Action CO-A38 Amend the County Code to allow landowners to apply for redesignation of their property when it can be demonstrated that mineral resources are not present or are not economically feasible. (Policy CO-3.1)
Responsibility: Parks and Resources Department
Timeframe: 2010/2011

Action CO-A39 Encourage the responsible development of aggregate deposits along Cache Creek as significant both to the economy of Yolo County and the region. (Policy CO-3.1)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A40 Encourage recycling of aggregate materials and products. (Policy CO-3.1)
Responsibility: Parks and Resources Department, Planning and Public Works Department
Timeframe: Ongoing

Action CO-A41 Regularly review regulations to ensure that they support an economically viable and competitive local aggregate industry. (Policy CO-3.1)
Responsibility: Parks and Resources Department, County Administrator's Office
Timeframe: Ongoing

Action CO-A42 Implement the Cache Creek Area Plan to ensure the carefully managed use and conservation of sand and gravel resources, riparian habitat, ground and surface water, and recreational opportunities. (Policy CO-3.1)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A43 Monitor updates to the State Mineral Resource classification map and incorporate any needed revisions to the County's zoning and land use map. (Policy CO-3.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A44 Coordinate individual surface mining reclamation plans so that the development of an expanded riparian corridor along Cache Creek may be achieved. (Policy CO-3.1)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A45 Prohibit commercial mining in or adjoining Putah Creek. (Policy CO-3.1, Policy CO-3.2)
Responsibility: Parks and Resources Department, Planning and Public Works Department
Timeframe: Ongoing

Action CO-A46 Maintain standards and procedures for regulating surface mining and reclamation operations so that potential hazards and adverse environmental effects are reduced or eliminated. (Policy CO-3.1, Policy CO-3.2)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A47 Ensure that mined areas are reclaimed to a usable condition that is readily adaptable for alternative land uses, such as agriculture, wildlife habitat, recreation, and groundwater management facilities.
Responsibility: Parks and Resources Department (Policy CO-3.1)
Timeframe: Ongoing

Action CO-A48 Regularly update surface mining and reclamation standards to incorporate changes to State requirements, environment conditions, and County priorities. (Policy CO-3.1)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A49 Consider the exploration, drilling, and extraction of natural gas as compatible with agriculture and open space uses. (Policy CO-3.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A50 Evaluate any impacts to identified natural gas fields as part of the development review process. (Policy CO-3.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A51 Require that abandoned gas wells be sealed in accordance with State of California Division of Oil, Gas and Geothermal Resources regulations and that all drilling or production facilities be removed. Further require that the disturbed surface area be reincorporated into adjoining agricultural operations or revegetated with native vegetation within one year after abandonment. (Policy CO-3.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A52 Maintain and implement local and State criteria and development standards for the production, injection, and drilling of natural gas deposits.

Ensure that the construction and operation of natural gas storage facilities meet all safety standards of the State of California Division of Oil, Gas and Geothermal Resources. (Policy CO-3.3)
Responsibility: Planning and Public Works Department
Timeframe: 2010/2011

Action CO-A52.1 The County's unique geologic or physical features, which include geologic or soil "type localities" and formations or outcrops of special interest, shall be researched, inventoried, mapped, and data added to the County GIS database. (DEIR MM GEO-1b) (Policy CO-3.5)
Responsibility: Planning and Public Works Department
Timeframe: 2012/2013

F. Cultural Resources

1. Background Information

Cultural resources include archaeological, paleontological and historic resources, including cemeteries and burials outside of cemeteries. Yolo County has examples of all of these, including prehistoric Native American sites, fossilized dinosaur remains, and historical man-made artifacts, buildings, sites and landmarks.

Before the establishment of what we now know today as Yolo County, a variety of people occupied the area. The first people to inhabit the Yolo region were two Native American tribes, the Patwin and, to a lesser extent, the Plains Miwok. Euro-American explorers, specifically the Spanish, came to this area as early as 1808 in search of new land on which to establish missions. Hunter/trapper groups also came to the area in search of valuable animal pelts to sell on an international market.

Settlements in the Yolo County region began during the first quarter of the 19th Century. The first American settlers were granted land from the Mexican Cessation of 1848, during which the U.S. bought the region as eleven Mexican land grants. In the beginning of U.S. control, the region was a stable, isolated farming community that was transformed into a booming agricultural area by the California Gold Rush. Fremont was the first town, founded in 1849, along the confluence of the Sacramento and Feather Rivers. It was also the first County seat, after the formal establishment of Yolo County in 1850. The County seat was moved to Washington (Broderick) in 1851, to Cacheville (Yolo) in 1857, and back to Washington in 1860. In 1862, the County seat was permanently moved to the City of Woodland.

The artifacts and legends left by these groups are important cultural resources. The preservation of cultural resources is important because they offer important educational opportunities and they provide the County with a unique sense of identity.

A countywide record search was conducted at the Northwest Information Center (NWIC) of California Historical Resources Information System at Sonoma State University, and additional sources were also used, to generate a list of over 1,200 recorded cultural resources within Yolo County. Of these, 270 are archeological resources. The locations of these resources have been kept confidential.

There are two tribes with registered traditional land in Yolo County, the Cortina Band of Indians and the Rumsey Band of Wintun Indians. The Cortina band is not known to currently own property nor be active within the County. The Rumsey Tribe is very active in the County. They are a significant landowner and employer as the operators of the Cache Creek Casino Resort in Brooks.

The Rumsey Band of Wintun Indians is a recognized sovereign nation. As such, the Department of the Interior, Bureau of Indian Affairs, holds approximately 267 acres in trust for the Rumsey Tribe (the Tribe). One site contains houses for the tribal members, a community center, and the Yocha-De-He Prepatory School. The other site is home to the Cache Creek Casino Resort. As sovereign lands, these areas are not a part of this General Plan. The Tribe also owns several thousand acres in and around the trust lands. These properties are not held in trust and are included within this General Plan.

In 1985, the Tribe began operation of a bingo hall on trust lands in the Capay Valley, which was expanded to include card games in 1993. Three years later, there was a second expansion of the bingo hall, including several restaurants. In 1999, following approval of the State Gaming Compact, the casino added slot machines and table games to its existing facility. A third expansion began in 2002 to create the Cache Creek Casino Resort, adding additional gaming space, restaurants, event center, club, 200-room hotel, spa, and a championship golf course. Today, the Resort is the second largest employer in Yolo County (after UC Davis) with more than 2,400 employees.

In 2002, the County and the Tribe approved an Intergovernmental Agreement to: (1) establish a mechanism for mitigation of the off-Reservation impacts expected to result from the Casino Resort expansion; (2) provide financial resources to help fund those mitigation measures; and (3) strengthen the government-to-government relationship between the County and the Tribe. The Agreement committed the Tribe to a wide range of measures to reduce the environmental impact of the expansion, as well as payment of overfive million annually to the County to reimburse for the costs of the impacts. The County committed to developing a mitigation program to address impacts that occurred outside of trust lands, paid for through the funds provided by the Tribe, as recommended by a County Advisory Committee for Tribal Matters. Both parties agreed to hold regularly scheduled 2x2 meetings, open to the public.

In April, 2008, the Rumsey Tribe released a Draft Tribal Environmental Impact Report (TEIR) for a new expansion of the Resort. The proposal includes 467 new hotel rooms and 27 casitas, four additional restaurants, an event/conference center, retail shops, an expansion of the spa, additional gaming floor and office space, three new swimming

pools, an additional parking garage, and related support facilities and utilities. The Final TEIR has not yet been released for this project.

Yolo County has conducted consultation with Native American tribes to aid in the protection of traditional and cultural places, or sacred sites, as required by Senate Bill 18 (SB 18). For the purposes of this element, the term "sacred site" refers to any specific, discrete, narrowly delineated location that is identified by a Native American tribe, or Native American individual determined to be an appropriate authoritative representative of a Native American religion, as sacred by virtue of its established religious significance to, or ceremonial use by, a Native American religion. In coordination with the two regional tribes, no sacred sites have been disclosed to the County.

Section 7050.5 of the California Health and Safety Code states that, when human remains are discovered, no further site disturbance shall occur until the County Coroner has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and the remains are recognized to be those of a Native American, the coroner shall contact the Native American Heritage Commission within 24 hours.

In addition to the archeological listings identified above, Yolo County maintains its own list of local historical landmarks (see Table CO-~~4~~6). There are also county listings on the National Register of Historic Places, the list of California State Historical Landmarks, and the list of California Points of Historical Interest (see Table CO-~~5~~7).

Individuals, various community groups and local organizations throughout Yolo County preserve historical resources. These groups include the County Planning Commission/Historic Preservation Commission and various volunteer historical societies. The Planning Commission serves as the Historic Preservation Commission which is tasked with establishing criteria, guidelines and standards to pursue the goals outlined in the County's Historic Preservation Ordinance. The Commission is responsible for maintaining an inventory of all historical landmarks and districts within Yolo County and recommending future historic designations to the Board of Supervisors. The Planning Commission decides permits for demolition and for alterations to historic structures.

TABLE CO-46 **COUNTY-RECOGNIZED HISTORICAL RESOURCES IN UNINCORPORATED YOLO COUNTY**

Common Name	Address
Yolo Library	37750 Sacramento Street, Yolo, CA
James Borach House	419 Sacramento Street, Yolo, CA 95697
Yolo Town Hall	37735 Sacramento Street, Yolo, CA
Joseph T. Cooper House	CR 16a (between CR 98a and CR 98e) Box 545, Yolo, CA
Samuel Carpenter Cottage	CR 87e W of the end, Winters, CA95694
William L. Seawright House	SH 128 (North Side E Of CR 87d) Winters, CA95694
Adolph Oeste House	SE Corner Patwin Rd/ Russell Blvd, Davis, CA 95616
French Residence	37858 Russell Blvd, Davis, CA 95616
Hext Brothers Farmhouse	Box 2080, Rd. 97D and State Route 128, Davis, CA 95616
Gotfried Schmiser House	CR 31 and CR 96 Box 2560 Davis, CA 95616
"Yolanda"	CR 99, Box 70, at NW Corner Cr 25a, Woodland, CA 95695
William Marcus Jackson House	20123 East Street, Woodland, CA 95695
Frank N. Bullard House	CR 99, Box 150 (N of CR 27) Woodland, CA
Lorenz Heinz Ranch	38331-35 CR 29, Davis, CA
B. F. Conaway Ranch House	CR 103, Box 158 (N of CR 27), Woodland, CA 95695
Nelson Bump House (Aka "Lydia" House)	South River Road next to County Line, Clarksburg, CA
Hamilton S. Connor House	CR 144, Box 283, Clarksburg, CA
Holland Land Company Headquarters	Netherlands Road at Central Ave., Clarksburg, CA
Lawlor & Cosby General Merchandise	South River Road (corner of Netherlands Ave.) Clarksburg, CA
Husick Hardware	South River Road (S of Netherlands Ave) Clarksburg, CA
St. Joseph's Church And Rectory	South River Road, Box 52, Clarksburg, CA
Brown/Munk House	54080 South River Road, Clarksburg, CA
Gordon Cemetery	CR 20 E of CR 92C, Yolo, CA 95697
Robert Baur House	CR 23, Box 516 East of CR 86a Madison, CA 95653
Esparto Railroad Station	16770 CR 87, Esparto, CA
Fred Wyatt House	924 and 928 Grafton, Esparto, CA 95627

Common Name	Address
Clarence Johnson Home & Shop	26621 Capay Street, Esparto, CA
Ioof Building, Esparto	16651-63 Yolo Avenue Esparto, CA
Henry Mefford House	County Road 25 near County Road 86A Madison, CA 95653
Haines Store	1110 Main Street, Madison, CA 95653
Union Church Of Dunnigan	3615 County Road 89A, Dunnigan, CA 95937
St. Agnes Church	SE Corner Main and Second Streets, Zamora, CA 95698
John Snowball Mansion	613 Front Street, Knights Landing, CA
Silas/ Edson House	509 3rd Street, Knights Landing, CA
Leithold's Drug Store, Knights Landing	223 Mill Street. Knights Landing, CA
First National & Home Savings Bank	225 Mill Street. Knights Landing, CA
Masonic Lodge, Knights Landing	414 3rd Sreet., Knights Landing, CA
Hanney/La Due House	602 Mill Street, Knights Landing, CA
Guinda Corner Store	Sate Route 16 and County Road 53, SW corner, Guinda, CA
Rumsey Town Hall	State Route 16 and Laurel Street, NE corner, Rumsey, CA
James Carey Montgomery House	Rt, 1, Box 1140, Davis, CA 95616

TABLE CO-~~5~~7 **NATIONALLY- AND STATE-RECOGNIZED HISTORICAL RESOURCES IN UNINCORPORATED YOLO COUNTY**

Place Type	Location
National Register of Historic Places	
Yolo Branch Library	200 Sacramento Street, Yolo
Union Church of Dunnigan	3615 County Road 89A, Dunnigan
Rumsey Town Hall	State Route 16 at Manzanita Street, Rumsey
Camilus Nelson ~~Ranch~~Farm	~~State Route~~41070 County Road 18C ~~between CA 113 and 102~~, Woodland
William B Gibson House	512 Gibson Road, Woodland
Canon School	0.5 mi. N of Brooks, Brooks
California State Historical Landmarks	
None in Unincorporated Yolo County	
California State Points of Historical Interest	
Russell Boulevard	Between Highway 113 and Road 98, Davis
Mary's Chapel	Intersection of County Roads 15 and 98
St. Agnes Church	County Road 98, Zamora
Capay School	State Route 16, Capay
Leonidas Taylor Monument	West bank of the Sacramento River, northwest of Sacramento
Yolo County Courthouse	725 Court Street, Woodland
Yolo County Historical Museum	512 Gibson Road, Woodland

Source: National Register of Historic Places, the list of California State Historical Landmarks, and the list of California Points of Historical Interest, 2008

There are a number of repositories of historical artifacts and information in Yolo County, including the Yolo County Historical Museum, the Yolo County Archives and Record Center and the Hattie Weber Museum. The Yolo County Historical Museum is located in Woodland. The museum provides tours of the architecturally historic building and displays furnishings and artifacts from Yolo County's past, specifically between 1850 and 1930, and includes outbuildings that feature artifacts associated with the agricultural industry and farming lifestyle.

The Yolo County Archives and Record Center maintains a comprehensive archive of historical materials dating back from the County's beginnings in 1850. A broad range of

materials are stored at the Archive and Record Center, including County documents, original tax records, old newspapers, probates, wills, civil and criminal cases, original maps of Mexican land grants, personal scrapbooks, video reels and a complete set of meeting notes from every meeting of the Yolo County Board of Supervisors.

2. Policy Framework

GOAL CO-4	**Cultural Resources. Preserve and protect cultural resources within the County.**

Policy CO-4.1 Identify and safeguard important cultural resources.

Policy CO-4.2 Implement the provisions of the State Historical Building Code and Uniform Code for Building Conservation to balance the requirements of the Americans with Disabilities Act with preserving the architectural integrity of historic buildings and structures.

Policy CO-4.3 Encourage owners of historic resources to preserve and rehabilitate their properties.

Policy CO-4.4 Encourage historic resources to remain in their original use whenever possible. The adaptive use of historic resources is preferred when the original use can no longer be sustained. Older residences may be converted to office/retail use in commercial areas and to tourist use in agricultural areas, so long as their historical authenticity is maintained or enhanced.

Policy CO-4.5 Increase knowledge of historic preservation through public education and outreach programs.

Policy CO-4.6 Support historically oriented visitor programs at the local and regional level through the Yolo County Visitor's Bureau and similar efforts.

Policy CO-4.7 Encourage the identification of historic resources through the integrated use of plaques and markers.

Policy CO-4.8 Explore opportunities for promoting heritage tourism, including cooperation with regional and State marketing efforts.

Policy CO-4.9 Promote the use of historic structures as museums, educational facilities, or other visitor-serving uses.

Policy CO-4.10 Encourage voluntary landowner efforts to protect cultural resources consistent with State law.

Policy CO-4.11 Honor and respect local tribal heritage.

Policy CO-4.12 Work with culturally affiliated tribes to identify and appropriately address cultural resources and tribal sacred sites through the development review process.

Policy CO-4.13 Avoid or mitigate to the maximum extent feasible the impacts of development on Native American archaeological and cultural resources.

Policy CO-4.14 Within the Delta Primary Zone, ensure compatibility of permitted land use activities with applicable cultural resources policies of the Land Use and Resource Management Plan of the Delta Protection Commission.

2. Implementation Program

Action CO-A53 Update the Historic Preservation Ordinance on a regular basis to be consistent with applicable federal, State and local Historic Preservation requirements. (Policy CO-4. Policy CO-4.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A54 Update the historic resources surveys (including the Historic Features Inventory), as needed, to reflect changes due to the passage of time, loss of existing historic resources, and the availability of new or reinterpreted information. (Policy CO-4.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A55 Identify and establish historic districts, where appropriate, to better preserve individual historical resources and their context. (Policy CO-4.1, Policy CO-4.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A56 Establish an inventory and map of known significant historic and cultural resources, as well as sensitive areas where such resources are likely to occur. Work with the Rumsey and Cortina Tribes to identify sacred sites and develop a cultural sensitivity map. This information is protected as confidential under State law. (Policy CO-4.1)
Responsibility: Planning and Public Works Department
Timeframe: 2011/2012

Action CO-A57 Conduct historic resource surveys as a part of community and specific plan preparation to document and identify those resources that meet

the criteria for listing at the local level, on the California Register of Historical Resources, and on the National Register of Historic Places. Policy CO-4.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A58 Review and monitor demolition permits, grading permits, building permits, and other approval procedures to reinforce preservation goals. (Policy CO-4.1, Policy CO-4.2, Policy CO-4.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A59 Establish design guidelines for historic resources based on established federal and State standards and guidelines to address the adaptive reuse and modification of historic resources. (Policy CO-4.1, Policy CO-4.2, Policy CO-4.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A60 Preserve historical records and make them accessible to the public by maintaining the Yolo County Archives and Record Center. (Policy CO-4.1, Policy CO-4.5)

- Provide additional space for accommodation of the growing Archives collections
- Ensure that the collection is housed in an appropriate archival manner

Responsibility: County Library, General Services Department
Timeframe: Ongoing

Action CO-A61 Require cultural resources inventories of all new development projects in areas where a preliminary site survey indicates a medium or high potential for archaeological, historical, or paleontological resources. In addition, require a mitigation plan to protect the resource before the issuance of permits. Mitigation may include:

- Having a qualified archaeologist or paleontologist present during initial grading or trenching;
- Redesign of the project to avoid historic or paleontological resources;
- Capping the site with a layer of fill; and/or
- Excavation and removal of the historical or paleontological resources and curation in an appropriate facility under the direction of a qualified professional. (Policy CO-4.1, Policy CO-4.13)

Responsibility: Planning and Public Works Department

Timeframe: Ongoing

Action CO-A62 Require that discretionary projects which involve earth disturbing activities on previously undisturbed soils in an area determined to be archaeologically sensitive perform the following:

- Enter into a cultural resources treatment agreement with the culturally affiliated tribe.
- Retain a qualified archaeologist to evaluate the site if cultural resources are discovered during the project construction. The archaeologist will have the authority to stop and redirect grading activities, in consultation with the culturally affiliated tribe and their designated monitors, to evaluate the significance of any archaeological resources discovered on the property.
- Consult with the culturally-affiliated tribe to determine the extent of impacts to archaeological resources and to create appropriate mitigation to address any impacts.
- Arrange for the monitoring of earth disturbing activities by members of the culturally affiliated tribe, including all archaeological surveys, testing, and studies, to be compensated by the developer.
- Implement the archaeologist's recommendations, subject to County approval.
- Agree to relinquish ownership of all artifacts that are found on the project area to the culturally affiliated tribe for proper treatment and disposition. (Policy CO-4.1, Policy CO-4.13)

Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A63 Require that when cultural resources (including non-tribal archeological and paleontological artifacts, as well as human remains) are encountered during site preparation or construction, all work within the vicinity of the discovery is immediately halted and the area protected from further disturbance. The project applicant shall immediately notify the County Coroner and the Planning and Public Works Department. Where human remains are determined to be Native American, the project applicant shall consult with the Native American Heritage Commission (NAHC) to determine the person most likely descended from the deceased. The applicant shall confer with the descendant to determine appropriate treatment for the human remains, consistent with State law. (Policy CO-4.1, Policy CO-4.11, Policy CO-4.12, Policy CO-4.13)
Responsibility: Planning and Public Works Department, Sheriff-Coroner's Office
Timeframe: Ongoing

Action CO-A64 Prohibit the removal of cultural resources from the project site except by a qualified consultant and after the County planning staff have been notified. Prehistoric resources include chert or obsidian flakes, projectile points, mortars, pestles, dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or adobe foundations and walls, structures and features with square nails, and refuse deposits often in old wells and privies. Policy CO-4.1, Policy CO-4.11)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A65 Consult with culturally affiliated tribes prior to amending the General Plan and adopting or amending specific plans, consistent with State law. (Policy CO-4.12, Policy CO-4.13)
Responsibility: County Administrator's Office, Planning and Public Works Department
Timeframe: Ongoing

Action CO-A66 Confer with culturally affiliated tribes prior to designating open space that includes any identified cultural places and develop a treatment and management plan for their preservation. (Policy CO-4.12, Policy CO-4.13)
Responsibility: County Administrator's Office, Planning and Public Works Department
Timeframe: Ongoing

Action CO-A67 Refer all development proposals that may adversely affect cultural resources to the Northwest Information Center (NWIC) at Sonoma State University for review and comments. The NWIC will identify the presence or absence of known cultural resources and/or previously performed studies in or near a given project area and will offer recommendations regarding the need for additional studies, where necessary. If the NWIC recommends further study, the project applicant shall contract with a qualified professional to conduct the study and make recommendations designed to avoid or minimize adverse impacts on cultural or historic resources and indicate whether further investigation is needed. All studies shall be completed and submitted to the County prior to the completion of any environmental document for the project. (Policy CO-4.1, Policy CO-4.11)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A68 Refer draft environmental documents, including any studies and recommended mitigation measures, to the appropriate culturally-affiliated tribes for review and comment as part of the public review process. (Policy CO-4.1, Policy CO-4.11, Policy CO-4.12)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

G. Water Resources

There are many significant water resources in Yolo County. Major rivers, creeks, streams, drainages and sloughs running through the county irrigate agricultural fields, control floods, transport water supplies to users throughout the county and provide wildlife habitat. This section discusses the major sources of surface and groundwater supply in the county, issues related to water quality, and the important planning and regulatory efforts that are concerned with these resources. Other water-related issues, including those related to water distributions systems, water treatment, and water-related infrastructure, are addressed in the Infrastructure and Services Element of this General Plan.

1. Background Information

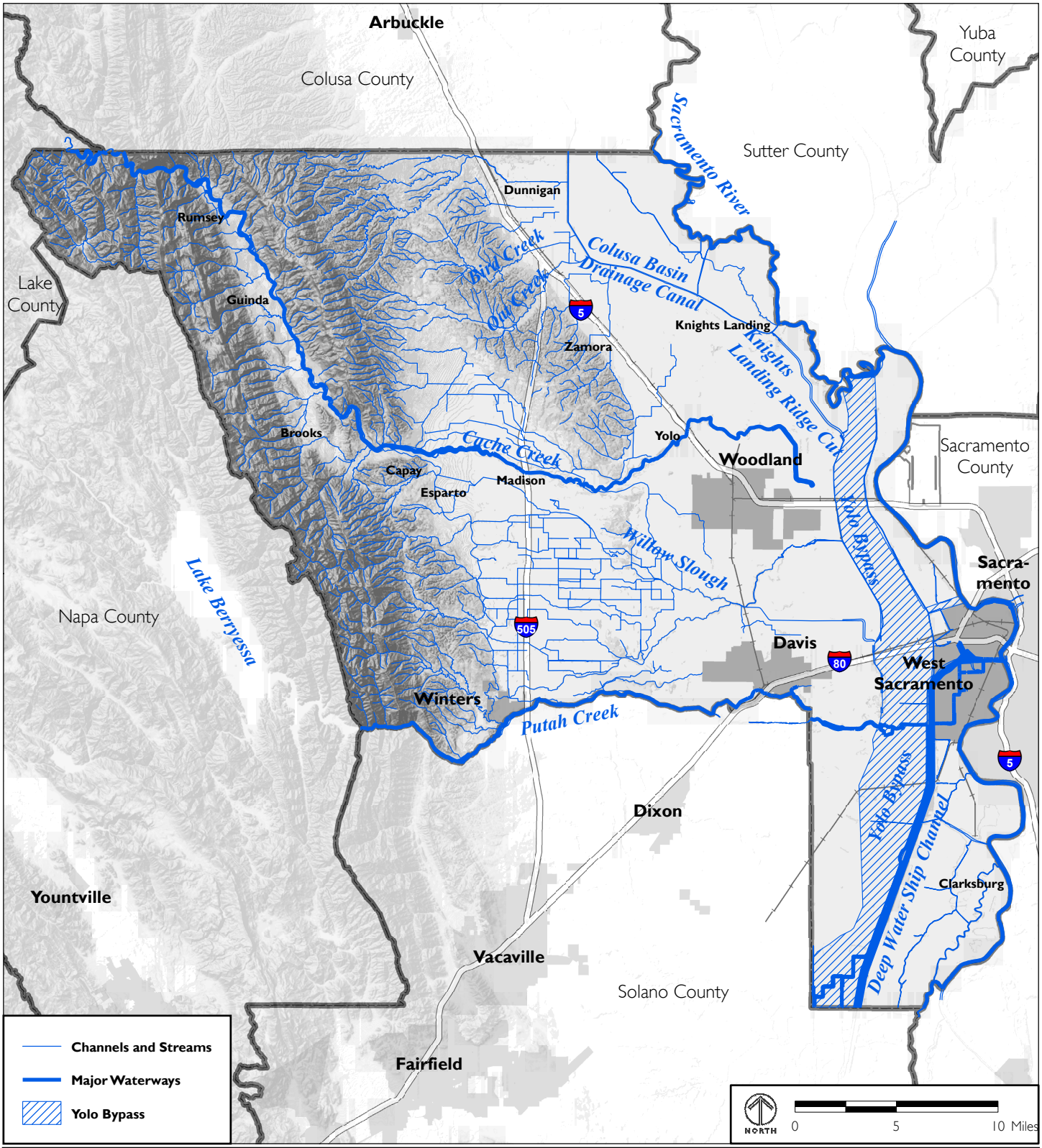
a. Major Water Sources

i. Surface Water

The major watersheds and surface water features in Yolo County include Cache Creek, Putah Creek, the Sacramento River, and the Yolo Bypass. These waterway areas are discussed below and are shown in Figure CO-6.

- **Cache Creek** is the outfall of Clear Lake, which is located in Lake County 50 miles northwest of Yolo County. The north fork of Cache Creek includes the 300,000-acre-foot Indian Valley Reservoir, also located in Lake County.
- **Putah Creek** begins in Lake County, flows through Napa County and the Lake Berryessa Reservoir into southern Yolo County, and eventually into the Yolo Bypass.
- **Sacramento River,** a 447-mile-long river, begins in Shasta County and passes west of the City of Sacramento. Its tributaries include the Pit, Feather, McCloud and American rivers.
- The **Yolo Bypass** is a 41-mile-long, several-mile-wide levied floodplain that carries flood flows from the Sacramento River to the Sacramento Delta. Its tributaries include Cache Creek, Putah Creek, Willow Slough and the Knights Landing Ridge Cut.

In addition to these natural sources, an extensive network of sloughs, irrigation canals and drainage ditches are located within the county. The major slough and canal facilities include:



Source: County of Yolo GIS, 2009.

FIGURE CO-6

MAJOR WATERWAYS AND SURFACE WATERS

- **Tehama-Colusa Canal** – transports water south from Tehama County into Yolo County, terminating near Dunnigan.
- **Colusa Basin Drain** – begins at Glenn County, carrying drainage water from the western side of the valley, to the Sacramento River at Knight's Landing on through the Ridge Cut to the Yolo Bypass.
- **Willow Slough** – minor watercourse that drains much of the area between Cache and Putah Creeks.
- **Winters Canal** – primary source of irrigation for most of the County between Cache and Putah Creeks.
- **West Adams Canal** – carries water from Cache Creek north to Hungry Hollow and Yolo-Zamora area.
- **Elk Slough** – drains much of the area around Clarksburg.

Yolo County has no natural lakes. However, as a result of aggregate mining and reclamation activity along Cache Creek, several small reclaimed lakes will be created and eventually become a part of the future planned Cache Creek Parkway. The Cache Creek Area Plan contains policies and regulations addressing the management of these future resources.

ii. Water Quality

Dozens of organizations and agencies perform regular water quality monitoring in the county. Chemicals such as boron, diazinon, mercury and unknown toxics are pollutants found in Yolo County waterways. Studies on the physical and chemical characteristics of the Sacramento River and its tributaries within Yolo County have found high concentrations of nutrients and contaminants, particularly after major storms.

The Central Valley Regional Water Quality Control Board (CVRWQCB) has adopted Total Maximum Daily Load (TMDL) for mercury in Cache Creek. A separate TMDL is currently under review for mercury in the Sacramento-San Joaquin Delta. The CVRWQCB has also adopted TMDL for diazinon in the Sacramento River and the Delta.

iii. Groundwater

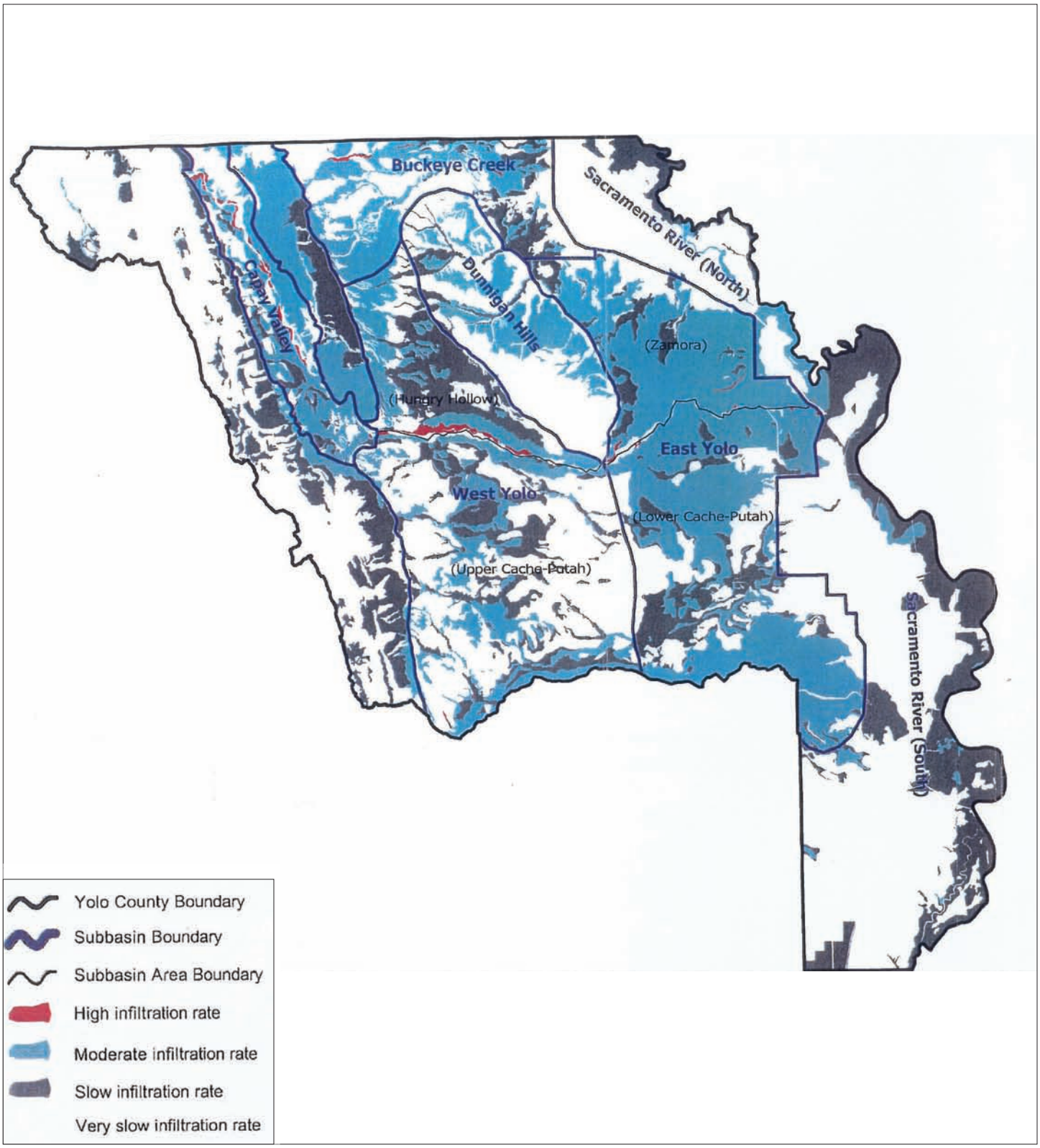
Yolo County has an extensive system of shallow and deep aquifers on which the county depends for domestic and agricultural water supply. Wells in Yolo County are increasingly tapping deeper aquifers due to issues of subsidence and contamination, which are discussed below.

The County has six groundwater sub-basins, which are shown in Figure CO-7. The East Yolo sub-basin, which covers the eastern portion of the county from south of Dunnigan to Davis, provides the greatest supply of residential water extraction. The other five sub-basins are the Capay Valley, Buckeye Creek, Dunnigan Hills, West Yolo and Sacramento River sub-basins.

The primary source of groundwater recharge is applied irrigation water and direct rainfall. Recharge of aquifers typically occurs along the streambeds of creeks and canals. Recharge occurs naturally, and also through reservoir releases, such as the release of stored water from the Indian Valley Reservoir into Cache Creek during low flows periods. The Indian Valley Reservoir was built and is managed by the Yolo County Flood Control and Water Conservation District so that farmers could use surface water rather than pump groundwater, to reduce overdraft and subsidence.

Several issues face the county in its use of groundwater. Subsidence can cause permanent loss of aquifer capacity when upper soil layers collapse. Subsidence can also compromise wells, irrigation canals, levees and highways. The Yolo Subsidence Monitoring Project (YSMP) is a collaborative effort between the County, the Cities of Woodland and Davis, UC Davis, the U.S. Bureau of Reclamation, the Army Corps of Engineers, and the California Department of Water Resources. The YSMP includes 47 stations that are monitored to determine where subsidence may be occurring and to what extent. As a result of their work, it appears that land subsidence due to overdraft of the shallow aquifer is a significant concern in the East Yolo sub-basin and, to a lesser degree, throughout other parts of the county. The greatest amount of subsidence, approximately four feet over several decades, has occurred east of Zamora, where irrigation needs are supplied exclusively from groundwater because no surface water sources exist.

In addition to subsidence, contamination of groundwater is also an issue in parts of the County. Coliform, nitrates and dissolved salts are primary concerns. Coliform and nitrates are a consequence of failing, underperforming and/or over-concentration of septic systems, such as in Dunnigan, North Davis Meadows, Madison and rural areas around the County. Nitrate contamination is also associated with over-fertilization of agricultural crops, golf courses, parks, and landscaping, and may be associated with cemeteries, feed lots, and agricultural disposal areas. Dissolved salts are produced from evaporation of irrigation water and evapotranspiration of soil moisture and shallow groundwater. These salts can accumulate, resulting in groundwater contamination. Arsenic and other soil minerals are naturally occurring contaminants that leach into streams, such as along Cache Creek and particularly in the Wild Wings County Service Area. Although groundwater supplies in the county generally meet current drinking water standards, continued groundwater contamination is already a problem for some municipal, residential, and agricultural uses.



Source: Soil Survey Geographic (SSURGO) Database, U.S. Department of Agriculture, Natural Resource Conservation Service.

FIGURE CO-7

GROUNDWATER BASINS AND INFILTRATION RATES

Figure CO-7 also identifies all rivers, creeks, streams, and other areas where groundwater recharge occurs, based on degree of infiltration.

iv. Reclaimed Water

Reclaimed water from wastewater treatment facilities is used in Yolo County. Cache Creek Casino Resort and the Wild Wings County Service Area use treated tertiary wastewater for golf course irrigation. Other uses of reclaimed water include irrigation of agricultural fields and landscaping. The State regulates specific uses of reclaimed water. The level of prior treatment determines how the reclaimed water can be used. Tertiary treatment is generally required for human contact, as on golf courses and ornamental landscaping, or human consumption as on food crops. Secondary treatment may be adequate for other uses, such as fodder crops.[6]

The Regional Water Quality Control Board (RWQCB) also restricts discharge of reclaimed water to land. Where land discharge is allowed, it is regulated in order to protect groundwater resources. Nitrate removal is required in many cases where the reclaimed water will percolate to groundwater basins that are used for domestic water supply, although secondary treatment may be sufficient depending on soil conditions.[7]

b. Water Planning and Regulation

To ensure high quality and adequate supply, water resources in Yolo County are regulated by federal and State laws, as well as local water management plans. In 2007, the County adopted the Integrated Regional Water Management Plan (IRWMP). The IRWMP was developed by the Water Resources Association of Yolo County (WRA), in conjunction with the California Department of Water Resources (DWR). The IRWMP serves as an update to the County's 1992 water management plan, addressing major topics such as water supply, water quality, flood management, enhancement of aquatic and riparian habitat, and improvement of the County's recreational opportunities.

Besides the IRWMP, the County implements a number of planning documents to protect its water resources. The Yolo County Natural Heritage Program, previously mentioned in the Biological Resources section of this element, also serves as a water management plan with respect to wetlands and riparian corridors, in compliance with the Federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA). The Yolo County NHP does not, however, address aquatic species or their habitat. This plan is currently being developed by the Yolo county Habitat Joint Powers Authority and is expected to be published in 2009.

The Cache Creek Area Plan is comprised of the Off Channel Mining Plan and the Cache Creek Resources Management Plan, which together regulate and protect the area and manage the Creek as an integrated system. It protects water supply and

[6] California Code of Regulations, Title 22, Division 4, Chapter 3, Article 3.
[7] California Code of Regulations, Title 22, Division 4, Chapter 3, Article 3.

aquatic habitat from contamination associated with mining. This plan, last updated in 2002, focuses on regulating off channel aggregate mining, improving channel stability, reducing erosion, maintaining flood capacity and restoring habitats.

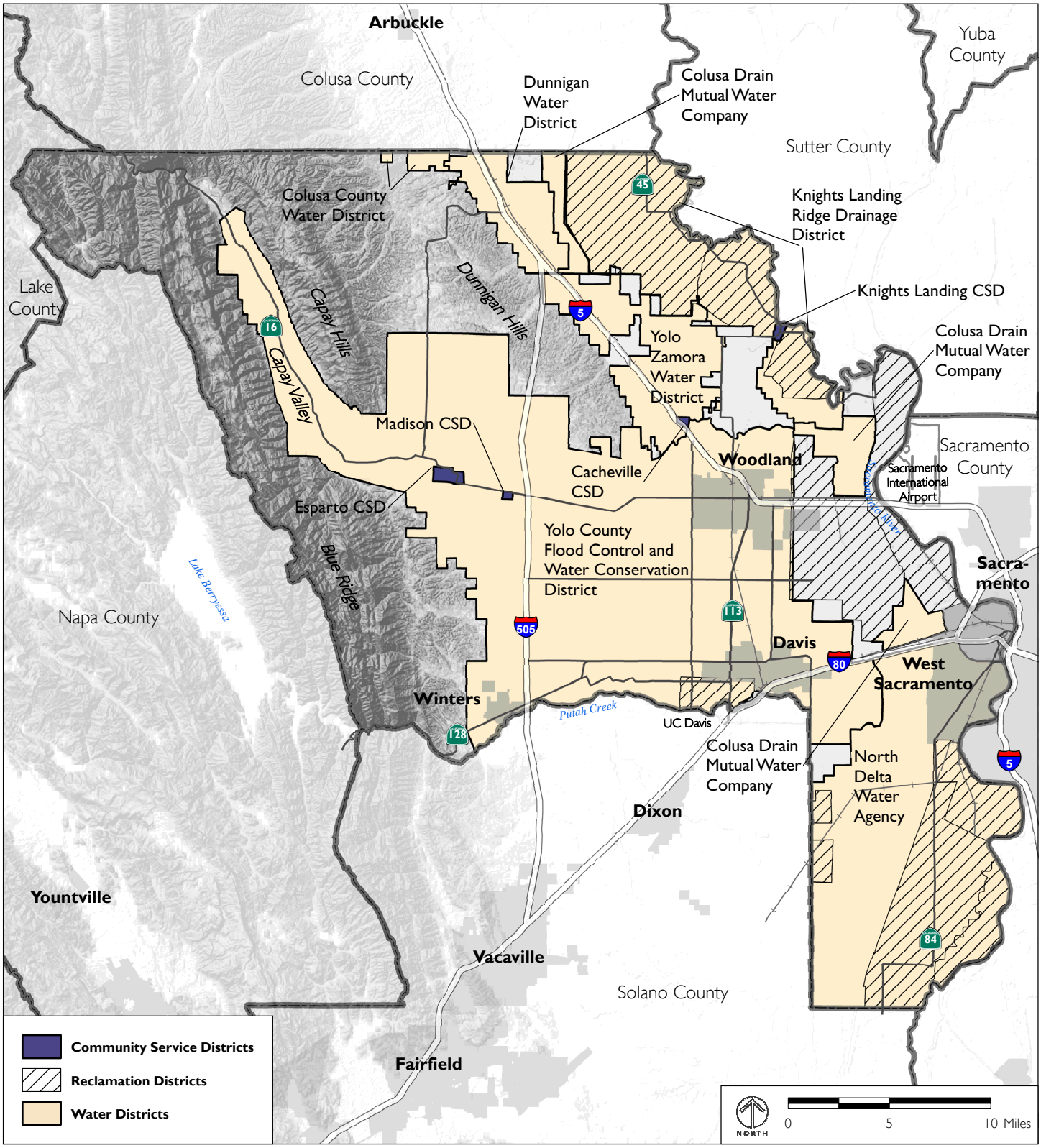
The Yolo County Stormwater Management Program (SWMP) was developed by the Yolo County Planning and Public Works Department in conjunction with other Yolo County agencies. The SWMP analyzes various activities in urbanized areas that are sources of pollutants in stormwater and identifies Best Management Practices to reduce their levels. The SWMP responds to the issues and regulations of the 1987 Clean Water Act.

c. Domestic Water

Most of Yolo County's domestic water supplies originate from groundwater. West Sacramento is the only urban area that currently relies on surface water rather than groundwater as its primary source of water supply. The cities of Woodland and Davis, as well as UC Davis, are working on a joint proposal to obtain municipal water from surface supplies in the Sacramento River. Although the most common problem associated with groundwater in municipal supplies is the hardness (mineralization), contamination of the aquifer with coliform, nitrates, naturally occurring arsenic, and fuel from leaking underground storage tanks can be a serious issue in some parts of the County.

Table CO-~~6~~8 shows current conditions with regards to domestic water systems in the unincorporated areas of the county. In addition, the Rio Villa public housing in Winters and the Davis Migrant Center both have private water systems. The rest of the county relies on private on-site wells. Yolo County has also has six major water districts that focus primarily on the delivery of irrigation water for agricultural purposes, although there has been discussion about one or more of the districts providing municipal water. The water districts are: Dunnigan Water District, Yolo-Zamora Water District, Yolo County Flood Control and Water Conservation District, North Delta Water Agency, Colusa Dain Mutual Water Company, Colusa Drain Water Users Association, Reclamation Districts 108, 730, 737, 2035 and 2068, and Colusa County Water District. Water agency boundaries are shown in Figure CO-8.

County regulations, contained in Title 7, Chapter 1, Section 7-1.04 of the Yolo County Code, require fire sprinkler systems in all new residential development and new non-residential buildings over 5,000 square feet or over three stories in height. Because most existing water systems in Yolo County do not operate at pressures sufficient to maintain a fire sprinkler system for commercial structures, every unincorporated community in the county needs to upgrade its water system to meet these requirements.



Source: Yolo County LAFCO, 2008; Yolo County GIS, 2009.

FIGURE CO-8

WATER DISTRICTS

TABLE CO-~~68~~ 8 **WATER SYSTEM CONDITIONS BY UNINCORPORATED AREA**

Unincorporated Area(s)	Water System Conditions
Clarksburg	No community water system. Individual wells.
Dunnigan	No community water system. Private water systems serve the two mobile home parks. The Dunnigan Water District provides supplement non-potable fire flow for some customers. Nitrates have been a problem in the past with some wells in the community.
Esparto	Community water system based on groundwater, which is managed by a Community Services District. Water pressure has been a recent concern, especially regarding commercial fire flow.
Knights Landing	Community water system based on groundwater, which is managed by a Community Services District. Water pressure has been a recent concern, especially regarding commercial fire flow.
Madison	Community water system based on groundwater, which is managed by a Community Service District. New well recently installed to address previous problems with coliform and nitrate contamination. Water pressure has been a recent concern, especially regarding commercial fire flow.
Monument Hills	Wild Wings development has a community water system based on groundwater, which is managed by a County Service Area. Arsenic is a potential problem. The remainder of the Monument Hills area relies on individual wells.
West Kentucky	Private water system based on groundwater. System improvements needed.
Willowbank, El Macero, North Davis Meadows, Royal Oaks	Willowbank and El Macero have separate water systems managed by County Service Areas, which have been integrated with the City of Davis community water system. Royal Oaks is also served by the City of Davis. North Davis Meadows is also managed by a County Service Area, but is separate from the city's water system. Nitrate have been a problem in North Davis Meadows.
Yolo	Community water system based on groundwater, which is managed by a Community Service District. Water pressure has been a recent concern, especially regarding commercial fire flow.
Zamora, Binning Farms, Patwin Road, West Plainfield, Willow Oak	No community water system. Individual wells.

Other water supply and quality issues that Yolo County must address include increasingly stringent water quality regulations, availability of adequate water supplies during severe drought conditions, subsidence problems as a result of groundwater overdraft, rising costs of providing water services, and increasingly complex and expensive regulatory compliance. Many of these issues have been addressed through the Integrated Regional Water Management Plan (IWRMP) prepared by the Water Resources Association, a multi-agency effort to coordinate water policies among the various jurisdictions of Yolo County. Currently, the County is also considering additional ordinances and/or the formation of a countywide water agency to provide enhanced groundwater resource management.

2. Policy Framework

GOAL CO-5	**Water Resources. Ensure an abundant, safe, and sustainable water supply to support the needs of existing and future generations.**

Policy CO-5.1 Coordinate with water purveyors and water users to manage supplies to avoid long-term overdraft, water quality degradation, land subsidence and other potential problems.

Policy CO-5.2 Support projects that provide reliable and sustainable surface water from a variety of energy efficient sources. Sources should be sufficient to serve existing and planned land uses in prolonged drought periods and protect natural resources and surface water flows.

Policy CO-5.3 ~~Strive to m~~Manage the County's groundwater resources on a sustainable yield basis that can provide water purveyors and individual users with reliable, high quality groundwater to serve existing and planned land uses during prolonged drought periods. (DEIR MM HYD-1a)

Policy CO-5.4 Support educational programs to educate the public about practices and programs to minimize water pollution and reduce water usage.

Policy CO-5.5 Integrate balanced water management programs that emphasize multiple benefits and balance competing needs into all aspects of the planning and development process.

Policy CO-5.6 Improve and protect water quality for municipal, agricultural, and environmental uses.

Policy CO-5.7 Support mercury regulations that are based on good science and reflect an appropriate balancing of sometimes competing public values including health, food chain, reclamation and restoration of Cache Creek, sustainable and economically viable Delta agriculture, necessary mineral extraction, flood control, erosion control, water quality, and habitat restoration.

Policy CO-5.8 Support efforts to reduce the accumulation of methyl mercury in fish tissue in Cache Creek and the Delta, as well as the consumption of fish with high levels of methyl mercury.

Policy CO-5.9 Within the Delta Primary Zone, ensure compatibility of permitted land use activities with applicable water policies of the Land Use and Resource Management Plan of the Delta Protection Commission.

Policy CO-5.10 Encourage water purveyors to develop plans for responding to droughts and the effects of global climate change, including contingency plans, the sharing of water resources to improve overall water supply reliability, and the allocation of water supply to priority users.

Policy CO-5.11 Facilitate and encourage the development of new reliable future sources of supply consistent with local land use plans and regional water needs, including the completion of the Tehama-Colusa Canal.

Policy CO-5.12 Support the integrated management of surface and groundwater, stormwater treatment and use, the development of highly treated wastewater, and desalinization where feasible.

Policy CO-5.13 Ensure that regional, State, and federal water projects protect local water rights and areas of origin.

Policy CO-5.14 Require that proposals to convert land to uses other than agriculture, open space, or habitat demonstrate that groundwater recharge will not be significantly diminished.

Policy CO-5.15 Encourage new development and redevelopment to use reclaimed wastewater, where feasible, to augment water supplies and to conserve potable water for domestic purposes.

Policy CO-5.16 Require all development to have an adequate water supply. Require significant discretionary projects to demonstrate adequate long-term and sustainable water supplies by preparing a verified water supply assessment. The assessment shall demonstrate a long-term, reliable water supply satisfactory under normal and above normal rainfall conditions, as well as drought conditions. Satisfy the requirements of CEQA Guidelines Section 15155 to consult with water agencies regarding water supply assessments.

Policy CO-5.17 Require new development to be designed such that nitrates, lawn chemicals, oil, and other pollutants of concern do not impair groundwater quality.

Policy CO-5.18 Encourage developers to build new homes to higher water-efficiency standards than already required.

Policy CO-5.19 Strive for “water-neutral” development with new water demand offset by efficiency improvements elsewhere in the system. Require all new developments to offset new water demands to the greatest extent feasible.

Policy CO-5.20 Encourage water purveyors to adopt conservation pricing strategies for existing and new development.

Policy CO-5.21 Encourage the use of water management strategies, biological remediation, and technology to address naturally occurring water quality problems such as boron, mercury, and arsenic.

Policy CO-5.22 Work with other agencies and non-profit organizations to provide educational and technical assistance programs to encourage farmers to adopt agricultural methods that improve water quality.

Policy CO-5.23 Support efforts to meet applicable water quality standards for all surface and groundwater resources.

Policy CO-5.24 Pursue funding to remediate historic mines and other sources of mercury contamination on the Cache Creek watershed.

Policy CO-5.25 Support the efforts of Davis, Woodland and UC Davis to acquire surface suppliers from the Sacramento River for domestic water uses.

Policy CO-5.26 Provide financial and regulatory incentives for the installation of water conservation measures for agriculture.

Policy CO-5.27 Encourage the development of groundwater management plans pursuant to the State Groundwater Management Act (Sections 10750-10756 of the California Water Code) for all regions of the County.

Policy CO-5.28 Encourage the Water Resources Agency to implement and regularly update the Integrated Regional Water Management Plan.

Policy CO-5.29 Vigorously protect all water rights related to lands within Yolo County, including areas of origin, riparian water rights, and other existing water rights.

Policy CO-5.30 Anticipate and adapt to changes in the amount and timing of water availability due to predicted effects of global warming.

Policy CO-5.31 Encourage the Esparto CSD to explore the availability of Cache Creek water via the Flood Control District. (DEIR UTIL-2b)

Policy CO-5.32 In water districts where there is insufficient water to serve new development, require new development to offset demand through one or more of the following measures as appropriate, so that there is no net increase in demand: use of reclaimed water, water catchments and reuse on site; water retention serving multiple sites; retrofits of existing uses in the district to offset increased demand; and other such means.

These measures should be achieved in partnership with the applicable water district. (DEIR MM UTIL 2c)

Policy CO-5.33 Strive to increase artificial recharge of important aquifers with surplus surface water supplies. (DEIR MM HYD-1b)

3. Implementation Program

Action CO-A69 Collaborate with the Water Resources Agency to collect data from public water suppliers and other water users which use groundwater sources to monitor and report groundwater levels and yields, where appropriate, to manage long term aquifer conditions. (Policy CO-5.1, Policy CO-5.3)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A70 Work cooperatively with water purveyors and with other land use planning agencies to share data on water supply availability, anticipated demand, land use, and population projections. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A71 Create a central database for all jurisdictions within the County of proposed, pending, and approved development activity to be used in cumulative analyses and water supply assessments. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A72 Work with water purveyors in the County to plan for possible changes to water supply and quality resulting from global warming. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3, Policy CO-5.10)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A73 Participate in regional planning efforts regarding surface water resources, including the Sacramento River, Cache Creek, Putah Creek, Tehama-Colusa Canal, Yolo Bypass, and Sacramento-San Joaquin Delta. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A74 Oppose proposals for surface or groundwater exports to locations outside Yolo County that do not preserve both water quality and water supply for current and planned water users, including the environment. (Policy CO-5.2, Policy CO-5.3)
Responsibility: Parks and Resources Department, County Administrator's Office
Timeframe: Ongoing

Action CO-A75 Coordinate with local water purveyors to develop a conjunctive use program, consistent with the Integrated Regional Water Management Plan, to make the most efficient use of surface and groundwaters. (Policy CO-5.1, Policy CO-5.3)
Responsibility: Parks and Resources Department
Timeframe: 2010/2011

Action CO-A76 Ensure the collection and maintenance of data on water use, water supplies, and water quality to avoid long-term overdraft, water quality degradation, land subsidence and other potential groundwater problems. (Policy CO-5.5, Policy CO-5.6)
Responsibility: Health Department, Parks and Resources Department
Timeframe: Ongoing

Action CO-A77 Map operational and non-operational wells into the County's Geographic Information System. (Policy CO-5.3, Policy CO-5.5, Policy CO-5.6, Policy CO-5.7, Policy CO-5.8)
Responsibility: Health Department, Information Technology Department
Timeframe: 2010/2011

Action CO-A78 Work with local water purveyors to develop and implement urban and agricultural water management plans to provide a 20 percent improvement in water use efficiency throughout the county by 2030. (Policy CO-5.1, Policy CO-5.5)
Responsibility: Parks and Resources Department
Timeframe: 2011/2012

Action CO-A79 Develop and implement an integrated wellhead protection program. (Policy CO-5.6)
Responsibility: Agriculture Department, Health Department
Timeframe: 2009/2010

Action CO-A80 Develop a County grading ordinance that maintains existing terrain, channels, and vegetation to the extent possible, in order to minimize the disruption of natural systems. (Policy CO-5.5, Policy CO-5.6)

Responsibility: Planning and Public Works Department
Timeframe: 2009/2010

Action CO-A81 Adopt a Water Efficient Landscape Ordinance to require greater use of regionally native drought-tolerant vegetation, limitations on the amount of turf in residential development, computer controlled irrigation systems, and other measures as appropriate. (Policy CO-5.2, Policy CO-5.3, Policy CO-5.4)
Responsibility: Planning and Public Works Department
Timeframe: 2011/2012

Action CO-A82 Consider development and adoption of a groundwater management ordinance to address the cumulative impacts of incremental groundwater extraction. (Policy CO-5.3)
Responsibility: County Counsel
Timeframe: 2009/2010

Action CO-A83 Work with local agencies and non-profit organizations to provide educational and technical assistance to farmers to reduce sedimentation, provide on-site retention of irrigation water and flow attenuation, on-site detention of stormwater flows, and incorporate native vegetation. (Policy CO-5.4)
Responsibility: Agriculture Department
Timeframe: Ongoing

Action CO-A84 Coordinate with water purveyors in the unincorporated areas to inform the public about practices and programs to minimize water pollution. (Policy CO-5.4)
Responsibility: Parks and Resources Department, Agriculture Department
Timeframe: Ongoing

Action CO-A84.1 Consider adoption of an ordinance requiring that existing homes be retrofitted with water efficient appliances and fixtures prior to sale. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3, Policy CO-5.5)
Responsibility: Planning and Public Works Department
Timeframe: 2011/2012

Action CO-A85 Coordinate with the Yolo Resources Conservation District to create educational programs to inform agencies, stakeholders, and the public about groundwater Best Management Practices for efficient water use, water conservation, and recharge. (Policy CO-5.4)
Responsibility: Parks and Resources Department
Timeframe: 2011/2012

Action CO-A86 Establish the cost of operating and maintaining potable water treatment and distribution disposal systems/facilities to ensure they are borne by those receiving benefit, through the establishment of an appropriate maintenance entity and fees. (Policy CO-5.2, Policy CO-5.3, Policy CO-5.5)
Responsibility: Planning and Public Works Department, LAFCO
Timeframe: Ongoing

Action CO-A87 Adopt an ordinance to allow for shared water systems to facilitate the clustering of homes and preservation of agricultural land, where an entity is established to provide maintenance or financing for maintenance of the water system. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3)
Responsibility: Health Department
Timeframe: 2009/2010

Action CO-A88 Encourage roof catchment and the use of rainwater for non-potable uses to reduce the need for groundwater. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3, Policy CO-5.4)
Responsibility: Parks and Resources Department, Planning and Public Works Department
Timeframe: 2010/2011

Action CO-A89 Adopt development design standards to reduce or eliminate impervious surfaces where possible. (Policy CO-5.6)
Responsibility: Planning and Public Works Department
Timeframe: 2010/2011

Action CO-A90 Support water purveyors in the implementation and continued refining of the "Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California" in those areas where water suppliers are party to the MOU. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A91 Implement and regularly update the County Stormwater Management Plan and associated programs. (Policy CO-5.5, Policy CO-5.6)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A92 Require the implementation of Best Management Practices (BMPs) to minimize erosion, sedimentation, and water quality degradation resulting from new development and increases in impervious surfaces. (Policy CO-5.5, Policy CO-5.6)

Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A93 Adopt development design standards that use low-impact development techniques that emulate the natural hydrologic regime and reduce the amount of runoff and associated pollutants. Examples include vegetated swales, landscaped detention basins, permeable paving, and green roofs. (Policy CO-5.5, Policy CO-5.6)
Responsibility: Planning and Public Works Department
Timeframe:2012/2013

Action CO-A94 Work with the Central Valley Regional Water Quality Control Board and other State and federal agencies to implement mercury total maximum daily loads (TMDLs) for Cache Creek and to develop mercury TMDLs for the Delta and other Yolo County waterways where appropriate. (Policy CO-5.6, Policy CO-5.7)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A95 Evaluate the creation of a countywide water authority or other governance structure to address water conservation, flood control, water conveyance, and discourage water exports. (Policy CO-5.1, Policy CO-5.2, Policy CO-5.3)
Responsibility: County Administrator's Office, County Counsel
Timeframe: 2009/2010

Action CO-A96 Continue to monitor water quality in Lower Cache Creek and annually make the resulting data publicly available. (Policy CO-5.6)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action CO-A97 Require service hook-up for all water users within a community when new domestic water services are made available. (Policy CO-5.6, Policy CO-5.17, Policy CO-5.23)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A98 Facilitate the extension of water service to nearby underserved existing unincorporated developments, such as Binning Farms. (Policy CO-5.6, Policy CO-5.17, Policy CO-5.23)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A99 Develop a generalized water balance for the County that uses updated hydrologic and topographic information to describe where water comes

from and how it flows through the County, including recharge and extraction of ground waters. (Policy CO-5.3, Policy CO-5.5)
Responsibility: Parks and Resources Department
Timeframe: 2012/2013

Action CO-A100 Use watershed assessment to evaluate storm water and flood management programs to ensure that management efforts are consistent with local watershed hydrologic features and natural resource needs. (Policy CO-5.3, Policy CO-5.5)
Responsibility: Parks and Resources Department
Timeframe: 2013/2014

Action CO-A100.1 Create guidelines for local water providers to enact programs that promote: investigations of new sustainable sources such as recycled water and graywater that match water quantity and quality to the beneficial uses; and the securing of additional water rights for the purveyors. (DEIR MM UTIL-2a) (Policy CO-5.1, Policy CO-5.2, Policy CO-5.11, Policy CO-5.15)
Responsibility: Parks and Resources Department
Timeframe: 2012/2013

H. Air Quality

1. Background Information

a. Air Basin and Meteorology

Yolo County is located in the Sacramento Valley Air Basin (SVAB), which also includes Sacramento, Shasta, Tehama, Butte, Glenn, Colusa, Sutter, Yuba and parts of Solano and Placer Counties. The SVAB is bounded by the Coast Ranges to the west, the Cascade Range to the north and the Sierra Nevada to the east. These mountain ranges channel wind through the Valley, but also limit dispersion of pollutant emissions from the Valley.

The SVAB is characterized by hot, dry summers and cool, rainy winters, with periods of dense and persistent low-level fog interspersed with the North Pacific storm track. The average summer daily temperatures for the Sacramento Valley air basin range from 50 to more than 90 degrees Fahrenheit. The winter average temperature is approximately 50 degrees Fahrenheit with winter low temperatures occasionally dropping below freezing.

The SVAB is subject to unique wind patterns, which can affect air quality by transporting pollutants. The ozone season in the SVAB, which occurs between May and October, is characterized by still air or light winds in the morning and an evening breeze that typically transports airborne pollutants out of the air basin. However, during part of the summer, wind patterns circle airborne pollutants back into the SVAB in a phenomenon

referred to as an “inversion layer.” This phenomenon worsens the pollutant emission concentrations and contributes to violations of the air quality standards.

b. Regulatory Background

The Federal Clean Air Act (FCAA) governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA).

At the federal level, the United States Environmental Protection Agency (U.S. EPA) administers the CAA. The CCAA is administered by the California Air Resources Board (ARB) at the State level and by the various air quality management districts at the regional levels. The Yolo-Solano Air Quality Management District (District) regulates air quality locally. The District’s jurisdiction is the western portion of Lower Sacramento Valley Air Basin, comprised of Yolo County and the Northeast portion of Solano County.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required of areas of the nation that exceed the standards. Under the CAA, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans (SIPs) to demonstrate how they will achieve the national standards by specified dates. SIPs are not single documents, but rather are a compilation of new and previously submitted plans, programs, district rules, State regulations and federal controls. ARB reviews and approves the SIP, then provides the SIP to EPA for approval and publication. The CAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment plan for the region. Conformity with the SIP requirements also satisfies the CAA requirements.

In 1988, the CCAA required that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards for carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2) and nitrogen dioxide (NO_2) by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources (Health and Safety Code Section 40716). Each district plan is to achieve a 5 percent annual reduction, averaged over consecutive three-year periods, in district-wide emissions of each nonattainment pollutant or its precursors (Health and Safety Code Section 40914).

Based on this framework, national and State ambient air quality standards have been established for six pollutants: ozone, CO, lead, nitrogen dioxide (NO_2), particulate matter less than or equal to 10 or 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2). Ambient air quality standards are designed to protect public health and welfare with a reasonable margin of safety. Because individuals vary widely in their sensitivity to air pollutants, standards are designed to protect more sensitive populations

such as children and the elderly. Generally, California Ambient Air Quality Standards are more stringent than national standards.

Areas of California not meeting federal or State air quality standards are classified as nonattainment areas. Yolo County is designated as a nonattainment area for both the State and federal ozone standards and for the State inhalable particulate matter (PM_{10}) standards.

At both the federal and state level, control of greenhouse gases that contribute to global warming and other adverse climate changes is a relatively new area of policy and regulation. Please refer to Section J (Climate Change) of this Element for a discussion of this issue.

c. Applicable State and Federal Air Quality Plans and Transportation Plans

The CCAA requires areas that have not attained State ambient air quality standards to prepare plans to attain these standards by the earliest practicable date. The District is designated as nonattainment for ozone, and accordingly, the 1992 Air Quality Attainment Plan (AQAP) was developed pursuant to CCAA requirements to provide progress toward attaining the State ozone standard. The District's Board of Directors adopted the AQAP on February 19, 1992, and it was approved by ARB on May 28, 1992.

State law does not require attainment plans for State particulate matter standards. State law does require annual and triennial progress reports regarding implementation of control measures, and triennial plan revisions to reflect and respond to changing circumstances.

The FCAA required a non-attainment plan (i.e. SIP) in 1994. The 1994 State Implementation Plan (SIP) superseded the 1992 AQAP. The SIP was deemed by ARB to fulfill the requirements for the first Triennial Progress Report to the AQAP. Additional Triennial Progress Reports were completed in 1997, 2000, and 2003.

In addition to these federal and State air quality plans, the District developed the Transportation and Land Use Toolkit in 2003, in partnership with several regional transportation agencies. The Toolkit discusses projects for alternative transportation modes that may mitigate and reduce emissions. SACOG has also created a Preferred Blueprint Scenario, approved in 2003, which outlines a vision of growth that promotes compact land use patterns which would contribute to reduced vehicular emissions.

2. Policy Framework

GOAL CO-6	**Air Quality. Improve air quality to reduce the health impacts caused by harmful emissions.**

Policy CO-6.1 Improve air quality through land use planning decisions.

Policy CO-6.2 Support local and regional air quality improvement efforts.

Policy CO-6.3 Encourage employers to increase telecommuting, telepresence, provide bicycle facilities, and enhance access to public transit for employees.

Policy CO-6.4 Engage the public in efforts to increase awareness of the health risks associated with air pollution and to take voluntary actions that reduce emissions.

Policy CO-6.5 Encourage community participation in air quality planning.

Policy CO-6.6 Encourage implementation of YSAQMD Best Management Practices, such as those listed below, to reduce emissions and control dust during construction activities.:

- Water all active construction areas at least twice daily.
- Haul trucks shall maintain at least two feet of freeboard.
- Cover all trucks hauling soil, sand, and other loose materials.
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut-and-fill operations and hydroseed area.
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land.
- Plant vegetative ground cover in disturbed areas as soon as possible.
- Cover inactive storage piles.
- Sweep streets if visible soil material is carried out from the construction site.
- Treat accesses to a distance of 100 feet from the paved road with a 6 to 12 inch layer of wood chips or mulch.
- Treat accesses to a distance of 100 feet from the paved road with a 6-inch layer of gravel. (DEIR MM AIR-1)

Policy CO-6.7 Pursue legislation to assist farming operations with permitting bio-energy operations.

3. Implementation Program

Action CO-A101 Implement the guidelines of the Transportation and Land Use Toolkit, developed by the Yolo-Solano Air Quality Management District (YSAQMD). (Policy CO-6.1, Policy CO-6.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A102 Require development proposals that introduce sources of toxic air pollutants to prepare a health risk assessment and, based on the results of the assessment, establish appropriate land use buffer zones around those uses posing substantial health risks. (Policy CO-6.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A103 For discretionary permits, require agricultural Best Management Practices regarding odor control, stormwater drainage, and fugitive dust control where appropriate. (Policy CO-6.1)
Responsibility: Agriculture Department
Timeframe: Ongoing

Action CO-A104 Implement the regulations and programs established by the YSAQMD to bring local air quality into attainment with State and federal standards. (Policy CO-6.1, Policy CO-6.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A105 Coordinate air quality planning efforts with other local, regional and State agencies. (Policy CO-6.1, Policy CO-6.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A106 Regulate the location and operation of land uses to avoid or mitigate harmful or nuisance levels of air emissions to the following sensitive receptors: residentially designated land uses, hospitals and nursing/convalescent homes, hotels and lodging, schools and day care centers and neighborhood parks. New development shall follow the recommendations for siting new sensitive land uses consistent with the CARB's recommendation as shown in DEIR Table IV-D-8. (DEIR MM AIR-3) (Policy CO-6.1, Policy CO-6.2)

Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A107 Establish additional air quality monitoring stations in consultation with the YSAQMD, where appropriate. (Policy CO-6.1, Policy CO-6.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A108 Prohibit wood-burning fireplaces in new residential developments. (Policy CO-6.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

I. Energy Conservation

The following discussion includes goals, policies and actions relating to energy production, usage and conservation within Yolo County. Other policies relating to energy conservation, particularly associated with green building, are also located in the Land Use and Community Character Element of this General Plan.

1. Background Information

Title 24, Part 6 of the California Code of Regulations sets forth the State energy efficiency standards for residential and non-residential buildings. Title 24 requirements address a wide range of design and energy performance features of development, including insulation; the use of energy-efficient heating, ventilation and air conditioning equipment; solar reflective roofing materials; and energy-efficient indoor and outdoor lighting systems.

Energy conservation has numerous benefits besides economic and financial savings for individual consumers. The combustion of fossil fuels to produce heat or electricity, or to power internal combustion engines, has been linked to poor air quality in the Sacramento Valley, global warming and negative impacts on crops. In Yolo County, energy conservation can be achieved via a reduction in electricity usage and private automobile use, encouraging efficient siting and exposure for buildings, and implementing land use and transportation policies that encourage fewer and shorter vehicle trips.

2. Policy Framework

GOAL CO-7	**<u>Energy Conservation</u>. Promote energy efficiency and conservation.**

Policy CO-7.1 Encourage conservation of natural gas, oil and electricity, and management of peak loads in existing land uses.

Policy CO-7.2 Support efforts to improve energy efficiency in existing irrigation systems.

Policy CO-7.3 Require all projects to incorporate energy-conserving design and construction techniques and features.

Policy CO-7.4 Require the use of Energy Star certified appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units, where feasible.

Policy CO-7.5 Require all new parking lots to significantly increase shading to relieve the potential for "heat islands."

Policy CO-7.6 Encourage the use of building materials and methods that increase energy efficiency a minimum of 15 percent beyond State Title-24 standards for residential buildings and 20 percent beyond State Title 24 standards for commercial buildings.

Policy CO-7.7 Support farmers and landowners in their efforts to maximize the efficiency of agricultural end uses.

Policy CO-7.8 Increase energy efficiency and alternative energy utilization in existing buildings where feasible.

Policy CO-7.9 Require that new site and structure designs maximize energy efficiency.

Policy CO-7.10 Encourage residents to retrofit existing residences to maximize energy efficiency.

Policy CO-7.11 Strongly encourage LEED certification or equivalent for all public, private and existing buildings and strongly encourage LEED-Neighborhood Design (ND) certification or equivalent for other applicable projects, particularly within the Specific Plan areas.

3. Implementation Program

Action CO-A109 Amend the Zoning Code to streamline permitting for the production of biofuels, biomass, solar, wind and other energy alternatives to reduce dependency on fossil fuels. (Policy CO-7.1)
Responsibility: Planning and Public Works Department
Timeframe: 2010/2011

Action CO-A110 Require the use of Energy Star certified appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, fur-

naces and boiler units, in all new subdivisions. (Policy CO-7.1, Policy CO-7.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A111 Use development agreements to garner commitments from developers of new projects to increase the energy efficiency in existing development. . (Policy CO-7.1, Policy CO-7.8)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A112 Amend the Zoning Code to include regulations for all new parking lots to include tree plantings that will result in 50 percent shading of parking lot surface areas within 10 years. (Policy CO-7.1, Policy CO-7.5)
Responsibility: Planning and Public Works Department
Timeframe: 2010/2011

Action CO-A113 Use Development Agreements and/or adopt an ordinance to require the use of building materials and methods that increase energy efficiency a minimum of 15 percent beyond State Title-24 standards for residential construction and 20 percent beyond Title 24 for commercial construction, where feasible. (Policy CO-7.6)
Responsibility: Planning and Public Works Department, County Counsel
Timeframe: Ongoing

Action CO-A114 Streamline the permit process to promote energy production from agricultural bio-waste. (Policy CO-7.7)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

J. Climate Change

A summary of the issue of climate change is provided in this subsection, however climate change policies also occur in every element of this General Plan and are denoted by the symbol "".

1. Background Information

A balance of naturally occurring greenhouse gases (GHGs) in the earth's atmosphere is responsible for maintaining a habitable climate. Emissions from human activities, such as electrical production, motor vehicle use, and some forms of agriculture are elevating the concentrations of greenhouse gases in the atmosphere, and have led to increasing instability in the earth's climate. This is known as climate change. Carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)~~, ozone (O_3), and water vapor (H_2O)~~ are

the primary GHGs. Other greenhouse gases of concern include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). When concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect is enhanced and global warming occurs.

California's major initiatives for reducing climate change or GHG emissions are outlined in Assembly Bill 32 (signed into law 2006), 2005 Executive Order and a 2004 California Air Resources Board (CARB) regulation to reduce passenger car GHG emissions. Among other things, AB 32 establishes a statewide GHG emissions cap for 2020, based on 1990 emissions. The~~se~~ Executive Order and the CARB regulations ~~efforts~~ also aim at reducing GHG emissions ~~to 1990 levels by 2020 – a reduction of about 25 percent, and then an~~ 80 percent ~~reduction~~ below 1990 levels by 2050. The CARB is tasked with implementation of these directives.

How California communities are designed and built has large consequences on the State's GHG emission levels, and as a result, has an impact on global climate change. The majority of the State's greenhouse gas (GHG) emissions are the result of infrastructure and development decisions: how we build our buildings, where we put them, and the quality and types of infrastructure that are required to serve them. This General Plan addresses those issues for unincorporated Yolo County.

This General Plan establishes the land use pattern that will accommodate the residents, businesses, and attendant infrastructure planned through 2030 in Yolo County. Decisions about the location of commercial, residential and civic buildings, roads and transit systems, water supply, building design, natural resources, open space, agriculture, and energy infrastructure determine the level of GHG emissions in the County. Thus, through the implementation of this General Plan it is possible to reduce in local GHG emissions. Local decisions regarding agricultural land preservation, transportation, air quality, water supply, economic development, environmental protection, and affordable housing need to be coordinated and balanced to achieve the County's multiple policy objectives and still minimize GHG emissions.

Motor vehicle use creates a significant proportion of GHG emissions. There are three interrelated components that can contribute to transportation sector emission reductions: 1) vehicle technology, 2) fuels, and 3) vehicle use. Local government has the ability to affect only one area – vehicle use. Vehicle use is affected by providing transportation alternatives and by managing the demand for transportation.

Transportation demand management (TDM) and alternative mobility options, including walking, biking, and transit, require coordinated land use decisions and measures that maximize the efficient use of existing transportation systems and provide for the increased availability and use of efficient transit, as well as walking and biking infrastructure to increase mobility, improve health, and provide other economic and environmental benefits. The effectiveness of efforts to provide transportation alternatives to the automobile and to implement TDM policies and strategies can be

measured in terms of reductions in vehicle miles traveled (VMT) or expected growth in VMT. VMT reductions (and speed stability) correlate directly with reductions in GHG emissions.

Land use patterns also have a direct relationship to GHG emissions. Studies have shown that the following land use characteristics lead to significantly higher average vehicle ownership, daily VMT per capita, annual traffic fatality rate, and maximum ozone level days.

- Population dispersed in low-density residential development.
- A lack of mixed uses (homes, shops, and workplaces).
- A lack of distinct, thriving activity centers, such as strong downtowns or town centers.
- A network of roads marked by very large block size and poor access from one place to another.

Research of the many factors that can be used to analyze the relationship between development and transportation implies that density may have the most significant relationship to travel and transportation outcomes. Controlling for other factors, the difference between the length and amount of trips, low density U.S. metropolitan areas have over 40 percent more daily VMT per capita than high density areas. In general, a doubling of neighborhood density can be expected to result in approximately a 5 percent reduction in both the number of vehicle trips and their length.

Overall VMT and vehicle trips per household decline as accessibility, density, and land-use mixing increase, which have historically been tenets of land use planning in Yolo County, as in this General Plan.

Yolo County has undertaken several actions to date to reduce greenhouse gases as related to County operations and programs:

- **Climate Change Working Group.** Yolo County has created a climate change team through the County Administrator's Office and has organized a climate change working group that includes the cities and various districts, to coordinate countywide climate change efforts.
- **Cool Counties.** The County has committed to the Cool Counties Climate Stabilization Declaration, a pledge to reduce greenhouse gas emissions from County operations by 80 percent by 2050.
- **California Climate Action Registry.** The County has prepared a baseline audit energy usage associated with County operations. This baseline will be used to measure energy usage over time. Through the registry the County will use a common GHG emission reporting system and will receive credit for reductions in emissions.

- **UC Davis Partnership.** The County has engaged civil and environmental engineering students to assist in studying its carbon generation from county operations, and develop policies and strategies to reduce emissions.
- **Increasing Energy Efficiency.** The County has taken steps to increase the energy efficiency of county operations including replacement of incandescent lights with compact fluorescent bulbs, retrofit of infrastructure in County buildings, installation of computerized climate control in all major county buildings, installation of cogeneration capacity at the Monroe Detention Facility, development of a building closure program to retire less energy-efficient buildings, and a countywide appliance replacement program for Energy Star appliances. The County has a goal of ten percent annual reduction in energy usage through 2013.
- **Full-Scale Landfill Bioreactor.** The County recovers methane gas, a potent greenhouse gas, from the Central Landfill to generate electricity.
- **LEED.** The County has adopted Leadership in Energy and Environmental Design (LEED) standards for new county buildings.
- **Recycling.** All County buildings recycle paper, cardboard, cans, bottles, fluorescent tubes, oil, computers, rigid plastics, agricultural plastics, PVC pipe, toner cartridges, cell phones, batteries, and electronic waste. The County has a goal of 50 percent recycling of all sorted material at the landfill. The County also has a Construction and Demolition Recycling Ordinance that requires diversion and recycling of construction and demolition debris.
- **Agricultural Marketing.** The Agriculture Commissioner has initiated an agricultural marketing program to reduce “food miles,” and therefore result in reductions in carbon dioxide emissions.
- **Transportation and Fleet Vehicles.** The County has installed charging stations for electric vehicles and uses electric vehicles for commuting between local facilities.
- **Personnel Training.** County staff attends classes on the California Environmental Quality Act (CEQA) and on climate change issues.
- **Tree Planting.** The County operates a small nursery that provides tree planting for County facilities.
- **Research.** The County is involved in a variety of research projects related to energy conservation and control of GHG emissions.

The County also requires energy efficient project design and landscaping design as a part of the development review process. Additionally, the Cache Creek Area Plan establishes monetary and regulatory incentives to encourage recycling of aggregate products.

2. Policy Framework

GOAL CO-8	**Climate Change. Reduce greenhouse gas emissions and plan for adaptation to the future consequences of global climate change.**

Policy CO-8.1 Assess current greenhouse gas emission levels and adopt strategies based on scientific analysis to reduce global climate change impacts.

Policy CO-8.2 Use the development review process to achieve measurable reductions in greenhouse gas emissions.

Policy CO-8.3 Prepare appropriate strategies to adapt to climate change based on sound scientific understanding of the potential impacts.

Policy CO-8.4 Encourage all businesses to take the following actions, where feasible: replace high mileage fleet vehicles with hybrid and/or alternative fuel vehicles; increase the energy efficiency of facilities; transition toward the use of renewable energy instead of non-renewable energy sources; adopt purchasing practices that promote emissions reductions and reusable materials; and increase recycling.

Policy CO-8.5 Promote GHG emission reductions by supporting carbon efficient farming methods (e.g. methane capture systems, no-till farming, crop rotation, cover cropping); installation of renewable energy technologies; protection of grasslands, open space, oak woodlands, riparian forest and farmlands from conversion to other uses; and development of energy-efficient structures.

Policy CO-8.6 Undertake an integrated and comprehensive approach to planning for climate change by collaborating with international, national, State, regional, and local organizations and entities.

Policy CO-8.7 Integrate climate change planning and program implementation into County decision making.

Policy CO-8.8 Increase public awareness about climate change and encourage county residents and businesses to become involved in activities and lifestyle changes that will aid in reduction of greenhouse gas emissions.

Policy CO-8.9 Work with local, regional, State, and Federal jurisdictions, as well as private and non-profit organizations, to develop a regional greenhouse gas emissions inventory and emissions reduction plan.

3. Implementation Program

Action CO-A115 Develop a Greenhouse Gas (GHG) Emissions Reduction Plan and/or Climate Action Plan (CAP) for the County, to control and reduce net GHG emissions, and to address economic and social adaptation to the effects of climate change. Development of this plan(s) shall include the following steps:

1) conduct a baseline analysis (GHG emissions inventory) for 1990;
2) adopt an emissions reduction target;
3) develop strategies and actions for reducing emissions including direct offsets and fees to purchase offsets;
4) develop strategies and actions for adaptation to climate change;
5) implement strategies and actions; and
6) monitor emissions and verify results a minimum of every five years starting in 2010.

Utilize the 1982 Energy Plan as a starting point for this effort. Encourage collaboration with the cities to include the incorporated areas in the plan(s). Amend the General Plan to include the plan(s) after adoption. Require County operations and actions, as well as land use approvals to be consistent with this plan(s). ~~Utilize the 1982 Energy Plan as a starting point for this effort.~~ (Policy CO-8.1)
Responsibility: County Administrator's Office
Timeframe: 2009/2011

Action CO-A116 Monitor State progress in the development of GHG quantification protocol and guidance for local governments that allows for statewide uniform measurement and estimation of expected jurisdiction-wide GHG emissions. (Policy CO-8.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A117 Require the implementation of cost-effective and innovative GHG emission reduction technologies in building components and design. (Policy CO-8.2, Policy CO-8.4)
Responsibility: Planning and Public Works Department, General Services Department
Timeframe: Ongoing

Action CO-A118 Adopt urban forestry practices that encourage forestation as a means of storing carbon dioxide, with the goal of doubling the tree canopy in unincorporated communities by 2030. Use appropriate protocols to assess owner eligibility to sell carbon credits. (Policy CO-8.1)

Responsibility: Planning and Public Works Department, Parks and Resources Department
Timeframe: 2012/2013

Action CO-A119 Require new development to incorporate designs and/or programs to reduce travel demand and vehicle emissions. (Policy CO-8.2, Policy CO-8.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A120 Require that new development incorporate alternative modes of transportation, including transit, bicycling and walking, in order to reduce vehicle emissions. (Policy CO-8.2, Policy CO-8.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A121 Consider the provision of local housing for County employees to reduce commute travel time. (Policy CO-8.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action CO-A122 In conjunction with, or immediately following, preparation of the Greenhouse Gas Emissions Reduction/Climate Action Plan(s) for the County, require countywide departmental analysis of how predicted effects of climate change will affect responsibilities and resources of each department. Develop strategies and actions to addresses outcomes. (Policy CO-8.3, Policy CO-8.7)
Responsibility: County Administrator's Office
Timeframe: 2011/2012

Action CO-A123 Encourage Incorporation of the County's Greenhouse Gas Emissions Reduction Plan/Climate Action Plan into a regional climate action plan. The regional plan should strive to achieve its fair-share contribution towards a minimum 80 percent reduction in regional greenhouse gas emissions by 2050. (Policy CO-8.9)
Responsibility: County Administrator's Office
Timeframe: 2011/2012

K. Delta Region

The following discussion includes goals, policies and actions relating to the County's interests in the Delta region. Other policies relating to the Delta are also located in each of the other elements of this General Plan.

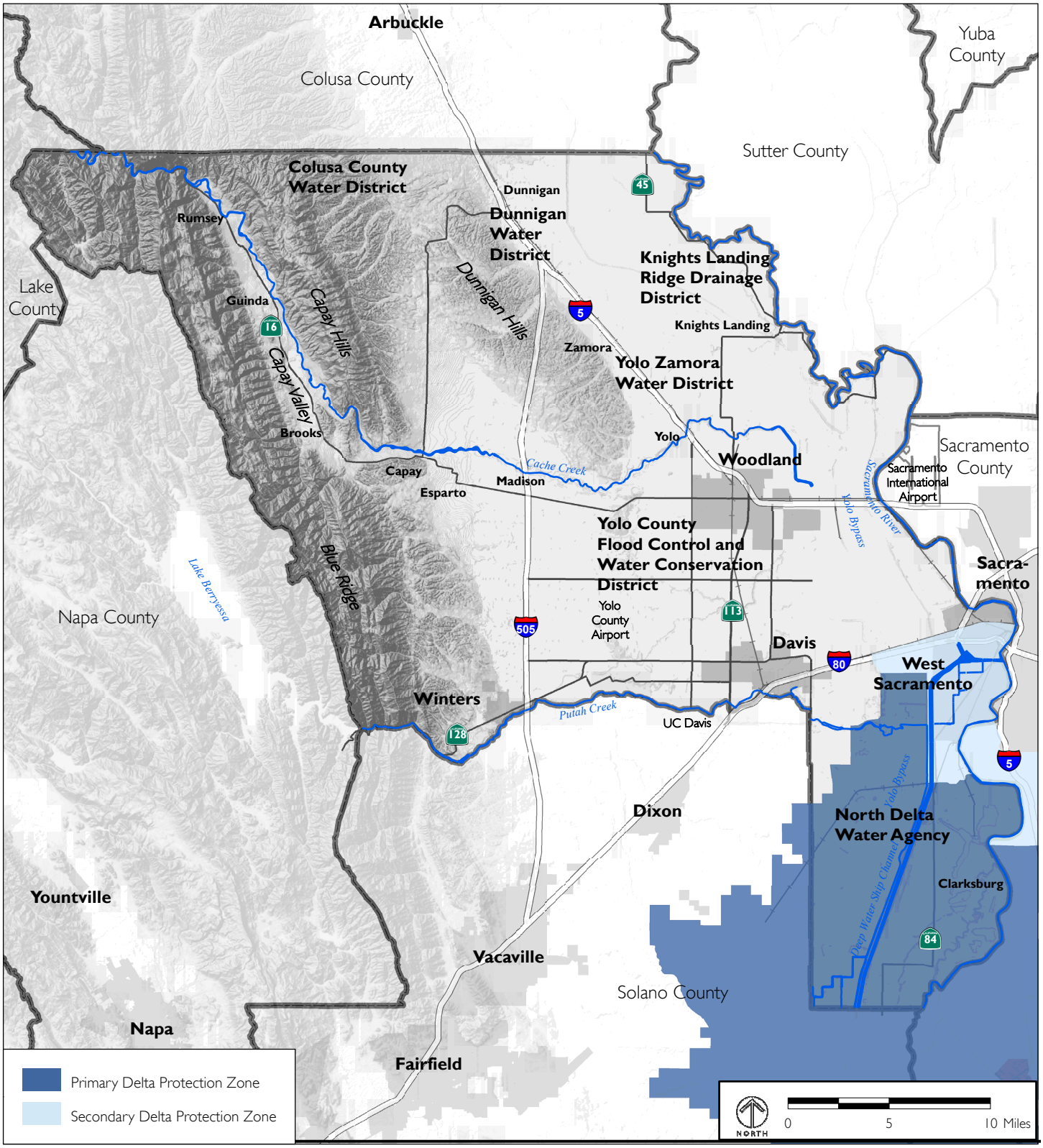
1. Background Information

In the past two years, the Delta has become an area of intense interest, with numerous planning and legislative efforts looking to redefine the policy and regulatory landscape. This General Plan will incorporate the timely results of these various state processes, where appropriate, once they are adopted. Other processes may be the subject of future Amendments to bring the General Plan into conformance with new laws and/or regulations.

Those areas of the Yolo Bypass, the City of West Sacramento, and the unincorporated area that lie south of Interstate 80 are located within the Primary and Secondary Zones of the Sacramento-San Joaquin Delta (see Figure CO-9, Delta Protection Zones). Land use in these areas must not only be consistent with this General Plan, they must also be consistent with the Land Use and Resource Management Plan (LURMP), as adopted by the Delta Protection Commission (DPC). The DPC is currently in the process of updating the LURMP, to address a wide range of issues, including recent court decisions related to water export, studies that indicate serious problems with the health of the Delta ecosystem, concerns about the ability of levees to withstand significant flood and/or seismic events, and the effects of future global climate change. This review may include areas outside of the Delta as currently defined. The updated Draft LURMP is expected to be released in 2009.

Similarly, in 2006, the Governor issued an Executive Order creating the Delta Vision process. The Delta Vision Blue Ribbon Task Force (DVBRTF) is a group of public officials, experts, and stakeholders, charged with developing recommendations on the overall management and governance of the Delta, including goals related to improving safety, ensuring water supply and water quality, expanding recreation, coordinating emergency response, and protecting infrastructure and public safety. The DVBRTF is currently conducting their strategic planning process, which is expected to be completed by early 2009.

The Bay Delta Conservation Plan (BDCP) is a collaborative effort between Federal and State agencies, water districts, environmental organizations, and the California Farm Bureau to help recover endangered/sensitive species and their habitats in the Delta, while ensuring sufficient and reliable water supplies for Central and Southern California. Primary among their recommendations is the construction of a new facility to convey water from the North Delta to the South Delta. There are two potential alignments for an alternative conveyance: one going through Sacramento County and one through Yolo and Solano Counties. Extensive habitat restoration to mitigate for the plan is also under consideration, including the lower Yolo Bypass and the Clarksburg region. The BDCP is expected to be completed by 2010.



Source: Delta Protection Commission, 2008.

FIGURE CO-9

DELTA PROTECTION ZONES

The Central Valley Regional Water Quality Control Board (CVRWQCB) is in the process of developing Total Maximum Daily Loads (TMDLs) for mercury. Both refined and elemental mercury are contaminants in the Delta, the result of natural deposits and the ongoing effects of gold mining in the 18th century. Mercury becomes more concentrated as it is carried up the food chain, adversely affecting development in the young. It is of particular concern to the health of fish species and people who consume large amounts of Delta fish. The TMDLs will strictly regulate the amounts of mercury that can be discharged into the Delta and its tributaries.

The Lower Bypass Planning Forum provides a stakeholder process to assess a broad range of issues concerning the southerly portion of the Yolo Bypass. A State-funded planning process, it includes participation by the DPC, Yolo Basin Foundation, Metropolitan Water District, and Westlands Water District.

2. Policy Framework

GOAL CO-9	**Delta Governance. Participate in State and regional efforts to establish governance, policy, and regulations for the Delta, to ensure the consideration of Yolo County's interests.**

Policy CO-9.1 Advocate to establish funding mechanisms independent of the State budget for payment to the County of in-lieu property taxes and other fees on land acquired in the Delta for habitat restoration and water conveyance.

Policy CO-9.2 Ensure that the acquisition of new municipal water for the City of Davis, City of Woodland, and UC Davis from the Sacramento River is not precluded.

Policy CO-9.3 Pursue the establishment of dedicated State and federal funding sources to remediate mercury, in the various sources located in the upper Cache Creek watershed, in the sediments and waterways of both Cache Creek (including the Settling Basin) and the Yolo Bypass, and where it methylizes in the Delta.

Policy CO-9.4 Ensure that the design and construction of habitat restoration projects within riparian areas do not result in increased levels of mercury biomethylization within the Yolo Bypass and Delta.

Policy CO-9.5 Encourage funding to maintain and strengthen flood capacity along the Sacramento River and Yolo Bypass, including support from beneficiaries of the State and Central Valley Water Projects, which have changed flow regimes to the detriment of levee integrity.

Policy CO-9.6 Support efforts to provide a minimum 100-year flood protection for the community of Clarksburg.

Policy CO-9.7 Protect water quality in the Sacramento River, its tributaries, and groundwater aquifers from excess salinity due to decreased fresh water inflow from Delta projects.

Policy CO-9.8 Work to implement high priority projects in Yolo County's Integrated Regional Water Management Plan, especially related to flood management on Cache Creek.

Policy CO-9.9 Ensure existing and future operations of the Port of Sacramento as an industrial and transport hub for the region, including protection and improvement of the levees along the deep-water ship channel, as well as deepening the ship channel.

Policy CO-9.10 Support improvements necessary to ensure the continued transportation of agricultural products along State Route 84 for the Clarksburg region.

Policy CO-9.11 Ensure that proposed changes to the operation of the Sacramento Weir fully mitigate any potential adverse impacts to Old River Road (County Road 22).

Policy CO-9.12 Work to ensure that changes to the operation of the Yolo Bypass, including the Fremont Weir, toe drain, and/or increased frequency of intentional flooding do not adversely affect Yolo County interests. These may include: the economic viability of agriculture within the Bypass, the feasibility of planned development for the Elkhorn Specific Plan, the use of County Road 22 as an alternative route during closures of Interstate 5, and the continued operation of Interstates 5 and 80, and the Union Pacific Railroad across the Bypass.

Policy CO-9.13 Encourage funding for the construction and operation of the Pacific Flyway Center at a site located next to the Yolo Bypass.

Policy CO-9.14 Establish Clarksburg as a gateway entry for visitors to the Delta region seeking agricultural tourism, ecotourism, and recreational opportunities.

Policy CO-9.15 Pursue funding to assist non-governmental organizations acquire agricultural conservation easements within Yolo County, where appropriate.

Policy CO-9.16 Pursue funding to assist non-governmental organizations acquire habitat conservation easements within Yolo County, where appropriate.

Policy CO-9.17 Support the establishment of a Delta Conservancy to provide funding and work with federal, State and local governments, local Habitat Conservation Programs, nonprofit organizations, and landowners on improvements to Delta land use management.

Policy CO-9.18 Work to ensure recognition by the Central Valley Regional Water Quality Control Board (CVRWQCB) of the economic, habitat, water resources, and flood management impacts associated with developing Total Maximum Daily Loads (TMDLs) for mercury within the Delta.

Policy CO-9.19 Recognize the special character of "heritage" or "legacy" communities in the Delta (such as Clarksburg) and promote their economic vitality.

Policy CO-9.20 Seek to ensure that future changes to the boundaries of the Delta, including the boundaries of the Primary and Secondary Zones, are consistent with the goals and policies of this General Plan.

Policy CO-9.21 Work to ensure that State and federal habitat restoration efforts recognize and support the Yolo Natural Heritage Program.

Policy CO-9.22 Pursue policy and legislative strategies to ensure that the Clarksburg Agricultural District can be fully implemented within the Delta Protection Commission Land Use and Resource Management Plan, Delta Vision, Bay-Delta Conservation Plan, and other regional efforts.

3. Implementation Program

Action CO-A124 Pursue recognition and compensation from the State and other appropriate entities, public or private, for the economic effects of changes to the management and governance of the Delta on Yolo County. (Policy CO-9.1, Policy CO-9.3, Policy CO-9.20, Policy CO-9.21)
Responsibility: County Administrator's Office, Parks and Resources Department
Timeframe: Ongoing

Action CO-A125 Actively participate in State and regional efforts to establish land use policy, regulation, and governance for the Delta to ensure the consideration of Yolo County's interests. (Policy LU-4.2, Policy CO-20, Policy CO-9.21)
Responsibility: Planning and Public Works Department, County Administrator's Office, Parks and Resources Department
Timeframe: Ongoing