Watershed Assessment, approximately 53% of the Bear Creek watershed is under private ownership, with the remainder being publicly held lands (primarily federal). Agricultural lands within the Bear Creek watershed is principally used for livestock grazing. Agricultural land in Bear Creek watershed has remained virtually unchanged since 1986 when mapping began. The constancy of rural land uses has conserved the character of the watershed and its agricultural landscapes.

The Bear Creek watershed has a very small population, most of whom pursue livelihoods in resort tourism, farming and ranching, public land management, and fire suppression. Although the County General Plan has established guiding principles regarding growth and development, the Bear Creek watershed is a unique area within Colusa County and differs significantly from the portion of Colusa County in the Sacramento River Valley where rice and other irrigated crops are dominant. A water district does not cover the watershed, and irrigation water in commercial quantities is not available for summer crops.

BLM administers the following areas that lie wholly or partially within the Upper Cache Creek Planning Area: Cow Mountain Management Area, Indian Valley Management Area, and Cache Creek Management Area. The Resource Management Plan (2006) addresses the BLM approach to managing public lands and mineral resources in ways that sustain their health, diversity, and productivity for the enjoyment of present and future generations. BLM seeks to balance recreational opportunities and environmentally responsible commercial activities with the conservation of natural and cultural resources.

Mendocino National Forest Land and Resource Management Plan (1995) provides the framework to guide the ongoing land and resource management operations of the Forest while providing a management program that reflects a mix of activities for the use and protection of the Forest.

Upper Putah Creek Planning Area Land Use and Trends

The Upper Putah Creek Planning Area is comprised of approximately 360,000 acres, nearly approximately 88% of which is native vegetation. An additional 6% of the land is designated as water.

Approximately 3% of the land use in the Upper Putah Creek Planning Area is developed communities. There are no incorporated cities in the Upper Putah Creek Planning Area. The Lake County General Plan limits urban development in unincorporated areas of the County to the areas within designated Community Growth Boundaries located in the communities of Coyote Valley and

Middletown. The Napa County General Plan includes policies for specific geographic areas of Napa County in recognition of their unique character, several of which lie within the Upper Putah Creek Planning Area: Berryessa Estates and Berryessa Highlands are rural-residential communities and the Lake Berryessa communities of Moskowite Corners, Pope Creek and Spanish Flat are rural mixed-use communities.

Development and growth in the Middletown and Coyote Valley areas is addressed in the Middletown Area Plan (2010), which is a guide for long-term growth and complements the Lake County General Plan. The Plan includes three special study areas (Middletown, Coyote Valley and Langtry/Guenoc Valley). The Plan seeks to balance the goals of promoting a diversified economic base with preserving the area's rural character. The intent of the Area Plan is to concentrate development within Community Growth Boundaries and reduce urban sprawl.

Napa County has a longstanding commitment to agricultural preservation, resource conservation, and urban-centered growth. Napa County's citizens have conscientiously preserved the agricultural lands and rural character. The County has led the nation in innovative agricultural preservation strategies, and it intends to remain a leader in moderating and directing growth in ways that minimize resource consumption and make unincorporated Napa County a sustainable rural community.

Lake Berryessa, located in Napa County, is a 19,000-acre man-made lake dating from the 1950s that stores over one million acre-feet of water for agricultural and municipal uses in much of Solano County. Together with the Blue Ridge Mountains to the east, the lake defines the character of much of eastern Napa County and provides its emphasis on recreation, rather than wine. The lake and a narrow shoreline band (28,000 acres total) are under the jurisdiction of the United States Bureau of Reclamation (USBR), while private properties in upland areas are within Napa County jurisdiction.

The Knoxville Wildlife Area, managed by CDFW, comprises over 8,000 acres of oak woodland, grassland, riparian, and chaparral habitat and is part of the 300,000 acre Blue Ridge/Berryessa Natural Area in Napa, Lake, Colusa, and Yolo Counties. It is one of the few sites in California that protects unusual serpentine habitats. Serpentine soils are high in toxic metals, and low in plant nutrients, so the assemblages of plants that can tolerate them are unusual. This habitat supports a wide array of songbirds, mammals, amphibians, and reptiles. The Cedar Roughs Wildlife Area, also managed by CDFW, is located west of Lake Berryessa and comprises over 400 acres of serpentine chaparral, serpentine grassland, and riparian woodland. Preserving serpentine habitat and the natural setting of these two Wildlife Areas is a priority of the CDFW. The Knoxville Wildlife Area Management Plan and Cedar Roughs Wildlife Area Management Plan provide guidance for the CDFW's mission to "manage the diverse fish, wildlife, and plant resources and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public."

BLM administers the following areas that lie wholly or partially within the Upper Putah Creek Planning Area: Knoxville Management Area, Cedar Roughs Management Area, Berryessa Management Area, and Geysers Management Area. The Resource Management Plan (2006) addresses the BLM approach to managing public lands and mineral resources in ways that sustain their health, diversity, and productivity for the enjoyment of present and future generations. BLM

seeks to balance recreational opportunities and environmentally responsible commercial activities with the conservation of natural and cultural resources.

Valley Floor Planning Area Land Use and Trends

The Valley Floor Planning Area is comprised of approximately 945,000 acres, 52% of which is designated agricultural land use. An additional 41% of the Valley Floor Planning Area is designated as native vegetation, native riparian, or water.

Approximately 6% of the Valley Floor Planning Area is developed communities. The majority of this acreage is located within the seven incorporated cities of Davis, Dixon, Rio Vista, West Sacramento, Vacaville, Winters, and Woodland and UC Davis. Unincorporated communities in Yolo County include Capay, Clarksburg, Dunnigan, Esparto, Guinda, Knights Landing, Madison, Rumsey, Yolo, and Zamora. Unincorporated rural-residential communities in Solano County include Allendale and Elmira, just north and east, respectively, of Vacaville.

Land area in the Valley Floor Planning Area is divided into two topographic sections. The western quarter extends into the foothills of the coastal range. This area is characterized by steep slopes, which become more gently rolling in the eastern portion. The remainder lies within the Sacramento Valley, which is characterized by level topography, with some isolated areas of low rolling hills.

Much of the northeastern third of Solano County within the valley lowlands is intensively farmed with a predominance of irrigated row crops and orchards. Common crops in Yolo County include truck crops such as tomatoes and pasture such as alfalfa and hay. The rest of the Planning Area (except for the urban centers) is open space. The natural vegetative cover is generally grass at the lower elevations, transitioning to brush and trees (mainly oak) at higher elevations.

Agricultural land is concentrated in the eastern portion of the Planning Area and in smaller areas scattered throughout the Planning Area. Agriculture has historically been both an important industry in the region and a central part of the region's identity, culture, and economy. Agricultural lands account for more land than any other land use and the vast majority of the water use in the region. Agriculture contributes to regional economic health and prosperity, defines much of the County's visual character, supports wildlife habitats and migration corridors, provides open space and recreational amenities for residents and visitors, and acts as community separators defining the county's cities.

During the 1970s, Solano County experienced a building boom. Available, affordable land and proximity to the San Francisco and Sacramento metropolitan areas have made it an attractive location for thousands of new homes, and the population of most cities has increased rapidly. The County General Plan vision statement provides a basis for the basic land use strategies:

- Promoting city-centered development consistent with longstanding County policy that "What is urban shall be municipal" and
- Sustaining diverse land uses that define the character and identity of Solano County.

Solano County has historically required that development requiring water and sewer service be incorporated within one of the County's cities. Based on this policy, most residential, commercial and industrial development in the county has been in incorporated areas. The vision statement identifies Solano County's continuing practice of guiding urban development, including most residential and commercial development, toward the county's cities using municipal service areas.

Yolo County has a strong focus on protecting agricultural and open space resources, commodities and identity; resisting urbanization; and directing growth into the existing incorporated cities and towns. For the past 50 years, these policies have been tremendously successful. Over 93 percent of the County remains in farmland and open space, despite intense development pressures from both the Sacramento and Bay Area metropolitan areas. The County made efforts in its General Plan to conserve and preserve agricultural land by enacting ordinances limiting the use of agricultural lands, creating minimum parcel sizes, and implementing the Williamson Act (which enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open space use). Strong community support and UC Davis (which conducts much of Northern California's research on agriculture) have also helped the County preserve its agricultural lands.

Population growth in the Valley Floor Planning Area is anticipated to occur within existing urban areas, and expanding urbanization is expected to have a modest impact on land use and water resources planning mostly from a water quality perspective. Urban land use in the Valley Floor Planning makes up a very small percentage of total land use and Yolo County and Solano County are committed to preserving the existing agricultural character of the planning area and focusing growth within the existing urban areas. The Cities of Vacaville, West Sacramento and Woodland are expected to undergo the most growth in the coming years, including expansion of SOIs and annexation of additional land for development. The general plans for the Cities of Davis and Rio Vista do not indicate substantial growth through expansion of SOI or annexation. Instead, growth is to be directed towards infill. The general plans for the Cities of Dixon and Winters were developed approximately 20 years ago. Although both general plans indicate potential for expansion of SOIs and annexation of land, without more recent planning information, it is difficult to assess the likelihood or timeline for urban growth.

The predominant public land area is the Yolo Bypass Wildlife Area, which comprises approximately 16,770 acres of CDFW-managed wildlife habitat and agricultural land within the Yolo Bypass (Bypass). The Bypass conveys seasonal high flows from the Sacramento River to help control river stage and protect the cities of Sacramento, West Sacramento, and Davis and other local communities, farms, and lands from flooding. Substantial environmental, social and economic benefits are provided by the Yolo Bypass, The Yolo Bypass Wildlife Area Management Plan guides management of habitats, species, appropriate public uses, and programs to achieve CDFW's mission and identifies compatible public-use opportunities within the Yolo Bypass Wildlife Area.

Additional Opportunities for Collaboration

Multiple opportunities exist for collaboration between the RWMG and land use planning agencies, primarily through implementation of previous planning efforts.

General Plan Updates

By statute, the housing element of general plans must be updated every five years. However, updates of the remaining general plan elements are not mandated. When general plans are undergoing updates, they provide a unique opportunity for water managers and land use planners to collaborate in a long-range planning process. The RWMG should remain apprised of general plan updates within the Region and make efforts to collaborate with land use planners and provide input on the general plans so that land use planning and water management have a great level of coordination and cohesion.

One of the objectives of the Yolo County IRWM Plan was to integrate water resource planning and land use planning and the WRA coordinated the Yolo County IRWM Planning process with Yolo County's General Plan Update process. For this purpose, the WRA developed suggested water-related policies for inclusion in the General Plan update. However, because the water-related policies were suggestions only and are not binding on any agency, it is unclear to what extent the policies were incorporated into the Yolo County General Plan Update.

For the Colusa County General Plan update, the public review and comment period ended in January 2012, however the general plan update has not yet been finalized. Opportunity may exist for the RWMG to provide input and coordinate with Colusa County as the general plan update is finalized.

General plan updates are also in progress for the Cities of Vacaville and West Sacramento, which have some of the largest increases in population projected for the region, providing an opportunity for the RWMG to collaborate with the City land use planners with respect to water resources management as the general plan is being updated.

The City of Vacaville Draft General Plan update and EIR are planned to be issued in summer 2012 and provides an opportunity for the RWMG to collaborate with City of Vacaville land use planners as the general plan is finalized.

The City of West Sacramento General Plan update has been suspended for fiscal year 2011-2012 due to budgetary constraints. Work on completing the update is expected to resume in fiscal year 2012-2013 and provides an opportunity for the RWMG to collaborate with the City of West Sacramento land use planners as the general plan is being updated.