

## **Chapter 10 *Water and Land Use Planning***

### **10.0 Introduction**

A goal of the IRWMP process is to facilitate communication between land use planners and water managers to better address coordination between land use and planning and regional water plans and issues. The IRWMP must incorporate and be consistent with local water and land use plans to encourage opportunities to implement local goals and policies.

One of the California Water Plan Update 2009 goals is to ensure water managers and land use planners make informed, collaborative water management decisions to better assure meeting California's water needs into the future, especially in the face of climate change and drought. The Department of Water Resources (DWR) also requires that the IRWMP describe the relationship between the planning fostered by the IRWMP process—in this case, the Regional Water Management Group's (RWMG's) planning efforts—and local water and land use planning. Early coordination of water and land use planning decisions is recognized as one of the best methods for meeting that future need; to that end, this chapter recognizes existing coordinated planning practices and highlights opportunities for future improved coordination.

The varying degrees of input from the Plan area's city and county land use planners, water agencies, non-governmental organizations (NGOs), and land management agencies is discussed in this chapter, and any input provided from these groups and local plans has been synthesized here.

Ninety percent of the Plan area is located within the Yuba River watershed, which extends from 60 feet elevation on the Sacramento Valley floor to 4,000 feet elevation in the foothill of the Sierra Nevada. Within this area are two distinct zones: the lower watershed on the valley floor and the upper watershed in the foothill and mountain areas. While these two zones have unique water management issues based on their geography, they are linked by shared use of the Yuba, Feather, and Bear Rivers and their tributaries.

The foothill region of the Plan area relies heavily on surface water, which accounts for 85 to 90 percent of the local consumptive use. The rural nature of much of the foothill area precludes the delivery of domestic water by municipal purveyors, but foothill communities in the Plan area, including Camptonville, Brownsville, Challenge, Dobbins, and Oregon House, are served in large part by in-stream diversions and storage facilities that have been constructed with local financing. As a result of the reliance on surface water and smaller storage facilities, water supply varies seasonally and from year to year, depending on the amount and timing of precipitation and the variable runoff. The remaining 10 to 15 percent of local water supply in the foothill region is provided by federal water facilities, groundwater wells, imports from adjacent regions, and reclaimed wastewater. Private wells in the foothill region, which account for much of the remaining water supply, are often drilled into the fractured-bedrock formations of the western Sierra Nevada. Yet these bedrock formations have little water-holding capacity and are often unreliable due to the fact that water can penetrate the rocks only through fissures. These fissures may at times intersect with larger storage areas whose capacity is unknown.

## 10.1 Local Planning Relationship to the IRWMP

Water management and land use planning are inherently interconnected, with activities that occur on land directly impacting the movement and quality of water within a watershed, and events or disturbances in the watershed affecting landscapes and land uses. For example, land use decisions that impact population growth (such as the approval of a new subdivision), or land use policies (such as water conservation ordinances) can impact water supply and demand. Further, other projects, such as resource extraction or land clearing for new development, can impact water quality from sedimentation and storm water runoff. Conversely, a water management decision such as the amount of water supplied to agricultural or environmental uses in a dry year, or how close to the flood line a levee is constructed, can impact events and uses on land.

Land use planning is an essential responsibility of cities and counties and is expressed through general plans that achieve community planning objectives. The Yuba County IRWM Plan Area boundary runs contiguous with the Yuba County boundary. Within the Plan area, Yuba County and the Cities of Marysville and Wheatland are the local land use planning jurisdictions. Other agencies may not conduct land-use planning, but have an impact on activities conducted there, such as the US Forest Service. Land-use planning entities also directly and indirectly impact the management of water resources through, for example, approval of development projects and long-range land planning and the implementation of resource standards or mitigation measures during timber harvests or other forest activities. Organizations whose primary purpose is to plan land uses and activities are discussed in more detail in section 10.2 of this chapter.

Water planning anticipates future supply and demand scenarios, issues, and management strategies to respond to potential issues. Water planning tasks in the Plan area are performed by water purveyors such as Yuba County Water Agency (YCWA) and California Water Service, dam operators such as Browns Valley Irrigation District and US Army Corps of Engineers, special-purpose districts such as YCWA's member units or the local reclamation districts, and in certain cases municipalities, such as the City of Wheatland Department of Public Works. NGOs such as South Yuba River Citizens League (SYRCL) and Northern Foothills Partnership, though not water purveyors, are also valuable partners in the water planning process. Yet other entities also impact the management of water resources, such as the National Marine Fisheries Service (NMFS), which has developed a recovery plan for salmon and steelhead in the Plan area that includes action items to be implemented in the Yuba River watershed (July 2014).<sup>1</sup>

For the purposes of this chapter, the focus will be on Plan-area water managers, though it should also be noted that entities upstream of the Plan area, including Nevada Irrigation District, South Feather Water and Power Authority, and PG&E, also have water management responsibilities that may impact the Plan area. These are discussed in more detail in Chapter 7 *Water Supply*.

Of the water purveyors in the Plan area, YCWA is the largest, delivering surface water from the Yuba River to its eight member units. Member units are Cordua Irrigation District (CID), Ramirez Water District, Hallwood Irrigation Company (HID), Browns Valley Irrigation District (BVID), Brophy Water District, South Yuba Water District, Dry Creek Mutual Water Company, and Wheatland Water District. Of these, BID, CID, and HID also hold their own appropriative rights for diversion of water from the Yuba River, and some of the member units still pump groundwater as needed. YCWA's water uses include flood control, fisheries enhancement, recreation, hydroelectric power, and storage of water for sale to its member units. In addition to the YCWA and its

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<sup>1</sup> National Marine Fisheries Service, West Coast Region, Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of California Central Valley steelhead, Sacramento, California (July 2014).

member units, the following agencies provide surface water for agricultural purposes: North Yuba Water District (from south of the Feather River), Camp Far West Irrigation District (from Bear River), and Plumas Mutual Water Company (from the lower Feather River).

### ***10.1.1 IRWMP Relation to Local Water Planning & Implementation***

Numerous agencies with a legal responsibility for, or an interest in, managing water resources have generated water planning documents for the Plan area. YCWA has generated multiple planning documents, municipal purveyors have adopted Urban Water Management Plans, and many NGOs have prepared watershed management and restoration plans.

Entities with water and land use planning documents and programs used in the preparation of this IRWMP and discussed in this chapter are shown in **Table 10-1**.

<b>Table 10-1. Water and Land Use Planning Documents and Programs in the Yuba County IRWMP Region</b>	
<b>Water Purveyors</b>	<b>Documents and Programs</b>
Beale Air Force Base	<ul style="list-style-type: none"> <li>▪ Air Combat Command: Installation Sustainability Assessment Report (2012)</li> </ul>
California Water Service (for City of Marysville)	<ul style="list-style-type: none"> <li>▪ Urban Water Management Plan (2011)</li> </ul>
City of Wheatland	<ul style="list-style-type: none"> <li>▪ General Plan Update Master Water Plan (2006)</li> <li>▪ Johnson Rancho Water Supply Assessment</li> <li>▪ Hop Farm Annexation Water Supply Assessment</li> </ul>
Linda County Water District	<ul style="list-style-type: none"> <li>▪ Urban Water Management Plan (2011)</li> </ul>
Olivehurst Public Utilities District	<ul style="list-style-type: none"> <li>▪ Urban Water Management Plan (2011)</li> <li>▪ Bear River Project Water Supply Assessment (2006)</li> <li>▪ Country Club Estates Water Supply Assessment (2007)</li> <li>▪ Magnolia Ranch Water Supply Assessment (2013)</li> </ul>
Yuba County Water Agency and Member Units:	<ul style="list-style-type: none"> <li>▪ Agricultural Water Management Plan (2012)</li> <li>▪ Groundwater Management Plan (2010)</li> <li>▪ Yuba IRWMP (2008)</li> <li>▪ FERC Relicensing Documents for Project No. 2246) (<a href="http://www.ycwa-relicensing.com">www.ycwa-relicensing.com</a>) (2010-2014)</li> <li>▪ Lower Yuba Accord (2007)</li> <li>▪ YCWA Transfer Program</li> <li>▪ Conjunctive Use Program</li> <li>▪ Multi-Hazard Mitigation Plan (2007)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Cordua Irrigation District</li> <li>▪ Ramirez Water District</li> <li>▪ Hallwood Irrigation Company</li> <li>▪ Browns Valley Irrigation District</li> <li>▪ Brophy Water District</li> <li>▪ South Yuba Water District</li> <li>▪ Dry Creek Mutual Water Co.</li> <li>▪ Wheatland Water District</li> </ul>	
<b>Resource Managers</b>	<b>Documents and Programs</b>
Central Valley Flood Protection Board	<ul style="list-style-type: none"> <li>▪ Central Valley Flood Protection Plan (2012)</li> </ul>
City of Marysville	<ul style="list-style-type: none"> <li>▪ City of Marysville General Plan (1985)</li> </ul>
City of Wheatland	<ul style="list-style-type: none"> <li>▪ City of Wheatland General Plan (2006)</li> <li>▪ External Source Flood Protection Plan (2005)</li> </ul>
County of Yuba	<ul style="list-style-type: none"> <li>▪ Storm Water Management Plan (2004)</li> <li>▪ Yuba County General Plan (2011)</li> <li>▪ Yuba County Multi-Jurisdictional Multi-Hazard Mitigation Plan</li> <li>▪ Low Impact Development (LID) Strategies</li> <li>▪ Draft Parks Master Plan (2008)</li> </ul>
Dobbins Fire Protection District	<ul style="list-style-type: none"> <li>▪ Multi-Hazard Mitigation Plan (2007)</li> </ul>
DWR	<ul style="list-style-type: none"> <li>▪ Upper Feather River Flood Management Plan (Draft 2013)</li> </ul>
DWR, Bureau of Reclamation, YCWA, PG&E, et al.	<ul style="list-style-type: none"> <li>▪ Lower Yuba Accord (2007)</li> </ul>
Regional Water Quality Control Board	<ul style="list-style-type: none"> <li>▪ Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin Rivers (2009)</li> </ul>
State Water Resources Control Board	<ul style="list-style-type: none"> <li>▪ Watershed Management Initiative for the Sacramento Hydrologic Region (2003)</li> <li>▪ Development of Flow Criteria for the Sacramento-San Joaquin Delta (2010)</li> </ul>
US Forest Service	<ul style="list-style-type: none"> <li>▪ Tahoe National Forest Land and Resource Management Plan (1990)</li> <li>▪ Plumas National Forest Land and Resource Management Plan (1990)</li> </ul>
Yuba County LAFCO	<ul style="list-style-type: none"> <li>▪ Municipal Service Review (2008)</li> </ul>
<b>NGOs</b>	<b>Documents and Programs</b>
Bear-Yuba Land Trust	<ul style="list-style-type: none"> <li>▪ Strategic Conservation Plan</li> </ul>
South Yuba River Citizens League	<ul style="list-style-type: none"> <li>▪ 21st Century Assessment of the Yuba River Watershed</li> </ul>

The Yuba County IRWMP Update incorporates local water resource management planning documents, along with information from groundwater management plans, adjacent IRWMPs, and local general plans, as shown in **Table 10-1**.

Most purveyors of agricultural water in the region, including Marysville Levee Commission, Reclamation Districts 10, 784, 817, 2103, Camp Far West Irrigation, and Plumas Mutual Water Company, do not have adopted planning documents, but as shown in **Table 10-2** below, many of them participated in the IRWM process. A list of all the regional water purveyors and their participation in the IRWMP Update is shown in **Table 10-2**. The information, strategies, and policies in the water management plans have been incorporated in this chapter and elsewhere throughout the Yuba County IRWMP Update. As these plans are updated, the revised versions are reviewed and considered in subsequent IRWM planning efforts. As discussed in Chapter 12 *Goals, Objectives, Issues, and Conflicts*, the goals and objectives of this IRWMP are consistent with local Urban Water Management Plans (UWMPs).

A more comprehensive list of water management and planning documents prepared by other planning agencies and NGOs relevant to the Plan area and used in the preparation of this IRWMP is shown in the IRWMP's document catalog.

Table 10-2. Yuba County IRWM Region Water Purveyors, Planning Documents, and Participation in IRWMP Process					
Agency	Interest in Groundwater	Adopted Water Planning Documents	YCWA's Water Advisory Committee Member (part of GMP effort)	RWMP Participant	Other Involvement in IRWMP
<b>Yuba County Water Agency &amp; Member Units</b>					
Yuba County Water Agency ▪ Cordua Irrigation District ▪ Ramirez Water District ▪ Hallwood Irrigation Company ▪ Browns Valley Irrigation District ▪ Brophy Water District ▪ South Yuba Water District ▪ Dry Creek Mutual Water Co. ▪ Wheatland Water District	Agricultural Irrigation	<ul style="list-style-type: none"> <li>▪ Agricultural Water Management Plan (2012)</li> <li>▪ Groundwater Management Plan (2010)</li> <li>▪ Yuba IRWMP (2008)</li> <li>▪ FERC Relicensing Documents for Project No. 2246 (<a href="http://www.ycwa-relicensing.com">www.ycwa-relicensing.com</a>) (2010-2014)</li> <li>▪ Lower Yuba Accord (2007)</li> </ul>	✓	✓	Lead agency in the IRWMP process; involved in all aspects of IRWMP preparation
<b>Other Irrigators</b>					
Marysville Levee Commission	N/A (levee construction, maintenance, and repair)				
Reclamation District No. 10	Agricultural Irrigation		✓	✓	
Reclamation District No. 784	Agricultural Irrigation		✓	✓	
Reclamation District No. 817	N/A (levee construction, maintenance and repair)			✓	
Reclamation District No. 2103	N/A (levee construction, maintenance, and repair)			✓	

Agency	Interest in Groundwater	Adopted Water Planning Documents	YCWA's Water Advisory Committee Member (part of GMP effort)	RWMG Participant	Other Involvement in IRWMP
Camp Far West Irrigation District	Agricultural Irrigation		✓		
<b>Public Water Suppliers</b>					
California Water Service (for City of Marysville)	Municipal supply	<ul style="list-style-type: none"> <li>▪ Urban Water Management Plan (2011)</li> </ul>	✓		
City of Wheatland	Municipal supply	<ul style="list-style-type: none"> <li>▪ General Plan Update Master Water Plan</li> <li>▪ Johnson Rancho Water Supply Assessment</li> <li>▪ Hop Farm Annexation Water Supply Assessment</li> </ul>		✓	<ul style="list-style-type: none"> <li>▪ Input on IRWMP Land Use chapter</li> <li>▪ Participation in RWMG</li> </ul>
Linda County Water District	Municipal supply	<ul style="list-style-type: none"> <li>▪ Urban Water Management Plan (2011)</li> </ul>	✓	✓	Active participants in IRWMP process; members of RWMG
Olivehurst Public Utilities District	Municipal supply	<ul style="list-style-type: none"> <li>▪ Urban Water Management Plan (2011)</li> <li>▪ Bear River Project Water Supply Assessment (2006)</li> <li>▪ Country Club Estates Water Supply Assessment (2007)</li> <li>▪ Magnolia Ranch Water Supply Assessment (2013)</li> </ul>		✓	Active participants in IRWMP process; members of RWMG
Plumas Mutual Water Company	Agricultural irrigation	None			
<b>Other Agencies Within Basin</b>					
Beale Air Force Base	Municipal supply, groundwater remediation	<ul style="list-style-type: none"> <li>▪ Air Combat Command: Installation Sustainability Assessment Report (2012)</li> </ul>	✓	✓	<ul style="list-style-type: none"> <li>▪ Reviewed water-related chapters</li> </ul>
Yuba County	Well permitting, approval of development plans that may rely on groundwater for supply, general plan	<ul style="list-style-type: none"> <li>▪ Storm Water Management Plan (2004)</li> </ul>	✓	✓	<ul style="list-style-type: none"> <li>▪ Input on IRWMP Land Use chapter</li> <li>▪ Participation in RWMG</li> </ul>

A brief description and background of some of the relevant water plans reviewed in the preparation of the Yuba County IRWMP Update follows, along with a description of their jurisdiction, how they apply to the IRWMP, and the compatibility of and dynamics between the IRWMP and the water and land use plans.

### **10.1.1.1 Groundwater Management**

In the Yuba County IRWM region groundwater is an important source for many domestic, industrial, and agricultural users, so readers are also directed to these related sections in this chapter: Urban Water Management Plans, Water Supply Assessments, and Agricultural Water Management Plans.

The valley floor of the Plan area is underlain by an alluvial aquifer system that contains significant quantities of groundwater, and in this area all of the municipal water purveyors (Marysville, Olivehurst PUD, Linda CWD, Wheatland, and Beale AFB) rely on groundwater for municipal/industrial water supply. Existing agricultural uses in these areas also rely on groundwater for about 30 percent of their irrigation needs, a number that can be higher during dry years when groundwater is used to substitute for surface water. The foothill and mountain regions of the Plan area are supported by a fractured-rock aquifer which may, at best, yield small quantities of water for residential purposes and are marginal for farming, ranching, or industrial uses.<sup>2</sup> Rural communities in these areas use surface water for 85 to 90 percent of their water needs. Even so, groundwater is an important source for rural homes' individual domestic wells, as well as small public and private water supply systems.

The 2030 Yuba County General Plan Update designates an additional 8 percent of undeveloped land for development in Yuba County, a number that will ultimately result in 24 percent of the Plan area being urbanized.<sup>3</sup> Areas with the highest growth potential are valley agricultural lands in proximity to Olivehurst, Plumas Lake, Linda, Wheatland, and the State Route 65 and 70 corridors. Conversion of these lands to residential and other urbanized uses will have a three-pronged effect on groundwater supply and demand. First, given that residential users typically use less water per acre than agricultural users, conversion from agricultural to residential uses will reduce water demand on both surface and subsurface supplies. The Draft Water Supply Assessment for the Magnolia Ranch project, which proposes 3,000 to 4,200 dwelling units and other mixed uses on 1,039 acres of land currently used for growing rice, found that project implementation would result in water demand at the site decreasing from approximately 6,400 acre-feet per year (af/yr) to support agricultural uses to 1,104 af/yr to supply proposed urban uses.<sup>4</sup> Second, however, the Magnolia Ranch Water Supply Assessment also found while the Yuba basin "is expected to see an overall reduction in the use of groundwater, the concentration of urban groundwater wells may result in local drawdown cones, and possibly water quality problems in some areas where freshwater overlies poorer-quality groundwater, such as the Wheatland area and potentially the deeper aquifer in the Olivehurst/Linda area."

The third potential effect of conversion of agricultural lands to urban uses is the loss of groundwater recharge from percolation of applied surface irrigation water. Runoff and recharge from irrigation is thought to be a significant contributor to groundwater recharge, offering over 30 percent of the overall recharge to the valley's groundwater basins. In tandem with the increased use of groundwater for municipal and industrial purposes, the reduction of surface water used in irrigation may therefore result in a cumulative reduction in groundwater recharge.

However, the Yuba County General Plan EIR assessed the impacts of General Plan buildout on groundwater recharge and supply and found them to be less than significant within the existing regulatory and planning

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<sup>2</sup> Yuba County, General Plan Background Update Report on Hydrology and Water Quality (February 2009).

<sup>3</sup> Yuba County, 2030 General Plan Update (Adopted June 7, 2011).

<sup>4</sup> Olivehurst PUD, Magnolia Ranch Water Supply Assessment (July 2013).



environment. Among the mitigating plans and policies that reduce groundwater impacts are UWMPs, which address drought contingency planning, water demand management, reclamation, and groundwater resources; YCWA's Groundwater Management Plan, which is designed to implement conjunctive use strategies, perennial yield strategies (the sustainable rate at which groundwater can be withdrawn from the basin without lowering water levels), and avoidance of overdraft; and the 2030 General Plan itself. The 2030 General Plan includes open space designations for important recharge areas for the underlying groundwater basins, including areas near the Feather, Yuba, and Bear Rivers and Honcut Creek. The General Plan also includes policies that promote groundwater infiltration and prevent overdraft.

Development of water resources for agricultural lands within the incorporated areas of Yuba County, Marysville, and Wheatland, is not a significant issue as these are highly urbanized areas. The Marysville General Plan does not address the source or supply of water for new development; however, growth is constrained by the ring levee system around the city to such an extent that there is very little vacant land remaining in Marysville. According to City of Wheatland planning staff, during the planning process for new development projects, it is assumed that groundwater resources will be available for utilization.

In the foothill and mountain regions of the Plan area, where the anticipated growth is much less than the valley floor, no large-scale projects are currently proposed. New development is primarily in the form of small subdivisions or buildout of individual vacant lots larger than five acres, served by individual wells.<sup>5</sup> As mentioned earlier, groundwater is an inadequate and unreliable water supply for large-scale use in the foothills. While most growth is anticipated on the valley floor, the foothill and mountain domestic users who rely on groundwater may experience water supply issues, especially in the face of climate change and continued drought conditions.

#### ***YCWA Groundwater Management Plan Update 2010***

YCWA collaborates and coordinates with many different agencies on groundwater management and planning activities. Each of the agencies with which YCWA collaborates are involved in groundwater pumping, monitoring, and data management, so information sharing and collaboration on groundwater activities is mutually beneficial to protect and preserve the resource. During preparation of its Groundwater Management Plan (GMP), YCWA facilitated a Water Advisory Committee comprised of various outside agencies. **Table 10-2** includes information on participants in that process.

YCWA first prepared a GMP in 2005 and last updated it on December 14, 2010. Water Code Sections 10750 et seq. and the Yuba County Water Agency Act (Assembly Bill 3030) authorize YCWA to adopt, implement, and update a GMP. YCWA has committed to a five-year evaluation interval of its GMP in order to promote its goals and objectives. The overriding goal of the GMP is to "maintain a viable groundwater resource for the beneficial use of the people of Yuba County." To meet this goal, YCWA adopted seven specific basin management objectives (BMOs). **Table 10-3** compares the GMP's BMOs with corresponding objectives identified by the RWMG.

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<sup>5</sup> Boeck, Van., pers. comm. via email with Jessica Hankins (April 12, 2014).

<b>Table 10-3. Comparison of Groundwater Management Plan Basin Management Objectives and IRWMP Groundwater Objectives</b>		
<b>GMP BMO (summarized)</b>	<b>IRWMP Objective (summarized)</b>	<b>Comments</b>
1: Maintain sustainable groundwater elevations	1.2: Promote water conservation and water use efficiency by instituting techniques such as groundwater recharge, conjunctive management, irrigation efficiencies, municipal water conservation, water recycling and reuse	N/A
2: Protect against and monitor for potential inelastic land surface subsidence	N/A	N/A
3: Maintain and improve groundwater quality impacts from toxins of industrial uses and TDS of deep groundwater pumping	2.2: Minimize water quality impacts from flood, effluent discharge and wastewater spills	No direct reference in RWMG objective to impacts from industrial uses and deep groundwater pumping
4: Evaluate the relationship (if any) between groundwater pumping and surface water flows, to mitigate any impacts to fish and wildlife habitats	2.5: Maintain and improve water quality required to restore and protect freshwater ecosystems, fisheries, and groundwater-dependent habitat	N/A
5: Improve communication and coordination among Yuba groundwater basin stakeholders	1.4: Promote disaster preparedness and conservation planning efforts 1.8: Promote regional education and outreach regarding water supply issues and needs	N/A
6: Maintain local control of the Yuba groundwater basin	N/A	N/A
7: Improve understanding of the Yuba groundwater basin and its stressors by continuing with data programs and exploratory studies and investing in new research to improve understanding of groundwater usage, geology, and flow	3.4: Enhance floodplain function and wildlife habitat while achieving multiple flood management benefits	N/A

From: YCWA, Groundwater Management Plan (2010), and Draft Chapter 13 Goals, Objectives, Issues and Conflicts, Draft Yuba IRWMP Update (2014).

As seen in **Table 10-3**, no inconsistencies were identified during the comparison, and in most cases the plans are compatible. The GMP BMOs do not always have corollary IRWMP objectives, but this reflects the different focuses of the two plans. A similar comparison of the IRWMP with land use planning documents revealed that the same held true for plan objectives, and that there were no inconsistencies among documents.

### ***YCWA Transfer Program***

Currently, YCWA monitors North and South Yuba groundwater subbasin levels in cooperation with DWR, gauges groundwater quality, conducts groundwater studies, and exercises groundwater resources for the benefit of the county and state. Groundwater supplies in the Yuba County IRWM region lack resiliency after droughts based on past events, but they are remaining more stable with interbasin water transfers<sup>6</sup> and the introduction of surface water supplies to agriculture.<sup>7</sup> Ultimately, this could result in increased vulnerability to

<sup>6</sup> Yuba County Water Agency, Yuba County Water Agency Groundwater Management Plan (2010).

<sup>7</sup> Ibid.

climate change if the Yuba basin is overdrawn due to out-of-basin transfers or diversions, climate drying, or shifting state policies that could tax this finite supply. One of the Yuba County IRWM region's water management strategies has been to move water from one river basin to another to provide water for all beneficial uses. The Yuba County Water Agency Transfer Program deals in both surface and groundwater substitution transfers, and for groundwater substitution transfers, YCWA participates in close monitoring of the groundwater basin. Many (if not most) of these projects seek to capture flows during the winter season and use them to meet demand from municipal/industrial users, agricultural users, and the environment for water during the summer.<sup>8</sup> Groundwater substitution transfers have been completed in six relatively dry years since 1991; during such a year, groundwater demand can double and is then generally recharged within two to three years after pumping ends.

As described in Chapters 6 and 7, *Region Description* and *Water Supply*, respectively, conflicts surrounding fisheries and the interrelated conflicts of regulatory compliance and out-of-region water transfers have long been a source of discord in the region. The RWMG also differed over whether new storage facilities should be considered for out-of-region water transfers. However, on the subject of transfers from existing groundwater sources, the RWMG and local General Plans are silent.

#### ***YCWA Conjunctive Use Program (Part of the Lower Yuba Accord)***

The 2007 Lower Yuba River Accord between the YCWA and seven of the local irrigation districts/mutual water companies includes three major agreements and one with PG&E. The three agreements include a Fisheries Agreement, Water Purchase Agreement, and several Conjunctive Use Agreements, all of which work in tandem to protect water resources for agricultural, municipal, and environmental beneficial uses. To provide the required flows for the Fisheries Agreement, YCWA implements the Conjunctive Use Agreements which integrate surface water and groundwater supplies of the participating irrigation districts/mutual water companies with the operations of the Yuba River Development Project at the New Bullards Bar Reservoir. These agreements ensure that all groundwater use will be within the safe yield of the groundwater aquifer, and the program is consistent with YCWA's GMP. YCWA and local irrigation districts/mutual water companies operate a Groundwater Monitoring and Reporting Program to ensure that groundwater pumping associated with the Conjunctive Use Program will be within the safe yield of the groundwater aquifer to safeguard agricultural, domestic, and municipal wells. Under the Yuba Accord, groundwater is used only to irrigate farmland, and no groundwater is exported out of Yuba County.

As part of the conjunctive use program, YCWA developed a groundwater adaptive management tool (GAMT) in 2008 to quantitatively integrate groundwater basin conditions into YCWA's planning process. The GAMT uses the historical groundwater level data in the Yuba River basin in coordination with the Yuba River Basin Model, the existing surface water planning tool, to address groundwater substitution transfer requests from DWR and other potential water purchasers. The GAMT can be used as a predictive tool of basin response and recovery to plan for future groundwater transfers and to help create a report documenting the status of the groundwater basin, pre- and post-transfers.

The local municipal general plan goals and policies, as well as the RWMG's identified objectives support conjunctive use. Yuba County General Plan Policy CD 14.12, for example, states that "The County will coordinate with Yuba County Water Agency on conjunctive water use."

More details on the Accord and its wider benefits are discussed below in the Watershed Management and Restoration section of this chapter.

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<sup>8</sup> Department of Water Resources, California Water Plan (2009).

### 10.1.1.2 Urban Water Management

Urban Water Management Plans serve as master plans for water supply and resources management, and must be prepared by urban water suppliers that provide over 3,000 af of water annually or serve more than 3,000 connections. These plans function as long-term planning documents, and the conclusions and recommendations from the UWMPs determine key aspects of long-term capital investment by each agency, as well as guidance for Plan project development.

UWMPs describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, both of which inform the IRWMP, as follows:

- For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, the UWMP describes plans to replace that source with alternative sources or water demand management measures, for an average water year, a single dry water year, multiple dry water years. This is an adaptive strategy that will help the region remain climate resilient.
- The UWMP describes opportunities for exchanges or transfers of water on a short-term or long-term basis and actions to be undertaken to prepare for and implement during a catastrophic interruption of water supplies, including a regional power outage, an earthquake, or other disaster.

Preparation of UWMPs is coordinated with local water, wastewater, groundwater, and planning agencies and includes a description of the wastewater collection and treatment systems in the service area. Coordination such as this is essential to successfully implementing an IRWMP. One key requirement for UWMPs is that they must be consistent with the local jurisdiction's policies on water management and natural resources. UWMPs are among the crucial documents used in the preparation of IRWMPs as well.

The UWMPs in the Plan area include those prepared by the following entities in 2011:

- California Water Service (for the City of Marysville)
- Linda County Water District
- Olivehurst Public Utilities District

These entities, along with the City of Wheatland, also monitor their groundwater levels on a monthly basis. While the City of Wheatland is not required to prepare a UWMP, it has prepared a Master Water Plan, the purpose of which was to estimate water demands needed to serve the General Plan Update's proposed land uses and identify the available water sources to serve the GPU demands.

Beale Air Force Base (AFB) is also not required to prepare a UWMP with only 382 households at the time of the 2010 Census.<sup>9</sup> However, Beale has prepared an Installation Sustainability Assessment Report (ISAR) (2012) that is intended to facilitate resource sustainability and, in turn, sustainability of the Base itself. Water use in 2009 was 500 million gallons, a number that the ISAR identifies as an 'off-target metric' that equates to high water consumption by industry standards and requires further efforts at water conservation and sustainability of supply. Domestic users residing at Beale AFB reportedly use approximately 300 gallons per day compared to, for example, domestic water consumers in Olivehurst PUD who used an average of 146 gallons per day from 2006 to 2011.<sup>10</sup> Additionally, potable water at Beale is used not only for residential consumers, but also for industrial, commercial, and irrigation purposes, including for its golf course. The report also indicates that

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<sup>9</sup> US Census Bureau, 2010 Census, American FactFinder.

<sup>10</sup> Olivehurst PUD, 2010 Urban Water Management Plan (Adopted November 17, 2011).

“Beale AFB currently does not implement storm water quality and quantity practices on new development and does not return storm water flows to pre-development levels on individual sites.” The ISAR recommends implementation actions to improve the water sustainability scenario at Beale AFB. A sampling of the recommended actions are listed below.

- Continue to implement the required two percent reduction per year of water consumption based on Executive Order 13423.
- Replace existing landscaping with native plantings and xeriscape.
- Capture storm water for irrigation purposes.
- Incorporate pervious concrete pavements in parking areas and sidewalks.
- Implement storm water requirements under Section 438 of the Energy Independence and Security Act.

These recommended actions are compatible with IRWMP objectives and local water and land use plans.

### **10.1.1.3 Water Supply Assessments**

Coordination between land use planners and water managers may or may not occur during the initial review and evaluation of a project, depending on the scope of the project. However, projects over 500 units typically result in more land use planner/water purveyor collaboration due to the requirements of Senate Bills (SB) 221 and 610. These statutes ensure the consideration of water supply in land use decisions related to large residential developments. SB 221 requires projects with more than 500 proposed dwelling units to obtain verification from the water purveyor that it has a sufficient supply to service the proposed project, as well as all other existing and anticipated future uses, including agricultural and industrial, in its service area for a 20-year period in normal, single dry, and multiple dry years. SB 610 requires certain development projects, including those with more than 500 proposed dwelling units, and projects that will increase residential service connections by more than 10 percent, to prepare a water supply assessment (WSA). The WSA is used by the lead planning agency in its state-mandated environmental review of the project under the California Environmental Quality Act (CEQA). The WSA must evaluate the water purveyor’s supplies to meet existing and anticipated demands along with the proposed project.

The WSA may work hand in hand with the local UWMP, if the UWMP anticipated the development. Both of these statutes repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to fulfill the specific requirements of these statutes’ standards.<sup>11</sup>

One of the limitations of SB 221 and SB 610 is that the opportunity for land use and water supply planning collaboration they generate is only applicable to large-scale residential developments. Even several residential developments of 499 units in size would not statutorily trigger the nexus of water supply/land use planning that one development over 500 units would. Yet another limitation of SB 221 and SB 610 is that they require only a 20-year analysis of water supply, a relatively short timeline for planning water supplies into the future. As previously mentioned, however, cumulative impacts of planned buildout projected in the Yuba County General Plan have been evaluated in the General Plan EIR, which found the impacts less than significant due to existing regulatory requirements and water plans in combination with the new General Plan policies.

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<sup>11</sup> CA Department of Water Resources, Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to assist water suppliers, cities and counties in integrating water and land use planning. (October 8, 2003). Available at: [http://www.water.ca.gov/pubs/use/sb\\_610\\_sb\\_221\\_guidebook/guidebook.pdf](http://www.water.ca.gov/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf).

WSAs at times acquire information from IRWMPs; conversely, the Yuba County IRWMP Update uses information from the following Plan area WSAs:

- Draft Magnolia Ranch WSA (2013)
- Country Club Estates WSA (2007)
- Bear River Project WSA (2006)
- Johnson Rancho WSA (2008)
- Hop Farm WSA (2008)

As an example, the Country Club Estates WSA prepared by Olivehurst PUD stated that the YCWA's Groundwater Master Plan as well as the draft 2008 Yuba IRWMP were instrumental in preparing the technical analysis of water supply availability for the planned development. The draft WSA prepared by Olivehurst PUD in 2013 for the proposed Magnolia Ranch project relied heavily on information found in the Olivehurst 2010 UWMP, and it used information from the adopted 2008 IRWMP as well.

#### **10.1.1.4 Agricultural Water Management**

Approximately 85 to 90 percent of irrigation water in Yuba County is supplied by surface water. Exceptions include Reclamation District 10 in the North Yuba subbasin and parts of Reclamation District 784 in the South Yuba subbasin, where groundwater is the primary source of irrigation water. All YCWA member units in both subbasins use groundwater to supplement surface water supply for agricultural use.<sup>12</sup> YCWA's 2010 GMP reports that groundwater pumping by Ramirez Water District, CID, HID, and BVID slowed when surface water deliveries began to these districts. The shift in agricultural water usage starting in the 1970s from groundwater to surface water has allowed groundwater levels to recover from overdraft conditions.

##### ***YCWA Agricultural Water Management Plan***

The Agricultural Water Management Planning Act (Act) [Section 10826 (a)] requires every agricultural water supplier providing water to more than 10,000 irrigated acres, excluding recycled water, to adopt and submit an Agricultural Water Management Plan (AWMP) every five years to DWR. Plans are intended to assure the appropriate level of reliability to sufficiently meet the needs of its agricultural customers during normal, dry, and multiple dry years. As such, they indicate water use over time for a major economic sector, again informing the IRWM process toward balancing water needs and in potential project development.

YCWA prepared its 2010 AWMP in accordance with the requirements of the Water Conservation Act of 2009 (SBx7-7). A key aspect of YCWA's water management activities is the conjunctive management of available surface water and groundwater supplies. To that end, YCWA has endeavored to make available surface water from the Yuba River for irrigation by its member units, reversing potentially serious overdraft in the South Yuba groundwater subbasin. Additionally, YCWA has actively facilitated the conjunctive use of groundwater by the member units to reduce demand for surface water in times of limited supply and to increase statewide water supplies by making surface water available for transfer to meet environmental or other demands through groundwater substitution. Extensive recovery and reuse of spillage and tailwater is practiced within the member unit service areas, as well, to contribute to recharge of the underlying aquifer. The net effect of this conservation is to decrease Yuba River diversions and groundwater pumping, enhancing local supply and increasing the amount of water available for transfer.

SBx7-7 describes 16 Efficient Water Management Practices (EWMPs) aimed at promoting efficient water management. Of these, 2 are mandatory, and the remaining 14 are to be implemented if technically feasible

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<sup>12</sup> YCWA, Agricultural Water Management Plan, 2010.

and locally cost effective. Of the 14 conditional EWMPs, YCWA is implementing all of those that are technically feasible at locally cost-effective levels and is seeking to increase implementation activities for key EWMPs that most effectively support YCWA's water management objectives through the pursuit of additional funding.

Although the AWMP necessarily focuses on agricultural water management, it also takes into consideration the overall water management practices of YCWA, including those practices encompassing groundwater and surface water management. As such, YCWA's GMP, the Lower Yuba Accord, and the Yuba IRWMP were key coordinating documents in the preparation of the AWMP. Because they are updated every five years, there will also be forthcoming opportunities for further collaboration between the RWMG and the agencies preparing the AWMP, resulting in dynamic and flexible AWMP and IRWMP documents.

#### **10.1.1.5 Flood Protection and Other Hazard Mitigation**

According to the Yuba County Multi-Jurisdictional Multi-Hazard Mitigation Plan, flooding is the “greatest natural disaster” that occurs in Yuba County and will continue to recur without intervention. Flooding is primarily an issue for the valley regions of the Plan area, though dam failures (the risk of which is considered by the Division of Dam Safety to be “very low probability”) could result in flood risks to foothill and mountain area residents as well.

Levee construction was a common solution to the problem of flooding, but these structures have failed on numerous occasions for a variety of reasons ranging from insufficient design and materials to extraordinary flood events. The 2013 Feather River Regional Flood Management Plan states the existing levee system is “inadequate to protect developing areas.”<sup>13</sup> Lake Oroville and New Bullards Bar Reservoir, as well as an extensive system of levees, provide flood control along the Feather, Yuba, and Bear Rivers, Dry Creek, and Huncut Creek. Within Yuba County, levee maintenance is the responsibility of the reclamation districts, including Reclamation District No. 10, RD No. 784, RD No. 817, and RD. No. 2103. Relevant findings of regional flood planning have been incorporated into several Plan chapters.

#### ***Feather River Regional Flood Management Plan and Central Valley Flood Protection Plan***

To better address the regionwide flood management issues and concerns, a number of stakeholders in the Feather River Basin recently partnered with DWR to develop the Feather River Regional Flood Management Plan (FRRFMP). The FRRFMP addresses flood management for 302,000 acres of levee-protected lands within Sutter, Butte, and Yuba Counties and a small portion of Placer County along the Bear River near Wheatland.

The partnering Yuba RWMG stakeholders include YCWA, Three Rivers Levee Improvement Authority (TRLIA), and the Marysville Levee Commission (MLC); agencies outside the Yuba IRWMP region include the Sutter Butte Flood Control Agency (SBFCA). The FRRFMP incorporates the concerns and priorities of various communities in the Feather River Basin, including local Levee Maintaining Agency representatives, elected officials, property owners, businesses, interested individuals, small community representatives, native Tribes, and NGOs.

The FRRFMP establishes the flood management priorities of the Feather River Basin and is intended to facilitate future funding and implementation of much-needed flood risk reduction projects throughout the Feather River Basin. This regional approach allows for improved coordination with state and federal agencies in the planning and implementation of flood management strategies, which increases the local benefit of program implementation while reducing local cost share.

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<sup>13</sup> California Department of Water Resources, Feather River Region: Administrative Draft Regional Flood Management Plan (Rev. October 4, 2013).

The FRRFMP is currently in progress and the latest Administrative Draft version was posted to the document website in October 2013. The plan is designed in accordance with the recently adopted 2012 Central Valley Flood Protection Plan (CVFPP) which provides a broad vision to manage flood risks in the Central Valley and to guide regional- and state-level financing plans for investments which are anticipated in the range of \$14 billion to \$17 billion over the next 20 to 25 years. The CVFPP proposes a system-wide investment approach for sustainable, integrated flood management in areas currently protected by facilities of the State Plan of Flood Control. The CVFPP will be updated every five years, with each update providing support for subsequent policy, program, and project implementation. The FRRFMP is designed to inform the 2017 Five Year Update of the CVFPP with more detailed information about the needs of the Feather River Basin.

The objectives of the regional planning process are founded on, and consistent with, the goals of the 2012 CVFPP as described below:

### *Goals of the FRRFMP*

#### Primary

*Improve Flood Risk Management* – Reduce the chance of flooding, and damages once flooding occurs, and improve public safety, preparedness, and emergency response through:

- identifying, recommending, and implementing structural and nonstructural projects and actions that benefit lands currently receiving protection from facilities of the SPFC; and
- formulating standards, criteria, and guidelines to facilitate implementation of structural and nonstructural actions for protecting urban areas and other lands of the Sacramento and San Joaquin River basins and the Delta.

#### Supporting

- Improve operations and maintenance;
- promote ecosystem functions;
- improve institutional support; and
- promote multi-benefit projects.

While the regional goals are consistent with the CVFPP's, the regional objectives place a greater emphasis on the preservation of economically productive agricultural land than does the CVFPP. The RFMP states that because "agriculture provides the foundation for the regional economy, loss of highly productive agricultural lands to accommodate larger flood conveyances, transient floodplain storage, and wildlife habitat could affect the long-term viability of the regional economy, including the many secondary and tertiary businesses which support agriculture." The RFMP further asserts that the "region seeks to take maximum advantage of these evolving opportunities while minimizing future land use conversion to wildlife and fisheries habitat" due to the number of existing habitat restoration and augmentation projects, such as the TRLIA setback levees along the Feather and Bear Rivers. This emphasis on maintaining productive agricultural lands is mirrored in IRWMP Objective 3.7: "Steward the region's biodiversity and ecological resources that directly provide opportunities for public access, recreation, education while maintaining the co-equal objectives of flood protection and preservation of agricultural lands." Yuba County General Plan Policy NR 3.15 also supports the protection of local agricultural operations, though where agricultural and restoration uses conflict, the General Plan is silent.

### ***200-Year Flood Protection Standards***

New California flood protection standards under the CVFPP require 200-year flood protection for structures (while FEMA still requires 100-year flood protection). These new flood protection mandates require not only physical protection from 200-year flood events, typically in the form of levee improvements, but also trigger



increased insurance requirements. The RFMP indicates two alternative solutions to this issue: the flood management system must be improved, or further development in areas prone to flooding must be limited. Recreation districts within the Plan area favor levee construction over development limitations, and Wheatland General Plan Policy 9.C.3 allows project development in floodplains with levee construction as mitigation. Yuba County also supports collaboration with the various flood control agencies to improve and maintain the levee system that “protects developed and planned development areas.” New growth in the Plan area will place additional pressures on the use of floodplains for urban development.

The recently adopted Yuba County General Plan Update (2011) contains several goals and policies that support flood control and minimization of disturbance to floodplains. Flood control objectives are to be incorporated into recreational open space areas along rivers and streams under Policy NR1.11, and the open space designations of “Critical Habitat” and “Water and Groundwater Recharge Areas,” primarily found along the county’s major waterways, support the protection of water quality and habitat associated with riverine and riparian areas.

According to Yuba County planning staff, development cannot occur in floodplain areas unless structures are elevated above the 100-year base flood elevation and an Elevation Certificate is provided. TRLIA has improved the levees along the Feather River south of Marysville from the Yuba River to the Bear River; along the north side of the Bear River from the Feather River to the Western Pacific Interceptor Canal; and along the Western Pacific Interceptor Canal from the Bear River to south of McGowan Parkway in the southern area of the county. TRLIA has also improved levees on the the south side of the Yuba River from the Feather River to just west of the Yuba Gold Fields. TRLIA is working on improving the levees in the Yuba Gold Fields, but there is no current estimated completion date for the Gold Fields area. The levees north of Marysville have not been assessed, and FEMA therefore deems them inadequate to provide 100-year protection to the area north of Marysville to the county line, east of the Feather River, and west of the Union Pacific Railroad.<sup>14</sup>

Yuba County requires that new structures be constructed five feet above the adjacent grade in order for the property owner to obtain reduced flood insurance rates. There is only one area in the southern part of the county (where flooding occurs more frequently) with a currently proposed large development project, Magnolia Ranch. Within this development is an area in the 100-year flood zone proposed for open space as part of the project’s drainage system.

The General Plan policies of the Cities of Marysville and Wheatland General Plan support similar protection of inhabited uses from the deleterious impacts of floods, while permitting compatible uses such as open space and recreation within floodplains. IRWMP Objective 5.1 supports the improvement of flood protection in the region and regional collaboration on emergency preparedness, with performance metrics including collaboratively developed plans and reduction of flood insurance rates and risk.

### ***Multi-Jurisdictional Multi-Hazard Mitigation Plans***

Hazard mitigation plans identify and develop strategies to address the risks from natural hazards such as wildfires, flooding, severe weather, dam failure, drought, and climate change. They also establish a basis for coordination among participating agencies and assist in meeting the requirements of federal assistance program.

Per the Disaster Mitigation Act of 2000, Yuba County and other local government agencies and special districts are required to develop and adopt Multi-Hazard Mitigation Plans to be eligible for federal disaster assistance

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<sup>14</sup> Boeck, Van, email communication with Jessica Hankins (April 18, 2014).

and hazard mitigation grant funds. In the Plan area, Yuba County, YCWA, and Dobbins Fire Protection District have all adopted Multi-Hazard Mitigation Plans. The goals and strategies of these plans are consistent across the documents, with the main purpose being to create a framework for the procedures and projects that will reduce risk and losses in an emergency situation such as wildfire, flooding, or earthquake. The process of stakeholder and community participation is an integral component in the hazard planning process.

As a result of disaster losses and damage caused by two major levee failures and two wildland fires in the last two decades, the Yuba County Board of Supervisors implemented post-disaster mitigation efforts as well as pre-disaster mitigation projects such as fire fuels treatment projects, flood protection projects, and elevation of homes for increased flood protection. The mission statement of the Yuba County Multi-Jurisdictional Multi-Hazard Mitigation Plan is “[t]o prevent losses by identifying and implementing hazard mitigation strategies and projects to reduce and eliminate long-term risk to people, property and the environment.” Local plans and the RWMG also support the general objectives of the hazard plans.

#### ***City of Wheatland External Source Flood Protection Plan***

The City of Wheatland’s 2005 External Source Flood Protection Plan (ESFPP) was developed as part of its General Plan update process. The Wheatland ESFPP evaluates three alternative flood protection actions to protect existing and proposed development areas (up to nearly 4,000 acres) in the City of Wheatland, all of which consist of construction of new levees or improvements to existing levees. While levee construction and improvement are not in opposition to the goals, objectives, and resource management strategies of the Yuba County IRWMP Update, the RWMG has developed a diverse set of flood management strategies that extends beyond the construction and improvement of levee systems.

#### **10.1.1.6 Storm Water Management**

The US Environmental Protection Agency (USEPA) has established a two-tiered program to address municipal storm water discharges, administered by the applicable regional water quality control board. These plans address and affect the IRWMP primarily about water quality and storm water management, and related projects.

Yuba County, in conjunction with the City of Marysville, prepared and adopted a Storm Water Management Plan (SWMP) in 2004 to fulfill requirements of the National Pollutant Discharge Elimination System (NPDES) Phase II requirements for Small Municipal Separate Storm Sewer Systems. The Yuba County SWMP provides a plan for the affected agencies within the county to follow Best Management Practices (BMPs), measurable goals, and timetables for the implementation of six minimum-control measures required by the USEPA and the State Water Resources Control Board (SWRCB). The measures include public education, public participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management, and pollution prevention/good housekeeping for municipal operations. A report is prepared annually to identify the progress of the SWMP implementation. The SWMP is a highly dynamic document, due in large part to the rapidly evolving nature of storm water regulations. Because of the SWMP’s flexibility in providing ongoing revisions as necessary to the document (without waiting for a seminal fifth or twentieth year as is the case with many other planning documents), this document and its preparing agencies, Yuba County and Marysville, are good candidates for a strengthened collaborative relationship with the RWMG and IRWM process.

#### **10.1.1.7 Watershed Management and Restoration**

The premise of watershed management is that water quality and ecosystem problems are best addressed at the local watershed level rather than at the individual discharger-, waterbody-, or state-agency-level. The

watershed approach has opened the door to a more holistic method of solving environmental and resource management problems by using the experience of locally based watershed partnerships. In turn, the state recognizes that it has an ongoing responsibility to help local stakeholders assess their watersheds, create watershed plans, and implement watershed management measures to address broad concerns, such as those involving water quality, riparian and wildlife habitat, water supply, flooding and fires—the many issues that often cross political and regulatory boundaries and therefore require significant coordination in order to find solutions.

Watershed management and restoration plans are based on watershed planning units and vary in their scope, location, and authority. They are used in the Yuba County IRWMP to identify issues and vulnerabilities, and often suggest adaptive strategies to make the watershed more resilient. Thus, they help inform objectives and projects.

Goal NR1 and its corresponding policies in the Yuba County General Plan speak to the need for “High quality, accessible public recreational open space.” Of the policies attending this goal, Policy NR1.5, NR1.11, and NR1.16 promote the recreational use of open space corridors along rivers and streams along with habitat preservation and restoration uses. Biological Resources Goal NR5 includes many policies supporting the protection, enhancement, and restoration of habitat along the Yuba River. The Marysville and Wheatland General Plans also identify similar goals and objectives in their Open Space, Conservation, and Recreation Element and Environmental Resources Element, respectively. The RWMG identified several objectives consistent with the county and city policies that promote recreation planning that also manages human impacts on watershed health, and other objectives that support the enhancement and restoration of habitat where feasible. The county and city policies appear to be consistent with the IRWM issues.

### ***Basin Plan for the Sacramento River Basin***<sup>15</sup>

The Clean Water Act requires that the EPA adopt water quality standards for surface waters within the United States, and that these standards be reviewed and revised, if necessary, at least every three years. The SWRCB carries out its water quality protection authority through the application of specific Regional Water Quality Control Plans, formulated and adopted by the Regional Water Quality Control Boards (RWQCBs), which submit these plans to the SWRCB for review and approval.

RWQCB basin plans provide standards through: 1) a designation of existing and potential beneficial uses, 2) water quality objectives to protect those beneficial uses, and 3) programs of implementation needed to achieve those objectives. The RWQCBs are required to consider a number of items when establishing water quality standards, including: 1) past, present, and probable future beneficial uses; 2) environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; 3) water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area; and 4) economic considerations.

SWRCB’s management goals are specified in Central Valley RWQCB’s Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin Rivers, the fourth edition of which was initially adopted in 1998 and which was most recently revised in 2009 (Central Valley RWQCB 1998). The Basin Plan formally sets forth designated existing and potential beneficial uses and water quality objectives for areas, including the Yuba River and the entire Yuba County IRWM region.

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<sup>15</sup> Excerpted from Yuba County Water Agency Pre-application Document, 2009.

The Basin Plan divides the Yuba River into two Hydro Units (HU): 1) HU 517, which includes the Yuba River and its tributaries upstream of the US Army Corps of Engineers' (USACE) Englebright Reservoir; and 2) HU 515.3, which includes the Yuba River from USACE's Englebright Dam to the Feather River. The Basin Plan identifies numerous beneficial uses, some of which include municipal and domestic supply, agricultural supply, industrial supply, groundwater recharge, recreation, fishing, and habitat.

Water quality objectives included in the plan establish criteria for meeting the plan's goals for several water-quality parameters. Parameters identified in the plan for inland surface waters include levels of bacteria, biostimulatory substances, chemical constituents, dissolved oxygen, oil and grease, pH, pesticides, salinity, sediment, temperature, toxicity, and turbidity. Groundwater parameters include bacteria, chemical constituents, radioactivity, tastes and odors, and toxicity.

The relevant local planning documents, in addition to those objectives identified in the IRWM process, all support these water-quality objectives. No inconsistencies have been identified among these documents.

### ***Watershed Management Initiative for the Sacramento Hydrologic Region (2003)***

The Watershed Management Initiative (WMI) was approved as part of the 1995 SWRCB Strategic Plan and remains a part of the current Strategic Plan. The WMI establishes a broad framework overlying the numerous federal- and state-mandated priorities. As such, the WMI helps the RWQCBs achieve water resource protection, enhancement, and restoration while balancing economic and environmental impacts.

The integrated approach of the WMI involves three main ideas:

1. Use water quality to identify and prioritize water-resource problems within individual watersheds. Involve stakeholders to develop solutions.
2. Better coordinate point source and nonpoint source regulatory efforts. Establish working relationships between staff from different programs.
3. Better coordinate local, state, and federal activities and programs, especially those relating to regulations and funding, to assist local watershed groups.

The Yuba, Bear, and Feather watersheds are part of the Sacramento Hydrologic Region WMI. The Yuba County IRWM region's water-quality issues are compatible with the issues addressed in the Central Valley RWQCB's Watershed Management Initiative chapter for the Central Valley.<sup>16</sup> These common issues include metals, sedimentation, and temperature.

### ***FERC Licensing Requirements***

While FERC licenses for management of hydroelectric projects have influence on planning documents mentioned in this Plan, they are not planning documents in and of themselves, and are therefore not covered in this chapter. For further discussion of FERC licensing, see Chapter 6 *Region Description*, Chapter 7 *Water Supply*, and Chapter 13 *Resource Management Strategies*.

### ***Development of Flow Criteria for the Sacramento-San Joaquin Delta***

The SWRCB is establishing flow requirements for water coming from rivers that flow into the Delta to meet the Delta's restoration and water-supply goals. Many of these river systems' headwaters are located in the foothills region of the Plan area. If more water is required for flow into the Delta, it will largely originate from the

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<sup>16</sup> Regional Water Quality Control Board, Central Valley Region, Watershed Management Initiative Chapter (December 1, 2002, with rev. October 2004).

upstream areas of origin, which have separate needs related to local community sustainability and services already being provided for downstream interests.<sup>17</sup> In 2010, SWRCB finalized the Development of Flow Criteria for the Sacramento-San Joaquin Delta (Flow Criteria), the purpose of which was to identify new flow criteria necessary for fish protection in the Sacramento-San Joaquin Delta (Delta) ecosystem in accordance with the Delta Reform Act of 2009, Water Code Section 85000 et seq. The Flow Criteria do not have any regulatory or adjudicative effect but are used to inform planning decisions for the Delta Plan being prepared by the Delta Stewardship Council and through the collaborative Bay Delta Conservation Plan effort. The SWRCB recognizes that there are many other important beneficial uses that these waters support such as municipal and agricultural water supply and recreational uses. The SWRCB indicates in Flow Criteria that it must consider and balance all competing uses of water in its decision-making. More broadly, the SWRCB has stated that it will factor in relevant water quality, water rights, and habitat needs as it considers potential changes to its Bay-Delta objectives.<sup>18</sup> Therefore, these flow criteria have the potential to influence regional water planning documents, including the IRWMP, into the future.

### ***Recovery Plan for Chinook Salmon and Steelhead***

The National Marine Fisheries Service developed a Recovery Plan for the Sacramento River winter-run Chinook salmon, the Central Valley spring-run Chinook salmon, and the California Central Valley steelhead (June 2014) that includes the Plan area. The goal of the Recovery Plan is to restore and safeguard these special-status species to the point where Endangered Species Act (ESA) protections are no longer warranted. The foothills region of the Plan area is listed as a primary reintroduction area in the plan. Spring-run Chinook salmon and Central Valley steelhead spawn and/or migrate in the Plan area. The Plan area also contains Critical Habitat designations on the Yuba River for Central Valley spring-run Chinook Salmon and steelhead.

The Recovery Plan lists numerous actions to recover the populations of spring-run salmon and steelhead. RWMG members evaluated the Recovery Plan and concluded that the Plan does not create any substantive conflicts with the Yuba County IRWMP and that the recovery actions identified for the Yuba River are largely consistent with the goals, objectives, and strategies noted in the Yuba IRWMP update.

### ***Bear Yuba Land Trust Strategic Conservation Plan***

The Bear Yuba Land Trust (BYLT) is a non-profit NGO working in the Bear and Yuba watersheds to protect and conserve lands for public access, recreation, cultural resources preservation, and habitat conservation purposes by acquiring land, conservation easements, and through restoration projects and management agreements. BYLT's newly prepared Strategic Conservation Plan (SCP) guides decision-making and prioritization of new conservation projects and initiatives. The five stated objectives of the SCP are as follows:<sup>19</sup>

- 1) **Leverage existing protected landscapes: Create connectivity and buffers.** Connectivity of existing open space is a fundamental principle of conservation planning. [ . . . ] As climate change modifies fire regimes, maintaining land management flexibility will be increasingly important. Conservation of larger, unfragmented landscapes not only reduces the threat of fire from human activities, but also gives land managers more flexibility to select management options that have a positive impact across the region. [ . . . ]
- 2) **Protect especially sensitive habitat.** Conserve and restore sensitive habitat areas for species migration upslope, particularly along riverine corridors. Protect important riparian, wetland and

<sup>17</sup> Department of Water Resources, California Water Plan 2013 Update: pp. MC-48, 49 (2013).

<sup>18</sup> State Water Resources Control Board, California Environmental Protection Agency, Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem, Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009 (August 3, 2010).

<sup>19</sup> Bear Yuba Land Trust, Strategic Conservation Plan, Working Draft February 2014.

aquatic resources. Floral and faunal species will shift their distributions over time in response to changing climates. [ . . . ]

3) **Protect a healthy forest ecosystem.** Conserve forest lands in a way that maintains the long-term diversity and resilience of forest biological communities: trees, plants, wildlife, and also humans who make their living or recreate in the forest. Work to ensure that soil integrity and water quality are maintained. Support forest management strategies that reduce fuels to reduce the recurrence of catastrophic wildfires. [ . . . ]

4) **Protect agricultural lands.** Work with willing ranchers to permanently preserve agricultural lands. Support efforts to purchase agricultural easements and fund restoration projects. Focus on project connectivity.

5) **Develop publicly accessible open space.** Secure, develop and maintain publicly accessible open space lands for responsible passive recreation. Manage human impact in a way that does not degrade the land.

One of the BYLT’s key initiatives is to “work with Yuba County Planning and Recreation departments to develop a conservation and recreation plan [for the Lower Yuba Gold Fields Conservation and Recreation Area],” and to “build off of collaborative work-in-progress between SYRCL, BYLT, and Western Aggregates.” This initiative is aligned with projects currently being developed for the Gold Fields area as part of the IRWM process, and Objective 4.1 in this Plan “[p]romote[s] comprehensive recreation planning and implementation with a focus on regional economic development.” Further, BYLT has also submitted two key projects during the IRWM process.

The SCP is highly compatible with the Yuba County 2030 General Plan Update and its goals to “protect agricultural lands, rural landscapes, air and water quality, and natural resource areas that prove to be positive characteristics of Yuba County.” In the General Plan Update, Yuba County undertook an effort to re-examine its existing plans in the foothills that provide for urban or suburban levels of density “that may no longer be preferred for the county and should be re-evaluated in light of infrastructure feasibility, interests of the community.” This re-evaluation came as a result of the failure of designated developments such as Yuba Highlands to move forward. The updated plan further defines a framework for this goal that includes “preservation of rural lifestyle,” along with protection of agricultural lands and rural landscapes, and preservation of “foothill community boundaries that will continue to enhance and allow for open space, grazing lands, deer herds, and oak woodlands which define the rural character of the foothills and the County as a whole.”<sup>20</sup>

Yuba County has defined Rural Community Boundaries (RCBs), which are existing historical communities within the foothill areas that allow for a long-term commitment to rural lifestyles and compatible agricultural uses. RCBs have a defined edge to prevent further encroachment into important grazing lands, deer corridors, oak woodlands, and/or valuable agricultural lands. RCBs include Loma Rica, Browns Valley, Oregon House, Dobbins, Rackerby, Brownsville, Challenge, Log Cabin, and Camptonville. These local plan policies and definitions support the mission of BYLT’s SCP.

### **Conservation Lands**

While conserved lands and land trust groups are not typically a part of the regulatory environment (though in certain large land development projects, they can play a role), their presence in the Plan area warrants

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<sup>20</sup> Yuba County, 2030 General Plan Update (Adopted June 7, 2011).

discussion for their positive impacts on the local watershed. In the Plan area are two major land conservancy groups, the Bear Yuba Land Trust (BYLT) and the Trust for Public Land (TPL), both of whom are also part of the Northern Foothills Partnership, a collaborative conservation effort including BYLT, TPL, and Placer Land Trust. The Northern Foothill Partnership works to facilitate investment (generally consisting of acquisition and maintenance and monitoring of lands) in landscape-level conservation of the Sierra foothills and the Yuba and American River watersheds. Their conservation and, at times, restoration efforts are consistent with the local land use and water policies supporting habitat conservation, restoration, and enhancement, such as Wheatland's policies under Goal 8.B, Marysville's policies in their "Conservation and Preservation of Resources" General Plan section, and Yuba County's General Plan conservation policies under Goal NR1 and NR5 and its Critical Habitat and Water and Groundwater Recharge Areas open space designations. Objectives identified by the RWMG in the IRWM process also support the efforts of conservation groups, particularly those listed under Goals 2, 3, and 4.

While there are no newly acquired conservation lands within Yuba County proper, two large properties within the Yuba watershed have been recently acquired: Yuba Narrows Ranch and Black Swan Ranch, both located in far western Nevada County along the Lower Yuba River, adjacent to the Yuba County boundary. Bear Yuba Land Trust and the California Department of Fish and Wildlife (CDFW) are working together to conserve these ranches as part of a larger conservation project. The area includes oak woodlands, ponds, and wetland habitat, and provides habitat connectivity, permanent resource protection, and opportunities for public access for recreation. Ultimately the entire landscape will be transferred to CDFW for ownership and management.

The 530-acre Yuba Narrows Ranch includes almost two miles of frontage along the Yuba River, with acres of graveled spawning beds upon which the Chinook salmon population depends. CDFW, in concert with Trust for Public Land, acquired the Yuba Narrows Ranch in September 2011, ensuring it will be protected in perpetuity as publicly accessible open space.

Bear Yuba Land Trust acquired the 158-acre Black Swan Ranch to protect habitat connectivity for migrating wildlife and opportunities for public access to the Lower Yuba River for recreation, among other reasons. The intact wetlands of Black Swan Ranch are critical habitat for the western pond turtle, bass, and waterfowl, including the American dipper and belted kingfisher. Known special-status species on the properties include valley elderberry longhorn beetle, western burrowing owl, and black rail. Black Swan will also provide new recreational benefits with public access along the historic "Miner's Ditch Trail" which passes through both the Black Swan and Yuba Narrows Ranch. BYLT is planning construction of the trail and other public access amenities.

Directly across the river in Yuba County is the 5,700-acre UC Sierra Foothill Research Station. This conservation corridor links more than 10,000 acres of foothills oak woodlands including CDFW's Daugherty Hill Preserve allowing for north-south animal migration, and watershed protection. These projects are mentioned because they help implement the IRWM intention of sustaining watershed health and protection, and contribute to several Plan objectives.

### ***Lower Yuba Accord***

The Lower Yuba River Accord (Yuba Accord) was implemented as a pilot program in 2006 and 2007, and fully implemented in 2008. The Yuba Accord includes three separate agreements: the Fisheries Agreement, which established higher minimum in-stream flows during specified periods of the year; the Conjunctive Use Agreements between YCWA and some of its member units, which integrate surface water and groundwater supplies with irrigation districts/mutual water companies; and the Water Purchase Agreement, which consists of the DWR and US Bureau of Reclamation's agreement to purchase water from YCWA to improve reliability for

the State Water Project and Central Valley Project, including for fish and wildlife purposes, and to contribute to long-term EWA security. The Yuba Accord's in-stream flows may be modified when the Federal Energy Regulatory Commission issues a new long-term Federal Power Act license to YCWA for the Yuba Project during or after 2016.

Since full implementation in 2008, the Yuba Accord has resulted in significantly higher in-stream flow requirements for salmon and steelhead on the Lower Yuba River, an average of over 100,000 af of water transferred for fish and wildlife in the Bay-Delta estuary and for cities and farms throughout the state, and water rights protections for local farmers in Yuba County. Minimum in-stream flows are generally met in the Yuba River in compliance with the Yuba Accord. However, this may become more difficult as warming and drying of the climate is projected to reduce regional surface flows in some streams and future state water regulations and policies are uncertain. Furthermore, the Yuba Accord's in-stream flows may be modified when FERC issues a new long-term Federal Power Act license to YCWA for the Yuba Project (FERC #2246) during or after 2016.

### ***A 21<sup>st</sup> Century Assessment of the Yuba River Watershed***

In January 2011 the South Yuba River Citizens League, one of the region's most prominent NGO advocates for Yuba River watershed health, released its 21<sup>st</sup> Century Assessment of the Yuba River Watershed. This report includes an evaluation of the watershed health, describes the major contributing factors that impact watershed health, and prioritizes restoration actions to remediate issues within the watershed. Its restoration priorities are as follows:

1. Remediate legacy mining effects (including issues with hazards of abandoned mine lands, sediment-trapped mercury behind in-stream barriers, and Lower Yuba River rehabilitation).
2. Reform water management (including improve the timing and amount of in-stream flows through the FERC process and multi-basin water planning and removing in-stream barriers where appropriate).
3. Restore forest function (including fuel load reduction, support of a biodiverse, mixed-aged forest structure, soil rehabilitation, cessation of clearcutting and logging in riparian corridors, road removal, and control of invasive species).
4. Restore meadow function (including high elevation meadow restoration and control of invasive species).
5. Restore floodplain function (including rehabilitation of the Lower Yuba River).

Plan objectives 2.4, 2.7, 3.1, 3.2, 3.3, 3.5, and 3.6 are generally consistent with the restoration priorities above. Though the RWMG did not identify objectives and performance metrics that directly address all of the restoration priorities, individual projects of the IRWM process work to implement and support the restoration priorities.

#### **10.1.1.8 Low-Impact Development Strategies**

Low-impact development or LID strategies are storm water management strategies aimed at maintaining or restoring the natural hydrologic functions of a site to achieve natural resource protection objectives and fulfill environmental regulatory requirements. LID strategies employ a variety of natural and built features to reduce the rate of surface water runoff, filter pollutants out of runoff, and facilitate infiltration of water into the ground. Typical LID measures include using pervious pavements and green roofs, dispersing runoff to landscaped areas, and routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout a site. Interference with natural watershed functions can be minimized, and impacts on groundwater recharge, surface water quality, and flood hazards can thereby be reduced through appropriate



implementation at development sites. LID measures are most effective when incorporated into a project design during initial site layout and configuration.

Yuba County's General Plan Update includes a description of LID strategies and applies them in Action HS3.2, which states that the county will revise its development standards to incorporate LID strategies as voluntary or mandatory measures. Included LID strategies are: naturalized drainage swales, pervious driveways, pervious parking areas, tracked driveways, and other strategies that maximize onsite filtration and treatment of storm water. The IRWMP Update suggests urban water conservation measures as adaptive strategies for climate change.

#### **10.1.1.9 Salt and Salinity Management**

Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) is a multi-stakeholder process in the Central Valley to address the long-term build-up of salts and nitrate issues in the Central Valley. Through this collaborative process, stakeholders, including the RWQCB, are developing a Central Valley Salt and Nutrient Management Plan (SNMP) and associated Basin Plan amendments to implement the SNMP.

The RWQCB has begun to include permit requirements to "actively participate in CV-SALTS" in Central Valley permits. Additionally, the Statewide General Landscape Irrigation Permit for recycled water requires enrollees to participate in regional salt and nitrate planning. CV-SALTS has developed guidelines to allow entities to participate through membership agencies, such as Central Valley Clean Water Association (CVCWA), or as individual agencies. Participation includes both active participation in meetings and contributions, either through the Central Valley Salinity Coalition, the funding arm of CV-SALTS, or in-kind services.

In December 2012, the CVCWA board established the CV-SALTS Special Project. The primary purposes of this special project are to support CVCWA's membership in CV-SALTS and the Central Valley Salinity Coalition (CVSC); and provide regulatory credit for "active participation in CV-SALTS" through CVCWA to agencies participating in this special project.

## **10.2 Coordination Between Local Land Use and Water Planning**

The IRWMP project team has observed that there is already a high degree of coordination between local land use and water planning. This is due in large part to YCWA's leadership in resolving water-management issues (including those identified in this Plan), their presence in the RWMG, and their capacity to convene and facilitate adaptive management strategy discussions. YCWA and its member units, Yuba County, and the City of Wheatland have a strong collaborative relationship, and all these local jurisdictions are represented on the RWMG. The City of Marysville is not represented on the RWMG, but does collaborate with other local jurisdictions on some water-planning issues, such as its collaboration with Yuba County in 2004 on the Storm Water Management Plan.

YCWA has a long history of actively managing the county's water resources for beneficial use in cooperation with its member units, stakeholders, and local, state, and federal agencies. An example is the YCWA's contribution to reversing a potentially serious overdraft situation in the South Yuba subbasin. Between 1948 and 1981, groundwater elevations in the South Yuba subbasin declined an estimated 130 feet. In 1984, YCWA began delivering surface water from its New Bullards Bar Reservoir to the subbasin to offset groundwater extraction, resulting in a groundwater elevation rise to near-historical levels. YCWA's commitment to

maintaining and updating their GMP will feed into the IRWM process as updates will provide opportunities for ongoing evaluation of consistency between the IRWM and GMP. These collaborative practices are formalized in the GMP Basin Management Objective that aims to improve communication and coordination among Yuba groundwater basin stakeholders to make groundwater users and interested parties aware of those activities.

In its adopted determinations, the Yuba Local Agency Formation Commission Municipal Service Review encourages multi-jurisdictional planning and collaboration to determine how future development will be served. At the same time the MSR found that “the County, the cities, Yuba County Water Agency (YCWA), Browns Valley Irrigation District (BVID), and the fire districts demonstrated a high degree of public participation in elections as well as other forms of citizen participation,” and that “water purveyors practice extensive facility sharing. Camp Far West Irrigation District (CFWID) relies on water production and conveyance facilities operated by South Sutter Water District. NYWD relies on water production and conveyance facilities operated by South Feather Water and Power Agency. Ramirez Water District (RWD) relies on conveyance through Hallwood Irrigation Company and Cordua Irrigation District (CID) canals for distribution, and share responsibility for the fish screen.”<sup>21</sup> The current facility sharing and public participation in public processes demonstrates that scaffolding is in place to support further collaboration and participation. No problems regarding lack of coordination between local land use and water planning entities were identified during the preparation of this Plan Update, although Marysville Planning Department did not respond directly to contact from the project team (see following section). Further, going forward, coordination will be enhanced between and among relevant planning entities both by participation on the RWMG and by the Yuba County IRWMP website.

### **10.2.1 IRWMP Relation to Local Land Use Planning**

Land use trends in Yuba County have shifted from agricultural uses to residential land development for several decades, with the most recent residential influx occurring from the 1990s to the early 2000s. Most growth has occurred in unincorporated areas of the valley floor in the vicinity of Olivehurst, Plumas Lake, Linda, Wheatland, and the State Route 65 and 70 corridors. Future growth is anticipated in the same areas with large swaths of agricultural land designated for urban development. Yuba County’s population is expected to increase from 72,155 in 2010 to 143,973 in 2050, a twofold increase that equates to an average growth rate of approximately 2.5 percent.<sup>22</sup> Even with this development, however, agricultural use predominates the valley landscape, and agricultural activity still represents the most significant economic activity in the county.<sup>23</sup>

For the purposes of this discussion, it is important to note that areas of heaviest water use, irrigated croplands, are found in the areas of prime agricultural soil in the western valley floor area of the county along the historic floodplain of the Yuba and Feather Rivers due to the relatively flat topography, water supply, and soil conditions. These areas are predominantly zoned Exclusive Agricultural, and much of the land in these areas is also considered Prime Farmland, Farmland of Statewide Importance, and Unique Farmland under the state’s Farmland Mapping and Monitoring Program.<sup>24</sup>

The foothills and mountain areas include land that has been traditionally used for natural resource production, including grazing, timber production, and mining, though rural residential development is an increasing part of the foothill and mountain landscape. Agricultural landscapes comprise 51 percent of the Plan area, while

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<sup>21</sup> Yuba Local Agency Formation Commission, Municipal Service Review (Adopted July 24, 2008).

<sup>22</sup> US Census Bureau, [quickfacts.census.gov](http://quickfacts.census.gov); California Department of Finance, [www.dof.ca.gov](http://www.dof.ca.gov)

<sup>23</sup> Yuba County, Yuba County 2030 General Plan (Adopted June 7, 2009).

<sup>24</sup> Yuba County, 2008 General Plan Update Background Report: Agriculture.

urbanized uses comprise 16 percent, resource extraction 3 percent, and public lands, such as Beale AFB, 23 percent. Grazing lands, which are typically not heavily irrigated though they are agricultural uses, are found primarily in the central and eastern portions of the county and in the foothills of the Sierra Nevada Mountains, although some grazing also occurs on uncultivated portions of the valley floor. Livestock grazing also occurs in the Plumas and Tahoe National Forests.<sup>25</sup> Rural residential development is an increasing part of the foothill and mountain landscape.

Growth within the City of Marysville is largely constrained by a circular system of levees developed in the 1960s to protect the city from frequent flooding that occurred due to the fact that Marysville is below common flood levels and is located at the confluence of the Feather and Yuba Rivers. This location, however, makes their water situation unique in that surface water could be easily developed if groundwater resources were limited.

The valley region of the Plan area is dominated by agricultural and urbanized areas and includes Beale AFB, Marysville, Wheatland, and developed unincorporated areas. Similar to historic growth patterns, future growth is anticipated to be greatest in the valley region of the Plan area, especially around Olivehurst-Plumas Lake, Linda, Wheatland, and the State Route 65 and 70 corridors. The 2030 Yuba County General Plan designates 24 percent of the county with urban uses, with urbanized uses increased 50 percent from the previous General Plan. Accompanying the increase in residential development is a high rate of farmland conversion to residential uses. According to the USDA's 2007 Census of Agriculture, from 2002 to 2007, 73,231 acres of farms were lost (from 234,129 acres to 160,898 acres of farms), resulting in a 31 percent decrease in farmland in only five years.<sup>26</sup> As discussed in the previous section on water planning, conversion of agricultural uses to residential uses results in reduced water use.

### **10.2.1.1 Current Relationship Between Land Use and Water Planning Entities**

Land use planning is conducted within the region by Yuba County, two cities (Marysville and Wheatland), a resource conservation district in conjunction with a watershed group, the US Forest Service (for Tahoe and Plumas National Forests), the Bureau of Land Management, and CalFire. Land use planning is conducted by the counties for unincorporated lands and by the cities for incorporated lands. Much of the public land is also planned and administered by the National Forests.

The project team for the IRWMP Update interviewed local land use agencies to determine current inter-agency relationships and procedures. The US Forest Service and local jurisdictions of Yuba County, Marysville, and Wheatland (by staff members of their respective Public Works Departments) have been represented in the RWMG. The local agency representatives have coordinated internally with their respective Planning Departments to ensure that issues, concerns, data, and other relevant considerations from Planning were integrated into the document. Yuba County and Wheatland Planning Departments have been responsive in providing information requested for this chapter, while the Marysville Planning Department did not respond directly to communications from the project team.

The Yuba County Planning Department has indicated that the 2008 Yuba IRWMP was incorporated into the Yuba County 2030 General Plan Update by reference, and that the Public Health and Safety Chapter of the General Plan discusses available information, goals, and policies related to water quality and flooding. When project applications are received, the Planning Department notifies service agencies, including applicable water purveyors and other governmental regulatory agencies. Those entities may then submit comments, requests for additional information or studies, concerns, and potential conditions they would like to impose on

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<sup>25</sup> Yuba County, 2008 General Plan Update Background Report: Agriculture.

<sup>26</sup> USDA, Natural Agricultural Statistics Service, 2007 Census of Agriculture: Yuba County, California.

the project. Yuba County complies with state requirements under SB 221 and SB 610 (see “Water Supply Assessments” section of this chapter). For large subdivisions of 500 or more units, the applicant must work with the water provider that services the project to prepare a WSA in compliance with SB 610. For smaller projects, the water provider is notified of the application and given an opportunity to provide comments and conditions.<sup>27</sup>

The City of Wheatland, via its Public Works Department, provides municipal water to all of its residents via groundwater wells. According to planning staff, the City of Wheatland Public Works Department regularly assesses and maintains the city’s groundwater wells. Wheatland does not have any adopted water planning documents, but as previously noted is working with the Sierra Business Council to conduct a greenhouse gas inventory that will be used in the preparation of a climate action plan.<sup>28</sup> City of Wheatland planning staff have indicated that it is assumed that groundwater will be available to meet the needs of new development. The City of Wheatland has not prepared a groundwater study; however, during preparation of the Johnson Rancho and Hop Farm Annexation EIR, Wheatland prepared a WSA for the Johnson Rancho and Hop Farm Annexation project, which included analysis of the groundwater basin. No jurisdictions identified problems of coordination among or between local water and land use planning entities.

### **10.2.1.2 Programs, Policies, Standards, and Procedures**

The updated IRWMP also includes a review of the water and land use planning policies and programs of other governmental and NGO entities.

#### ***US Forest Service Land Use Plans***

US Forest Service planning documents provide guidelines and management direction for the upper watershed regions of the Yuba County IRWM Plan Area. The 2004 Sierra Nevada Forest Plan Amendment lays out broad management goals and strategies for addressing five issue areas in the dozens of complex ecosystems within the Sierra Nevada: old forest ecosystems and associated species; aquatic, riparian, and meadow ecosystems and associated species; fire and fuels management; noxious weeds; and foothill oak woodland ecosystems. In addition, the 2012 Planning Rule for land management planning for the National Forest System became effective on May 9, 2012. The Forest Service has subsequently released proposed planning directives, which are the key set of agency guidance documents that direct implementation of the 2012 Planning Rule, for public review and comment. The directives are expected to be formally adopted in the near future.

The 1990 Tahoe National Forest Land and Resource Management Plan and the 1998 Plumas National Forest Land and Resource Management Plan directs the management of their respective National Forest lands. The purpose is to guide efficient use and protection of forest resources, fulfill legislative requirements, and balance local, regional, and national needs. The plans describe the current management direction, supply or production capability, existing and projected demands for forest goods and services, and the need or opportunity for changes in current management direction. Applicable resource areas discussed include recreation, fish, wildlife, and sensitive plants, diversity, riparian areas, water, ownership, land uses, and the urban/rural/wildland interface. The plans also present both forest-wide and area-specific management direction for the National Forest lands.

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<sup>27</sup> Boeck, Van, Yuba County Department of Public Works and Wendy Hartman, Yuba County Planning Department, email communication to Jessica Hankins (April 9, 2014).

<sup>28</sup> Pappani, *ibid.*

### **California Environmental Quality Act**

Land use planners must also consider the environmental impacts of a development project during their California Environmental Quality Act (CEQA) evaluations, which assess the physical impacts of any given project. Impacts to water quality, water supply (including groundwater availability), and flooding are all evaluated for any project that has the potential to have a physical impact on the environment. As part of the IRWM project development process, project sponsors must conduct a CEQA evaluation to assess the physical impacts of their projects. Additionally, project-specific performance measures are frequently established as a result of that CEQA process.

### **Williamson Act**

The California Land Conservation Act, better known as the Williamson Act, is a statewide agricultural land protection program that reduces property taxes on qualifying agricultural land in exchange for a commitment from the landowner not to develop the land with uses other than those compatible with and supportive of agriculture. This tax incentive preserves agricultural and open space lands by discouraging premature conversion to urban uses. Counties may choose to participate in the program or not participate. As a result of reduced state subventions to counties, Yuba County has chosen not to participate in the Williamson Act.<sup>29</sup>

### **Yuba County LAFCO Municipal Service Reviews**

In 2000 California adopted the Cortese-Knox Hertzberg Act (AB 2838) requiring Local Agency Formation Commissions (LAFCOs) to review and update the spheres of influence of cities and districts in their jurisdiction once every five years. Before each sphere of influence review and update, LAFCO must comprehensively review municipal services in the county, resulting in a Municipal Service Review (MSR) of public services such as water, fire protection, and reclamation. An MSR provides comprehensive knowledge of available services, future needs for each service, and the efficiency and expansion capacity of service providers.

In 2008 Yuba County adopted MSR determinations, which are a set of observations, facts, and recommendations related to the existing and future provision of public services in the unincorporated areas of the county. A sampling of determinations related to water issues in the Plan area are highlighted below:<sup>30</sup>

- YCWA reported that it does not anticipate having water supplies to serve municipal and industrial demands. The cities, the county and the urban water districts should evaluate groundwater adequacy and irrigation practices in their SOIs and future growth areas before the next MSR cycle.
- As a result of groundwater overdraft in the Wheatland Water District (WWD) area, well yields are low in the area north of Dry Creek. Surface water supplies are needed and related canal infrastructure is being developed by YCWA.
- In the long-term, future urban development may need access to treated surface water to ensure adequate and reliable water supply. Due to historic overdraft of the South Yuba Groundwater Basin, there may be inadequate groundwater supplies to serve planned development in the long-term. Actual impacts on the groundwater subbasin would depend greatly on the extent of existing surface and groundwater use on land that would be urbanized in the future.
- Enhanced groundwater monitoring and planning is needed to ensure adequate and reliable water supplies are available throughout the area.

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<sup>29</sup> Yuba County, General Plan Update Background Report on Agriculture, 2008.

<sup>30</sup> Yuba Local Agency Formation Commission, Municipal Service Review (Adopted July 24, 2008).

- A diversified water portfolio, including both surface and groundwater for future municipal needs, would help boost drought and emergency preparedness in urban areas. Use of surface water may also benefit wastewater providers by reducing salinity, particularly in light of evolving regulatory standards.
- Expanded YCWA programs, including conjunctive use, groundwater monitoring and analysis, and land subsidence monitoring, are desirable.
- Urban development will tend to reduce overall water needs in southern Yuba County. Comprehensive analysis of demand, not only for imported water but also for local sources, is a recommended practice. Comparison of projected demand growth to both regional and local demographic and economic forecasts also helps ensure responsible planning of water purveyors.

The MSR also indicates that “[l]and use planners in high-growth areas should periodically update development plans and growth projections; this could be included in the five-year housing element updates. Increased communication between land use and infrastructure planners is needed to ensure that long-term water and transportation planning accounts for the future needs of the area.”

These determinations are consistent with RWMG, YCWA, and Yuba County findings and policies as well, which emphasize need for collaboration between land use and water planning due to uncertainties of water supply into the future. Pursuant to the requirements of the Cortese-Knox Hertzberg Act, the MSR will likely be updated again in the near future, providing additional opportunities for coordination regarding MSR determinations and IRWM objectives.

#### ***Local General Plans and Other Municipal Planning Documents***

California state law requires each county to adopt a general plan, “for the physical development of the County and any land outside its boundaries which ...bears relation to its planning” (Government Code Section 65300). The General Plan serves as the county's constitution for the physical use of the county's resources and is the foundation upon which all land use decisions are made. The general plan expresses the community's development goals and embodies public policy relative to the distribution of future public and private land use. Planning and land use play a vital role in water use and distribution, and as such will influence infrastructure needs, water demand and supply, and impacts on natural systems addressed in the Plan.

Yuba County and the Cities of Wheatland and Marysville have prepared General Plans as follows:

- Yuba County General Plan Update 2030 (June 7, 2011)
- City of Wheatland General Plan (July 2006)
- City of Marysville General Plan (August 1985)

Given that they have been only recently updated, the Yuba County and City of Wheatland General Plans may not be updated again for some years, with most general plan updates (aside from the Housing Element) being updated only once every 20 years or so, on average. However, as the General Plans are updated, there will be opportunities for collaboration between land use planners, water managers, and the RWMG to consistently plan for water resource management issues. Further opportunities for synchronized efforts at land use and water planning can occur more often with the adoption of new or revised Zoning Ordinances, which often implement the goals and objectives of the General Plans.

Although Yuba County has defunded its Parks and Recreation Department, it has prepared a Parks Master Plan (2008). This plan evaluates the county's current park and recreation resources, assesses needs for the future, and presents strategies and implementation tools to achieve the goals laid out by the stakeholders. Key aspects of the watershed play significant roles in the current and proposed park system, including Riverfront Park, open

space areas, trail routes, and waterfront access to the Yuba and Feather Rivers. Several regional projects, including new parks and improvements to existing parks, as well as new trails, are proposed along the Yuba and Feather Rivers. A Yuba River Regional Park is proposed in the aggregate mining area of the Gold Fields, once the site is reclaimed. Goal 4c of the Parks Master Plan provides consistency between the Master Plan and regional water and land use planning goals: “Use natural areas for multiple purposes, including buffering land uses, managing storm water, habitat and recreation use.”<sup>31</sup> This goal supports IRWM objectives that would strengthen watershed health, water quality, flood protection, and recreational uses.

During the issuance of building permits, applicants must comply with local, state, and federal statutes addressing erosion control and storm water management. Local development standards, codified by the local jurisdictions’ zoning or municipal ordinances, are the on-the-ground implementation measures used to enact these protections.

### **10.2.1.3 Consistency between IRWMP and Local Plan Goals**

**Appendix 10-1** illustrates the local planning goals and policies that were reviewed to ensure that the goals and objectives of the Yuba County IRWMP are compatible with and support local planning efforts. These documents were reviewed to support development of the Yuba County IRWMP’s updated objectives and projects. Their consistency with the IRWMP and water planning documents is discussed further under Section 10.2.

During a review of relevant local general plans, a consistent difference in emphasis was present between the IRWMP and the relevant plans on issues such as climate change and associated impacts on water supply and habitat. Goals and objectives were more strongly stated in the IRWMP than the General Plan. By way of example, Yuba County General Plan Policy CD11.2 states that “particular local advantages” include “excellent water quality and plentiful supply,” and Policy HS3.2 defines beneficial uses of water as supply for human-based needs. This difference may arise from the fact that the IRWM Guidelines require a similar level of emphasis on the approaches to water management issues. The IRWMP presents issues, goals, and objectives with an equitable focus on human and environmental beneficial uses, and human safety and environmental stewardship.

On many topics, however, the RWMG identified issues similar to those shown in the City of Wheatland and County of Yuba General Plans. For example, regarding groundwater, the RWMG found that the need to “promote integrated management of groundwater and surface water” was a significant issue. The Yuba County General Plan Update Policy NR12.1 states that “the County will manage land use change in a way that reduces the potential for overdraft of groundwater supplies [ . . . ] and helps to ensure that the combined use of surface and groundwater resources provides for current and future water demand.” City of Wheatland General Plan Policies 5.C.1 and 5.C.2 require that the city protect the groundwater basin from overdraft using such strategies as conjunctive use and recharge programs, water conservation measures, reuse, and surface water supplements. Similar parallel measures were absent from the City of Marysville General Plan.

The RWMG also supported “water conservation and water use efficiency by instituting various techniques including, but not limited to, groundwater recharge, conjunctive management, irrigation efficiencies, municipal water conservation, water recycling and reuse” (Objective 12). Yuba County’s General Plan likewise promotes water conservation through Policies NR 12.4 through 12.7, which encourage or require the use of recycled water for non-potable uses, climate-appropriate landscaping and water-conservation technologies and devices in new developments, and financial incentives for developers to use recycled water systems in their projects.

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<sup>31</sup> Yuba County, Yuba County Parks Master Plan (Adopted February 19, 2008).

Wheatland General Plan Policy 5.C.3 also promote “efficient water use and reduced water demand” in new construction and development using similar measures as those suggested by Yuba County. Wheatland Policy 5.C.4 supports water conservation in both urban and agricultural settings throughout the county. Again, similar parallel measures do not occur in the City of Marysville General Plan.

All local plans and the IRWMP supported goals of enhancing water quality, flood control infrastructure, and water supplies that supported recreational uses while minimizing impacts on water quality and offered multiple benefits such as recreational, ecosystem, and agricultural benefits.

### **10.3 Plan Relation to Neighboring Regional Planning Efforts**

There are four IRWM planning areas which are directly adjacent to the Yuba County IRWM region: Cosumnes American Bear Yuba (CABY), Upper Feather River Watershed, North Sacramento Valley Four County Group, and American River Basin. During the preparation of this Plan, each of these regions was contacted, both formally (see **Appendix 4-1**) and informally (via meetings at events, conferences, and workshops). As a result of this initial outreach, the various regional representatives agreed to continue to coordinate with the Yuba County IRWM via scheduled meetings at least annually, phone conversations as needed, conversations via the Sacramento Region Funding Area group, attendance at RWMG meetings as requested, and through casual meetings conducted opportunistically at regional events and conferences such as the Sierra Water Work Group, the Association of California Water Agencies, and attendance at DWR-sponsored workshops. Issues of common concern are many, including, but not limited to, flooding, water supply, fisheries, and climate change. The adjacent regions have not yet begun to systematically focus on the options for inter-IRWMP project development coordination. The Yuba County RWMG will endeavor to catalyze this more nuanced and coordinated approach to project development. More information on next steps in regional collaboration is contained in Chapter 4 *Coordination*.

### **10.4 Coordination with State and Federal Planning Efforts**

Ongoing collaboration with relevant federal and state agencies will continue after Plan finalization. Efforts will include coordination with the RWQCB on issues relating to salinity (via CV-SALTS), coordination with the SWRCB efforts to establish flow requirements for water coming from rivers that flow into the Delta to meet the Delta’s restoration and water supply goals, tracking and coordination with the WMI approved as part of the 1995 SWRCB Strategic Plan, continued partnership with DWR to finalize and implement the FRRFMP, and ongoing meetings with the Tahoe and Plumas National Forests on fuel-load reduction and forest management, and participation in emerging regionally focused efforts aimed at aspects of water supply, water quality, and environmental stewardship.

Finally, the Yuba Salmon Forum/River Management Team is an example of an existing venue which exists to promote state, federal, and local coordination and collaboration on issues of mutual concern. The group includes representatives of the signatory groups—YCWA, National Marine Fisheries Service, US Fish and Wildlife Service, Bureau of Reclamation, California Department of Fish and Wildlife, DWR, and four NGO signatories (including SYRCL) to cooperatively manage the flows of the Yuba River according to certain guidance criteria, and also allocate funds for the monitoring and evaluation of the condition of fish and fish habitat.



## 10.5 Recommendations to Improve Coordination

As described in Chapter 3 *Stakeholder Involvement*, at the outset of the IRWMP Update process, stakeholders with an interest in the Plan area's water issues were identified through various outreach and engagement strategies. During subsequent interviews and meetings with interested stakeholders who became part of the RWMG, the project team was able to identify regional issues and water-related conflicts. The RWMG identified the significant water management issues in each zone of the Plan area: in the lower watershed, flood management, water quality, and water supply reliability were the major issues identified; in the upper watershed region, wildland fires, along with attendant erosion and sedimentation issues, and water supply reliability are the primary water management issues.

During the circuit-riding meetings, the project team contacted and met with Plan area planning agencies. With the exception of the City of Marysville and Beale AFB, these agencies have been active participants in the IRWM process and RWMG meetings. The RWMG creates a convergence point for future collaboration during its annual meetings. Meetings are formatted to elicit discussion and problem-solving of emerging issues. Outreach should continue to Marysville and Beale to include these agencies in future conversations about water and land use planning issues under the auspices of the RWMG and its website.

The RWMG has discussed potential climate change impacts on groundwater and surface water supplies, and these conversations have involved Wheatland and the county. If in the future residential development becomes dependent on surface water, then the relationships established via the RWMG will support full collaboration and coordination among those entities. At the same time, there are so few land use and water planning entities in the Plan area that coordination is today already functional, with reviews of new developments distributed to water agencies for review and input. Informal, one-on-one communication is the norm for the region, and the RWMG formalizes that communication and provides certainty of ongoing discussion and meetings.