

**WATER RESOURCES ASSOCIATION OF YOLO COUNTY  
INTEGRATED REGIONAL WATER MANAGEMENT PLAN COMPLETION**

**ATTACHMENT 3: WORK PLAN  
SECTION A – BACKGROUND**

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**ATTACHMENT 3: WORK PLAN  
SECTION A – BACKGROUND**

The WRA Technical Committee has devoted considerable effort to define, budget, and schedule work items to complete its IRWMP as described in Section B, Section C, and Section D of this Attachment 3. From this effort, the WRA is pleased to show that its work items are in concert with the evaluation criteria set forth in the PSP for Planning Grants to assist the reader in this regard. Accordingly, a matrix was prepared to indicate the relationship between the evaluation criteria described in this Background section and the Work Items described in Section B. This information is presented on Table A.1, which is included at the end of this Section A.

**A.1. DESCRIPTION OF REGION**

For planning purposes, the WRA defined Yolo County as its “Planning Region.” WRA member agencies will be responsible for funding and implementing programs and projects included in the IRWMP. The region as defined by the WRA has and will continue to be an appropriate area for water management; however, the WRA recognizes that for the longer term certain projects will, of necessity, require working relationships with agencies in neighboring regions to realize the full benefit of integrated resources management.

Presented below is a more complete description of the regional agency and the region.

**A. Regional Agency**

The WRA is responsible for development of the Yolo County IRWMP. The WRA was organized in 1993, to coordinate the implementation of the Water Resources Management Program, as proposed in the Yolo County Water Plan Update that was completed in 1992. The WRA is a non-profit mutual benefit corporation having seven members and five associate members. The WRA’s seven members are comprised of urban and agricultural water purveyors and Yolo County. A list of the WRA members and their management responsibilities related to water is given below.

<b>WRA Members</b>	<b>Management Responsibilities Related to Water</b>
City of Davis	Operations and maintenance of municipal water and wastewater treatment facilities and storm drainage facilities.
City of Winters	Operations and maintenance of municipal water and wastewater treatment facilities and storm drainage facilities.
City of Woodland	Operations and maintenance of municipal water and wastewater treatment facilities and storm drainage facilities.

University of California, Davis	Operations and maintenance of municipal and agricultural water facilities, wastewater treatment facilities, and storm drainage facilities.
Yolo County Flood Control & Water Conservation District	Operations and maintenance of water storage, agricultural water delivery systems, and agricultural and storm drainage facilities.
Dunnigan Water District	Operations and maintenance of agricultural water distribution facilities.
Yolo County	Land use and support for water and wastewater service, flood control, and drainage.

The WRA is governed by a Board of Directors made up of a representative from each of the member agencies. Each member has a designated alternate. The Board of Directors meets bi-monthly, or more frequently if needed, to review or take action on time-sensitive matters. The Board reviews the progress and budget related to WRA activities and provides a forum to coordinate water-related activities and to inform member agencies of activities underway within the County or other geographic areas.

The WRA Technical Committee, which is made up a senior staff from each of the member agencies, generally meets every two weeks or as required to accomplish specific activities. The WRA Technical Committee reviews member activities, coordinates ongoing and planned collaborative efforts, and considers other water-related activities throughout the Yolo County region, with federal and state agencies, and with neighboring regions as well. The WRA Technical Committee brings recommended actions and other substantive information to the attention of the WRA Board for approval.

The WRA Technical Committee has been actively involved in developing the work items, budget, and schedule presented in this proposal to complete the IRWMP. The member agencies have made commitments to have the Technical Committee actively involved in the work to formulate the IRWMP and in public outreach.

From the standpoint of the WRA at this point in time, the formulation of the IRWMP is a prerequisite to implementation. The planning process described in the Work Items is structured for implementation. The planning process and, in particular, the public involvement and outreach component, is essential to facilitate implementation of priority projects following compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). With respect to the planning process and implementation, it is important to note that the WRA member agencies are involved in two tracks. One is the IRWMP Track and the other is the Member Agency Track where the planning and implementation of both are moving forward concurrently. Member agencies are and will continue to perform work that complements and supports the IRWMP and vice-versa. By way of example, urban and groundwater management plans are essential to support the IRWMP. These plans are being updated by the member agencies outside, but in coordination with the IRWMP process. Examples of this include work of the cities of Davis and Woodland to update their urban water

management plans in compliance with CWC 10610, and the Yolo County Flood Control & Water Conservation District and Dunnigan Water District to update groundwater management plans in compliance with CWC 10753.7.

This two-track process is further illustrated by the process getting underway to prepare an Environmental Impact Report for the cities of Davis and Woodland and the University of California, Davis, to obtain a supplemental surface water supply from the Sacramento River. Illustrating the existing collaboration among WRA member agencies is the fact that this work will be performed through a partnership that includes the respective entities noted above and the Yolo County Flood Control & Water Conservation District. This type of collaboration is envisioned by the WRA to implement many of the projects identified in the IRWMP. This collaboration may result in a partnership with member agencies or with agencies in neighboring regions, or in partnership with federal or state agencies.

Presented on Figure A.1 is a schematic to illustrate the two-track process that is important for the comprehensive planning and implementation of the priority projects identified in the IRWMP. The schematic is located at the end of Section A.

**B. Description of Region**

Water agencies and private parties have been effective over the years in obtaining and developing water supplies to meet the needs of Yolo County. It is recognized by the members of the WRA that managing existing water supplies from the standpoint of quantity, quality, and environmental considerations can no longer be done individually and that a collaborative effort is essential. This collaborative effort with agencies, within this region and neighboring regions, is essential for managing existing resources and even more important to embark on new projects to enhance the supply or reliability of the supply.

The WRA members recognize the importance of investigating issues and opportunities and projects at the local level, the Yolo County region, before reaching out to neighboring regions. Accordingly, for this reason, the WRA, in pursuing completion of its IRWMP, very deliberately defined the region for planning purposes to be Yolo County. This decision was made with the understanding that the detailed formulation and implementation of projects may in fact involve member agencies working in partnership with agencies from other neighboring regions.

Yolo County, as shown on Map B-3 of Section B (NAD 27 UTM10 shape file), is in a unique setting in that water and environmental resources and, thus, opportunities and partnerships for resources management are wide ranging. By way of illustration, the neighboring region and linkage or resource relationship are noted below:

**Neighboring Region**

Lake County  
Sacramento Valley  
Sacramento Area Flood Control Agency  
Solano County

**Resources Relationship**

Cache Creek  
Sacramento River and Colusa Basin Drain  
Sacramento River and Yolo Bypass  
Putah Creek

In view of the resources and potential for partnerships, it would be premature to define the region beyond Yolo County at this time. As the IRWMP develops and the collaborative process begins to unfold, the WRA is optimistic that the IRWMP will include priority projects for which implementation will require WRA members to form partnerships with agencies in neighboring regions.

Map B-2 in Section B shows the major land use divisions within the region, i.e., urban resources, agricultural, open space. A more detailed presentation is presented in the land use section of the IRWMP Background Data and Information Appendix (Chapter 5), which is Appendix A of this proposal.

As described in Section A.1, and shown on Map B-2 of Section B, the WRA member agencies do not represent the entire county. The WRA, largely through the Technical Committee, will continue to coordinate with the various agencies throughout the course of formulating the IRWMP regarding issues or opportunities that may be of interest to them. All agencies will certainly be invited to participate in the public process, which is deemed to be a very important element of the IRWMP process.

Information regarding the resources within or related to the Yolo County Region have been described in the initial work of the WRA. This work is presented in the document entitled, "Yolo County IRWMP Background Data and Information Appendix." A copy of this document is included with this proposal as Appendix A. Presented below for easy reference is a summary of the resource information from Appendix A.

### **Regional Water Resources**

Beneath Yolo County, aquifers are essentially contained within two stratigraphic units: (1) the older thick alluvial and river sediments of the Tehama formation, and (2) the younger sediments of the Red Bluff formation, floodplain deposits, and stream channel deposits that overlie the Tehama formation. These formations and the hydrogeology associated with them are described in detail in Chapter 2 of the Background Data and Information Report.

Aquifers in Yolo County are unconfined near the surface and become increasingly confined with depth (DWR, 2003; Williamson, et al., 1989). There are no regionally continuous barriers to vertical flow; however, inter-bedded clays and silts create a cumulative impediment to vertical groundwater flow with increasing depth (DWR, 2003; Williamson et al., 1989). Additionally, older deeper sediments tend to be more compact and therefore less permeable than younger, shallower sediments (Bryan, 1923).

The natural hydraulic gradient of groundwater (its slope and flow direction) within Yolo County is toward the east and south, roughly following the topographic incline (Yolo County IRWMP, Background Data and Information Report). Groundwater pumping has impacted this gradient (Hull, 1984; Bertoldi et al., 1991) by creating localized depressions in the water table and land subsidence beneath areas of more intensive groundwater pumping (D'Onofrio and Frame, 2003).

The development of surface water has relieved much of the stress on aquifers beneath Yolo County (Yolo County General Plan, 2002; Water Master Plan, City of West Sacramento, 1994). Localized groundwater effects are still evident beneath areas dependant on groundwater as a

primary water supply, such as beneath the City of Woodland, beneath the City of Davis and University of California, Davis (UCD) area, and beneath the Yolo-Zamora Water District.

The aquifers beneath Yolo County are recharged by runoff and groundwater from the east-facing foothills, by percolation of precipitation, and by infiltration of surface water. Surface water infiltration is provided by the creeks and streams that flow from the Coast Ranges into the county; from delivered and applied irrigation water; from Sacramento and Feather River flood waters diverted to the Yolo Bypass; from the Sacramento River; and from the Sacramento River Deep Water Ship Channel that extends south from West Sacramento.

### Groundwater Supplies

Aquifers beneath Yolo County are either entirely within the Tehama formation or within a combination of the Quaternary alluvial sediments and the uppermost Tehama formation. Beneath Yolo County, groundwater quantity and quality varies depending upon location within the county. For this reason, it is helpful to segment the County into groups, or groundwater subbasins, to better characterize groundwater conditions throughout the region. Having a better understanding at a subbasin level is important to stakeholders and water managers responsible for management of groundwater resources within Yolo County.

The Yolo County Region is contained completely within the Sacramento Valley Groundwater Basin (Basin 5-21) as described by DWR Bulletin 118 (Update 2003). Furthermore, Yolo County overlies portions of the Capay Valley (5-21.68), Colusa (5-21.52), Yolo (5-21.67) and Solano (5-21.66) subbasins as described in Bulletin 118. The groundwater basins delineated and presented in the Yolo County IRWMP Background Data and Information Appendix, differ from subbasins delineated in Bulletin 118. The subbasin boundaries in the Appendix more concisely characterize the groundwater hydrology of the county and better coincide with political boundaries under which water management occurs in Yolo County. The subbasin boundaries were developed with the support of the DWR, as well as the Yolo County WRA member agencies, during the preparation of the Appendix.

The six subbasins are: (1) Capay Valley, (2) Buckeye Creek, (3) Dunnigan Hills, (4) West Yolo, (5) East Yolo, and (6) Sacramento River. The six subbasins are described in detail in the Background Data and Information Appendix of the IRWMP. For purposes of this discussion, the general characteristics of each subbasin are summarized in the following table.

A discussion of groundwater quality is included in the Yolo County IRWMP Background Data and Information Appendix. It is recognized that further study of the groundwater quality and quantity may be required for specific projects. Work Item IV., "Identify and Investigate Resource Issues and Opportunities," addresses the collection and evaluation of groundwater quantity and quality as needed.

### Surface Water Resources

Yolo County is most affected, favorably and unfavorably, by runoff originating outside the County. Yolo County is part of the Sacramento Hydrologic Region as defined by DWR, and includes 26,960 square miles of land, of which Yolo County is 1,034 square miles or 3.8 percent of the region. Yolo County is a part of the Sacramento hydrologic region or watershed.

## Watershed Descriptions

Presented in Chapter 4, Map 4-2 of the Background Data and Information Appendix of the IRWMP (Appendix A to this proposal) is a delineation of the watersheds within Yolo County. Also included in Chapter 4 is a description of the principal watersheds affecting or influencing Yolo County is provided below. A more detailed discussion of these watersheds, including descriptions of the drainage systems, flooding/flood control, water availability, water quality, and erosion and sedimentation for each watershed, is also presented in Chapter 4.

***Sacramento River:*** *The Sacramento River system represents a complex network of natural and man-made features that are operated to achieve established objectives for water supply, flood control, and environmental purposes. The operation of the system becomes more complex with time as the water demands for each purpose change and the competition becomes more intense when the supplies are short.*

*The Sacramento River flows along the entire length of the eastern boundary of Yolo County. Its flow and the availability of water are controlled almost entirely by conditions outside of Yolo County, which comprises a very small portion of the watershed.*

***Yolo Bypass:*** *From a flood hydrology standpoint, the Yolo Bypass is an integral part of the Sacramento River system and plays a major role in providing flood protection for the City of Sacramento. For this reason, the Yolo Bypass is addressed in the context of the Sacramento River. The Yolo Bypass is a component of the Sacramento River Flood Control Project that was constructed during 1917-1924. It consists of a 41-mile-long swath of agricultural land bounded by levees 7,000 to 16,000 feet apart that conveys floodwater to the Sacramento-San Joaquin Delta near Rio Vista. An 8-mile segment along the western boundary of the Yolo Bypass immediately south of Putah Creek has no levee because ground elevations are high enough to contain floodwater within the Yolo Bypass, except during extremely large flood events. The major inflows to the Yolo Bypass are from the Sacramento River at the Fremont and Sacramento weirs, but other local tributaries include the Colusa Basin Drain (via the Knights Landing Ridge Cut), Cache Creek, Willow Slough, and Putah Creek*

***Colusa Basin Drain:*** *The Colusa Basin Drain (Drain) watershed comprises nearly 1,620 square miles in the Sacramento Valley, and includes portions of Glenn, Colusa, and Yolo counties. The portion of the watershed in Yolo County is approximately 255 square miles. The Drain is a man-made channel designed to convey irrigation drainage to the Knights Landing outfall gates for discharge into the Sacramento River. There are 32 ephemeral streams that convey storm runoff to the Drain. Seven of these streams originate in the Dunningan Hills of Yolo County. Major concerns with respect to the quality of water in the Drain and potentially the Sacramento River include temperature, turbidity, herbicides and pesticides, recirculation of irrigation tailwater, and soil erosion and sedimentation.*

***Cache Creek:*** *Under natural conditions, Cache Creek was considered an ephemeral stream. The Cache Creek drainage system is addressed herein in terms of Upper Cache Creek and Lower Cache Creek. The Upper Cache Creek portion of the system includes the watershed upstream of the Yolo County Flood Control & Water Conservation District's Capay Diversion Dam. The Lower Cache Creek portion of the system extends from the Capay Diversion Dam downstream to and including the Cache Creek Settling Basin. For hydrologic purposes,*

however, the downstream location of Lower Cache Creek portion of the system will be considered at Interstate 5 or Yolo. The total Cache Creek drainage system, upstream of Interstate 5, encompasses 1,139 square miles with the drainage area above Capay Diversion Dam comprised of 1,044 square miles.

**Willow Slough:** The Willow Slough watershed drains most of the central part of Yolo County between Cache Creek and Putah Creek. Because of natural levees that formed through deposition of sediment along the valley floor reaches of Cache and Putah creeks, local runoff flows away from the main creek channels and enters a complex network of sloughs and small drainage channels that flow eastward and eventually consolidate into Willow Slough before discharging into the Yolo Bypass.

**Putah Creek:** The Putah Creek watershed encompasses approximately 710 square miles and extends from an elevation of 4,700 feet at Cobb Mountain in Lake County southeast for a distance of about 50 miles to the Yolo Bypass, at an elevation a few feet above sea level (Thomasson et al. 1960). Approximately 600 square miles of the watershed are upstream of Monticello Dam, located seven miles west of Winters. Monticello Dam was completed in 1957 by the U. S. Bureau of Reclamation and impounds Lake Berryessa, which has a capacity of 1.6 million acre-feet. Operations and maintenance of the project is performed by the Bureau of Reclamation. Water released from Lake Berryessa flow down Putah Creek to the Putah Diversion Dam, located three miles west of Winters, where water is diverted into Putah South Canal for delivery to agricultural and municipal users in Solano and southern Yolo County. Putah Diversion Dam impounds Lake Solano. The tributary drainage area for the “inter-dam” reach is 38 square miles, and only one tributary of any significance – Dry Creek – enters Putah Creek between the Putah Diversion Dam and the Yolo Bypass (Northwest Hydraulic Consultants, Inc. 1998). Because of the natural levees deposited by the creek as it flowed across its alluvial fan toward the center of the Sacramento Valley, lands along both sides of lower Putah Creek drain away from the creek.

### Surface Water Supplies

Yolo County relies on many different water supply sources such as the Sacramento River, Cache Creek, groundwater, and others. There are also many different water-related administrative bodies within Yolo County, each of which has its own water supply sources. Table A.3 lists the water-related administrative water bodies in Yolo County and their sources of surface water and groundwater supply. Details of the regions surface water supplies are discussed in Chapter 5 of the Yolo County IRWMP Background Data and Information Appendix, which is included in Appendix A to this proposal.

It is recognized that further study of surface water and quantity and water quality may be required for specific projects. Work Item IV., “Identify and Investigate Resource Issues and Opportunities,” addresses the collection and evaluation of surface water and quantity and water quality as needed.

### **Ecological Processes and Environmental Resources**

A description of ecological processes and environmental resources within the region is provided in Chapter 6 of the IRWMP Background Data and Information Appendix, which is included in Appendix A to this proposal.

### **Land Use and Demographic Information**

Yolo County is one of the most unique counties in all of California. It is rich in its diversity of land use, water use, and water supplies. Agriculture, growing cities, and various flora and fauna exist throughout the county and they, together with public policy committed to agriculture and open space, are largely responsible for this diverse makeup. Provided below is a brief summary of Yolo County land use and demographic information. More detailed information about these characteristics and their relationship to water resources can be found in the *Yolo County IRWMP Background Data and Information Appendix*, included in Appendix A to this proposal.

#### General Yolo County Land Use Information

The total area encompassed by the Yolo County Region is approximately 653,000 acres. Presented below is a countywide summary of the general land uses – agriculture, urban, native vegetation, riparian, water bodies, and lands not survey – within the region.

#### **Yolo County Land Use Summary**

<b>General Land Use Category</b>	<b>Acres (1997)</b>
<b>Yolo County – Total Acres</b>	<b>653,370</b>
<i>Agriculture</i>	<i>366,058</i>
<i>Urban</i>	<i>30,437</i>
<i>Native</i>	<i>238,479</i>
<i>Riparian Settings</i>	<i>6,439</i>
<i>Other Water Bodies</i>	<i>9,261</i>
<i>Lands Not Surveyed</i>	<i>2,696</i>

Data Source: 1997 DWR Land Use Survey and YCFWCWCD Engineer's 2001 Annual Report

According to the above land use information, over half of the acreage (approximately 366,000 acres or 56%) in Yolo County is agriculture. According to a U.S. Department of Agriculture report published in 1997 Yolo County has 923 farms averaging 581 acres in size, with 14% of the farms over 1,000 acres in size. Common crops in the county include truck crops such as tomatoes, pasture such as alfalfa, and hay. According to the Yolo County General Plan Agricultural Element Policy Document and Background Report, agriculture is an important part of Yolo County's history, culture, and economy. The County made efforts in its general plan to conserve and preserve agricultural land by enacting ordinances limiting the use of agricultural lands, creating minimum parcel sizes, and implementing the Williamson Act (the Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use). Strong community support and the University of California, Davis, which conducts much of Northern California's research on agriculture, have also aided the County to preserve its agricultural lands.

Population centers in Yolo County include the incorporated cities of Davis, West Sacramento, Winters, and Woodland; the University of California, Davis; and the unincorporated communities of Capay, Clarksburg, Dunnigan, Esparto, Guinda, Knights Landing, Madison, Rumsey, Yolo, and Zamora. According to the above land use information approximately 30,000 acres (5%) of the area within Yolo County is classified as urban. The majority of this acreage lies within the four major cities of Davis, West Sacramento, Winters, and Woodland and the University of California, Davis. The remaining urban areas are sprinkled throughout the county in unincorporated communities.

According to the above land use information there are approximately 254,000 acres (38%) in Yolo County characterized by native vegetation, riparian settings, and other water bodies.

General Yolo County Demographic Information

*Population*

Presented below is a summary of Yolo County’s population by area. Population in the region is increasingly dominated by the incorporated cities. According to the California Department of Finance since 1987, when West Sacramento became an incorporated city, the population of the four incorporated cities has increased from 107,500 to 147,199 in April 2000. The population of unincorporated areas in the county has grown much less, from 18,950 in 1987 to 21,461 in April 2000. During this time, the total county population increased from 126,450 in 1987 to 168,660 in April 2000. According to projections developed by the Sacramento Area Council of Governments (SACOG) the total Yolo County population is projected to grow to 266,325 in 2025.

**Yolo County Population by Area**

<b>Area</b>	<b>Population (April 2000)</b>	<b>% Change from 1990</b>	<b>% Change from 1987</b>
Yolo County – Total Population	<b>168,660</b>	<b>19.4</b>	<b>33.4</b>
<i>City of Davis</i>	<i>60,308</i>	<i>28.8</i>	<i>36.9</i>
<i>City of West Sacramento</i>	<i>31,615</i>	<i>7.9</i>	
<i>City of Woodland</i>	<i>49,151</i>	<i>21.7</i>	
<i>City of Winters</i>	<i>6,125</i>	<i>NA</i>	
<i>Unincorporated</i>	<i>21,461</i>	<i>NA</i>	<i>13.3</i>

Data Source: California Department of Finance, 2002

*Employment*

Presented below is a summary of employment growth by category for the Yolo County region. According to the U.S. Census Bureau 2000 Census Data, the total number of jobs in Yolo County increased by approximately 16% from 1990 to 2000. The region experienced moderate job growth between 1990 and 2000 in all employment categories except Farming, Fishing, and Forestry occupations and Production, Transportation, and Material Moving occupations.

### Yolo County Employment Summary

Employment Category	Persons Employed that are 16 Years and Older	
	1990	2000
Yolo County – Total Employed	<b>66,260</b>	<b>76,648</b>
<i>Management, professional, and related occupations</i>	25,754	31,725
<i>Service occupations</i>	8,521	10,860
<i>Sales and office occupations</i>	16,220	18,226
<i>Farming, fishing, and forestry occupations</i>	3,278	1,979
<i>Construction, extraction, and maintenance occupations</i>	3,967	5,479
<i>Production, transportation, and material moving occupations</i>	8,520	8,379

Data Source: U.S. Census Bureau - 2000 Census

### *Housing*

Presented on the table below is a summary of housing unit structures for the Yolo County region. The number of housing units in the region has increased to keep pace with the population growth. Between 1990 and 2000, the number of total housing units increased by approximately 16%. The housing categories with the greatest percentage increase were single family residences and multiple family residences with 5 or more units. There was a smaller percentage increase in mobile homes, and negligible change in the number of multiple family residences with 2 to 4 units.

### Yolo County Housing Summary

Housing Unit Structures	Number of Housing Units (April 2000)
<b>Yolo County - Total Dwelling Units</b>	<b>61,587</b>
<i>Single Family Unit</i>	38,872
<i>2 to 4 Units</i>	4,429
<i>5 to 19 Units</i>	4,957
<i>20 or more Units</i>	9,718
<i>Mobile Homes</i>	3,426
<i>Boats, RV, Van, etc.</i>	185

Data Source: California Department of Finance, 2002

### *Income*

The median household income for the Yolo County region, as reported by the U.S. Census Bureau 2000 Census Data (in 1999 dollars) is \$40,769, while the 1990 U.S. Census (in 1989 dollars) reported a median income of \$28,866 for the region. Between 1990 and 2000, this shows an average annual increase of approximately 41%.

### **Social Values**

Open space and preservation of farmland have been and will continue to be regarded as high-priority social values in public policy affecting land use, as well as education and continued support for Native American traditions.

Equally important, are the efforts in Yolo County to develop opportunities for environmental enhancement as illustrated in the work of the Yolo Basin Foundation in the Yolo Bypass, the Putah Creek Council on Putah Creek, and the on-going effort to develop a Habitat Conservation Plan for Yolo County.

## A. 2 PLANNING OBJECTIVES

The planning objectives identified by the WRA Technical Committee are presented in Work Item I.C., of Section B. The objectives were identified as part of the Yolo County Water Plan Update in 1992 and expanded considerably by the Technical Committee, to reflect the broader interest of the WRA today. The goals and objectives will be finalized through the public involvement process. The objectives as stated in Work Item I.C., will provide the guidelines for formulating and prioritizing programs and projects.

The Yolo County Integrated Regional Water Management Plan (IRWMP) is the most comprehensive, proactive effort ever undertaken to plan for Yolo County's water future. The IRWMP builds on previous water planning efforts, such as Yolo County's first water plan in 1984, and the update in 1992. The 1992 update led to the formation of the Water Resources Association of Yolo County (WRA), created to facilitate implementation of the 1992 Water Plan. The long-held objective of the 1992 Water Plan is to assure an adequate water supply – both in quantity and quality – for the people of Yolo County, present and future, in a manner that is efficient, economical, and environmentally sound.

The IRWMP builds on this long history, and the significant work of member agencies, but represents a more thoughtful collaborative effort on the part of the WRA than ever undertaken or considered before. The IRWMP will identify high priority water issues and solutions, as well as provide an implementation strategy for the five management areas including the following:

- Water Supply and Drought Preparedness
- Water Quality – Point Sources and Non-Point Sources
- Storm Drainage and Flood Control
- Aquatic and Riparian Ecosystem Enhancement
- Recreation

Work Item I describes the approach and process that will be implemented to determine the IRWMP objectives. Work Item II further describes how the plan will develop prioritization criteria that will be used to address these objectives and possible conflicts when evaluating proposed projects.

The IRWMP will, in essence, provide a master plan for Yolo County for addressing issues and opportunities within the framework of the five resource management areas. Planning within the framework of these five areas not only allows the community of Yolo County to be served in a comprehensive manner but also facilitates addressing the statewide priorities to the maximum extent practicable. The primary objectives and solution principles of the California Bay-Delta Program will be applied to the maximum extent possible to program and project prioritization within the Yolo County region.

Particular attention will be given to reaching the smaller communities to ensure the needs of the community are considered fully in identifying and prioritizing issues and potential projects. Through the IRWMP, the WRA will seek opportunities for collaboration among agencies within Yolo County, neighboring regions, and federal and state agencies. Additionally, the timing of work related to the IRWMP and the County's General Plan provide a unique opportunity to

integrate land use planning and water resource planning in a meaningful way. The WRA recently completed the “Background Data and Information Appendix” to the IRWMP, the first step towards its completion. This document outlines the additional work necessary to complete the IRWMP.

Although the planning period for the IRWMP extends to 2025, the IRWMP focuses on guiding the water resources management activities of member agencies and the community for the next five to 10 years.

### A.3 INTEGRATION OF WATER MANAGEMENT STRATEGIES

The IRWMP represents a comprehensive collaborative water/resource planning effort lead by the WRA member agencies. The purpose of the proposed IRWMP is to develop water/resource management strategies to address issues and opportunities for water supply, water quality, storm drainage and flood control, aquatic and riparian ecosystem enhancement, and recreation for the Yolo County region. The IRWMP, through an extensive public involvement process, described in Work Item I, will identify and prioritize issues, opportunities, and projects associated with these five issue areas. Through the IRWMP, the WRA will seek opportunities for collaboration among agencies to enhance the integration of water management within Yolo County and neighboring regions.

The timing of Yolo County’s General Plan process dovetails exceptionally well with the IRWMP process. Special attention is given in the IRWMP work plan to truly integrate land use and water use. Work Item III addresses this integration specifically.

The IRWM Grant Guidelines (Guidelines) identify the types of water management strategies that an IRWM Plan might consider. Of this list of strategies listed below, water management strategies that will be addressed through the completion of the Yolo County IRWMP are highlighted in yellow. All but one of the strategies recommended in the Guidelines will be addressed.

<b>Potential Water Management Strategies</b> <i>(IRWM Standards from IRWM Grant Program Guidelines</i> <i>DWR and SWRCB, November 2004)</i>	
<ul style="list-style-type: none"> <li>• Ecosystem Restoration*</li> <li>• Environmental and habitat protection and improvement*</li> <li>• Water Supply Reliability*</li> <li>• Flood management*</li> <li>• Groundwater management*</li> <li>• Recreation and public access*</li> <li>• Storm water capture and management*</li> <li>• Water conservation*</li> <li>• Water quality protection and improvement*</li> <li>• Water recycling*</li> <li>• Wetlands enhancement and creation*</li> </ul>	<ul style="list-style-type: none"> <li>• Conjunctive use</li> <li>• Desalination</li> <li>• Imported water</li> <li>• Land use planning</li> <li>• NPS pollution control</li> <li>• Surface storage</li> <li>• Watershed planning</li> <li>• Water and wastewater treatment</li> <li>• Water transfers</li> </ul>
<p>*Water management strategies that must be considered under an IRWM Plan pursuant to CWC §§ 79562.5 and 79564.</p>	

To address the Yolo County region’s water issues to the maximum extent practicable in the most cost-efficient means possible, the IRWMP will be developed in a manner that articulates water management strategies identified through technical studies and preliminary designs already completed by member agencies, individually or in partnership, and new water management strategies developed during completion of the IRWMP. The process for considering these water management strategies is outlined in more detail in the Work Item section below, specifically Work Item II (Public Process) and Work Item VII (Formulate IRWMP).

Several work items address the integration of management strategies into the selection and prioritization of projects. Understanding how these management strategies influence each other will be a key consideration when developing prioritization criteria in Work Item II, and formulating water/resources management projects in Work Item V. The proposed Work Items direct the WRA Technical Committee (composed of senior staff from all the member agencies) to prepare issue papers for the five main water management areas discussed previously. Using objectives and evaluation criteria identified by the IRWMP, the Technical Committee will prioritize the issues, while receiving direction, support, and input from the public (see Work Item II, Public Process, for a detailed description). This will be done by methodically stepping through each issue, understanding underlying stakeholder interests pertaining to the issue, and eventually identifying solutions (projects) that meet one or more objectives. During the Public Process issue-specific working groups (subgroups) will interact to identify overlapping issues and opportunities for integration. These efforts, including the Public Process, are described more fully under Work Items section below (see Work Items II and VII).

To illustrate the opportunities for integration of water management strategies and the synergistic effect, a specific action that has been considered or discussed among the Technical Committee is described below. Although more detailed analysis, public review, and scrutiny of the prioritization criteria remains to be applied, these projects or integration of water management strategies exemplify the extent to which the Technical Committee will be addressing both priority issues and opportunities.

**Example:**

Project: Cities of Woodland and Davis and the University of California Water Supply Project

Water Management Strategies Integrated:

- Point Source Water Quality Protection and Improvement
- Water Supply Reliability
- Groundwater Management
- Ecosystem Restoration
- Environmental Habitat Protection and Improvement
- Recreation and Public Access
- Water Conservation
- Water Recycling
- Conjunctive Use
- Imported Water
- Water and Wastewater Treatment
- Water Transfers

Project Description:

The cities of Davis and Woodland and the University of California at Davis have completed studies to determine the feasibility of diverting water from the Sacramento River under the watershed of origin protection afforded through the California Water Code. This water supply would facilitate substantial improvement in the quality of water delivered to its customers. This,

in turn, would eliminate the need for water softeners. Eliminating water softeners and reducing the use of groundwater within the urban areas would greatly improve the quality of the water discharged from the wastewater treatment facilities, thereby improving the resultant water quality of the receiving water in the Yolo Bypass.

The water supply from the Sacramento River is not available in all months, generally the months of June, July, August, depending upon the particular year. With the quality of the water discharged from the cities improved and treated, and applied to agricultural land, the opportunity to work out water supply exchanges becomes available when coupled with the management of groundwater and the water supplies of the Yolo County Flood Control & Water Conservation District's Cache Creek system. A part of this water management strategy could increase flow within the lower reaches of Cache Creek, thereby providing the opportunity for ecosystem restoration and wetlands management.

The ecosystem restoration and wetlands management, depending upon the location and types of activities, could incorporate features for recreation and public access.

To the extent recycled water is used for agriculture in-lieu of pumping groundwater, there is the opportunity to work out an arrangement during a drought of greater severity than what has been recorded to facilitate the transfer of groundwater from the agricultural areas to the urban areas. Such arrangements need to be made before the situation arises. This opportunity will be discussed and examined as part of the WRA's drought preparedness efforts.

A project of this nature would have the added benefit of arresting land subsidence, which is well documented along the east side of Yolo County.

Also, the opportunities associated with such a project could be varied depending upon whether the water was diverted at Red Bluff and conveyed through the Tehama-Colusa Canal or from the Sacramento River east of Woodland and Davis. Both locations are addressed in the entities in their application to appropriate water from the Sacramento River.

#### **A.4 PLAN IMPLEMENTATION**

A major consideration among the WRA Board Members is the implementation of programs and projects that are determined to be of high priority in the community. The WRA has initiated a collaborative process through the preparation of the initial IRWMP work product entitled, “Yolo County IRWMP Background Data and Information Appendix.” With the completion of that work, the WRA, in the interest of advancing the management of water and related resources, has established a Technical Committee comprised of senior level personnel from the member agencies.

The initial assignment of the Technical Committee was to develop the scope of work or work items to complete the IRWMP. The work items presented in Section B of this proposal represent the results of a very dedicated effort on the part of the Technical Committee to outline its work for the next 18 months. The corresponding budget and schedule related to this work is presented in Sections C and Section D of this proposal, respectively.

The WRA recognizes that community support is a prerequisite for a successful plan i.e., one that can be implemented. Accordingly, a very deliberate collaborative and public involvement process and schedule has been developed to identify and prioritize issues and opportunities, to identify and prioritize potential projects to address high priority issues and opportunities, and to develop an implementation strategy to provide the best opportunity for success. As described in Section A.1 and illustrated on Figure A-1, the implementation of projects is anticipated to be implemented by member agencies individually or in partnership with other members or agencies within neighboring regions, as deemed most appropriate. The WRA will continue to provide a forum for agencies’ coordination and the dissemination of information on plan implementation to the public. The Technical Committee, however, will be aggressive in preparing the IRWMP during the next 18 months and subsequently in the implementation of those projects determined to be of high priority to the long-term well being of Yolo County. The strength of the Technical Committee will be to function in a role as advisors to the member agency or agencies implementing a particular project to serve as a peer review and to suggest adaptive measures to enhance a project.

The implementation strategy developed under Work Item VI.C., is a very important component of the IRWMP. The implementation strategy will address the institutional structure to most effectively implement priority projects, funding options, and implementation schedules related to funding availability.

The non-point source pollution projects will incorporate monitoring results from the Sacramento Valley Agricultural Waiver Coalition Program and identify management practices consistent with meeting target objectives.

A major role of the WRA Board, both during the development of the IRWMP and during the implementation, will be to review and monitor progress, budgets, and overall accomplishments. Periodic updates will be provided on the WRA Website to provide interested parties with pertinent information on the IRWMP.

## A.5 IMPACTS AND BENEFITS

By virtue of the prioritization criteria to be developed in Work Item II., all projects will be evaluated from the standpoint of impacts and potential benefits. An important factor to note here is that the WRA in its approach to developing its IRWMP will be evaluating the five water resources management areas concurrently and each will be dealt with at the onset of the work. Unlike most water resource planning programs, the WRA will treat issues related to the environment and small or disadvantaged communities throughout the planning process. All programs and projects will undergo the same level of evaluation and be subject to the same prioritization criteria as noted in the opening discussion for the Work Items and Work Item IV. of Section B.

The WRA, through its Technical Committee, which is comprised of senior staff of each member agency, is making a concerted effort to identify and prioritize issues and opportunities through a collaborative and public process (described in Work Item I). These issues and opportunities will be identified from a countywide standpoint in terms of five water resource management areas, including: water supply and drought preparedness; water quality; storm drainage and flood hazards; aquatic and riparian ecosystem enhancement; and recreation. Potential benefits and impacts for the County and adjacent regions, where appropriate, will be evaluated in terms of these five items during the collaborative public process, the formulation of potential water /resources management projects described in Work Item V, and the IRWMP formulation described in Work Item VI. Specific measures or projects identified to address the high priority issues and opportunities will be subject to a prioritization process described in Work Item II. The benefits of prioritizing the potential projects are twofold. First, the potential projects will represent those that are most desirable from the standpoint of meeting the water needs of Yolo County. Second, the implementing agency or agencies can proceed with highly beneficial projects or programs that have the support of the community. Both items are of substantial importance with any project under consideration in any community, and the WRA members are respectful of this.

The IRWMP process represents the first comprehensive effort to engage small communities to seek opportunities for community and infrastructure enhancements. Several communities such as Esparto, Madison, Knights Landing, East Yolo, and Dunnigan are subject to growth; however, the infrastructure for water, sewer, etc., is inadequate. These disadvantaged areas, whether they meet the criteria for disadvantaged communities under Proposition 50, will be incorporated into the IRWMP process.

With respect to environmental compliance, including compliance with CEQA and NEPA, the Yolo County IRWMP is a planning document and, as such, will not require development of a programmatic Environmental Impact Statement/Environmental Impact Report. However, prior to any agency approval of projects proposed or otherwise discussed in the IRWMP, compliance with CEQA (and possibly NEPA) will be required for all projects that are not exempt from those statutes. The IRWMP will include a discussion of whether a programmatic Environmental Impact Statement/Environmental Impact Report is feasible for some or all of the projects identified in the IRWMP. To the extent a programmatic Environmental Impact Statement/Environmental Impact Report is deemed infeasible, the IRWMP will include a preliminary analysis of the appropriate level of environmental review (i.e., in the context of CEQA, whether the preparation of a negative declaration, mitigated negative declaration, or Environmental

Impact Report may be required) for specific water/resource management projects as part of the formulation and prioritization tasks (see Work Item VI. and Work Item VII.). This assessment, which is not intended to be as detailed as, or eliminate the need for, an “initial study” under CEQA, will involve placing projects identified in the IRWMP in one of the following categories:

- (1) projects that are exempt from environmental compliance (i.e., projects that are non-discretionary actions, or are statutorily exempt); (2) projects that may require limited environmental documentation, such as environmental assessments or negative declarations; (3) projects that may full CEQA/NEPA evaluation; and (4) projects with completed CEQA/NEPA documentation.

In conjunction with Work Item I., “Conduct Public Process and Outreach,” presentation materials will be prepared, for public and agency outreach purposes, which summarize the potential environmental compliance needs for the various water/resource management projects. The environmental impacts and benefits of water management activities in Yolo County are addressed as an important item for consideration in the Yolo County IRWMP background Data and Information Appendix under the Environmental Resources section. The impacts and benefits will also be addressed in the prioritization of water resources management projects.

Similar to this preliminary assessment of CEQA/NEPA compliance for proposed projects, in the prioritization of projects, regulatory permitting related to the implementation of particular projects will be categorized according to the expected level of difficulty in obtaining required permits and other approvals.

Many projects have already been identified in Yolo County that have specific environmental and recreation benefits, which will be included in the IRWMP. Some of these efforts are directly beneficial to and consistent with CalFed and statewide water management objectives and priorities.

## A. 6 DATA AND TECHNICAL ANALYSIS

Data and technical analysis is the single most important factor to support the IRWMP planning process. Identifying and prioritizing issues and projects to address those issues will be fully supported by the available data and the most rigorous analysis.

The IRWMP, in addressing issues and opportunities and potential solutions related to the five water/resources management areas, will rely on existing data. Yolo County has significant amounts of water-related data that have been collected and analyzed as part of different programs and studies. This data exists in electronic format in different databases and sources and in hardcopy format in different study reports. The Yolo County Flood Control & Water Conservation District has recently developed a Water Resources Information Database (WRID) using groundwater-level and well construction data. The District also has an information technology initiative that will streamline the data processing, storage, and sharing throughout the County and with federal and state agencies as well.

Data and information for water supply and flood control are available and analyses have been completed to support advanced planning of IRWMP-related activities. A few of the technical studies that will provide supporting information are noted below:

- “Yolo County Technical Studies for the Yolo County Cache Creek Resources Management Plan,” 1995
- “City of Davis/University of California Groundwater Studies, Phase I and Phase II,” 1999 and 2005
- “Yolo County Flood Control & Water Conservation District Water Management Plan,” 2000
- “YFCWCD/YZWD Conjunctive Water Use Feasibility Study,” 2003
- “Yolo County Flood Control & Water Conservation District Groundwater Monitoring Program,” 2004
- “City of Davis/UCD Water Supply Feasibility Study,” 2002
- “City of Woodland Water Supply Feasibility Study,” 2003
- “City of Woodland Storm Drainage Facilities Master Plan,” 2005
- “City of Winters Moody Slough Subbasin Drainage Master Plan,” 2004
- “City of Winters Putah Creek-Dry Creek Subbasin Drainage Master Plan,” 2004
- “City of Woodland/U.S. Army Corps of Engineers Lower Cache Creek Flood Damage Reduction Study,” 2002

With respect to groundwater, in addition to the studies noted, data is available regarding groundwater levels, and groundwater quality information has been compiled and a program is being implemented to improve the data with time. The development of a groundwater model is underway that will provide an effective tool for evaluating conjunctive water use strategies and planning for drought preparedness. Information related to fisheries and aquatic ecosystems is available in some aquatic systems but not for others. Where deficiencies exist, data gathering and monitoring programs will be developed for implementation.

As described in the Work Item V. in Section B of this Attachment, solutions or projects will be identified and prioritized to deal with high priority issues and opportunities. At this point in the IRWMP process, detailed technical analyses will be performed to further detail the projects to enhance their state of readiness for implementation. The technical analyses may be comprised of feasibility studies, preliminary engineering designs, or even to the extent of preparing construction plans and specifications. It is anticipated that the full range of analyses may be associated with the IRWMP, which would facilitate any subsequent CEQA and NEPA compliance efforts that may be required prior to agency approval of projects identified in the IRWMP. As described in Section A.1, the detailed analyses will be accomplished both within the IRWMP process directly or through concurrent activities of member agencies that will be responsible for the project implementation. Most important, is that the work that is accomplished will be part of the IRWMP.

## A.7 DATA MANAGEMENT

The WRA is keenly aware of the importance of having data and information readily available for disseminating to prospective users throughout the short term during the preparation of the IRWMP and during the implementation and long term also.

With respect to the general public, the WRA will be upgrading its Website to expand its capability and links to facilitate the retrieval of information pertinent to the planning process and documentation of draft and/or the completed work product. Enhancement of the WRA's Website will occur soon to support the public involvement process. This will be important to allow for posting of project-related documents (including documents prepared pursuant to CEQA and NEPA), a community calendar of meetings and workshops, workshop and committee agenda and meeting notes, and other public affairs information designed to allow the community to be informed of the project and progress. In addition, there will be a project Website with secure access for project participants. This project Website will be used to share project-related data among the technical analysts.

With respect to data that is more related to technical information, it is planned that the Water Resources Information Database (WRID) recently developed by the Yolo County Flood Control & Water Conservation District will have the flexibility to evolve into a large-scale regional Data Management System that will store all water and environment related data for the IRWMP region. This will include data such as the following:

**Hydrology Data:** Groundwater level, stream flow, rainfall, and other hydrology related data and information.

**Land Use and Water Use Data:** Historical land use, crop acreage, surface water delivery, estimated groundwater pumping, and other water use data.

**Engineering and Economic Data:** Infrastructure location, size, capacities, costs, population, agricultural produce values, etc.

**Water Quality Data:** Historical measured water quality data of different types for both surface water and groundwater at different locations.

In preparing the data management plan for the long term, protocols and processes will be developed to support the statewide data needs. Currently, the Yolo County Flood Control & Water Conservation District provides groundwater monitoring data to the California Water Data Library via fax. This process will be improved and automated to reduce workload on the IRWMP participants as more data will be collected to support the IRWMP implementation and monitoring. Also, specific data export tools will be specified for export of data to the Surface Water Ambient Monitoring Program (SWAMP) and Groundwater Ambient Monitoring Assessment Program (GAMA). Any new monitoring data that is to be collected during development or implementation of the IRWMP will be processed to be compatible with any electronic data exchange formats and requirements of the state.

## **A.8 STAKEHOLDER INVOLVEMENT**

The WRA, through its Technical Committee, has been involved in outreach to local agencies, neighboring regions, and legislation regarding the preparation of the IRWMP Background Data and Information Appendix and the scope of work or Work Items presented in Section B, to complete the IRWMP.

Evidence of this outreach is provided in the letters from 21 entities reflecting their support for the WRA's effort. These letters are included in Appendix B of this proposal.

As described in Work Item I of Section B, the WRA views public involvement and outreach as an essential element of the process to complete and implement the IRWMP. The public process and outreach will be directed by the Technical Committee and will involve a professional facilitator and the active participation of the Technical Committee. The IRWMP process is focused to provide a countywide framework for addressing five management areas: water supply and drought preparedness; water quality; storm drainage and flood control; aquatic and riparian ecosystem enhancement; and recreation. The WRA envisions that subgroups will be established with people having a special interest in one or more of the resource areas.

An important aspect of the WRA's program is the outreach component as evidenced by its ranking as Task I in the work items discussion in Section B. This is viewed as an opportunity to inform and involve the public through the interaction of Technical Committee members and various organizations and community groups. Special attention will be given to involving citizens of the smaller and disadvantaged communities. The WRA sees this IRWMP process as being a means of identifying and elevating the key water-related issues that these communities are confronted with to a level where they can receive the attention they deserve through the stakeholder process.

## **A.9 DISADVANTAGED COMMUNITIES**

Within Yolo County there are two communities that would be considered disadvantaged based upon the criteria set forth in the Proposition 50 Guidelines/PSP. These are the East Yolo County and Knights Landing County Census Designations (CCD). The Knights Landing CCD includes the towns of Dunnigan and Yolo, and the East Yolo CCD includes a strip of land along the Sacramento River from the north County line to Clarksburg, including West Sacramento. Although they may not meet criteria set forth in the Guidelines/PSP, other communities such as Esparto and Madison, for example, are disadvantaged in that they have failing or deficient infrastructure or drainage and flooding problems that require attention. A concerted effort will be made on the part of the Technical Committee to involve these communities in the IRWMP public process. It is recognized that their participation may be limited within the framework of formal public meetings or workshops; therefore, effort will be made to enlist their participation through small group meetings within the communities.

## **A.10 RELATION TO LOCAL PLANNING**

The integration of land and water use planning are essential for sound resources development and management. The fact that Yolo County is updating its General Plan concurrently with the formulation of the IRWMP provides an opportunity to truly integrate both processes. The WRA is mindful of the importance of integrating the planning of the two resources and has a specific work item, Work Item III, in this regard. The County's General Plan together with the general plans of the cities and other agencies will provide the foundation for the Technical Team to formulate a comprehensive plan to deal with water supply and drought preparedness, water quality, storm drainage and flood control, ecosystem enhancement, and recreation for the community of Yolo County, which includes incorporated and unincorporated communities and rural areas.

Water policies will be developed by the Technical Committee and reviewed through the public process for incorporation into the County's General Plan. These policies can also serve as guidelines for the cities and other agencies as they update their individual resource and infrastructure plans. As described in Section A.1 the resource and infrastructure plans of the WRA member agencies represent an important vehicle for implementation of the IRWMP

## **A.11 AGENCY COORDINATION**

As described in Work Item VIII of the Work Items, the WRA Technical Committee will be central to the management of the IRWMP process and the coordination that will be critical to the overall success, not only for the plan formulation but for its implementation also. The coordination function is critical at various levels: among the WRA members and other agencies and the community in Yolo County; neighboring regions; and with federal and state resource and regulatory agencies. Federal and state agencies have been significant cooperators over the years in monitoring and investigative-type programs in Yolo County and the WRA views their continued participation to be important in the planning and implementation of the IRWMP. Examples of various cooperative programs include the following:

- The Department of Water Resources' participation in establishing the subsidence monitoring network and subsequent monitoring observations.
- The Department of Water Resources' Cooperation with the Yolo County Flood Control & Water Conservation District in developing its Data Management System.
- The U.S. Geological Surveys cooperative arrangement with the Yolo County Flood Control & Water Conservation District's stream gaging program.
- The Department of Water Resources' participation in preparing the Yolo County IRWMP Background Data and Information Appendix.
- The U.S. Army Corps of Engineers cooperative arrangement with the City of Woodland in investigating flood control alternatives associated with Cache Creek.
- The close coordination of the U.S. Geological Survey and Department of Water Resources' associated with the City of Davis/University of California Deep Aquifer Studies and Groundwater Management efforts.
- The U.S. Army Corps of Engineers cooperative investigation of flood protection for the City of Winters.

As note in Section A.10, the coordination of the IRWMP process with the County's General Plan process is not only viewed by the Technical Committee as important but truly as an opportunity by virtue of the fact that both are being performed concurrently.





**TABLE A.1**

**WATER RESOURCES ASSOCIATION OF YOLO COUNTY  
INTEGRATED REGIONAL WATER MANAGEMENT PLAN**

**EVALUATION CRITERIA TABLE - CROSS-REFERENCE BETWEEN SECTION A AND SECTION B**

Work Items (Section B)		Evaluation Criteria (Section A)												
		Work Plan	A.1 Description of Region - A. Regional Agency	A.1 Description of Region - B. Region	A.2 Planning Objectives	A.3 Integration of Water Management Strategies	A.4 Plan Implementation	A.5 Impacts and Benefits	A.6 Data and Technical Analysis	A.7 Data Management	A.8 Stakeholder Involvement	A.9 Disadvantaged Communities	A.10 Relation to Local Planning	A.11 Agency Coordination
<b>VI.</b>	<b>Formulate IRWMP</b>													
	A. Prioritize Projects													
	B. Identify Integration Opportunities													
	C. Develop Implementation Strategy													
	1. Evaluate Institutional Arrangements and Partnerships													
	2. Evaluate Funding Options													
	3. Determine Advanced Planning and/or Engineering													
	4. Evaluate Environmental Compliance													
	5. Evaluate Regulatory Compliance													
	D. Draft Report													
	E. Final Report													
<b>VII.</b>	<b>Adopt IRWMP</b>													
	A. Member Agencies Review and Adoption													
	B. WRA Board Review and Adoption													
<b>VIII.</b>	<b>Perform Project Management and Coordination</b>													
	A. WRA Coordination													
	B. Project Team Coordination													
	C. Neighboring Regions Coordination													
	D. State and Federal Agencies Coordination													
	E. Project Work and Budget Status Reports													
	F. Proposition 50 Compliance Reporting													
	G. Data Management													
	<b>Tables, Maps, and Figures</b>													
Table	B-1 Recent Planning Efforts in Yolo													
Figure	B-1 Public Process Flow Chart													
Figure	B-2 Organization Chart													
Map	B-1 Subbasins													
Map	B-2 Water-related Administrative Bodies in Yolo County													
Map	B-3 Yolo County IRWMP Region Delineation													

**TABLE A.2**  
**WATER RESOURCES ASSOCIATION OF YOLO COUNTY**  
**INTEGRATED REGIONAL WATER MANAGEMENT PLAN**  
**SUMMARY OF YOLO COUNTY GROUNDWATER**  
**SUBBASIN CHARACTERISTICS**

<b>Subbasin</b>	<b>Predominant Freshwater Bearing Sediments</b>	<b>Total Thickness</b>	<b>Primary Developed Land Use</b>	<b>Predominant Water Supply Mix</b>	<b>Comments</b>
Capay Valley	Tehama Formation Flood Plain And Stream Channel Deposits	>1,000 feet	Agriculture	Surface Water and Groundwater	
Buckeye Creek	Tehama Formation Stream Channel Deposits	??	Agriculture	Surface Water and Groundwater	Relatively few wells have been developed in this subbasin.
Dunnigan Hills	Tehama Formation Red Bluff Formation	??	Agriculture	Surface Water and Groundwater	Wells are relatively less productive than wells tapping the Tehama elsewhere in the county.
West Yolo	Tehama Formation Flood Plain Deposits	??	Agriculture and M&I	Surface Water (Relatively Small Amount Groundwater Usage)	
East Yolo	Tehama Formation Stream Channel Deposits	>1,500 feet	Agriculture and M&I	Groundwater	Extensive pumping for domestic needs (Woodland, Davis, UC Davis) and some irrigation needs. Significant land subsidence (more than 1') has occurred.
Sacramento River	Tehama Formation Flood Plain Deposits	>2,500 feet	Agriculture and M&I	Surface Water	

**TABLE A.3**  
**WATER RESOURCES ASSOCIATION OF YOLO COUNTY**  
**INTEGRATED WATER RESOURCES MANAGEMENT PLAN COMPLETION**

**WATER RELATED ADMINISTRATIVE BODIES IN YOLO COUNTY AND SOURCES OF SUPPLY**

Administrative Bodies that Deliver Water	Administrative Bodies' Sources of Supply										
	Cache Creek	Willow Slough	Putah Creek	Putah South Canal	Yolo Bypass	Other Streams	Colusa Basin Drain	Sacramento River	Tehama Colusa Canal	Ground-water	Shallow/Intermediate/Deep Wells <sup>1</sup>
<b>Cities and Universities</b>											
City of Davis										X	85% Inter.; 15% Deep
City of West Sacramento								X		X <sup>2</sup>	
City of Winters			X <sup>3</sup>							X	
City of Woodland										X	
UC Davis (Drinking Water)										X	100% Deep
UC Davis (Utility Water)										X	100% Shallow/Inter.
UC Davis (Field Teaching and Research)	X <sup>4</sup>			X						X	100% Shallow/Inter.
<b>Community Service Districts (CDS)</b>											
Cacheville CSD										X	
Esparto CSD										X	
Knights Landing CSD										X	
Madison CSD										X	
<b>County Service Areas (CSA)</b>											
El Macero CSA										X	
North Davis Meadows CSA										X	
Wildwing CSA										X	
Willowbank CSA										X	
<b>Special District</b>											
Yolo County FC&WCD	X										
<b>Mutual Water Company</b>											
Colusa Drain Mutual Water Company							X				
<b>Reclamation Districts (RD)</b>											
RD 108							X	X		X <sup>5</sup>	
RD 150						X					
RD 787 (River Garden Farms)						X	X	X		X	
RD 999						X		X			
RD 2035 (Conaway Conservancy)	X	X						X		X	
RD 2068						X					
<b>Water Districts</b>											
Dunnigan Water District									X		
Yolo-Zamora Water District <sup>6</sup>											
<b>County Water Districts</b>											
Colusa County Water District <sup>7</sup>									X		
<b>Water Users Association</b>											
Rumsey Water Users' Association	X										

Notes:

<sup>1</sup>Shallow Wells (0'-300'), Intermediate Wells (300'-600'), Deep Wells (>700').

<sup>2</sup>Available stand-by wells.

<sup>3</sup>Putah Creek Underflow Rights.

<sup>4</sup>Cache Creek water provided to UC Davis from YCFC&WCD.

<sup>5</sup>All in Colusa County.

<sup>6</sup>Yolo-Zamora Water District does not currently deliver water.

<sup>7</sup>Only a small part of the district is in Yolo County.

**FIGURE A.1  
IRWMP – PLAN FORMULATION &  
IMPLEMENTATION SCHEMATIC**

