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Tables

Exhibits

ACRONYMS AND ABBREVIATIONS

Act	Urban Water Management Planning Act
afy	acre-feet per year
Agency Act	Sacramento County Water Agency Act
ASWC	American States Water Company
Cal-Am	California-American Water Company
Central Basin	Central Sacramento County Groundwater Basin
CEQA	California Environmental Quality Act
cfs	cubic feet per second
City	City of Rancho Cordova
Coloma WTP	Coloma Water Treatment Plant
CPUC	California Public Utilities Commission
CSCGF	Central Sacramento County Groundwater Forum
CVP	Central Valley Project
~~CWTP~~Vineyard WTP	~~Central~~ Vineyard Water Treatment Plant
Delta	Sacramento San Joaquin River Delta
DWR	California Department of Water Resources
EPA	United States Environmental Protection Agency
FRDS	Freeport Regional Diversion Structure
GMP	Groundwater Management Plan
gpm	gallons per minute
GSWC	Golden State Water Company
IGSM	Sacramento County Integrated Groundwater Surface Water Model
JPA	Joint Powers Authority
LAFCO	Sacramento County Local Agency Formation Commission
mgd	million gallons per day
NDMA	N-nitrosodimethylamine
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
OHWD	Omochumne-Hartnell Water District
POU	Place of Use
PSA	Purveyor Specific Agreements
Pyrites WTP	Pyrites Water Treatment Plant
Reclamation	U.S. Bureau of Reclamation
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCWA	Sacramento County Water Agency
SMUD	Sacramento Municipal Utility District

SRCSD	Sacramento Regional County Sanitation District
SSWD	Sacramento Suburban Water District
SWP	State Water Project
SWRCB	State Water Resources Control Board
UPA	Urban Policy Area
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VOC	volatile organic compounds
WFA	Water Forum Agreement
WRMP	Water Recycling Master Plan
WSA	Water Supply Assessment
WSMP	Water Supply Master Plan

1 EXECUTIVE SUMMARY

This technical memorandum addresses water supply issues for the City of Rancho Cordova's (City) General Plan and General Plan EIR. It identifies the regional water supply regulatory and planning environment; water purveyors that currently provide water service within the City; water demands associated with buildout of the City's corporate limits (estimated to build out by 2030) and larger planning area (assumed, for purposes of this analysis, to build out by 2050; an actual build out year has not been determined) identified in its Draft General Plan; existing available water supplies that could meet a portion of the City's projected buildout water demands (e.g., buildout of planning area); the area within the City for which long-term water supplies have been secured (e.g., approved and planned projects/existing development); potential future sources of water to meet remaining buildout water demands; and a brief summary of the potential environmental impacts associated with delivering future water supplies to the City.

Because of the long planning horizon associated with buildout of the City's corporate limits (i.e., approximately 2030) and the City's planning area (i.e., approximately 2050), this water supply evaluation provides a summary of relevant water supply data based on information readily available from the City (land use plans and associated demands) and local water purveyors (existing and planned future water supplies and distribution facilities).

The City has identified two land use plans that contemplate a development pattern for land inside and outside its current corporate limits. Buildout of the City's corporate limits (approximately 20,000 acres) is anticipated to occur by 2030, while buildout of its planning area (an area approximately 3 times the size of the corporate limits) is not certain, but assumed to occur by 2050.

There are three water purveyors within the City's planning area: Sacramento County Water Agency (SCWA), Zone 40; Golden State Water Company (GSWC); and California-American Water Company (Cal-Am). Urban Water Management Plans (UWMP) for all water purveyors were obtained and used in this evaluation. The UWMPs identified the purveyor's existing and projected future water supplies and projected water demands through 2030 within each of their service areas.

SCWA's service area (i.e., Zone 40) encompasses approximately 70% of the City's planning area and SCWA would be the primary water purveyor within the City. SCWA has engaged in a long-term water supply planning process through its participation in the regional Water Forum planning process and the recent adoption of its *Zone 40 Water Supply Master Plan* (WSMP) (2005). The WSMP identifies the acreage of land area that could be served by existing and projected future water supplies through 2030 for an expected growth area of Sacramento County (as identified in the Sacramento County General Plan [1994]), based on planned land use pattern and density information available at the time the report was prepared. This area is known as the 2030 Study Area. SCWA's water supplies include surface water and groundwater resources that would, over the long-term, be conjunctively used to ensure that adequate groundwater levels are maintained throughout the Central Sacramento Groundwater Basin (Basin) and that both surface water and groundwater supplies are adequate to meet projected demands through 2030. While a majority of the City's planning area falls within Zone 40, only a portion falls within a subarea known as the 2030 Study Area.

Golden State Water Company (GSWC) also serves a portion (generally the northeastern portion) of the City's planning area. GSWC owns and operates the Cordova System, a water treatment and conveyance system that serves GSWC's service area. GSWC relies on both surface and groundwater to meet water demands within its service area. GSWC is projecting buildout within its service area by 2020.

Cal-Am is a privately owned water purveyor that provides urban water supply to portions of Sacramento including an area in Rancho Cordova located near Sunrise Boulevard and Douglas Road. Cal-Am pumps groundwater and purchases wholesale water from SCWA. Cal-Am is projecting buildout within its service area by 2025.

Based on an analysis of potential supply and demand, it is likely that adequate supplies would be available to meet the City's water demands (i.e., 57,299 afy) associated with buildout of its corporate limits (see Section 5.3, "Availability of Supplies to Meet Projected Demands within the City of Rancho Cordova General Plan Planning Area"). However, based on total known future supplies (i.e., 77,620 afy), there would be a supply shortfall of approximately 51,089 afy to meet the City's total planning area demands (i.e., 128,709 afy). This shortfall occurs if development exceeds the total amount associated with buildout of the corporate boundaries.

If water supplies are not available to meet buildout water demands, the City would either need to stop approving new growth within its jurisdiction, or collaborate with regional water purveyors to investigate potential future water supply options within the context of the regional water supply planning environment. Investigation of future water supply options would likely require involvement from local water purveyors (GSWC, Cal-Am, and SCWA at a minimum, and other neighboring purveyors as appropriate), the Water Forum successor effort, and environmental groups. Because of the long-term and sometime contentious nature of new water supply planning, the feasibility of implementing new water supply options beyond those described in the Water Forum Agreement (a regional water supply plan, described in Section 3.3.1m "Water Forum Agreement") are unknown and speculative. Potential new water supply options that the City could pursue (in collaboration with local agencies/entities) to develop supplies to meet its planning area buildout water demands are listed below and described in greater detail in Section 5.4, "Future Water Supplies."

- Water transfers and exchanges with nearby water purveyors;
- Improved groundwater sustainability; and
- Expanded use of Recycled Water.

2 INTRODUCTION

The City of Rancho Cordova (City) is in the process of preparing, and ultimately will consider, the adoption of the *City of Rancho Cordova General Plan*. A general plan is the principal planning document that provides a blueprint for development within a community. A general plan addresses all aspects of development including housing, traffic, natural resources, open space, safety, land use, and public facilities (including water supply and facilities). Under state planning law, the General Plan must include a comprehensive, long-term plan for the physical development of both the City of Rancho Cordova and any land outside the corporate boundaries that the City has determined relates to its planning.

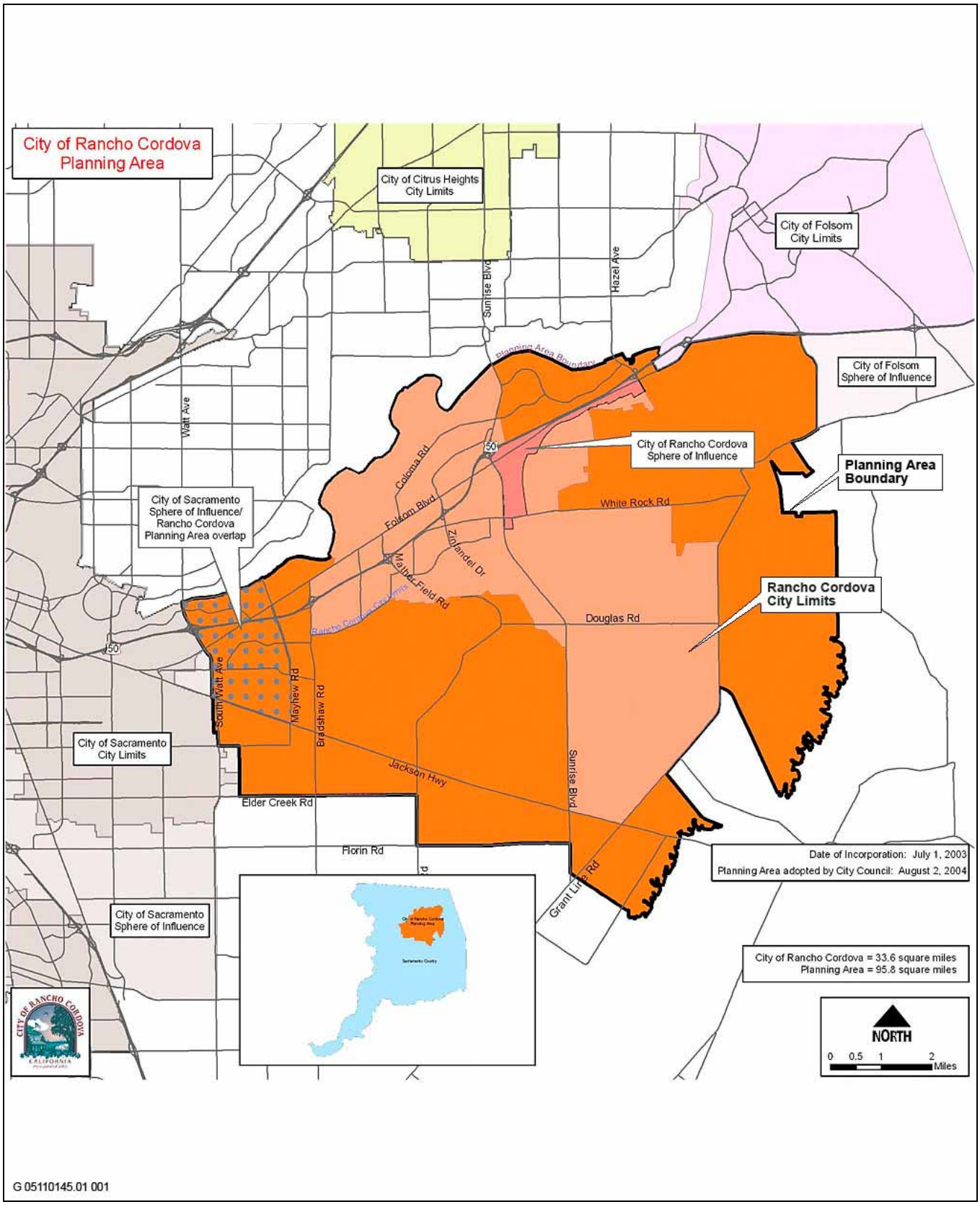
The City's General Plan outlines goals, objectives, and policies related to how growth and development would be allowed to proceed over a defined planning horizon. In addition, the City is required to prepare seven mandatory elements and any optional elements it deems necessary. The City's General Plan consists of the following elements:

- Land Use Element
- Circulation Element
- Housing Element
- Air Quality Element
- Open-space, Parks, and Trails Element
- Noise Element
- Safety Element
- Urban Design Element
- Economic Development Element
- Infrastructure, Services, and Finance Element
- Natural Resources Element
- Cultural and Historic Resources Element

In compliance with the California Environmental Quality Act (CEQA), the City is preparing an environmental impact report (EIR) that evaluates the environmental effects associated with implementation of its general plan. The City's General Plan and EIR are scheduled to be considered by the City Council in June 2006.

The city of Rancho Cordova is generally located in north central Sacramento County, immediately east and south of the city of Sacramento and west and south of the city of Folsom. Unincorporated lands under the jurisdiction of the County of Sacramento (County) border Rancho Cordova to the south. The city of Rancho Cordova consists of approximately 34 square miles of land (i.e., approximately 20,000 acres); its limits extend from Bradshaw Road on the west to the American River Parkway on the north, Grant Line Road on the east, and Jackson Highway on the south (Exhibit 1). As described above, state planning law requires that an agency consider and plan for areas within its jurisdiction and any areas outside its jurisdiction that would relate to its planning. As such, the City has identified a defined "Planning Area" (herein referred to as the "planning area") for its General Plan. This area consists of approximately 99 square miles of land (i.e., 61,383 acres) (areas in the city and unincorporated county), which is approximately three times the area currently within the City's corporate limits. In general, the City has included within its planning area those unincorporated county areas that border the city to the southwest and east. The planning area is generally bounded by Watt Avenue to the west, the American River to the north, Prairie City Road to the east, and Jackson Highway to the south (Exhibit 1).

This water supply evaluation addresses water supply issues associated with the City's plans for growth and development within its planning area. Where relevant, this document describes existing and projected water supply demands for areas that fall within the city limits (i.e., 20,000 acres) and for the larger planning area (i.e., 61,383 acres) as a whole. This water supply evaluation includes the following elements:



Source: City of Rancho Cordova 2006

City of Rancho Cordova General Plan Planning Area **Exhibit 1**

- **Chapter 1, "Executive Summary":** This chapter provides a summary of the results of this water supply evaluation.
- **Chapter 2, "Introduction":** This chapter describes the City's General Plan, the planning area under consideration, and organization of the water supply evaluation.
- **Chapter 3, "Regulatory and Planning Environment for Water Supply":** This chapter describes relevant legislation; water purveyors and agencies; related plans, projects, and agreements; and water resources within the Sacramento region.
- **Chapter 4, "Existing and Projected Water Demand and Supply":** This chapter describes the existing and projected water demands and available supplies for water purveyors in the City's planning area.
- **Chapter 5, "Projected Water Demands for the City of Rancho Cordova General Plan Planning Area":** This chapter describes the method by which water demands are projected, projected water demands within the Rancho Cordova city limits and for the City's larger planning area, the availability of known supplies to meet projected demands, and potential future supplies that could serve the city.
- **Chapter 6, "Potential Environmental Impacts Associated with Delivering Water to the City's Planning Area":** This section provides a brief summary of the potential environmental impacts that could occur with diversion, conveyance, treatment, and discharge of water supplies need to meet projected demands within the City's planning area.
- **Chapter 7, "References":** This chapter sets forth a comprehensive listing of all sources of information used in the preparation of this document.

3 REGULATORY AND PLANNING ENVIRONMENT FOR WATER SUPPLY

The planning, procurement, and management of new water supplies to meet the existing and projected future water demands within Rancho Cordova is a complex undertaking involving the coordination of numerous federal, state, and local agencies. The decision to pursue a local water supply project is subject to the issuance of water rights; environmental review under CEQA and sometimes the federal equivalent, the National Environmental Policy Act (NEPA); and other regulatory permitting requirements. Often it involves resolving complex issues among competing interests (e.g., development versus environmental interests).

California's complex scheme of rights to surface water and groundwater is based on the state's constitution, statutes, and common law. Rights to surface water are governed by a hybrid system of riparian and appropriative rights that are administered by the State Water Resources Control Board (SWRCB) and water rights established before the advent of the SWRCB's jurisdiction in 1914. Under riparian rights, users are entitled to make reasonable use of the natural flow of water in the watercourse to which their properties adjoin. Appropriative rights are established by diverting surplus water for non-riparian uses. Riparian water rights are essentially coequal ("correlative"), but are superior to appropriative rights. Water is allocated among appropriative users based on seniority, under the principle of "first in time, first in right." Accordingly, pre-1914 water rights trump appropriative rights established by the SWRCB.

Groundwater that flows in subterranean streams is allocated by the SWRCB according to the rules applicable to surface waters. Rights to groundwater that does not flow in such streams ("percolating" groundwater) are not administered by any state agency, but may be adjudicated by courts on a case-by-case basis (and, to some extent, may be regulated by local governments). When groundwater becomes overdrafted (i.e., more groundwater is pumped out of the basin than is replenished by natural or artificial systems), overlying users have first priority in using the available water, followed by appropriative users (i.e., users of groundwater not overlying the property from which it was pumped) in order of seniority. Where an appropriative user has been continuously withdrawing water from an overdrafted aquifer for more than 5 years, the appropriative right may become a prescriptive right, which is effectively treated as an overlying right for purposes of groundwater allocation.

Both surface water rights and groundwater rights are subject to a requirement in the state constitution that the end use be reasonable and beneficial.

3.1 WATER PLANNING–RELATED LEGISLATION

3.1.1 URBAN WATER MANAGEMENT PLANNING ACT

Each urban water supplier in California is required to prepare an Urban Water Management Plan (UWMP) and update the plan on or before December 31 in years ending in 5 and 0, pursuant to California Water Code Sections 10610–10657, as last amended by Senate Bill (SB) 318 (2004), the Urban Water Management Planning Act. SB 318 is the 18th amendment to the original bill requiring a UWMP, which was initially enacted in 1983. Amendments to SB 318 have focused on ensuring that the UWMP emphasizes and addresses drought contingency planning, water demand management, reclamation, and groundwater resources.

Under the current law, all urban water suppliers with more than 3,000 service connections or water use of more than 3,000 acre-feet per year (afy) are required to submit an UWMP to the California Department of Water Resources (DWR) every 5 years.

3.1.2 SENATE BILL 610

SB 610 (Chapter 643, Statutes of 2001) became effective January 1, 2002. The purpose of SB 610 is to strengthen the process by which local agencies determine the adequacy and sufficiency of current and future water supplies to meet current and future demands. SB 610 amended the California Public Resources Code to incorporate Water Code requirements within the CEQA process for certain types of projects. SB 610 also amended the Water Code to broaden the types of information included in a UWMP (Water Code Section 10620 et seq.). SB 610 consists of two primary components, the UWMP (described above) and the Water Supply Assessment (WSA) (Water Code Sections 10910–10915).

WATER CODE PART SECTION 10910

Water Code Section 10910 et seq. defines the projects for which the preparation of a WSA is required as well as the lead agency's responsibilities related to the WSA. The Water Code also clarifies the roles and responsibilities of the lead agency under CEQA and of the water supplier (i.e., public water system) with respect to describing current and future supplies compared to current and future demands. A WSA is required for:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- a proposed hotel or motel, or both, having more than 500 rooms;
- a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- a mixed-use development that includes one or more of the uses described above;
- a development that would demand an volume of water equivalent to or greater than the volume of water required by a 500-dwelling-unit project; and
- for lead agencies with fewer than 5,000 water service connections, any new development that would increase the number of water service connections in the service area by 10% or more.

Under Section 10910 of the Water Code, the lead agency must identify the affected water supplier and ask the supplier whether the new demands associated with the project are included in the supplier's UWMP. If the UWMP includes the demands, it may be incorporated by reference in the WSA (Water Code Section 10910[c][2]). If there is no public water system to serve the project, the lead agency must prepare the WSA (Water Code Section 10910[b]).

3.1.3 SENATE BILL 221

SB 221 requires a city or county to include as a condition of approval of any tentative map, parcel map, or development agreement for certain residential subdivisions a requirement that a "sufficient water supply" be available. Proof of a sufficient water supply must be based on a written verification from the public water system that would serve the development.

3.2 WATER PURVEYORS AND RELATED AGENCIES

The federal, state, regional, local, and private entities that could be involved in the City's water supply planning and development process are described below.

3.2.1 FEDERAL AGENCIES

U.S. BUREAU OF RECLAMATION

The U.S. Bureau of Reclamation (Reclamation) is part of the U.S. Department of the Interior and is responsible for the development and conservation of much of the water resources in the western United States. While the original purpose of Reclamation was to provide for the reclamation of arid and semiarid lands in the west, the agency's current mission covers a wider range of interrelated functions. These functions include providing municipal and industrial water supplies through the Central Valley Project (CVP); generating hydroelectric power; providing irrigation water for agriculture; improving water quality, flood control, and river navigation; providing river regulation and control and fish and wildlife enhancement; offering water-based recreation opportunities; and conducting research on a variety of water-related topics.

U.S. FISH AND WILDLIFE SERVICE AND NATIONAL MARINE FISHERIES SERVICE

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), in cooperation with other federal and state agencies, enforce the federal Endangered Species Act by evaluating the potential for impacts on candidate, threatened, and endangered fish and wildlife resources.

U.S. ARMY CORPS OF ENGINEERS

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

U.S. GEOLOGICAL SURVEY

The U.S. Geological Survey (USGS) National Water Use Information Program is responsible for compiling and disseminating the nation's water-use data. USGS works in cooperation with federal, state, and local environmental agencies to collect water-use information at the local level.

3.2.2 STATE AGENCIES

CALIFORNIA DEPARTMENT OF WATER RESOURCES

DWR is responsible for the preparation of the California Water Plan, management of the State Water Project (SWP), protection and restoration of the Sacramento–San Joaquin River Delta (Delta), regulation of dams, provision of flood protection, and other functions related to surface water and groundwater resources. These other functions include helping water agencies prepare their UWMPs and reviewing such plans to ensure that they comply with the related Urban Water Management Planning Act.

STATE WATER RESOURCES CONTROL BOARD

The SWRCB was established in 1967 to administer state water rights and water quality functions. The SWRCB and its nine regional water quality control boards (RWQCBs) administer water rights and enforce pollution control standards throughout the state. The SWRCB is responsible for the granting of water right permits and licenses through an appropriation process following public hearings and appropriate environmental review by applicants and responsible agencies. In granting water right permits and licenses, the SWRCB must consider all beneficial uses, including water for downstream human and environmental needs. In addition to granting the water right permits needed to operate new water supply projects, the SWRCB also issues water quality–related certifications to developers of water projects under Section 401 of the federal Clean Water Act.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

The Central Valley RWQCB is responsible for the preparation and implementation of basin water quality plans consistent with the federal Clean Water Act; the enforcement of these plans ensures that local water quality is protected. The RWQCB may become involved in water supply programs as a responsible agency with respect to project impacts on downstream beneficial uses. The city of Rancho Cordova is within the jurisdiction of the Central Valley RWQCB.

CALIFORNIA DEPARTMENT OF FISH AND GAME

The California Department of Fish and Game (DFG) is a responsible agency with respect to the review of water right applications and also is responsible for issuing lake and streambed alteration permits for new water supply projects, as appropriate. DFG works in coordination with federal and state agencies to mitigate the impacts of projects on fish and wildlife resources, and is responsible for enforcing the California Endangered Species Act. DFG often helps establish instream flows (minimum releases below a dam or diversion structure) to maintain habitat below a project. Such release schedules may be included in water right permits and could affect the yield of a project.

3.2.3 LOCAL AGENCIES

SACRAMENTO COUNTY WATER AGENCY

Sacramento County Water Agency (SCWA) was formed in 1952 by a special legislative act of the State of California, the Sacramento County Water Agency Act (Agency Act). SCWA's purposes include, but are not limited to:

- making water available for any beneficial use of lands and inhabitants, and
- producing, storing, transmitting, and distributing groundwater.

SCWA's boundaries include all of Sacramento County and the agency is governed by a Board of Directors (ex officio, the County Board of Supervisors). Under the Agency Act, the County Board of Supervisors may contract with the federal government under reclamation laws with the same powers as irrigation districts, and with federal and state governments with respect to the purchase, sale, and acquisition of water. SCWA may also construct and operate any required capital facilities. There are currently several benefit zones within SCWA that are related to water supply (Zone 13, Zone 40, Zone 41, and Zone 50). Each has a unique purpose and generates revenue internally for carrying out that purpose. Zones relevant to Rancho Cordova are described below.

Sacramento County Water Agency Zone 40

Portions of the city of Rancho Cordova are located within SCWA Zone 40. Zone 40 was created in May 1985 by SCWA Resolution No. 663, which describes the boundaries of the zone and defines the projects to be undertaken

as "... the acquisition, construction, maintenance and operation of facilities for the production, conservation, transmittal, distribution and sale of ground or surface water or both for the present and future beneficial use of the lands or inhabitants within the zone." The boundaries and scope of Zone 40 activities were expanded in April 1999 by Resolution WA-2331. Zone 40 activities now include the use of recycled water in addition to surface water and groundwater. Once Zone 40 water facilities have been constructed, the facilities are granted to Zone 41, the public water purveyor (discussed below), for long-term operations and maintenance and eventual replacement.

Zone 40 is located in the central portion of Sacramento County (Exhibit 2). Much of Zone 40 currently consists of rural land uses (i.e., agricultural, agricultural/residential, and conservation reserve); however, rapid urbanization is occurring within the city of Elk Grove in the East Franklin and Laguna Ridge areas, in the unincorporated areas of the Vineyard and Mather service areas, and in the city of Rancho Cordova within the Sunrise Douglas and Sunrise Corridor service areas. Zone 40 generates revenue for its capital program through development fees and from special development capital fees collected bimonthly from Zone 41 retail water service customers within Zone 40 and wholesale water service customers in the Elk Grove Water Service area (Exhibit 3).

SACRAMENTO COUNTY LOCAL AGENCY FORMATION COMMISSION

The County Local Agency Formation Commission (LAFCo) regulates local-agency boundary changes, including annexations and changes to spheres of influence for each city and special district within the county. The LAFCo is also responsible for approving the boundaries and spheres of influence of each water purveyor in the county. Groundwater is the primary source of water for land not currently served by a water district. Lands currently not served by a water district must be annexed to the appropriate district prior to receiving municipal and industrial water supplies subject to approval by the LAFCo. Annexations to SCWA are not subject to LAFCo.

SACRAMENTO COUNTY ENVIRONMENTAL MANAGEMENT DEPARTMENT

The County Environmental Management Department performs a number of public-health services related to water supply, including prescribing the authorized use of recycled water, inspecting industrial and commercial stormwater systems, inspecting public/private water systems, controlling cross connection water systems, inspecting septic systems, installing groundwater monitoring wells, and conducting land use evaluations with respect to water and wastewater demands. The department is also responsible for enforcing the County's Well Standards Ordinance, which helps protect groundwater quality and public health by, among other things, including certain requirements related to monitoring wells and other protective measures.

FREEPORT REGIONAL WATER AUTHORITY

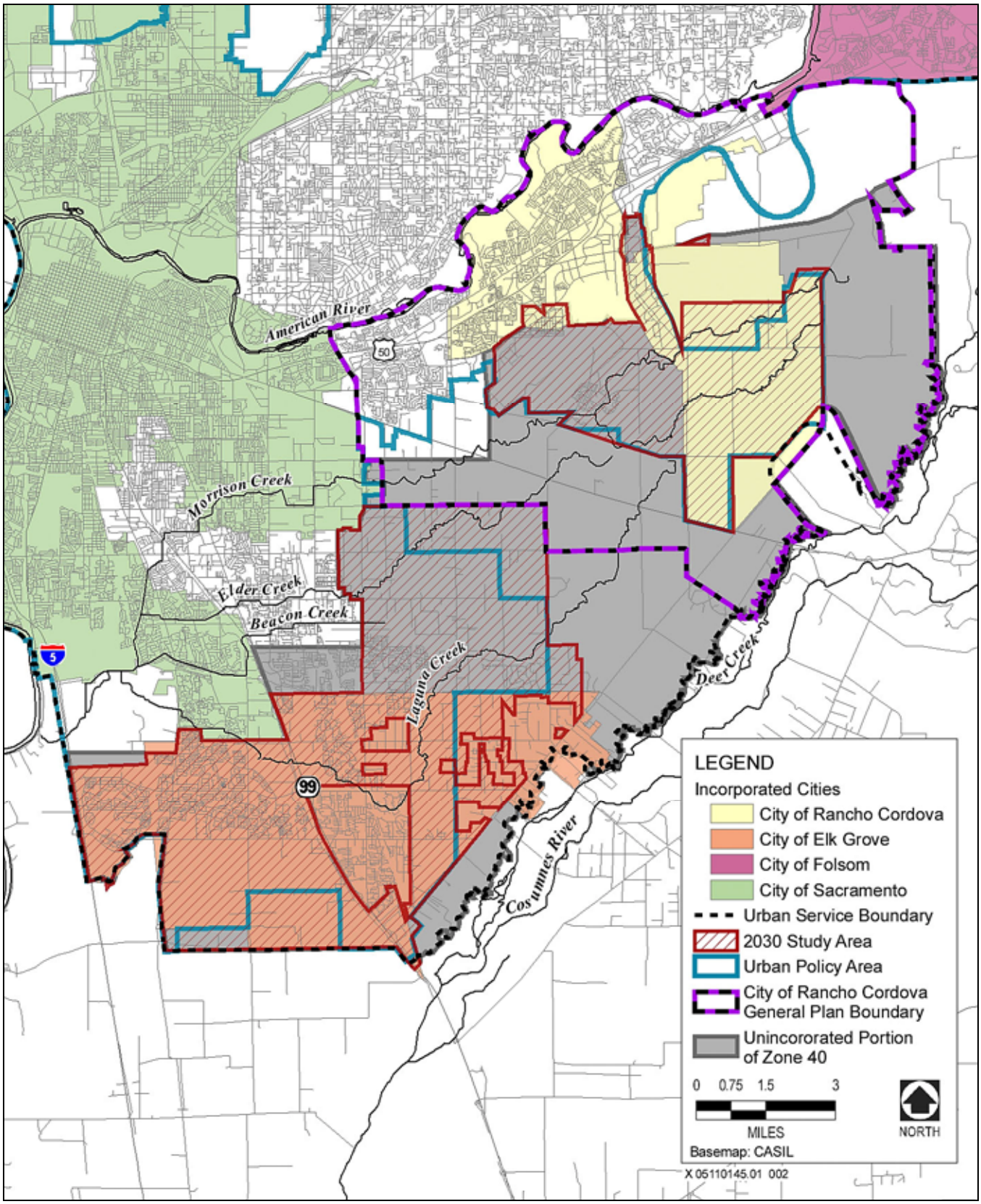
The Freeport Regional Water Authority (FRWA) was created in February 2002 by a Joint Powers Agreement of SCWA and East Bay Municipal Utility District in association with the City of Sacramento and with support from Reclamation. FRWA guides the financing, ownership, development, construction, and operation of the Freeport Regional Water Project, which is a joint effort to draw water from the Sacramento River near the town of Freeport, discussed below in Section 3.3.2.

3.2.4 WATER PURVEYORS WITHIN THE PLANNING AREA

Multiple water purveyors fall within the City's General Plan planning area. Water purveyors in the planning area are SCWA Zone 41, Golden State Water Company (GSWC), and California-American Water Company (Cal-Am). Exhibit 34 shows the water purveyors within the General Plan planning area.

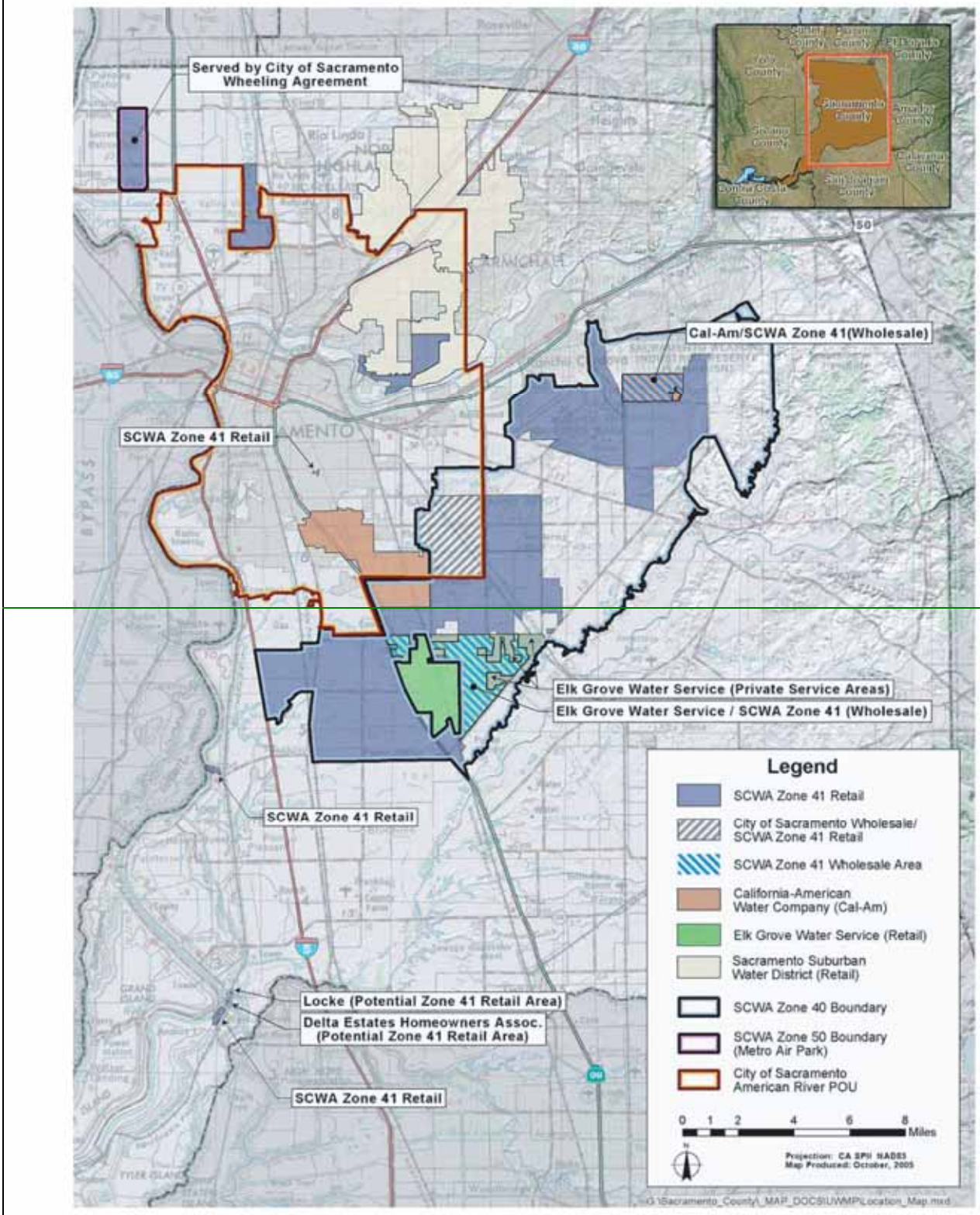
SACRAMENTO COUNTY WATER AGENCY ZONE 41

SCWA Zone 41 is a retail water supplier that provides safe and reliable drinking water to its various service areas located in both the unincorporated and incorporated (i.e., the Cities of Elk Grove and Rancho Cordova) portions



Source: County of Sacramento 1999, 2003; MWH 2003; U.S. Census Bureau 2002, cited in SCWA 2003

Incorporated Cities within SCWA Zone 40, and the Zone 40 2030 Study Area **Exhibit 2**



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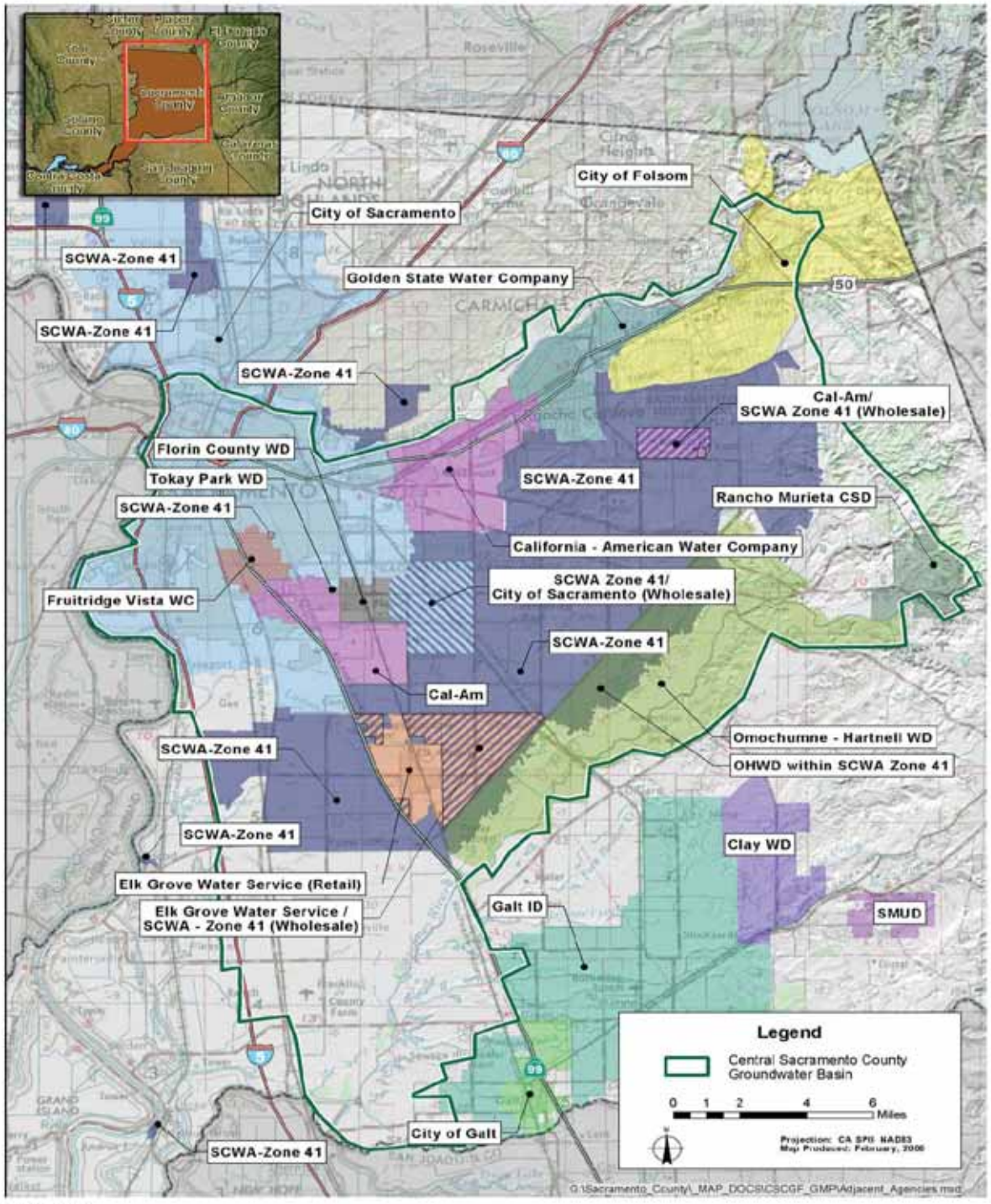
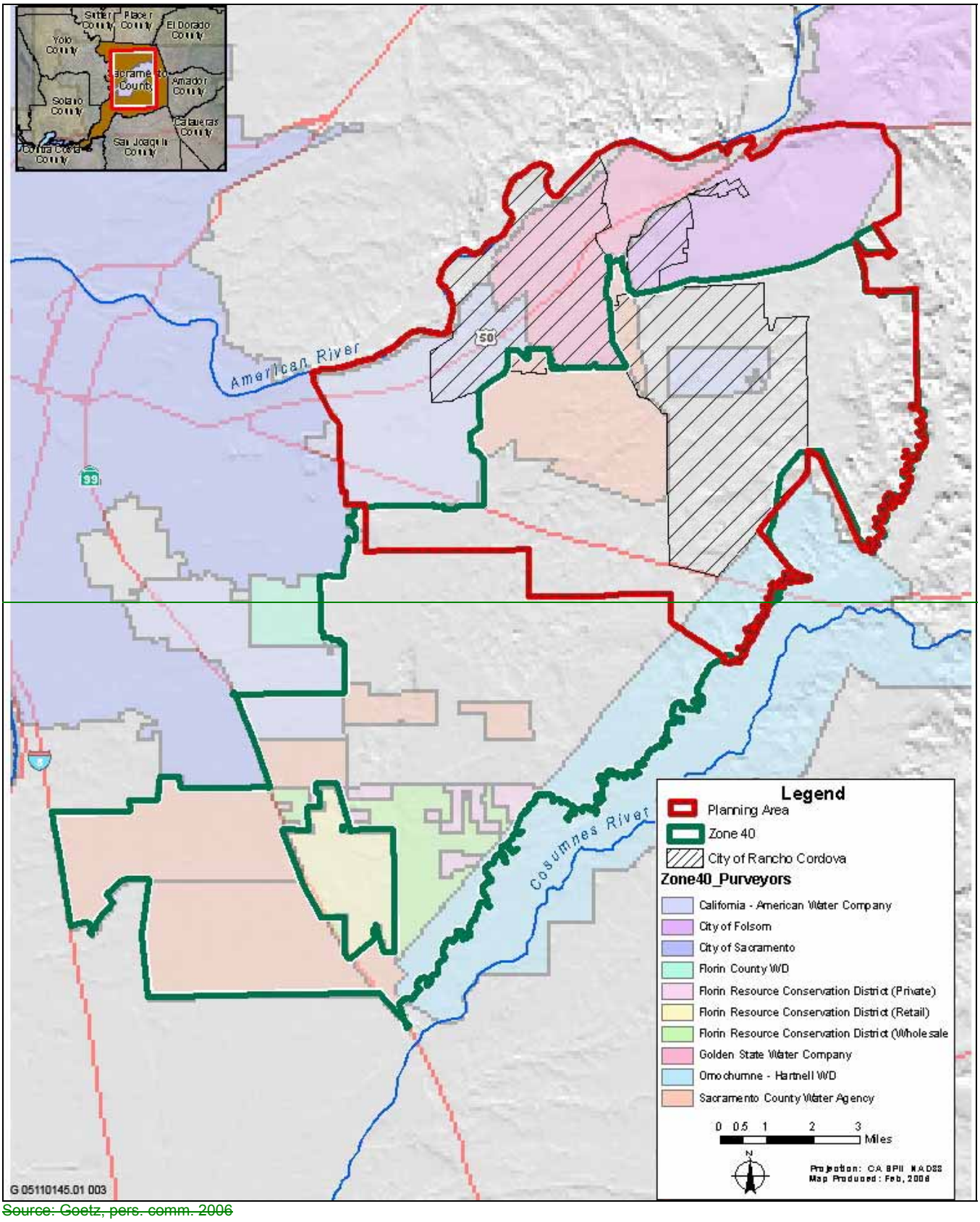


Source: SCWA 2005a

Service Areas for Retail Water Purveyors **Exhibit 3**



Source: Goetz, pers. comm. 2006

Water Purveyors within City of Rancho Cordova General Plan Planning Area **Exhibit 4**

of the county. Service areas include a portion of Walnut Grove, as well as Hood, Arden Park Vista, Northgate, the Southwest Tract, Zone 50, and Zone 40 (Exhibit 34). Zone 41 is responsible for the operation and maintenance of all the water supply facilities within these service areas. Revenues are collected by utility charges, connection permit fees, construction water permits, and grants, and collect monies to fund the design and construction; and operation, maintenance, and administration of water supply facilities. Water may come from wholesale water purveyors such as the City of Sacramento or American States Water Company or may be developed using facilities owned by Zone 41 (e.g., groundwater wells). Zone 41 retails and wholesales water to its defined service areas and to agencies with which agreements are in place to purchase water from SCWA.

Because SCWA plans for facilities within its service area through Zone 40 (e.g., *Zone 40 Water Supply Master Plan*) and Zone 41 is a retail water purveyor of Zone 40, the discussion that follows in this report will in most cases refer to Zone 40; however, for purposes of this analysis Zone 40 and 41 are interchangeable within the context of water supply planning for Rancho Cordova.

GOLDEN STATE WATER COMPANY

GSWC (formerly known as Southern California Water Company) owns and operates the Cordova System, a water treatment and conveyance system that serves GSWC's service area. GSWC is an investor-owned public utility company regulated by the California Public Utilities Commission. GSWC serves a portion of the city of Rancho Cordova and the unincorporated community of Gold River through its Cordova System (Exhibit 34). The service area for GSWC is bounded by Sunrise Boulevard (in the southern half of the service area) and Hazel Avenue (in the northern half) to the east, the former Mather Air Force Base to the south, Mather Field Road to the west, and the American River and the Gold River community to the north. The service area is characterized primarily by residential land uses, with some limited commercial and industrial land uses.

CALIFORNIA AMERICAN WATER COMPANY

Cal-Am is a privately owned water purveyor that provides urban water supply to portions of South Sacramento, North Highlands, Arden-Arcade, Rancho Cordova, Elverta, Citrus Heights, Antelope, the Security Park, and Walnut Grove. Cal-Am purchases wholesale water from SCWA Zone 40 and delivers water to portions of Rancho Cordova for urban use. Cal-Am's service area is shown in Exhibit 34.

3.3 RELATED PLANS, PROJECTS, AND AGREEMENTS

3.3.1 WATER FORUM AGREEMENT

The Water Forum Agreement (WFA) (Sacramento City-County Office of Metropolitan Water Planning 2000) is a plan that provides for the effective long-term management of the Sacramento region's water resources. The WFA was developed by a diverse group of stakeholders known as the Water Forum, which consisted of water agencies, business groups, agricultural interests, environmentalists, citizen groups, and local governments. SCWA is a signatory to the WFA. The WFA was formulated based on the two coequal objectives of the Water Forum: (1) Provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and (2) preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

To achieve the Water Forum's objectives, a comprehensive package of linked actions was developed to make more water available for consumption while protecting the natural resources of the Lower American River from environmental damage. The plan requires support and participation by each of the Water Forum stakeholders. The WFA includes seven elements:

I. Increased Surface Water Diversions

II. Actions to Meet Customer's Needs while Reducing Diversion Impacts on the Lower American River in Drier Years

III. Support for an Improved Pattern of Fishery Flow Releases from Folsom Reservoir

IV. Lower American River Habitat Management Element

V. Water Conservation

VI. Groundwater Management

VII. Water Forum Successor Effort

The WFA is a comprehensive document that describes how the Sacramento region will meet its water needs through implementation of the above seven elements and how the region will address key issues such as groundwater management, water diversions, dry-year water supply, water conservation, and protection of the Lower American River. The WFA also includes important provisions assuring each signatory that it will receive specific benefits as it fulfills its responsibilities, and that other signatories will also be honoring their commitments.

The WFA includes purveyor-specific agreements that define the benefits each water purveyor receives as a stakeholder and the actions each must take to receive these benefits. These assurances are supplemented by specific actions, such as contracts, joint power authorities, and water right actions. The Water Forum Successor Effort was created to implement the provisions contained in the WFA, maintain stakeholder relationships, provide an early-warning system for potential problems, and resolve issues that might arise.

The WFA includes definitions of the long-term average annual production yield (defined as the "sustainable yield") for each of the three subbasin of the groundwater basin in Sacramento County: 131,000 acre-feet (af) for the North Area (north of the American River); 273,000 af for the Central Area (between the American and Cosumnes Rivers); and 115,000 af for the South Area (south of the Cosumnes River). ~~Any proposed project must recognize the groundwater sustainable yield of the WFA. The proposed project is located within the Central Area groundwater subbasin (referred to in this document as the "Central Basin").~~

Water conservation and demand management are essential to meeting the objectives of the WFA. Conservation will reduce the volume of groundwater and surface water (including water from the American River) that is needed for future growth. As a signatory to the WFA and as a Central Valley Project (CVP) water contractor with the U.S. Bureau of Reclamation (Reclamation), SCWA is committed to implementing the Water Conservation Best Management Practices (BMPs) defined in the Water Conservation Element of the WFA. Technical studies prepared in support of the WFA indicate that implementation of the BMPs will result in a demand reduction factor of 25.6%, relative to the baseline 1990 demand, by the year 2030.

The 1999 Water Forum Agreement EIR evaluated SCWA's water supply needs in combination with the region's other water supply needs. As an outcome of the process, SCWA agreed to a series of actions and commitments related to surface-water diversions, dry-year supply, fishery flows, habitat management, water conservation, and groundwater management. Based on SCWA's agreement to adhere to the WFA, the EIR evaluated areas of development that could be served by future water supplies.

~~Initiated in 1993, the Water Forum process brought together a diverse group of stakeholders that included business and agricultural leaders, citizens' groups, environmentalists, water managers, and local governments to evaluate available water resources and the future water needs of the Sacramento metropolitan area. These stakeholders identified two coequal objectives to guide the development of the Water Forum Agreement (WFA):~~

- Provide a reliable and safe water supply for the region's economic health and planned development through the year 2030.

- Preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River.

After a 6-year consensus-based stakeholder process, the WFA was completed. The WFA prescribes a regional conjunctive-use water program for the lower American River and the connected groundwater basin. The Water Forum also completed an environmental impact report (EIR) for the Water Forum Proposal. This document was certified by the two lead agencies (the City of Sacramento and the County) in December 1999. Please note that the WFA was formerly named the Water Forum Proposal. At the time that the City and County of Sacramento adopted the project and they and other stakeholders adopted their purveyor specific agreements (PSAs), the name was changed to the WFA because it was an agreed-to proposal by all stakeholders.

The WFA includes PSAs that define the benefits each water purveyor will receive as a stakeholder and the actions each must take to receive these benefits. PSAs for the County of Sacramento/SCWA, the City of Sacramento, and Sacramento Municipal Utility District (SMUD) also describe commitments by these entities to address issues related to wheeling and wholesaling of surface water, CVP water transfers, and dry-year water supply in SCWA Zone 40.

The Water Forum process initiated a coordinated effort for regional water supply planning within the Sacramento region. Because of limited water supplies, the sensitive ecological values of the lower American River, and existing groundwater contamination within the Sacramento groundwater basins, purveyors and stakeholders came together and agreed to resolve longstanding conflicts through an interest-based negotiation process that led to formulation of the seven elements of the WFA and individual PSAs for each purveyor. In addition, all signatories to the WFA became members of the Water Forum successor effort, which is responsible for overseeing, monitoring, and reporting on the implementation of the WFA.

The WFA is a long-term water supply plan that addresses water supplies and demands to 2030 for existing (as of January 2000) purveyors and agencies. The WFA did not address water supplies beyond 2030 and did not account for new incorporations for the cities of Elk Grove and Rancho Cordova. Rather, the WFA analysis was based on existing land use plans that were available at the time it was prepared (i.e., the *County of Sacramento General Plan* [1994] and other relevant agency general plans). Since the WFA was adopted in 2000, the cities of Elk Grove and Rancho Cordova have incorporated and pursued development and implementation of long-term land use plans. In the case of Rancho Cordova, buildout of its planning area would continue well beyond 2030. The City is not a water supply purveyor and must rely on the services of SCWA, GSWC, and Cal-Am to meet its growing demand. For demands that exceed those accounted for and evaluated in the WFA and EIR, the City may need to consult with regional water purveyors and stakeholders to the WFA (e.g., environmental and business interests) to determine how its proposed water demands fit within the overall regional water supply planning context.

3.3.2 SCWA ZONE 40 WATER SUPPLY MASTER PLAN

In response to the requirements of the WFA, SCWA undertook a comprehensive water supply planning process through the *Sacramento County Water Agency Zone 40 Water Supply Master Plan* (SCWA 2005a) to identify available water and the infrastructure necessary to deliver water to a subarea within Zone 40 known as the 2030 Study Area. The 2030 Study Area encompasses approximately 46,600 acres (including portions of the cities of Elk Grove and Rancho Cordova) (Exhibit 2) where development of industrial, commercial, office, and residential land uses is expected to occur and where demand for water is expected to be concentrated during the planning horizon of the WSMP (i.e., 2030).

As a signatory to the WFA, SCWA would ensure that water conservation and demand management—necessary steps to achieve WFA objectives—are integrated into future growth and water planning activities in its service

area. In planning the future use of SCWA's water supply, a land area that could be served was identified based on growth areas identified in the *County of Sacramento General Plan*. This area is known as the 2030 Study Area (Exhibit 2).

The Zone 40 WSMP provides a flexible plan of water management options that can be implemented and modified if conditions that affect the availability and feasibility of water supply sources change in the future. The goal of the Zone 40 WSMP is to define a conjunctive-use program of groundwater, surface water, remediated water, and recycled water supplies and a financing program for the construction of a new surface-water diversion structure; surface-water treatment plant; water conveyance pipelines; and groundwater extraction, treatment, and distribution facilities. The Zone 40 WSMP evaluates several options for facilities to deliver surface water and groundwater to development within Zone 40, as well as the financing mechanisms to provide water to the 2030 Study Area.

In planning for future growth and development within Zone 40, SCWA acknowledges that it is not a land use agency and is not responsible for approving growth and development within its service area, and identified the County of Sacramento (County), the City of Rancho Cordova, and the City of Elk Grove as the lead agencies responsible for such decisions. During development of the Zone 40 WSMP, the general plans for the newly incorporated cities of Elk Grove and Rancho Cordova were not available; therefore, the *County of Sacramento General Plan* (County of Sacramento 1993) was the planning document used to project growth and development anticipated to occur within an area defined as the Urban Policy Area (UPA). The County's UPA is defined as the area anticipated to build out with urban development within the planning horizon of the general plan (year 2024) (Exhibit 2).

The southern boundary of the 2030 Study Area generally coincides with the County's UPA. The 2030 Study Area was delineated based on the County's identified growth areas and the area of land that was planned to be served by the negotiated firm water supply identified in the WFA. The 2030 Study Area includes approximately 46,600 acres, about 8,400 more acres than the land remaining within the UPA in Zone 40. Because of the time frame of the Zone 40 WSMP and the likelihood that the UPA would be expanded in the next general plan update cycle (currently under way), SCWA identified four likely areas outside the UPA where urban expansion was logical and could occur; however, it acknowledged that decisions for growth and development would lie with the County Board of Supervisors or the governing bodies of other local jurisdictions. The areas included in the 2030 Study Area were selected based on their adjacency to the UPA. The 2030 Study Area also captured active projects and included the newly incorporated City of Rancho Cordova.

Since approval of the Zone 40 WSMP (SCWA 2005a), SCWA has pursued and is in various stages of planning several projects that would implement specific elements of the WSMP. These projects include:

- **Zone 40 Vineyard Water Treatment Plant.** SCWA is proposing to construct the Vineyard Water Treatment Plant (Vineyard WTP) and associated water supply facilities to provide up to 100 million gallons of potable water to existing and approved future development within the SCWA Zone 40 area. The Vineyard WTP is located west of the intersection of Florin and Excelsior Roads, at the northeast corner of Florin and Knox Roads in Sacramento County. The objective of constructing the Vineyard WTP is to provide capacity for treating 100 million gallons per day (mgd) of raw surface water and remediated groundwater, and to serve approved land uses in the Zone 40 service area. Initial phases of facility construction are anticipated to be completed by 2010, with full buildout by 2029.

- **Freeport Regional Water Project.** SCWA and East Bay Municipal Utility District are constructing a diversion structure on the Sacramento River near the community of Freeport and a raw-water conveyance pipeline from the diversion structure to the central portion of Zone 40. SCWA will construct a 100-mgd surface-water treatment facility in the central portion of Zone 40 (Vineyard WTP described above), and the associated treated-water conveyance pipelines to deliver water to SCWA customers. This project is anticipated to be completed by 2010.

~~In response to the requirements of the WFA, SCWA has undertaken a comprehensive water supply planning process through its *Zone 40 Water Supply Master Plan* (WSMP) (SCWA 2005a) to identify available water supplies, the land area that could be served by these supplies, and necessary infrastructure to deliver water to a subarea within Zone 40 known as the 2030 Study Area. The 2030 Study Area encompasses approximately 46,600 acres (including portions of the cities of Elk Grove and Rancho Cordova) (Exhibit 2) where development of industrial, commercial, office, and residential land uses is expected to occur and where demand for water is expected to be concentrated during the planning horizon of the WSMP (i.e., 2030).~~

~~As a signatory to the WFA, SCWA would ensure that water conservation and demand management – necessary steps to achieve WFA objectives – are integrated into future growth and water planning activities in its service area. SCWA identified a total acreage of land that could be served by existing and projected future water supplies and achieve the objectives of the WFA.~~

~~The Zone 40 WSMP provides a flexible plan of water management options that can be implemented and modified if conditions that affect the availability and feasibility of water supply sources change in the future. The goal of the Zone 40 WSMP is to define a conjunctive use program of groundwater, surface water, remediated water, and recycled water supplies and a financing program for the construction of a new surface water diversion structure, surface water treatment plant, water conveyance pipelines, and groundwater extraction, treatment, and distribution facilities. The Zone 40 WSMP evaluates several options for facilities to deliver surface water and groundwater to development within Zone 40, as well as the financing mechanisms to provide water to the 2030 Study Area.~~

~~Since approval of the Zone 40 WSMP (2005), SCWA has pursued and is in various stages of planning for several projects that would implement specific elements of the WSMP. These projects include:~~

- ~~**Zone 40 Central Water**~~**Vineyard Water** ~~**Treatment Plant.** SCWA plans to construct the 78-acre Central Water~~Vineyard Water ~~Treatment Plant (CWTP~~Vineyard WTP~~) and associated water supply facilities to provide up to 85 million gallons per day (mgd) of potable water to existing and approved urban development within the SCWA Zone 40 area. The CWTP~~Vineyard WTP ~~site is located at the northeast corner of Florin and Knox Roads, west of the Florin Road/Excelsior Road intersection in Sacramento County. An associated SCWA corporation yard to house facilities and store equipment would be colocated on the site, along with a groundwater treatment facility. The CWTP~~Vineyard WTP ~~would have the capacity to treat 85 mgd of raw surface water and 13 mgd of raw groundwater to serve approved land uses in the Zone 40 service area. Initial phases of facility construction are anticipated to be completed by 2010 with full buildout by 2019.~~

- ~~**Freeport Regional Water Project (FRWP).** SCWA and East Bay Municipal Utility District are constructing a diversion structure on the Sacramento River near the community of Freeport and a raw water conveyance pipeline from the diversion structure to the central portion of Zone 40. SCWA is would construct a 85-mgd surface water treatment facility in the central portion of Zone 40 (CWTP~~Vineyard WTP ~~and described above), and the associated treated water conveyance pipelines to deliver water to SCWA customers. This project is anticipated to be completed by 2010.~~

- **North Vineyard Well Field (formerly Excelsior Road Well Field) Project**. This well field would provide for the extraction of up to 10,000 afy of groundwater for replacement and/or new water supplies to serve existing or proposed development within Zone 40. Ultimately it would consist of up to eight wells located near Excelsior Road and Florin Road with a 30-inch raw-water pipeline to convey water to ~~a new water treatment plant~~the Anatolia Water Treatment Plant. The first phase consists of three wells (4,500 gallons per minute [gpm]) and ~~would~~ will be expanded as new development or replacement supplies are needed. If wells within SCWA's Mather/Sunrise system (in the south-west portion of the City's planning area) are shut down because of past groundwater contamination, any additional capacity remaining in the well field can be claimed as a replacement supply (as opposed to a new water supply) by SCWA. ~~This project is currently~~

~~being constructed, with t~~The initial phase ~~estimated to be complete at the end of 2006~~of the project is operational. The project is expected to be built out by 2011.

- **Eastern County Replacement Water Supply Project.** The Eastern County Replacement Water Supply Project (RWSP) is a proposal by SCWA to use remediated groundwater obtained through the agreements between the County, SCWA, GenCorp, and McDonnell Douglas Corporation/Boeing for replacement of water lost as a result of past activities resulting in groundwater contamination in the Rancho Cordova area, for new development on Aerojet lands, and for environmental enhancement. SCWA has initiated environmental review of this project, which evaluates several discharge, diversion, and treatment options for using remediated groundwater from GenCorp and McDonnell Douglas Corporation/Boeing groundwater extraction and treatment (GET) facilities. The RWSP would identify the necessary facilities and timing of delivery of remediated water. Environmental review is anticipated to be completed by late summer 2006, with construction of all project-related facilities completed by 2010.

- ~~This project is a proposal by SCWA to use remediated groundwater supplies obtained through the agreements between the County, SCWA, Aerojet, and McDonnell Douglas Corporation for replacement water lost as a result of past groundwater contamination in the Sunrise corridor area. The remediated groundwater would replace lost groundwater supplies of Cal-Am or GSWC or would be used to serve new urban development on lands known as Aerojet lands in the northern portion of Zone 40 and for enhanced fishery flows along the Cosumnes River. This project currently is under environmental review and facilities included within this project are anticipated to be constructed by 2010.~~

~~It is important to note that during development of the Zone 40 WSMP, the general plans for the newly incorporated cities of Elk Grove and Rancho Cordova were not available; therefore, the County General Plan (1993) was the planning document used to project growth and development anticipated to occur within an area defined as the Urban Policy Area (UPA). The County's UPA is defined as the area anticipated to be built out with urban development within the planning horizon of the general plan (year 2024). Since development of the Zone 40 WSMP, the City has initiated a general plan process and has developed a proposed land use map for future growth and development within its jurisdiction.~~ Exhibit 2 identifies the County's UPA and~~,~~ the Zone 40 boundary; Exhibit 1 shows~~, and~~ the City's planning area. Comparison of the boundaries shows that about 70% of the City's planning area falls within Zone 40.

3.3.3 AGREEMENTS BETWEEN SACRAMENTO COUNTY, SCWA, AEROJET, AND BOEING

The framework for addressing water supply issues associated with the contamination of the local groundwater supply from historical uses of the GenCorp site is provided in the agreements between Sacramento County, SCWA, and GenCorp (August 27, 2003) and between the County, SWCA, and McDonnell Douglas/Boeing (August 29, 2003). Under directives from the U.S. Environmental Protection Agency (EPA), the Central Valley Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control, both GenCorp and McDonnell Douglas Corporation/Boeing are required to pump groundwater that has been contaminated by chemicals associated with past activities at their sites; remove those chemicals by various treatment processes (remediation); and discharge the remediated water to surface water bodies/surface streams. The agreements prescribe the capture of remediated groundwater for beneficial use.

Pursuant to the agreements, all rights, title, and interest in the remediated groundwater was granted to SCWA, which would capture the remediated water and provide additional treatment as needed for beneficial urban and environmental use. The agreements specify that the highest priority beneficial use of remediated water is for the replacement of groundwater capacity lost by water purveyors in the Rancho Cordova area. This includes groundwater capacity lost by local water purveyors Golden State Water Company (GSWC) and California American Water Company (Cal-Am). The next highest priority beneficial use of remediated water is for the supply of potable water to proposed development on Aerojet lands, which includes the Rio del Oro and

Westborough projects. The remaining priority use includes other development and environmental enhancement. The remediated groundwater would be made available as part of SCWA's proposed RWSP described above.

~~The framework for addressing water supply issues associated with the contamination of the local groundwater supply from historical uses of the Aerojet site (a portion of which is now referred to as the Rio del Oro project site, located within the City's planning area) is provided in the agreements between Sacramento County, SCWA, and Aerojet (August 27, 2003) and between the County, SWCA, and Boeing (August 29, 2003). Under directives from the U.S. Environmental Protection Agency (EPA) and the SWRCB, both Aerojet and Boeing are required to pump groundwater that has been contaminated by chemicals associated with past activities at their sites; remove those chemicals by various treatment processes (remediation); and discharge the remediated water to surface water bodies/surface streams. The agreements prescribe the capture of remediated groundwater for beneficial use.~~

~~Pursuant to the agreements, right of use of remediated groundwater was granted to SCWA, which would capture the remediated water and provide additional treatment as needed for beneficial urban and environmental use. The agreements specify that the highest priority beneficial use of remediated water is for the replacement of groundwater capacity lost by water purveyors in the Sunrise corridor area. This includes groundwater capacity lost by GSWC and Cal-Am. Details of the GSWC agreement are discussed below. The next highest priority beneficial use of remediated water is for the supply of public water to proposed development of the Aerojet property, which includes the Rio del Oro and Westborough projects (see Section 5.2, "Planning Area Water Demands"). The remaining priority use is the enhancement of fishery flows along the Cosumnes River though conveyance of remediated water to the Folsom South Canal and discharge to the Cosumnes River. The remediated groundwater would be treated and delivered as part of SCWA's proposed Eastern County Replacement Water Supply Project described in Section 3.3.2, "SCWA Zone 40 Water Supply Master Plan."~~

3.3.4 WATER SUPPLY DELIVERY AGREEMENT BETWEEN AMERICAN STATES WATER COMPANY, SACRAMENTO COUNTY, AND SCWA

The water supply delivery agreement between American States Water Company (known in California as Golden State Water Co., GSWC), the County, and SCWA assists with the implementation of the settlement agreements entered into by the County with Aerojet (i.e., Aerojet) and Boeing (described in Section 3.3.3, "Agreements between Sacramento County, SCWA, Aerojet, and Boeing," above) by establishing the terms and conditions under which the County would be responsible for providing replacement groundwater to GSWC. The agreement provides a negotiated solution to sharing the groundwater resources in this portion of Sacramento County and requires the County to make replacement water available to GSWC consistent with an allocation plan that would be developed between the County and GSWC. The County would provide 5,000 afy of replacement water supplies from Aerojet/Boeing groundwater, extraction, and treatment (GET) facilities via discharge to the American River system and conveyed within the Folsom South Canal to GSWC's intake facilities. Replacement water supplies in addition to the 5,000 afy at the Folsom South Canal intake would be negotiated in an annual meet-and-confer session, but under no circumstances would the water volumes supplied by the County exceed the lesser of maximum GET pumping volumes or 15,200 afy. Based on GSWC current UWMP, discussed in Section 4.2, "Golden State Water Company (Cordova System)," GSWC has planned for the use of up to 6,329 afy from SCWA facilities in addition to the 5,000 afy from the Folsom South Canal (11,329 afy total replacement water supplies). The County would be responsible for construction and operation of facilities necessary to deliver the remaining replacement water to GSWC at the delivery points identified in the agreement. The County's obligation to provide replacement water to GSWC is also limited to an appropriate share of the total amount of remediated water conveyed by Aerojet and Boeing to the County. The County's obligation to furnish GSWC with replacement water further depends on the completion and certification of the environmental documentation necessary to construct the facilities required to deliver the replacement water to GSWC, and the County's ability to obtain any required regulatory approvals/permits. The facilities referred to in the agreement to treat and deliver the remediated groundwater are part of SCWA's proposed ~~Eastern County Replacement Water Supply Project~~RWSP described in Section 3.3.2, "SCWA Zone 40 Water Supply Master Plan."

3.3.5 URBAN WATER MANAGEMENT PLANS FOR MUNICIPAL WATER PURVEYORS

The following 2005 UWMPs have been adopted by municipal water purveyors within the City's planning area pursuant to the guidelines set forth by the Urban Water Management Act described in Section 3.1.1, "Urban Water Management Planning Act:"

- *SCWA Zone 41 Urban Water Management Plan*
- *GSWC Cordova System Urban Water Management Plan*
- *California American Water Company Northern Division Urban Water Management Plan*

A description of these UWMPs is provided in Section 4, "Existing and Projected Water Demand and Supply for Water Purveyors in the City's Planning Area," below.

3.3.6 SCWA GROUNDWATER MANAGEMENT PLAN

SCWA prepared a Groundwater Management Plan (GMP) for Zone 40 (SCWA 2004). While GMPs are typically prepared for entire groundwater basins (in this case the Central Groundwater Basin), SCWA's GMP addresses only the boundaries of Zone 40, which encompasses most but not all of the Central Sacramento County Groundwater Basin (Central Basin). The decision to limit the extent of this GMP to Zone 40 was intentional because deliberations and discussion are currently under way between interested stakeholders regarding future governance and management of a "groundwater authority" for the Central Basin. The Zone 40 GMP is intended to be a document that can grow into, and perhaps be superseded by, the GMP that would be needed for the entire Central Basin.

The purpose of the GMP is to maintain a sustainable, high-quality groundwater resource for the users of the groundwater basin underlying Zone 40. Development of the Central Basin GMP would be through the governance structure currently under negotiations by the Central Sacramento County Groundwater Forum (CSCGF) (discussed below).

3.3.7 CENTRAL SACRAMENTO COUNTY GROUNDWATER FORUM

Acting on behalf of the Water Forum successor effort, DWR initiated the CSCGF by signing a Memorandum of Understanding with the Sacramento City-County Office of Metropolitan Water Planning (funded by SCWA and the City of Sacramento) to support discussions among stakeholders representing all segments of the community with an interest in developing a groundwater management structure and ultimately a GMP for the Central Basin. Stakeholders are organized into six interest groups: agriculture, agriculture/residential, business, environmental/community organizations, local governments/public agencies, and water purveyors. Each interest group is represented by five individuals who participate in the collaborative process known as the CSCGF.

The CSCGF is developing a GMP, which is currently in draft form and being reviewed by local stakeholder groups. It is anticipated that the new GMP would be adopted within the next 6 months (by August 2006). This plan would supersede the Zone 40 GMP described above. Information contained in the draft GMP as it pertains to future water supply planning for water purveyors such as SCWA who pump groundwater from the Central Basin is summarized in Section 3.3.6, "SCWA Groundwater Management Plan," of this report.

3.4 WATER RESOURCES IN THE PROJECT AREA

3.4.1 SURFACE WATER RESOURCES

Major surface waters in the vicinity of the Rancho Cordova planning area include the American River, Folsom Reservoir, and Lake Natoma to the north; Sacramento River to the west; and the Cosumnes River to the southeast (Exhibit 2). Surface waters within or near the Zone 40 2030 Study Area include Deer Creek, which is tributary to and parallels the Cosumnes River on the north, and the Morrison Creek Stream Group (Morrison, Elder, Gerber,

Unionhouse, Florin, and Laguna Creeks), which generally flow in a southwesterly direction southeast of the planning area, in the southeastern portion of Sacramento County.

SACRAMENTO RIVER

The Sacramento River drainage basin upstream of Zone 40 encompasses approximately 23,500 square miles and produces an average annual runoff of about 17,000,000 acre-feet (AF) at the Freeport gauging station (below the confluence with the American River). Principal reservoirs on the mainstream and tributaries to the Sacramento River and controlling flows in the lower Sacramento River include Lake Shasta, Trinity Lake, Lake Oroville, and Folsom Reservoir. Based on the 30-year record of data for the period 1968–1998, which spans a variety of water year types, individual monthly average flows have ranged from a low of 4,500 cubic feet per second (cfs) in October 1978 to a maximum of 87,000 cfs in January 1997. The average monthly flow for the 30-year period ranges between 13,000 cfs and 40,600 cfs with the lowest flows occurring in October and peak flows in February.

AMERICAN RIVER, FOLSOM RESERVOIR, AND LAKE NATOMA

The American River drainage basin encompasses approximately 1,900 square miles. Folsom Reservoir is the principal reservoir in the basin with a storage capacity of 975,000 AF. Several smaller reservoirs upstream of Folsom Reservoir contribute an additional 820,000 AF of storage capacity. Nimbus Dam impounds Lake Natoma downstream of Folsom Dam and regulates releases from Folsom Reservoir to the lower American River. The entrance facilities to the Folsom South Canal are located along the south shore of Lake Natoma immediately upstream of Nimbus Dam. Mean annual flow in the lower American River is 3,300 cfs; the design capacity of the channel for flood flows is 115,000 cfs.

COSUMNES RIVER

The Cosumnes River watershed extends from its headwaters, at an elevation of approximately 7,500 feet on the western slope of the Sierra Nevada, to the confluence with the Mokelumne River, approximately 10 miles south of SCWA Zone 40. The Cosumnes River is the last major river on the western slope of the Sierra Nevada with no major dams. Minor dams on the river are used for recreational and agricultural irrigation purposes.

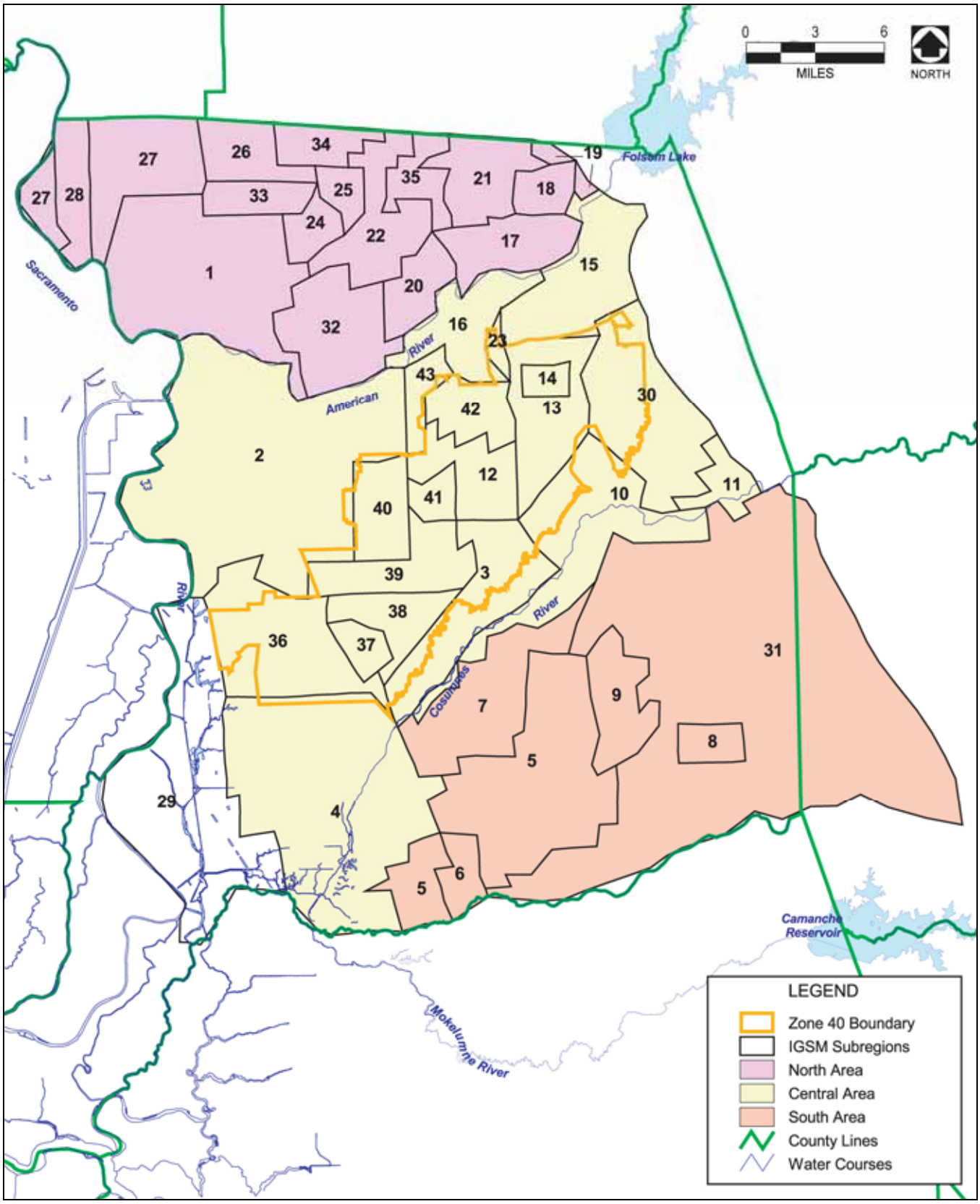
3.4.2 CENTRAL VALLEY PROJECT AND STATE WATER PROJECT

The CVP is a multipurpose project operated by Reclamation that stores and transfers water from the Sacramento, San Joaquin, and Trinity River basins to the Sacramento and San Joaquin Valleys. The SWP is operated by DWR and supplies water to approximately 30 member agencies throughout California.

3.4.3 GROUNDWATER RESOURCES

The Sacramento County groundwater system is part of the larger Sacramento Valley groundwater basin. Within Sacramento County three separate groundwater subbasins have been identified: North Area (the area north of the American River), Central Area (roughly the area between the American River and the Cosumnes River), and South Area (generally the area south of the Cosumnes River) (Exhibit ~~4~~5). Historical groundwater use in each subbasin has resulted in the development of three regional cones of depression (SCWA 2003). Each of the groundwater areas is described below. (DWR 2003.)

- **North Area.** The North Area groundwater subbasin corresponds to the portion of the North American Sub-Basin, as defined by DWR (DWR Basin Number 5-21.64), that is located within Sacramento County. Basin 5-21.64 extends north into Placer and Sutter Counties. The North Area is bounded on the west by the Sacramento River, on the north by the Sacramento–Placer/Sutter County line, and on the south by the American River.



Source: WRIME 2003
Note: Numbers represent subregions within the groundwater basin for the regional hydrologic groundwater–surface water model.

Groundwater Basins **Exhibit 54**

- **Central Area.** The Central Area groundwater subbasin corresponds to the South American Sub-Basin (DWR Basin Number 5-21.65) and is located between the American River and the Cosumnes River. Zone 40 and the Rancho Cordova planning area are located within the Central Area.
- **South Area.** The South Area (Galt Area) groundwater subbasin corresponds to the portion of the DWR Cosumnes Sub-Basin (DWR Basin Number 5-22.16) that is located within Sacramento County. In the Sacramento County Integrated Groundwater–Surface Water Model the South Area is bounded on the north and west by the Cosumnes River, on the east by the boundary of the groundwater basin, and on the south by the Sacramento County line.

4 EXISTING AND PROJECTED WATER DEMAND AND SUPPLY FOR WATER PURVEYORS IN THE CITY'S PLANNING AREA

Developed and undeveloped areas within the City that are being planned for in the General Plan are served by the following water agencies/entities: SCWA, GSWC, and Cal-Am (Exhibit 34). The water supplies and demands of each are discussed in detail below. Water supplies for agricultural lands within the General Plan planning area are met with groundwater pumped by local wells from the Central Groundwater Basin (Central Basin). Lands that are currently undeveloped in the planning area are predominantly agriculture or grazing lands. As these lands are developed, the localized groundwater pumping would be discontinued and these areas would be served by one of the region's water purveyors through a combination of surface, groundwater, recycled, and remediated water supplies.

This section provides a summary of the different water supplies and the existing and projected water demands and supply conditions for each of the water purveyors within the City's planning area. Existing and projected water demands for each water purveyor within the City were obtained from the most recent UWMPs for each purveyor and supplemented with additional information obtained though a combination of adopted water supply master plans and communication with staff of the local water purveyors, as appropriate.

The total existing and projected water supplies and demands for water purveyors within the City's Planning Area are summarized in Table 1. The methodology used to calculate total water demands associated with the City's corporate limits and planning area demands is described in Section 5.1, "Methodology for Estimating Water Demands," below.

Table 1
Summary of Water Supply and Demand for Water Purveyors in the City of Rancho Cordova General Plan Planning Area

	Year	2010	2015	2020	2025	2030
SCWA Zone 40	Supply[1]					
	Surface Water	13,060	44,143	48,772	68,700	69,567
	Groundwater	34,125	28,837	40,470	31,324	39,097
	Recycled Water	4,400	4,400	4,400	4,400	4,400
	Total Supply	**51,585**	**77,380**	**93,642**	**104,424**	**113,064**
	Total Demands[1]	**51,585**	**77,380**	**93,642**	**104,424**	**113,064**
	Surplus/Deficit	**0**	**0**	**0**	**0**	**0**
Supply Allocated for SCWA Zone 40 North Service Area (NSA)—Within City's Planning Area (defined in Section 4.1.3)	***Supply***					***37,314[2]***
GSWC (all of GSWC's service area is within City's planning area)	Supply[3]					
	Surface Water	15,000	15,000	15,000	15,000	15,000
	Groundwater	9,518	10,499	10,814	10,829	10,829
	Total Supply	**24,518**	**25,499**	**25,814**	**25,829**	**25,829**
	Demands[2]	**19,518**	**20,499**	**20,814**	**20,829**	**20,829**
	Surplus/Deficit	**5,000**	**5,000**	**5,000**	**5,000**	**5,000**

Table 1
Summary of Water Supply and Demand for Water Purveyors in the City of Rancho Cordova General Plan Planning Area

	Year	2010	2015	2020	2025	2030
Cal-Am	Supply[3]					
	Groundwater	43,600	33,650	34,180	33,550	33,910
	Wholesale Purchases	4,020	16,860	18,320	20,830	22,280
	Total Supply	**47,620**	**50,510**	**52,500**	**54,380**	**56,190**
	Demands[4]	**47,620**	**50,510**	**52,500**	**54,380**	**56,190**
	Surplus/Deficit	**0**	**0**	**0**	**0**	**0**
Supply Allocated for Cal-Am's Service Area within the City's Planning Area	***Supply***					***14,477***
City of Rancho Cordova General Plan Planning Area	Supply Available from Purveyors					**77,620[5]**
	Projected Demands					
	Corporate City Limits (2030)a					57,299
	Non-City Area[6]					71,410
	Total Demands					**128,709**
	Surplus/(Deficit)					**(51,089)**

Notes:
1. Data from SCWA Zone 41 UWMP, Table 5-1 and 5-2. Because SCWA would implement a conjunctive use water supply program, water supplies would never exceed projected demands because groundwater would be pumped and surface water would be used to meet, not exceed water demands. Supply and demand based on normal year type. (SWCA 2005b)
2. This supply is part of Zone 40's 2030 water supplies of 113,064 afy (SCWA 2005a).
3. Data from GSWC UWMP Table 3-1 and 4-9. Supply exceeds demand because GSWC does not plan to use 5,000 afy of its SMUD Water Transfer entitlement due to limited surface water treatment capacity and its desire to maintain its groundwater rights through the Aerojet Replacement Water operations. (GSWC 2005)
4. Data from Cal-Am UWMP. (Cal-Am 2006)
5. Sum of SCWA (37,314 afy), GSWC (25,829 afy), and Cal-Am's (14,477 afy) water supplies identified for the City's planning area.
6. Buildout for non-city area of Rancho Cordova projected to occur after 2030.

4.1 SACRAMENTO COUNTY WATER AGENCY ZONE 40

SCWA prepared an UWMP for Zone 41(SCWA's retail water purveyor for Zone 40) that addresses water supply and demand issues for the areas within Sacramento County where Zone 41 provides water services. The SCWA Zone 41 UWMP addresses delivering water not only to the Zone 40 area, but also to other areas outside of Zone 40, where Zone 41 has contracts to provide water (e.g., Zone 50, Sacramento Suburban Water District [SSWD], etc.) (Exhibit 3). Because SCWA's conjunctive use groundwater program would only be implemented within the Zone 40, the Zone 41 UWMP presents projected water supply and demand information separately for areas within Zone 40 and areas outside of Zone 40. However, the UWMP does not specifically describe how projected future water supplies would be allocated within the Zone 40 region (e.g., how water would be allocated to the City of Rancho Cordova).

To build upon its 2005 Zone 40 WSMP (described in Section 3.3.2, "SCWA Zone 40 Water Supply Master Plan."), SCWA is in the process of preparing a Water System Infrastructure Plan (WSIP) that addresses how

identified 2030 water supplies addressed in both the UWMP and the Zone 40 WSMP would be allocated among users within its service area. Because the Zone 40 2030 Study Area, where growth and development are expected to occur, includes portions of both Elk Grove and Rancho Cordova, the information being developed for the WSIP should help the City and SCWA to determine how much, if any, additional water supply and infrastructure would be needed to meet the anticipated growth and development in its planning area.

The analysis that follows summarizes information contained within the Zone 41 UWMP as it pertains to the Zone 40 region only and information from the draft WSIP (SCWA 2006) as it pertains to the North Service Area (NSA), which is the area within Zone 40 where a large portion of the City's planning area is located.

4.1.1 WATER SUPPLY SOURCES

The areas inside Zone 40 are served conjunctively with groundwater (pumped from the Central Basin), surface water, and recycled water. Surface water refers to water entitlements from the American and/or Sacramento Rivers. All surface water supplies require conventional treatment before distribution. Recycled water refers to wastewater treated to a tertiary (e.g., filtration and disinfection) level (Title 22, unrestricted use) at the Sacramento Regional Wastewater Treatment Plant and used for landscape irrigation.

Table 2 summarizes SCWA's Zone 40 current and planned water supplies for normal (e.g., normal years are years when rainfall and water supply represent the long-term average) water years. A description of these supplies follows the table.

Table 2
Average Annual Current and Planned Water Supplies for SCWA Zone 40 through 2030

Source	Water Supply (afy)
U.S. Bureau of Reclamation CVP Supply (SMUD 1, SMUD 2, and Fazio Water)	45,000
Appropriative Water Supplies [1]	14,586
Wholesale Water Agreement to serve the portion of Zone 40 that lies within the City of Sacramento's American River POU	9,300
Other Water Transfer Supplies[2]	5,200[2]
Zone 40 Groundwater[3]	40,900
Recycled Water (current use)[4]	4,400
Total Supplies	**114,186[5]**

Notes:
afy = acre-feet per year; CVP = Central Valley Project; GW = groundwater; POU = Place of Use; SMUD = Sacramento Municipal Utility District
1 This reflects the expected long term average yield and not the contract amount
2 This is an estimate of water that would be purchased only in dry and critically dry water years e.g. years when rainfall and hence water supplies are below and substantially below average and is not included in the total supply calculation.
3 Long-term annual average supply. Includes the use of replacement water.
4 A master plan by Sacramento Regional County Sanitation District is currently under way to evaluate the potential of expanding deliveries of recycled water.
5 Total water supplies identified in this table exceed those identified in Table 1 because Table 1 reflects a scenario whereby SCWA's conjunctive use program would ensure water supplies did not exceed the WSMP Zone 40 water demands of 113,064 afy. Table 2 shows average-annual supplies, whereby the average annual groundwater supply may not be reflective of the total amount that is pumped in a year to meet the actual demand, but rather the long-term average groundwater supply that is projected to be available.
Source: SCWA 2005b

ZONE 40 SURFACE WATER SUPPLIES

Appropriative Water Rights

SCWA has submitted an application to the SWRCB for the appropriation of water from the American and Sacramento Rivers (the County Board of Supervisors authorized submittal of this application on May 30, 1995). This water is considered "intermittent water" that typically would be available during the winter months of normal or wet years (e.g. years when rainfall and hence water supply are greater than average). This water could be used to meet system demands and possibly for future groundwater recharge through recharge percolating groundwater basins or direct injection of surface water into the aquifer. Based on water supply modeling (i.e., Calsim II) performed for the Zone 40 WSMP and the Freeport Regional Water Authority for the FRWP project, the maximum, minimum, and average annual use of appropriative water are projected to be 71,000 AF, 0 (acre-feet) AF, and 21,700 AF, respectively. In close to 30% of the years, 12,000 AF or less of appropriative water is projected to be used. The contract amount is based on the maximum water supply requirement of 71,000 afy.

Central Valley Project Supplies

SMUD 1 Assignment

Under the terms of a three-party agreement (SCWA, SMUD, and the City of Sacramento), and in accordance with SMUD's PSA, the City of Sacramento provides surface water to SMUD for use at two of SMUD's cogeneration facilities. (Because the cogeneration facilities are located within the City of Sacramento's American River Place of Use [POU], authorization for this CVP water assignment by the Bureau of Reclamation is not required.) SMUD, in turn, has assigned 15,000 afy of its CVP contract water to SCWA for municipal and industrial use. This CVP contract assignment is complete.

SMUD 2 Assignment

SMUD's PSA directs SMUD to assign a second 15,000 afy of surface water to SCWA for municipal and industrial uses and for SCWA to construct groundwater facilities necessary to provide water to meet SMUD's dry-year water shortage demand of up to 10,000 afy at its cogeneration facility. This CVP contract assignment is complete. SCWA and SMUD are continuing to negotiate the timing and exact amount of the dry-year shortage deliveries. Delivery of the dry-year shortage water supplies would be through the construction of additional groundwater facilities that would discharge into the Folsom South Canal.

Central Valley Project Water Public Law 101-514 ("Fazio" Water)

In April 1999, SCWA obtained a CVP water service contract pursuant to Public Law 101-514 (referred to as "Fazio water") that provides a permanent water supply of 22,000 afy with 15,000 afy allocated to SCWA and 7,000 afy allocated to the City of Folsom.

Based on modeling performed for the Zone 40 WSMP and the FRWP, the maximum, minimum, and average annual use of CVP (SMUD 1, SMUD 2, and Fazio) water were projected to be 45,000 AF, 8,700 AF, and 38,000 AF, respectively. The 45,000 AF maximum reflects the firm supply of CVP water in most years. Lesser amounts result from CVP deficiencies or cutbacks in dry years as per the terms of the municipal supply contract.

Other Supplies

SCWA would pursue purchase and transfer agreements with other entities that currently hold surface-water rights in the north Sacramento River basin. Estimated long-term average annual use of these water supplies would be approximately 5,200 AF. This water would be purchased only in dry and critically dry years. Because these supplies are not secured and the reliability of securing these supplies is not know, they are not included in the calculation of average annual supply.

City of Sacramento American River POU Water

SCWA would also enter into an agreement with the City of Sacramento whereby the City of Sacramento would sell surface water to SCWA for use in the portion of the 2030 Study Area that lies within the City of Sacramento's American River POU (Exhibit 3). The estimated long-term average annual volume of water that could be used within this POU would be approximately 9,300 AF. The maximum day capacity that would be purchased from the City is approximately 20 mgd.

SCWA GROUNDWATER SUPPLIES

Groundwater is a vital source of supply for Zone 40 and currently makes up a substantial portion of the supply inside of Zone 40. In 2004, groundwater accounted for 88% of total water supplies (SCWA 2005b). Over the long term, as Zone 40's use of surface water expands with new facilities, groundwater would be used to supplement surface water in a conjunctive use program that would lead to less reliance groundwater supplies in wet years and more reliance on these supplies in dry years. Over the long-term average, SCWA's extraction of groundwater would not exceed 40,900 afy. SCWA's source of groundwater supply comes from the Central Basin through a series of extraction wells and groundwater treatment plants, which is described in Section 3.4.3, "Groundwater Resources."

Groundwater Production

SCWA currently exercises and will continue to exercise its rights as a groundwater user and would extract water from the groundwater basin underlying Zone 40 for the beneficial use of its customers. As a signatory to the WFA, SCWA is committed to adhering to WFA-negotiated, long-term average sustainable yield of the Central groundwater basin (i.e., 273,000 afy). Projected future urban water demands within SCWA's 2030 Study Area would be approximately 113,000 afy (see Table 1) and would be met through a combination of surface water, groundwater, recycled water, and remediated water supplies (SCWA 2005b). In wet years, available surface water supplies would be maximized; in dry years, groundwater supplies would be maximized through increased pumping at SCWA's groundwater facilities, including the proposed North Vineyard Wellfield (see Section 3.3.2, "SCWA Zone 40 Water Supply Master Plan."

With implementation of the Zone 40 WSMP, projected 2030 groundwater pumping volumes from the Central Basin (pumping by SCWA, other purveyors, and agricultural interests) would range from 235,000 afy to 253,000 afy for urban and agricultural demands (SCWA 2005a). Of that volume, it is projected that SCWA Zone 40 would pump a long-term average of 40,900 afy to meet urban water demands within Zone 40 through 2030 (Table 3). Groundwater pumping is expected to increase in 2030 by approximately 60% from 2004 volumes. Historical groundwater pumping from 2000 to 2004 and projected future pumping are shown in Table 3.

Table 3
Historical and Projected Groundwater Pumping in Zone 40

Basin Name	Pumping by Year (afy)									
	2000	2001	2002	2003	2004	2010	2015	2020	2025	2030
Central Sacramento Zone 40	20,022	22,306	22,949	22,745	25,790	34,125	28,837	40,470	31,324	39,097

Notes:
afy = acre-feet per year. Projected groundwater pumping based on modeling performed for the Urban Water Management Plan and Zone 40 WSMP. Long-term average annual groundwater supply of 40,900 afy agreed to in the WFA used for planning purposes. The decrease in groundwater extractions in 2015 and in 2025 are a result of increase surface water treatment capacity coming on-line.
Source: SCWA 2005b

4.1.2 SCWA WATER AGREEMENTS

In addition to meeting water demands within Zone 40, SCWA has entered into agreements that require delivery of water to purveyors and environmental interests. Many of these agreements relate to the Aerojet and Boeing Agreements described in Sections 3.3.3, "Agreements between Sacramento County, SCWA, Aerojet, and Boeing" and 3.3.4, "Water Supply Delivery Agreement between American States Water Company, Sacramento County, and SCWA." A brief summary of these agreements is described below. The relationship of these agreements to water supply and infrastructure planning in the NSA are discussed in Section 4.1.3, "fZone 40 North Service Area Water Supply Demand and Infrastructure."

AEROJET & BOEING AGREEMENTS

The Aerojet and Boeing agreements (discussed above in Section 3.3.3, "Agreements between Sacramento County, SCWA, Aerojet, and Boeing") transfer ownership of remediated groundwater to SCWA to be used as a replacement water supply for groundwater capacity lost by SCWA, GSWC, and Cal-Am as a result of past groundwater contamination. Aerojet and the City of Folsom also have an agreement for replacement water supplies (i.e., 5,000 afy) related to contaminated groundwater. This agreement could potentially be transferred to SCWA subject to the City of Folsom's agreement. The likelihood of the City of Folsom agreeing to this transfer is unknown and speculative.

GOLDEN STATE WATER COMPANY

SCWA's agreement with GSWC (discussed above in Section 3.3.4, "Water Supply Delivery Agreement between American States Water Company, Sacramento County, and SCWA"); specifies delivering 5,000 afy of replacement to their intake facilities on the Folsom South Canal. GSWC's need for additional replacement water (i.e., water amounts greater than 5,000 afy) would be determined annually in a meet-and-confer session with SCWA. Regardless of demonstrated need, GSWC's maximum allocation of replacement water supply in any year could not exceed 15,200 AF (less the 5,000 afy delivered to GSWC at the Folsom South Canal).

CAL-AM AGREEMENT

Currently, no separate replacement water supply agreement exists between SCWA and Cal-Am. However, it is the intent of SCWA to negotiate such an agreement (SCWA 2005b). During negotiations SCWA has been working cooperatively with the City of Sacramento to investigate ways to deliver POU surface water (or replacement water in dry years) to Cal-Am's service area that lies within the POU (this includes up to 5,000 afy of either POU or replacement water). This would allow groundwater currently being extracted in the POU area to be imported into areas affected by groundwater contamination.

MEMORANDUM OF AGREEMENT (MOA) FOR MANAGEMENT OF WATER AND ENVIRONMENTAL RESOURCES ASSOCIATED WITH THE LOWER COSUMNES RIVER

Under the terms of this agreement, SCWA would provide 5,000 afy of remediated groundwater or provide a contribution of capital towards the purchase of an alternative supply for the Cosumnes River Flow Augmentation Project. In any year that water is not required to fulfill the objectives of the Cosumnes River Augmentation Project SCWA reserves the right to use the 5,000 AF of water for other purposes. Remediated water would be conveyed down the Folsom South Canal for delivery to the Cosumnes River from October through December. This water would be delivered though facilities constructed as part of the Eastern County Water Supply Project.

SMUD DRY YEAR WATER REQUIREMENTS

SMUD's Water Forum PSA contains a provision related to the transfer of SMUD 2 water which requires SCWA to provide up to 10,000 afy of groundwater to SMUD to maintain operations at their Rancho Seco facility. The

volume of water required by SMUD is based on hydrologic year type and the volume of cut back they may experience on their remaining CVP contract. Delivery of this water would be through the Folsom South Canal.

4.1.3 ZONE 40 NORTH SERVICE AREA WATER SUPPLY DEMAND AND INFRASTRUCTURE

In response to the rapid pace of new development and to reliably plan for water demands throughout its service area, SCWA had divided the Zone 40 service area into three major subareas for planning purposes. From east to west, these areas are identified as the North Service Area (NSA), the Central Service Area (CSA), and the South Service Area (SSA). A portion of the City's planning area is located within the boundary of the NSA as shown in Exhibit 5~~6~~.

NORTH SERVICE AREA (NSA)

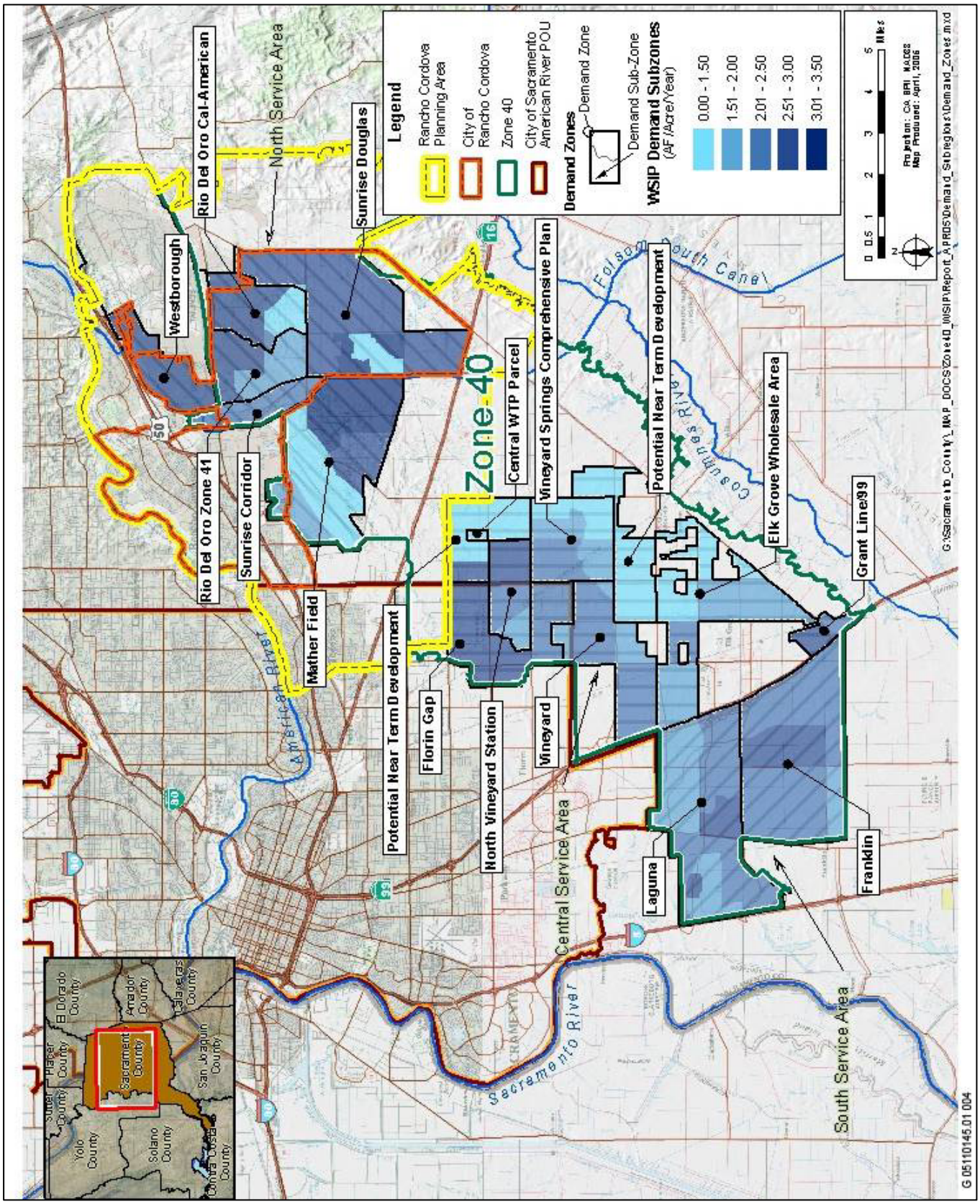
The NSA is located in the northern portion of Zone 40 and includes the areas SCWA identifies as Mather, Sunrise Corridor, Sunrise Douglas, Rio Del Oro (including the Cal-Am portion where wholesale of Zone 40 water supplies would be delivered), and Westborough (wholesale delivery of Zone 40 replacement water to GSWC as discussed below). SCWA completed a WSIP in April 2004 as part of its effort to address immediate water demands associated with development in the Sunrise Douglas Community Plan/Sunridge Specific Plan development area. Development of the Eastern County Replacement Water Supply Project (described in Section 3.3.2, "SCWA Zone 40 Water Supply Master Plan") and assumptions regarding amount, use, and location of diversion resulted in the need to update the initial WSIP. This WSIP is currently being updated and is in draft form. This report incorporates information from the draft WSIP for the NSA based on information provided by SCWA.

The primary purpose of the changes to the WSIP was ensure that groundwater extractions identified in the Aerojet agreements with SCWA do not result in an exceedance of the negotiated, long-term average sustainable yield of the Central Basin (i.e., 273,000 afy). A fundamental assumption in the development of the original WSIP for the NSA was that all remediated groundwater made available through the agreements would be diverted from the Folsom South Canal and that a new surface water treatment plant (WTP) would be constructed to treat this diverted water.

To ensure that the sustainable yield of the Central Basin would be maintain, the Eastern County Replacement Water Supply Project (prior to publication of its Notice of Preparation of an Environmental Impact Report) was modified such that 10,000 afy of remediated water would be diverted down the Folsom South Canal; 5,000 afy would be allocated to GSWC to meet their replacement water supply needs and 5,000 afy would be allocated for enhanced fishery flows on the Cosumnes River. The balance of the remediated groundwater (i.e., 25,000 afy) would be discharged to the American River where 5,000 afy may be diverted at the City of Sacramento's Fairbairn WTP for replacement water supplies for Cal-Am, and the remaining portion (i.e., 20,000 afy) would be diverted at the FRWP intake facility on the Sacramento River near the town of Freeport. SCWA has planned for the delivery of an additional 5,000 afy of replacement water supplies to GSWC (total 10,000 afy). Once diverted from the Sacramento River, the remediated groundwater would be conveyed to and treated at SCWA's ~~Central WTP~~Vineyard WTP and distributed within the NSA system. Table 4 describes the proposed uses for remediated groundwater.

A portion or all of new development water demands within NSA (other than projects on Aerojet Lands [i.e., Rio Del Oro and Westborough]) are proposed to be met through Zone 40's overall conjunctive use water supply program as described in SCWA's Zone 40 WSMP. Elements of the conjunctive use program include extraction of groundwater in the southerly portions of the Sunrise Douglas Community Plan area and from the proposed North Vineyard Well Field located near Excelsior Road and Florin Road. Surface water and replacement water (to the extent that they are available for new growth as per the Aerojet and Boeing contracts), would be distributed from the proposed ~~Central WTP~~Vineyard WTP once the FRWP diversion structure and the proposed ~~Central~~

~~WTP~~Vineyard WTP are constructed (initial phases anticipated to be completed by 2010). Initially (i.e., within the next 3-5 years),



Source: Goetz, pers. comm.. 2006

development within the NSA would rely solely on groundwater as described above; however, once surface and replacement water become available, SCWA would serve this area conjunctively through its proposed distribution facilities.

Table 4
SCWA Agreements Regarding Treatment and Use of Remediated Groundwater and Replacement Water Supplies

Discharge to American River System and Diverted at the Folsom South Canal		
GSWC Replacement Water		5,000
Cosumnes River Environmental Flow		5,000
	Total	**10,000**
Discharged to the American River System		
Diversion at the City of Sacramento Fairbairn WTP [1]		5,000
Diversion at FRWP's intake facility on the Sacramento River [2]		15,000
	Total	**20,000**
Additional GSWC Replacement Water Supplies through Zone 40[3]		**5,000**
Total		**35,000**

Notes:
FRWA = Freeport Regional Water Authority; GSWC = Golden State Water Company; WTP = Water Treatment Plant
[1] Water diverted to City of Sacramento's Fairbairn Water Treatment Plant for California-American Water Company.
[2] Treated water piped to storage tank facilities near Sunrise Blvd and Douglas Road for use in North Service Area system.
[3] SCWA has agreement with GSWC for replacement water supplies up to a total of 15,200 including water diverted at Folsom South Canal. SCWA is estimating that it will provide an additional 5,000 afy of replacement water supplies to GSWC for a total of 10,000 afy out of the 15,200 afy. However; any replacement water in excess of the 5,000 af diverted at the Folsom South Canal must be developed by means of an annual meet-and-confer session between the County and GSWC.
Source: SCWA 2006

Both Rio Del Oro and Westborough are part of the "Aerojet Lands" identified in the agreements between Sacramento County, SCWA, Aerojet, and Boeing as described in Section 3.3.3, "Agreements between Sacramento County, SCWA, Aerojet, and Boeing". While Westborough lies outside of Zone 40, Rio del Oro is located within Zone 40 and SCWA would be the purveyor that serves this project provided that a sufficient quantity of water would remain after replacement water supply obligations are met according to the agreements. Westborough would likely receive water supplies through Zone 40 using the replacement water provided to GSWC via the Folsom South Canal. Rio del Oro would receive water supplies identified in the Eastern County Replacement Water Supply Project (i.e., water supplies would come from the replacement water diverted at FRWP intake structure and treated at the ~~Central WTP~~Vineyard WTP).

The water allocated in Aerojet's agreement with the City of Folsom (i.e., 5,000 afy) could be used as a source of water for these projects; however, the City has not given any indication that they would transfer these water supplies to SCWA. Further, it is likely that the City of Folsom would use these supplies to serve the Easton Development project, which is located on Aerojet lands, but within the City of Folsom. Westborough would likely receive water supplies through Zone 40 using the replacement water provided to GSWC via the Folsom South Canal.

Existing and projected supplies and demand for the NSA as identified in the ~~NSA's~~ Xone 40 WSIP are presented in Table 5. Existing water demands within the NSA are approximately 2,404 afy, and projected future (2030) water demands are approximately 37,314 afy (approximately 15.5 times current demand).

Table 5
Existing and Projected Future Water Supply and Demand for the SCWA North Service Area

Service Area	Demand Region	Existing Demand		Buildout Demand	
		Annual Average (afy)	Max Day (mgd)	Annual Average (afy)	Max Day (mgd)
NSA	Mather Field	1,327	2.37	7,624	13.61
	Rio Del Oro—Cal-Am	-	-	3,917	6.99
	Rio Del Oro—Zone 40	-	-	4,872	8.70
	Sunrise Corridor	1,077	1.92	1,077	1.92
	Sunrise Douglas	-	-	15,492	27.66
	Westborough	-	-	4,332	7.74
	NSA Total Demand	**2,404**	**4.29**	**37,314**	**66.62**

Notes: afy = acre-feet per year; Cal-Am = California-American Water Company; mgd = million gallons per day; NSA = North Service Area
Source: SCWA 2006

4.1.3 Overall Assessment of SCWA Water Supply Reliability

SCWA has developed a long-term conjunctive use plan that would result in water usage that reflects the goals of the WFA. In normal years, the conjunctive use program would result in average groundwater use of approximately 39,000 afy. In dry years, when surface water availability is limited, groundwater production would increase to 70,000 afy to make up for the reduction in surface water deliveries (i.e., dry-year cut backs). In consecutive dry years, water demand management programs would be implemented to a higher degree to reduce the potential impacts from increased groundwater extractions. Long-term average groundwater pumping levels within the Central Basin would equal 40,900 afy for Zone 40 and the negotiated long-term sustainable yield the Central Basin (i.e., collectively with all other groundwater users) of 273,000 afy.

With implementation of the Zone 40 WSMP, Zone 41 UWMP, and Zone ~~41~~ 40 WSIP~~, and the NSA WSIP~~, Zone 40's NSA service area would be served with reliable, long-term water supplies. SCWA is a groundwater appropriator and intends to continue to extract groundwater to meet its customer demands within the limits of the negotiated sustainable yield of the Central Basin. SCWA has secured and is in the process of securing surface water entitlements that would allow SCWA to meet its projected 2030 water demands. In addition, SCWA has entered into agreements with Aerojet and Boeing (described in Section 3.3.3, "Agreements between Sacramento County, SCWA, Aerojet, and Boeing") for the transfer of ownership rights of remediated water discharged by Aerojet. This remediated water would be used for beneficial uses within Zone 40 and in the NSA (where portions of the City's planning area are located). Because SCWA intends to continue pumping groundwater, it has secured most of its surface water rights, has secured rights to beneficial reuse of remediated groundwater within its service area, and is proceeding with development of several water supply treatment and conveyance facilities, SCWA water supplies are considered to have a high reliability of being delivered. However, additional conveyance and treatment facilities would need to be approved and constructed to deliver these supplies to the NSA.

Providing reliable service to NSA is perhaps the most challenging of the three (i.e., North, Central, and South) SCWA service areas. Challenges surrounding the provision of water to the NSA: 1) the presence of groundwater contamination, 2) agreements prescribing the priority uses for replacement water supplies, 3) constructing the conveyance and treatment facilities to serve new development within Aerojet lands, 4) constructing the infrastructure necessary to serve new development in the Sunrise Douglas Community Plan area, 5) substantial

changes in ground surface elevation creating a need for pressure zones, and 6) the relatively low yield of groundwater in the upper elevations where new development is taking place.

SCWA's use of replacement water supplies to serve the NSA and Aerojet lands is considered a challenge because the amount of replacement water supplies that SCWA has available to serve new growth and development is dependent upon the amount of water that is ultimately delivered to other water purveyors for replacement water supplies (discussed in Section 4.1.2, "SCWA Water Agreements"). For example, GSWC has an agreement for replacement water supplies; 5,000 afy for diversion at the Folsom South Canal, and up to an additional 10,200 afy through SCWA Zone 40 facilities.

SCWA has also indicated that it anticipates entering into an agreement with Cal-Am to provide replacement water supplies and is currently planning on providing 5,000 afy. However, a separate replacement water supply agreement does not currently exist between SCWA and Cal-Am. The highest priority use for remediated groundwater is for replacement water for GSWC and Cal-Am. Once replacement water supply obligations are met (maximum of 20,200 afy combined for GSWC and Cal-Am), SCWA would use excess replacement water supplies (approximately 15,000 afy) to serve new growth and development on Aerojet lands (Rio del Oro, Westborough, etc.).

While SCWA has planned for adequate infrastructure (e.g., ~~Central WTP~~Vineyard WTP, FRWP, North Vineyard Wellfield, Eastern County Replacement Water Supply Project) and the water supplies, themselves, are considered to have a high reliability of implementation (i.e., delivery to a designated user), SCWA could be limited in the amount of replacement water supplies (i.e., 15,000 afy) it is able to deliver to new development because GSWC's and cal-Am's agreements to receive replacement water supplies have priority over SCWA's delivery of replacement water supplies to new development.

4.2 GOLDEN STATE WATER COMPANY (CORDOVA SYSTEM)

GSWC's Cordova System service area is entirely within the City's planning area. An overview of water supply sources, existing and projected demands, and the reliability of supplies to meet projected demands is provided below. These data were obtained from the UWMP (GSWC 2005).

4.2.1 WATER SUPPLY SOURCES

The GSWC water supply for the Cordova System consists of surface water from the American River, groundwater extraction from the Central Basin, and future replacement water supplied by SCWA. Replacement water would be made available by SCWA (as allowed under the Aerojet agreement) to offset groundwater lost as a result of contamination of GSWC groundwater wells from past operations at the Aerojet facility. GSWC's agreement with SCWA for replacement water supplies is discussed in Section 3.3.4, "Water Supply Delivery Agreement between American States Water Company, Sacramento County, and SCWA." GSWC also entered into a temporary water transfer agreement with SMUD to allow GSWC to divert up to an additional 7,000 afy from the Folsom South Canal under SMUD's CVP contract entitlement. SMUD has a water service contract with the USBR (Contract No. 12-06-200-5198A) for delivery of as much as 60,000 AFY of municipal and industrial water from the CVP.

American River water is withdrawn from the Folsom South Canal, which extends through the Cordova System service area, and is treated at the Coloma WTP and the Pyrites WTP. The Coloma WTP has a maximum reliable daily treatment capacity of approximately 7,140 gallons per minute (gpm). The Pyrites WTP, which became operational in September 2005, has a maximum reliable daily treatment capacity of about 3,150 gpm. Collectively, the Coloma WTP and the Pyrites WTP provide sufficient capacity for treatment of more than 17,000 afy (10,290 gpm) of surface water diverted from the Folsom South Canal.

Currently, GSWC pumps groundwater from 15 active wells in the Central Basin. These wells have a maximum pumping capacity of 31,500 afy. However, between 2000 and 2004, the actual pumping rates averaged 11,630 afy.

Table 6 summarizes the current and planned water supplies available to GSWC for the Cordova System that would meet the projected water demands under normal water years. This water supply summary is based on analysis of supplies from surface water, groundwater, and replacement water. Surface water from the American River, the SMUD water transfer and Aerojet replacement water (5,000 afy is diverted at the Folsom South Canal and is expected to be available in 2010) accounts for approximately 50 % of GSWC water supplies, while the remainder is provided by groundwater production and 5,000 afy of Aerojet replacement water delivered through SCWA facilities (as described in Section 3.3.4, "Water Supply Delivery Agreement between American States Water Company, Sacramento County, and SCWA"). There is no projected recycled water supply available for this system. GSWC's water supply is projected to increase by approximately 15 % between 2005 and 2030 (Table 6).

Table 6
Current and Planned Water Supplies for the GSWC Cordova System (afy)

Source	Year					
	2005	2010	2015	2020	2025	2030
Surface water from American River[1]	5,000	5,000	5,000	5,000	5,000	5,000
SMUD Water Transfer[2]	5,000	0	0	0	0	0
Aerojet Replacement Water via Folsom South Canal[3]	0	5,000	5,000	5,000	5,000	5,000
GSWC Untreated Groundwater[4]	8,116	7,450	4,500	4,500	4,500	4,500
Aerojet Replacement Water through SCWA[5]	0	2,068	5,999	6,314	6,329	6,329
Recycled Water	0	0	0	0	0	0
Total	**18,116**	**19,518**	**20,499**	**20,814**	**20,829**	**20,829**

Notes:
afy = acre-feet per year; GSWC = Golden State Water Company; SCWA = Sacramento County Water Agency; SMUD = Sacramento Municipal Utility District

1 GSWC American River rights.

2 Under this water transfer from SMUD, GSWC is entitled to divert up to 10,000 afy from the American River through July 29, 2007, and for additional years upon request. However, GSWC plans to use only 5,000 afy of this entitlement because of limited surface-water treatment capacity and its desire to maintain its groundwater rights through the Aerojet replacement-water operations.

3 Aerojet replacement-water obligation.

4 Based on GSWC's maximum annual extractions before 2005 and projected changes to groundwater supply through 2030.

5 SCWA would recapture, treat, and deliver groundwater to GSWC up to an additional 10,200 afy of groundwater discharged by Aerojet into the American River. Please note that GSWC is relying on a total of 11,329 afy of replacement supplies from SCWA. For amounts greater than 10,000 afy (i.e., 1,329 afy), GSWC and SCWA would need to negotiate the provision of these supplies on a yearly meet-and-confer basis.

Source: GSWC 2005

SURFACE WATER

GSWC possesses a pre-1914 appropriative right to divert up to 10,000 afy from the American River via the Folsom South Canal at a maximum withdrawal rate of 20 cfs or 13 mgd. Appropriative surface water rights initiated prior to 1914 are not subject to the Water Commission Act and successor laws relating to water right permitting requirements, and thus do not require a permit from the State Water Resources Control Board. In 1994, GSWC entered into an "Agreement for Reallocation of Water under Co-Tenancy Agreement" with the City of Folsom to lease 5,000 afy of its water rights to the City of Folsom. The company preserved 5,000 afy of the

remaining water right which is diverted from the Folsom South Canal for use within the Cordova System. During the last 20 years, GSWC has used as much as 4,784 afy of this entitlement.

In addition to the 5,000 afy obtained from GSWC's pre-1914 water right to the American River, GSWC's temporary water-transfer agreement with SMUD allows GSWC to divert up to an additional 10,000 afy from the Folsom South Canal under SMUD's CVP contract entitlement. The SMUD agreement became effective on April 29, 2002 and expires on July 29, 2007, unless it is renewed pursuant to a request by GSWC. GSWC is also entitled to continue diversions of 5,000 afy from the Folsom South Canal pursuant to the terms of a settlement agreement reached with Aerojet. GSWC plans to use only 5,000 afy of its SMUD entitlement because of limited surface water treatment capacity at the Coloma WTP and the Pyrites WTP and its desire to maintain its groundwater rights through Aerojet replacement water operations (SCWA 2005).

The Cordova System's distribution facilities have been designed with several interconnections to neighboring water purveyors for emergency purposes. GSWC maintains three 6-inch interconnections with the Cal-Am's distribution system on the west side of the Cordova System, and a 12-inch interconnection with the City of Folsom's distribution system at the eastern edge of the Cordova System. In addition, the Cordova System has five water storage reservoirs with a total capacity of 9.5 million gallons; one additional reservoir with additional 5.0 million gallons of storage capacity is scheduled to be online in spring 2006.

GROUNDWATER

GSWC pumps groundwater for the Cordova System from 15 production wells located in the Central Basin. The Central Basin is a subbasin of the Sacramento Valley Groundwater Basin and is described above (section 3.4.3, "Groundwater Resources").

The Cordova System has a total normal-year capacity of 21,669 gpm (31,500 afy) (GSWC 2005). In some areas of the basin, groundwater has been impaired by contaminants, including volatile organic compounds (VOCs), perchlorate, and N-nitrosodimethylamine (NDMA) from Aerojet's rocket propellant manufacturing and testing facility located immediately east of the Cordova System. Groundwater contamination forced GSWC to decommission some wells. However, decommissioning the wells has not lowered GSWC's overall system production capacity because non-contaminated groundwater wells have been modified to increase their rated capacity.

It has been predicted that by 2015 all but two of GSWC's wells would experience contamination levels that may cause their inactivation (GSWC 2005). The two remaining wells, Wells 17 and 23, are not expected to be affected by contamination until at least 2032. These wells have a combined production capacity of 3,100 gpm (GSWC 2005).

Groundwater lost as a result of contamination would be replaced by SCWA under terms of the Aerojet/Boeing agreement under its replacement water obligations. Approximately 5,000 afy of remediated groundwater would be discharged to the American River system. This water would be wheeled through, and withdrawn from, the Folsom South Canal: GSWC's current surface water point of diversion. Up to an additional 10,200 afy of remediated groundwater could be delivered to GSWC via the FRWP and ~~Central WTP~~Vineyard WTP (agreement with SCWA and Aerojet discussed in Section 3.3.4, "Water Supply Delivery Agreement between American States Water Company, Sacramento County, and SCWA.")

Table 7 presents the projected groundwater pumping volumes by the Cordova System. As a result of changes in groundwater quality, the groundwater supply for the Cordova System is expected to decrease between 2005 and 2015.

Table 7
Projected Groundwater Pumping Volumes by Cordova System (afy)

Basin Name	Year					
	2005	2010	2015	2020	2025	2030
Central Sacramento	8,116	7,450	4,500	4,500	4,500	4,500

Note: afy = acre-feet per year
Source: GSWC 2005

4.2.2 EXISTING AND PROJECTED WATER DEMANDS

Projections of the existing and projected future water demands within GSWC's service area were calculated for the years 2005 through 2030 in 5-year increments. Future water demands were estimated based on population projections prepared by the Sacramento Area Council of Governments (SACOG). Billing data for the metered water connections from 1999 through 2004 were analyzed to obtain unit water use factors (i.e., the average water use per land use) for various land use categories with in GSWC's service area.

To provide an accurate projection of total water demand, other water uses (e.g., sales), as well as any water lost during conveyance (e.g., evaporation, leaks) has been incorporated in the total water demand projections. "Lost water" is defined as the difference between annual production and supply and annual sales. Included in the lost water are system losses (from leaks, reservoir overflows, or inaccurate meters) and water used in operations (e.g., system flushing). Because the Cordova System is not completely metered, the percent of unaccounted-for water for the metered accounts was used for both metered and unmetered areas. From 1999 through 2004, unaccounted-for water averaged 3.25% of the total production for the metered connections (GSWC 2005). Table 8 summarizes the projections of water sales, unaccounted-for water, and total water demand through the year 2030.

Table 8
Projected Water Sales, Unaccounted-for System Losses, and Total Water Demand (afy) for the GSWC Cordova System

Year	Projected Water Sales	Unaccounted-for System Losses	Total Water Demand
2000	15,880	533	16,413
2005	17,528	588	18,116
2010	18,885	633	19,518
2015	19,833	665	20,499
2020	20,139	675	20,814
2025	20,153	676	20,829
2030	20,153	676	20,829

Note: afy = acre-feet per year
Source: GSWC 2005

4.2.3 RELIABILITY OF WATER SUPPLY TO MEET DEMANDS

The Cordova System obtains its water supply from three sources: surface water, local groundwater, and replacement water under the settlement agreement with Aerojet. In general, GSWC's supply is expected to be 100 % reliable through 2030. This reliability is a result of: a highly reliable surface water supply from the American River, implementation of the settlement agreement prescribing priority uses for SCWA replacement water supplies, and historically reliable groundwater supply from the Central Basin.

RELIABILITY OF SURFACE WATER

As mentioned in Section 4.2.1, "Water Supply Sources," above, GSWC has a pre-1914 American River appropriative water right for the diversion of up to 5,000 afy for use in the Cordova System. Appropriative surface water rights initiated before 1914 are not subject to the Water Commission Act and successor laws relating to the water right permitting requirements, and thus do not require a permit from the State Water Resources Control Board. Because appropriative rights are granted priority based on the year of initiation, the early priority date of GSWC's American River right (1851) provides this right a high priority, which in turn indicates that this supply has a high reliability of being delivered.

RELIABILITY OF GROUNDWATER

Since 1995, GSWC has extracted a long-term average of 11,753 afy of groundwater from the Central Basin (GSWC 2005). GSWC's highest historical production occurred in 2001 when 13,257 afy was pumped. As described above, portions of the basin are severely impaired by groundwater contamination, caused primarily by past operations at Aerojet, which is located immediately east of the Cordova System. This contamination has caused GSWC to suspend operation of several groundwater wells.

As a result of the contamination, GSWC filed litigation against both Aerojet and the State of California. GSWC settled its action against the State in January 2003 and settled with Aerojet in October 2004. Under the Settlement Agreement, Aerojet guarantees that replacement water supplies would be made available to offset lost groundwater production in the Cordova System, up to a maximum of 15,200 afy (also described in GSWC's agreements with Aerojet and SCWA). As discussed previously, 5,000 afy of replacement water supply would be diverted at the Folsom South Canal, the remaining portion would be made available through SCWA facilities on a meet-and-confer basis for supplies that exceed a total of 10,000 afy.

It is anticipated that in the future, additional groundwater wells may become affected by contamination. As a result, as GSWC wells are removed from the water supply system, remediated groundwater from Aerojet would be delivered to GSWC to offset any losses in groundwater pumping capacity subject to the terms of the adopted agreements between GSWC, SCWA, and Aerojet. Because of the agreements for replacement water supplies, water supplies lost from groundwater contamination (up to 10,000 afy) and replaced by SCWA are considered to have a high reliability for being delivered. GSWC's agreement for replacement water supplies with Aerojet and SCWA allow the delivery of up to an additional 5,200 afy (total not to exceed 15,200 afy). Replacement groundwater water supplies in excess of 10,000 afy would also be considered to have a high reliability for being delivered, although these supplies would need to be negotiated between GSWC and SCWA on an annual meet-and-confer basis.

Groundwater production from remaining wells is expected to produce up to 4,500 afy through at least 2030. Because of existing groundwater contamination, and the anticipation that these wells would be removed from service by 2032, groundwater pumped by GSWC is considered to have a moderate reliability of being delivered.

RELIABILITY OF REPLACEMENT WATER

As mentioned above, Aerojet and SCWA have entered into an agreement for the delivery of up to 15,200 afy of replacement water to GSWC. For the reasons described above, replacement water supplies are considered to have a high reliability of being delivered.

OVERALL ASSESSMENT OF CORDOVA SYSTEM WATER SUPPLY RELIABILITY

Supply reliability for the Cordova System depends on the reliability of the surface water rights, groundwater production, and replacement water supplied via agreements between GSWC, Aerojet, and SCWA. The replacement water measures undertaken by Aerojet and SCWA would ensure that GSWC has the supplies

necessary to meet its projected water supply demands through 2030. Two production wells are expected to remain operational until at least 2032, which allows for the production of up to 4,500 afy of groundwater (Table 7). When this amount of groundwater is combined with 5,000 afy of surface water rights from the American River and up to 15,200 afy of replacement water from Aerojet and SCWA, a sufficient water supply (i.e., 24,700 afy) exists to meet all projected water demands (i.e., 20,829 afy) in the Cordova System. It should be noted that available GSWC supplies actually exceed the supplies needed to meet the projected demands because GSWC is not currently using a SMUD water transfer and does not expect to use the water transfer during its planning horizon (i.e., 2030) to meet future demands. Because projected supplies currently exceed projected demands, GSWC's water supply is considered to have a high reliability of being delivered.

4.3 CALIFORNIA-AMERICAN WATER COMPANY

Cal-Am's Northern Division consists of nine distinct water systems forming one operational entity that is the largest private water operation in Sacramento County with a total of about 43,100 connections serving an estimated 170,500 people. The 9 systems are not all contiguous, but are surrounded by numerous other utilities. The 9 systems that comprise the Northern Division include: Antelope, Arden, Lincoln Oaks, Parkway, Suburban/Rosemont, Sunrise, West Placer, Isleton and Walnut Grove. The Sunrise system is also known as Security Park; however, it is referred to as Sunrise in the Cal-Am's UWMP (Cal-Am 2006). Suburban/Rosemont and Sunrise are the two Cal-Am systems that provide water to a portion of the City's planning area.

Because the service area of Cal-Am's Northern Division is so large, only the systems that provide water to the City's planning areas are discussed below. An overview of water supply sources, existing and projected water supply demands, and the reliability of water supplies to meet projected demands is provided below. These data were obtained from Cal-Am's UWMP (Cal-Am 2006).

4.3.1 WATER SYSTEM SUPPLY SOURCES

This section describes Cal-Am's water supply systems that would provide service within the City's planning area.

SUNRISE SERVICE AREA

Citizens Utilities **(**a private water utility provider which was later purchased by Cal-Am) purchased the Sunrise service area (also known as Security Park) from McDonnell Douglas in the early 1980s. It consists of approximately 2.8 square miles of land located immediately north of Douglas Road and east of Sunrise Boulevard, approximately 1.5 miles east of Mather Airport. Presently, this area is mostly undeveloped, serving approximately 20 commercial customers. The system includes five groundwater wells, only one of which is in regular use, with other wells available as needed for backup. The Sunrise Service area accounts for less than 0.1% of the Northern Division's production and sales.

SUBURBAN SERVICE AREA

The Suburban service area consists of two systems, the Suburban system and the Rosemont system. These systems lie adjacent to each other and span the north and south sides of U.S. Highway 50 about 9 miles east of downtown Sacramento. This service area (i.e., Suburban /Rosemont) is located entirely within the City's planning area, south of the American River, and north of Mather Airport and includes portions of the developed (i.e., urban) areas of Rancho Cordova. There are approximately 17,000 customers in the Suburban/Rosemont area, which are served via 8 groundwater wells for the Rosemont subarea and 20 wells within the Suburban subarea. In all, the Suburban service area accounts for approximately 30% of the Northern Division's production.

4.3.2 WATER SUPPLY DEMAND

Cal-Am has estimated future population levels within its Northern Division. These projections are identified by service area in 5-year intervals from 2000 to 2025 as shown in Table 9. Population levels within the Sunrise service area are not expected to increase from 2005 to 2025 because this area is fully built out with commercial land uses (Cal-Am 2006). Population levels within the Suburban/Rosemont subarea are expected to increase by only one percent from 2005 to 2025. Total population in the Northern Division service area is projected to increase by 21% from 2005 to 2020 (Table 9).

Table 9
Existing and Projected Population for Cal-Am's Northern Division by Service Area

Service Area	2000	2005	2010	2015	2020	2025	Percentage Increase from 2005 to 2025
Antelope	25,250	25,880	26,527	26,792	27,059	27,329	6%
Lincoln Oaks	35,970	36,869	37,790	38,169	38,550	38,935	6%
Arden	2,397	2,456	2,517	2,542	2,568	2,594	6%
Suburban/Rosemont	49,754	49,882	50,510	50,138	50,269	50,398	1%
Parkway	37,085	53,735	54,787	55,848	56,817	58,012	8%
West Placer	0	675	6750	13,500	20,250	27,000	3900%
Sunrise	0	0	0	0	0	0	0%
Walnut Grove	466	477	489	495	499	504	6%
Isleton	857	879	901	910	919	928	6%
TOTAL	151,779	170,453	179,721	188,388	197,031	205,700	21%

Note: Cal-Am = California-American Water Company
Source: Cal-Am 2006

Cal-Am estimated existing and projected future water demands for the Northern Division for 2006 through 2025. (Table 10). Cal-Am's total demands are projected to grow from 47,620 afy in 2006 to 56,190 afy in 2025. This is an increase of 8,570 afy over the 25-year period, or approximately 18 % (Table 10). However, Cal-Am did not project individual service area water demands in its UWMP. Cal-Am notes that the Sunrise system accounts for less than 0.1% of the Northern Division's production and sales, and the Suburban system accounts for approximately 30% of the Northern Division's production and sales. Assuming that these percentages apply to both water supply and water demand, EDAW calculated water supplies and demands for the Sunrise and Suburban/Rosemont water systems using Cal-Am's projected growth factor of 1% for the Suburban/Rosemont service area and 0% for the Sunrise service area for the period from 2005 to 2025. These projected demands are shown in Table 10.

Table 10
Summary of Current and Projected Water Demand and Sources of Water Supply (afy) for Cal-Am

Year	2005	2010	2015	2020	2025
Projected Demand	**47,620**	**50,510**	**52,500**	**54,380**	**56,190**
Projected Supply by Source					
Cal-Am Groundwater	43,600	33,650	34,180	33,550	33,910
Wholesale Surface Water Supply Purchases:					

Table 10 Summary of Current and Projected Water Demand and Sources of Water Supply (afy) for Cal-Am					
Year	2005	2010	2015	2020	2025
Placer County Water Agency (West Placer Service Area)	140	1,360	2,720	4,080	5,440
~~SCWA (~~Parkway~~)~~	2,420	3,500	3,500	4,000	4,000
Citrus Heights Water District (Lincoln Oaks Intertie with SSWD)	20	9,000	9,000	9,500	9,500
City of Sacramento (Arden Intertie)	1,440	3,000	3,100	3,250	3,340
Transfers and Exchanges	(See "Wholesale Purchases" above. Transfers and exchanges of water occur pursuant to conjunctive-use agreements.)				
Total Water Supply	**47,620**	**50,510**	**52,500**	**54,380**	**56,190**
Sunrise Service Area Demands	48	48	48	48	48
Suburban/Rosemont Service Area Demands	14,286	14,322	14,358	14,394	14,429
Total Cal-Am Water Demands within City planning area[1]	**14,334**	**14,370**	**14,406**	**14,442**	**14,477**

Notes:
afy = acre-feet per year; Cal-Am = California-American Water Company; SCWA = Sacramento County Water Agency; SSWD= Sacramento Suburban Water District
[1] Estimated demands for City's Planning Area based on projected population growth and percentage of water use for service areas within planning area compared to the total Northern Division service area.
Source: Cal-Am 2006

4.3.3 Overall Assessment of Cal-Am Water Supply Reliability

Cal-Am operates more than 100 groundwater wells in the Northern Division (inside and outside the Central Basin) for a total theoretical capacity of approximately 100,000 afy (Cal-Am 2006). It should be noted that while Cal-Am's system could pump up to 100,000 afy of groundwater, it is highly unlikely that Cal-Am would undertake such an aggressive groundwater pumping scenario in the Central Basin because of its commitments to adhere to the negotiated sustainable yield of the Central Basin (i.e., 273,000 afy). Further, this pumping capacity is for Cal-Am's Northern Division, of which some service areas are located outside the Central Basin. While all Cal-Am service areas, except for Isleton and Walnut Grove, have interties with other neighboring water purveyors; it is unknown what amount of Cal-Am's groundwater pumping capacity is available to exclusively serve the Sunrise and Suburban/Rosemont service area. Nonetheless, the presence of intertie connections between service areas at a minimum indicates that sufficient emergency groundwater reserves are available within its system. Further, groundwater currently pumped to serve the Northern Division and projected future pumping amounts (Table 10) are considered to have a high reliability of being delivered because Cal-Am has historically pumped a reliable supply of groundwater from its system. Cal-Am would tailor the Northern Division's water supply mix during dry and very dry years in cooperation with the Sacramento Groundwater Authority and the Central Sacramento Groundwater Forum determinations as to how much surface water would be available under conjunctive use programs in any given year (Cal-Am 2006). Cal-Am projects that they would be able to use as much as 23,300 af of imported surface water supplies during normal years. In a very dry year, or the third year of a multiple dry year scenario, Cal-Am projects 100% of the Division's total water supply would be groundwater (Cal-Am 2006).

Similar to the other water purveyors that rely on groundwater from the Central Basin, Cal-Am's groundwater wells within the Sunrise and Suburban/Rosemont service area could at some future point become impaired by the local contamination problem associated with past operations at Aerojet and the former Mather Air Force Base.

Cal-Am has however has not entered into an agreement with SCWA for replacement water supplies. However, it is SCWA's intention to enter into an agreement for replacement water supplies with Cal-Am; and as a result, SCWA has planned for approximately 5,000 afy of replacement water supplies allocated to Cal-Am. See Section 4.1.2, "SCWA Water Agreements". Although Cal-Am has not relied upon replacement water supplies to meet future demands in its UWMP, water supplies potentially lost from groundwater contamination (up to 5,000 afy) and replaced by SCWA are considered to have a high reliability of being delivered.

4.4 OTHER WATER PURVEYORS IN THE VICINITY OF THE PLANNING AREA

Omochumne-Hartnell Water District (OHWD) is a primarily agricultural water district located adjacent to and partially overlapping the southeastern portion of SCWA Zone 40 (Exhibit 3) and~~of~~ the City's planning area ~~(Exhibit 4)~~. While OHWD does not own any water rights, it owns and operates surface water and groundwater distribution facilities for landowners in its service area. Land use within OHWD's service area is primarily in agriculture. Landowners divert water from the Cosumnes River using flashboards to create diversion dams, which allows flood irrigation for agricultural fields adjacent to the Cosumnes River. Landowners that are not located adjacent to the Cosumnes River have groundwater wells that are pumped for irrigation. (Lowry, pers. comm., 2006).

OHWD is a member of the Southeast Sacramento County Agricultural Water Authority, a Joint Powers Authority (JPA) made up of three water districts: OHWD, Clay Water District, and Galt Irrigation District. The JPA is involved in planning efforts regarding groundwater management, water resource utilization, flood control, and groundwater recharge. As part of these efforts, the JPA has been working with many other agencies and organizations, including SCWA in the management of regional groundwater and surface water resources.

While OHWD's service area does not encompass any portions of the City's planning area, it is a neighboring water purveyor that could be a source of potential future water supplies as land within its service area gradually converts from agricultural to urban land uses. .

The City of Folsom, Placer County Water Agency and SSWD are water purveyors in the vicinity of the planning area who may be able to water supplies to the City's planning area. These water districts and their potential to provide water supplies to the City are briefly discussed in Section are discussed in Section 5.4.1 "Water Transfers and Exchanges with nearby Purveyors."

5 PROJECTED WATER DEMANDS FOR THE CITY OF RANCHO CORDOVA GENERAL PLAN PLANNING AREA

5.1 METHODOLOGY FOR ESTIMATING WATER DEMANDS

The City provided total acreages for the existing and proposed land use designations in its corporate limits and the larger planning area. The City estimates that its corporate city limits would build out by 2030, while build out of its planning area would occur sometime after 2030. A specific timeline for build out of the planning area is not known and is dependant on local market conditions including demand for housing, employment uses, and timing of regional infrastructure, among a number of factors. For purposes of this water supply analysis, buildout of the City's planning area is assumed to occur by 2050.

This water supply evaluation uses the same methodology for estimating water demands that SCWA uses in its long-term water supply planning. To estimate projected water demands for the City's planning area, an individual unit water demand factor is applied to each land use designation within the planning area and projected water demands are calculated for each land use category in acre-feet per acre per year (af/acre/year). SCWA developed unit water demand factors for land use types in its 2030 Zone 40 WSMP (SCWA 2005a) and these demand factors are used to estimate the City's demands. SCWA's water demand factors reflect a 25.6 percent level of water conservation (compared with an unrestrained condition), pursuant to the guidelines set forth in the WFA and are normalized to account for hydrologic year differences.

5.2 PLANNING AREA WATER DEMANDS

Water demand estimates for the City's planning area were developed using the 2030 unit water demand factors presented in the Zone 40 WSMP for similar land use categories. The total annual water demand assumes system losses of 7.5%: the same factor used by SCWA (SCWA 2005a). Total annual water demands within the corporate city limits are estimated to be 57,299 afy at buildout. Water demands for the larger planning area (areas outside the corporate limits) are estimated to be 71,410 afy. Total water demands for the entire planning area are estimated to be 128,709 afy (Table 11).

Table 12 identifies projects within Rancho Cordova specific plan, comprehensive plan, and community planning areas that have been identified in the City's General Plan. As indicated in the table, many of these plans have either been approved or are currently proposed and proceeding through the planning process. Projects that have been approved by the City (or the County prior to the City's incorporation) have identified and secured a long-term reliable water supply source from one of the water purveyors within the City. Many of the proposed projects also have identified and/or secured a long-term water supply source. The water demands associated with many of the proposed projects have been accounted for in SCWA's water supply planning documents including the recently prepared SCWA Zone 40 WSMP, Zone 41 UWMP, and Zone 40 ~~NSA~~ WSIP.

As presented in Exhibit 5~~6~~, SCWA is planning for the delivery of long-term water supplies to its NSA. Within the NSA, SCWA has identified the water demand areas of Westborough, Sunrise Douglas, Rio del Oro, Sunrise Corridor, and Mather Field. These areas are all within the City's corporate limits with the exception of Mather Field (located in the City's planning area). Table 13 lists SCWA's NSA demand areas and how these areas correspond to the City's planning area. The majority of the City's corporate limits fall within the NSA. Areas that lie outside the NSA fall within the service area of GSWC and Cal-Am, with the exception of a small area located in the southern portion of the NSA. This area is located within SCWA's Zone 40 2030 Study Area. While SCWA has allocated water supply and planned for infrastructure to serve its NSA, the total water demand within these planning areas may exceed the amount of water planned to be delivered to the NSA by SCWA. Service within the NSA will be on a first-come, first-served basis. As development occurs, SCWA will track service demands in relation to available supplies.

Table 11
Land Use and Water Demands at Buildout of the City of Rancho Cordova General Plan

Land Use [1]	Total Area (Acres)			Unit Water Demand Factor [2]	Water Demand (afy)		
	Corporate City Limits	Unincorporated City	Total Acreage Within Planning Area		Corporate City Limits	Unincorporated City	Total Planning Area Water Demands
Public/Quasi-Public	1,138	3,854	4,992	1.04	1,184	4,008	5,192
Parks and Open Space	2,392	1,810	4,202	3.46	8,276	6,263	14,539
Natural Resources	1,864	9,251	11,115	0.00	0	0	0
Rural Residential	0	1,135	1,135	1.33	0	1,510	1,510
Estate Residential	630	3,949	4,579	1.33	838	5,252	6,090
Low Density Residential	6,156	10,780	16,936	2.89	17,791	31,154	48,945
Medium Density Residential	3,423	266	3,689	3.70	12,665	984	13,649
High Density Residential	450	249	699	4.12	1,854	1,026	2,880
Residential Mixed Use	62	60	122	2.51	156	151	307
Office Mixed Use	1,788	1,118	2,906	2.75	4,917	3,075	7,992
Commercial Mixed Use	439	352	791	2.75	1,207	968	2,175
Village Center	222	225	447	2.51	557	565	1,122
Local Town Center	68	77	145	2.51	171	193	364
Regional Town Center	112	174	286	2.51	281	437	718
Transit Oriented Town Center	77	154	231	2.51	193	387	580
Light Industrial	961	2,940	3,901	2.71	2,604	7,967	10,571
Heavy Industrial	224	918	1,142	2.71	607	2,488	3,095
Surface Mining [3]	0	871	871	0.00	0	0	0
Developed Land Use	20,006	38,183	58,189		53,301	66,428	119,729
Water System Losses (7.5%)					3,998	4,982	8,980
Total Land and Water Use	**20,006**	**38,183**	**58,189**		**57,299**	**71,410**	**128,709**

Notes:

[1] Land use designations and total acreage provided by Rancho Cordova correspond to the General Plan land use map.

[2] Unit water demand factors based on Zone 40 WSMP (SCWA 2005a) for land use categories similar to City of Rancho Cordova land use categories. Demand factors reflect 25.6% level of water demand management consistent with the WFA.

[3] Aggregate mining typically has a minimal water demand for wash-down and dust control.

Source: Angell, pers. comm., 2006

Table 12
Approved and Proposed Projects In Rancho Cordova

Project Name	Dwelling Units	Res. Acres	Com. Acres	Total Acres*
Approved Projects (all projects have secured water supplies)				
Sunridge Park (Phase I) - (Part of Sun Ridge Specific Plan[1])	801	244.2	NA	244.2
Anatolia I - (Part of Sun Ridge Specific Plan[1])	949	199.5	14.5	229.8
Anatolia II (Part of Sun Ridge Specific Plan[1])	886	244.7	11.1	298
Anatolia III (Part of Sun Ridge Specific Plan[1])	879	208	NA	208
Anatolia IV (Part of Sun Ridge Specific Plan[1])	134	25	NA	25
Mather East (Part of Sun Ridge Specific Plan[1])	NA	13.3	18.8	44.56
Sunrise Douglas Shopping Center	NA	NA	51	51
Villages of Zinfandel— Stone Creek Apartments	288	17.08	NA	17.08
Villages of Zinfandel GPA	719	527	18	823
North Douglas (Part of Sun Ridge Specific Plan[1])	680	120.9	NA	130.3
Capital Village[2]	836	85	32	117
Total	**6,172**	**1,685**	**145**	**2,188**
Proposed Projects				
Rio del Oro[3]	11,601	1,931	137	3,828.50
SunCreek[4]	5,459	2,901	306	3,410
The Preserve at Sunridge[1]	2,703	303.5	21.6	530
Sunridge East - (part of Sun Ridge Specific Plan[1])	3,042	393.6	25.7	609.4
Montelena - (part of Sun Ridge Specific Plan[1])	869	158.3	NA	251.9
Westborough[5]	6,000	1,000	274	1,518
Glenborough[5]	4,810	801	178	1,366
Bradshaw Landing[6]	NA	NA	NA	40.5
Legion of Christ Catholic College[6]	NA	NA	NA	300
Total	**34,484**	**7,488**	**942**	**11,854**
Total Approved and Proposed Projects	**40,656**	**9,173**	**1,087**	**14,042**

Notes:

1 Water supplies for these projects would be provided by the North Vineyard Wellfield operated by SCWA. See Section 5.2.1, "Sun Ridge Specific Plan Water Supply and Demand," below.

2 Water supplies identified for this project is unknown.

3 SCWA would provide replacement water supplies to this project (part of 15,000 afy of water diverted at FRWP.

4 SCWA would install and operate groundwater wells near Kiefer Road. Operation of these wells would remain within the negotiated sustainable yield of the Central Basin (i.e., 273,000 afy)

5 ~~GSWC would provide replacement water supplies~~ SCWA will wholesale remediated groundwater to GSWC to serve this project.

6 Water demands associated with these projects have not been identified

Table 13
SCWA Demand Areas and City Planning Areas

SCWA Demand Region	City of Rancho Cordova Planning Area
Mather Field	Mather Planning Area
Rio Del Oro - Cal American	Rio Del Oro Planning Area
Rio Del Oro - Zone 40	Rio Del Oro Planning Area
Sunrise Corridor	Sunrise Blvd South Planning Area
Sunrise Douglas	Suncreek/Preserve & Grant Line North Planning Area
Westborough	Westborough Planning Area

Note: Cal-Am = California-American Water Company; SCWA = Sacramento County Water Agency
Source: SCWA 2006

5.2.1 SUNRDIGE SPECIFIC PLAN WATER SUPPLY AND DEMAND

The Sun Ridge Specific Plan (SRSP) project was approved by the County Board of Supervisors in 2001 (City of Rancho Cordova was not incorporated at this time) (Sacramento County 2001a). The project consists of a land use plan for development of approximately 2,632-acres within the City's corporate limits with approximately 10,020 dwelling units, 173 acres of commercial uses, 78 acres of park uses, and 44 acres of school uses. Water supply planning for this project has been complicated and occurred within the context of the larger Sunrise Douglas Community Plan (SDCP). The SDCP project (also approved in 2001) provides an overall conceptual framework and policy direction for urbanization of approximately 6,042 acres within the City's corporate limits. Implementation of the SDCP and SRSP would result in the development of approximately 22,503 dwelling units and would support 479 acres of commercial, 177 acres of park and 148 acres of school uses. Buildout of the SRSP area is anticipated to occur by 2011, while buildout of the SDCP area would occur by approximately 2020.

The proposed SRSP was approved prior the implementation of SB 610 (became effective January 1, 2002), which is described above in Section 3.1.2, "Senate Bill 610." As such, the preparation of an SB 610 WSA was not required prior to approval of this project. Because the City is now the land use agency responsible for implementing specific development plans within the SRSP area and the City is engaging in the preparation of its General Plan and supporting General Plan water supply evaluation (this document), the City has asked for a description of the water supply sources identified for the SRSP and the long-term reliability of those sources to meet demands within the SRSP area during normal, dry, and multiple dry years. The discussion that follows describes SCWA's identified water supply sources to the SRSP area and the reliability of those supplies to meet demands based on the information contained in the Zone 41 UWMP.

SCWA would serve the SRSP area through their Zone 40 conjunctive use water supply system. Some of the specific development projects within the SRSP are identified in Table 12. Total water demands associated with the SRSP area are approximately 8,540 afy (approximately 7.62 mgd) (Sacramento County 2001a). SCWA has agreed to serve the SRSP area with groundwater from the NVWF, ~~which is currently under construction (see Section 3.3.2, "SCWA Zone 40 Water Supply Master Plan.") SCWA has adopted resolution (Resolution No. WA-0607 on July 26, 2005) that specifically allocates water supplies from the NVWF to the SRSP project (Appendix A)~~ the first phase of which is operational. Further, SCWA has accounted for the SRSP project within its UWMP (2005). The SCWA UWMP is discussed in Section 4, "Existing and Projected Water Demand and Supply for Water Purveyors in the City's Planning Area."

The NVWF provides for the extraction of up to 10,000 afy of groundwater and would consist of 8 wells located in the vicinity of Excelsior and Florin Roads and a 30-inch pipeline to convey raw groundwater to the Anatolia Water Treatment Plant (Anatolia WTP) located on Sunrise Boulevard. The total anticipated maximum day capacity of the well field would be approximately ~~8,000~~12,000 gpm. The first phase consists of 3 wells with a

capacity of 4,500 gpm (one of these wells is considered a back-up and not part of the treatment plant's capacity). Additional capacity and wells will be added on an as needed basis.

Water supplies (including the NVWF) to serve the SRSP are part of SCWA's conjunctive use program for Zone 40. Table 1 presents the combination of surface water and groundwater supplies and entitlements that SCWA has identified for Zone 40. Section 4.1.2, "SCWA Water Agreements," described the conditions associated with SCWA'S water agreements. Table 1 also describes SCWA'S projected water demands within its service area over the next 20+ years (to 2030). Further, through its UWMP, SCWA has demonstrated the long-term reliability of its water supplies to meet projected water demands within its service area. Because the SRSP project is located within zone 40, has been planned for in SCWA'S water supply planning, SCWA has determined through its UWMP that reliable water supplies are available to meet its 2030 projected water demand under normal, dry, and multiple-dry water years, and a defined water supply (i.e., NVWF) has been allocated to serve the SRSP area, adequate long-term water supplies are available to meet buildout water demands of the SRSP area.

5.3 AVAILABILITY OF SUPPLIES TO MEET PROJECTED DEMANDS WITHIN CITY OF RANCHO CORDOVA GENERAL PLAN PLANNING AREA

The water purveyors within the planning area have developed water supplies to meet demands associated with expected growth and development in their service areas. SCWA has projected water demands based on assumptions regarding population growth and unit water demands associated with different land use types. SCWA used the best available data and information for developing water demand estimates (i.e., Sacramento County General Plan), and other recent information obtained regarding new development in the area (e.g. the draft WSIP)

SCWA provides water to new developments on a first-come first-served basis. Specific projects that are planned for in the future would be served with water supplies as the necessary conveyance and treatment facilities to deliver water to the newly developing areas are developed. Facilities currently proposed by SCWA include the: Zone 40 ~~Central WTP~~Vineyard WTP, FRDP, NVWF, and the Eastern County Replacement Water Supply Project.

Using information provided by local water purveyors within the City's planning area, the total amount of 2030 water supplies for each water purveyor are presented in Table 14 and compared against existing and projected water demands for the City's planning area. Table 14 indicates that the combined water supplies of SCWA, GSWC and Cal-Am total approximately 77,620 AF in 2030.

Table 14
Summary of Projected 2030 Water Supply Available to Planning Area by Water Purveyors and City of Rancho Cordova Water Demands

Water Purveyor	Year	2030
SCWA Zone 40 NSA	Supply	37,314
GSWC	Supply	25,829
Cal-Am	Supply	14,477
Total Supply Available to Planning Area		**77,620**
City of Rancho Cordova General Plan Planning Area	Demands	
	City Area	57,299
	Non-City Area	71,410
	Total Demands	**128,709**
	Surplus/(Deficit)	(51,089)

The total water demands for the City's planning area would be approximately 57,299 AF with buildout of the corporate limits plus an additional 71,410 AF with buildout of the remaining planning area. Total water demands for the entire planning area (including the city limits) are 128,709 AF. Based on the combined available water supplies of the local purveyors to serve the planning area (i.e., 77,620 AF), there would be a water supply shortfall of approximately 51,089 AF (approximately 40% of the long-term total demands, considering development within the current city limits plus the planning area).

Because the majority of the City's corporate limit is located within GSWC's, Cal-Am's, or SCWA's NSA service areas and water supplies have been planned for buildout of these areas, adequate water supplies would likely be available to meet the City's corporate limit buildout water demands with implementation of the various water supply plans, agreements, and projects planned for by local water purveyors (described above) and assuming buildout occurs at the levels (e.g., densities) planned for by local purveyors . Beyond buildout of its corporate limits, new development projects would be served by SCWA and other purveyors (no other purveyors are located outside the City's corporate limits) on a first-come, first-served basis. While total supplies available (i.e., 77,620 AF) are greater than the City's corporate limit demands (i.e., 57,299 AF), indicating that additional growth beyond its corporate limits may be accommodated, the exact amount of water and corresponding land areas that could be served are currently unknown because SCWA would need to consider requests for service from the City in the context of all water demands throughout the Zone 40 service area. The City may be able to pursue additional growth beyond its corporate limits; however, the City would need to coordinate with SCWA to determine the total demands that could be met by existing and projected future water supplies.

If water supplies are not available to meet buildout water demands, the City would either need to stop approving new growth within its jurisdiction, or collaborate with regional water purveyors to investigate potential future water supply options in the context of the regional water supply planning environment. Investigation of future water supply options would likely require involvement from local water purveyors (GSWC, Cal-Am, and SCWA at a minimum, and other neighboring purveyors as appropriate), the Water Forum successor effort, and environmental groups. Because of the long-term and sometimes contentious nature of future water supply planning, the feasibility of implementing new water supply options beyond those described in the WFA are unknown. Regardless, the following section provides a brief summary of potential new water supply options the City could pursue (in collaboration with local agencies) to develop supplies to meet its planning area buildout water demands.

5.4 FUTURE WATER SUPPLIES

As shown in Exhibit 2, the portions of the City's planning area that are not within the corporate city limits are within SCWA's Zone 40. The portion southwest portion of the planning area that overlaps OHWD's service area is also within Zone 40's service area. To support the level of growth proposed by Rancho Cordova, additional water supplies would need to be acquired and/or the City would need to make efforts to substantially reduce its overall demand for potable water. There are a number of options in which water purveyors for the region could secure additional water supplies to accommodate the additional growth planned by the City. Reduction in potable water demand could be achieved through the use of recycled water for non-potable purposes. These options presented are considered very preliminary in nature. It is important to note that the City (as the land use agency) will need to actively participate in discussions with the local water purveyors, the Water Forum successor effort, and environmental groups to develop feasible solutions to providing new water supplies above and beyond those identified in the WFA and the necessary conveyance and treatment infrastructure to serve proposed growth and development. A combination of one or more of the potential options described below may allow the City to proceed with growth and development beyond its corporate limits.

5.4.1 WATER TRANSFERS AND EXCHANGES WITH NEARBY PURVEYORS

The water purveyors in the planning area (e.g., SCWA, GSWC, Cal-Am) could enter into agreements with nearby cities and agencies to secure new or surplus water supplies. Cities and agencies who purchase water from SCWA

or have jurisdictional boundaries that overlap ~~Zone 40's~~ the Planning Area ~~boundaries~~ would be a likely choice for developing such an agreement because the ability to develop distribution system interties. The interties would allow the easy transfer and exchange of water supplies between neighboring water purveyors without the need to construct substantial new conveyance infrastructure. The potential feasibility of water purveyors located near Rancho Cordova providing new water supplies to the City are discussed below.

CITY OF FOLSOM

GSWC has entered into an agreement with the City of Folsom to transfer 5,000 afy to the City of Folsom pursuant to its agreement for replacement water supplies with Aerojet. Within the agreement there is the option for the City of Folsom to transfer the 5,000 afy to the SCWA for its use within its conjunctive use water supply system. However, based in indications from the City of Folsom, the City does not anticipate the transfer of these supplies to SCWA would be likely. While Rancho Cordova could negotiate with the City of Folsom regarding the availability of these supplies, it is unlikely. ~~their ultimate transfer to SCWA would be unlikely.~~

PLACER COUNTY WATER AGENCY

Staff at the Placer County Water Agency was contacted to determine whether they had any available water supplies that could be exchanged or transferred to ~~SCWA~~water service providers in the Planning Area. Staff at Placer County Water Agency indicated that based on their Integrated Water Resources Plan, which is currently under preparation and was not available for review at the time this report was prepared, Placer County Water Agency would only have enough water supplies to meet its projected buildout water demands. No additional water supplies would be available from Placer County Water Agency for transfer or exchange agreements (Maisch, pers. comm., 2006).

SACRAMENTO SUBURBAN WATER DISTRICT

GSWC currently has an intertie with Sacramento Suburban Water District (SSWD)'s water distribution system. As of the date of this report, no reply has been received from SSWD regarding the potential availability of water transfer or exchange opportunities. The potential may exist for the acquisition of additional supplies to meet City demands; however, the City would need to coordinate with GSWC and SSWD to determine the feasibility of those supplies. If supplies are available, no substantial new infrastructure would need to be constructed because an intertie connection between these two agencies is already available. Additional distribution and treatment facilities may be required to convey the water from GSWC existing distribution to new growth areas to deliver these supplies ~~to SCWA~~ for distribution in the new growth areas.

NATOMAS CENTRAL MUTUAL WATER COMPANY

Natomas Central Mutual Water Company (Natomas Mutual) primarily provides irrigation water to its shareholders for agriculture purposes. Natomas Mutual has historically provided water to more than 33,200 acres of land north and west of the city limits of Sacramento and its service area is bordered on the west by the Sacramento River and stretches into Sutter County to the north. Natomas Mutual has water rights for 120,000 afy of water from the Bureau of Reclamation and diverts this water from the Sacramento River.

In March 2004, Natomas Mutual authorized its staff and consultants to finalize an operating agreement with GSWC to provide water and wastewater services to municipal and industrial users in the Natomas Basin via a separate conveyance system. (Natomas Central Mutual Water Company 2006). The partnership allows Natomas Mutual to serve all development within its service area, while preserving habitat, encouraging conservation, and maximizing the value of its shareholders' historic water rights. Just as important, the partnership with GSWC makes certain that the water Natomas draws from the Sacramento River, American River and from groundwater wells stays in northern California. As land is being converted from agricultural (predominantly rice) to residential land uses in Natomas Mutual's service area, the total water demands in the service area has decreased (rice

farming is a water intensive use). This has resulted in a potential surplus in Natomas Mutual's available water supplies.

Natomas Mutual has indicated that through the partnership with GSWC; they are looking for opportunities to market (e.g., sell, transfer) their surplus water supply (Strickland, pers. comm., 2006), although information regarding the specific amount of available water supplies is not available. The sale or transfer of water from Natomas Mutual to purveyors within Rancho Cordova would require approval by the State Water Resources Control Board, Division of Water Rights and the preparation of necessary environmental documentation. Further, additional conveyance and treatment facilities would likely be required to deliver water from Natomas Mutual's service area to the City's planning area.

5.4.2 IMPROVED GROUNDWATER SUSTAINABILITY

Groundwater use (i.e., by all groundwater users) in the Central Basin is restricted to the WFA, negotiated, long-term sustainable yield of 273,000 afy. The CSCGF is currently preparing a GMP that addresses ways to maintain groundwater sustainability (Eck, pers. comm., 2006). The CSCGF identified two primary activities that would result in an improved ability to sustain the viability of the groundwater resources for the Central Basin.

- Continue to investigate conjunctive use opportunities within the Central Basin area. SCWA and other groundwater users within the Central Basin will coordinate all recharge efforts.

- Continue to investigate opportunities for development of direct recharge facilities (e.g., well injection facilities) in addition to in-lieu recharge facilities (e.g., constructed recharge basins, discharge to riverbeds or streambeds).

The City could collaborate with SCWA and the CSCGF to investigate recharge and water banking opportunities available within the Central Basin. Through these investigations and implementation of a recharge program it could be determined that new supplies would be available to accommodate new growth within the region and these supplies could partially meet the City's projected water demands. The feasibility of implementing such a recharge program is currently under investigation by the CSCGF and would likely require the construction of additional facilities (e.g., groundwater injection wells, discharge structures, and new groundwater extraction wells if additional supplies are available).

Through investigation of the feasibility of large-scale groundwater recharge opportunities there may also be the potential opportunity to investigate and study the sensitivity of the negotiated, sustainable yield of the Central Basin. The City could coordinate with the Water Forum successor effort, CSCGF, and other groundwater appropriators to scientifically and comprehensively evaluate whether the Central Basin could support a higher yield what still maintaining the objectives of the WFA. Although dependant on the results of the investigation, it may be possible to pump additional groundwater from the Central Basin, which would facilitate new growth and development. A portion of these supplies could serve new growth within the City.

5.4.3 EXPAND USE OF RECYCLED WATER

Sacramento Regional County Sanitation District (SRCSD) is responsible for the collection, treatment, disposal and reuse (recycled water) of wastewater throughout most of the urbanized areas of Sacramento County, including the majority of service areas retailed water by SCWA.

Through an agreement between SCWA and SRCSD, the SRCSD has successfully implemented a 5 mgd (5,600 afy) Demonstration Water Recycling Program. This program provides recycled water for SRCSD on-site uses and for large commercial irrigation customers within ~~Zone 40~~portions of the City of Elk Grove (e.g., commercial, industrial, right-of-way landscaping, schools, and parks). Recycled water is a desirable source of water for outdoor landscape irrigation and other non-potable uses because of its high reliability and its independence of

hydrologic conditions in any given year. By increasing the use of recycled water SRCSD may be able to reduce the amount of treated wastewater discharged to the river which may become a more cost effective solution for the SRCSD's 1.1 million ratepayers as wastewater regulations require ever higher treatment standards (and costs) for discharged effluent. SRCSD's boundary covers ~~the Zone 40 region in the Rancho Cordova area~~most of the Planning Area. It is expected that the SRCSD's boundary will be expanded further to cover the areas in the City's planning area that are currently undeveloped as development plans are approved.

The most commonly used recycled water is defined as wastewater that has been treated to tertiary standards that meet Title 22 of the California Code of Regulations. Recycled water treated to this level can be used for all outdoor irrigation demands in a community, including; parks, schools, street medians, residential front and backyard landscaping, public open space, as well as industrial uses such as cooling water. In addition, recycled water is commonly used for environmental purposes such as wetlands and habitat restoration.

The ~~Demonstration~~ Water Recycling Program on the Sacramento Regional Water Treatment Plant site was designed and constructed to be ~~readily~~ expandable to 10 mgd (11,200 afy) in accordance with SRCSD's Master Reclamation Permit (WDR #97- 146). A planned Water Recycling Facility plant expansion from 5 mgd to 10 mgd could serve new areas of planned and expected growth and public open space and golf course areas within the City of Sacramento and the City of Elk Grove. SRCSD will work in partnership with SCWA to serve ~~these~~ those areas that are within Zone 40~~ areas~~. The expanded water recycling facility and new water recycling service areas will be called Phase II of the SRCSD Water Recycling Program. Phase II construction will be timed with the need for the higher capacity and is currently expected to be in service by 2008–2010.

To plan for water recycling projects beyond 2010, SRCSD is developing a Water Recycling Master Plan (WRMP) that would plan for water recycling through 2030. The overall project objective is to increase water recycling usage in the Sacramento region during peak irrigation months to a 30 mgd (33,600 afy) to 40 mgd (44,800 afy) level. Water recycling on this scale will allow SRCSD to better manage its effluent discharged to the Sacramento River and could help Sacramento Area water purveyors improve their water supply availability and reliability in terms of irrigation and industrial water supply. The WRMP effort will include significant outreach to stakeholders that could be associated with SRCSD's future water recycling plans. Stakeholders to be contacted during the WRMP are expected to include, among others; Sacramento Area water purveyors and users, land use planning authorities, land development leaders, and environmental interests. The WRMP will culminate in the development of a SRCSD Water Recycling Master Plan document that is expected to contain numerous water recycling project alternatives that will be evaluated for future SRCSD implementation.

One option being explored as part of the WRMP is the use of recycled water for agriculture which would supplement groundwater supplies. The reduction in groundwater use by agricultural users may "free up" groundwater supplies elsewhere in the same groundwater basin. This WRMP document is expected to be completed in mid-2006.

SCWA has indicated that the use of recycled water for non-potable purposes could reduce potable water demands by as much as 10% to 50% depending on the level of reuse that is prescribed (Eck, pers. comm., 2006). Using recycled water for public areas such as medians and park strips would reduce potable water demands by approximately 10-15%, while using recycled water for public area and residential outdoor areas (e.g. residential landscaping) could reduce overall potable water demands by as much as 50%.

The City should coordinate with the SRCSD to investigate the feasibility of implementing water recycling projects within its jurisdiction. Doing so over the long-term could substantially reduce the City's overall buildout water demands.

6 POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH DELIVERING WATER TO THE GENERAL PLAN PLANNING AREAS

This section briefly summarizes the potential environmental impacts associated with delivering water to the City's planning area. Potential impacts include those associated with construction and operation of facilities necessary for diverting, treating, and delivering water. Specific water supply sources to meet the City's build out planning area demands are not fully known. For those supplies that are not currently known, this assessment represents a preliminary overview of the types of impacts that could occur and would need to be addressed in detail in the future environmental documents prepared by the City or appropriate water agencies.

The City of Rancho Cordova is a land use agency and is responsible for the approval of new growth and development within its jurisdiction. In approving its General Plan and associated land use plan, the City would be approving a prescribed level of growth and development. The City must consider the direct and indirect impacts associated with approval of its General Plan, including the impacts associated with the provision of public services, such as a reliable water supply.

The population and employment growth associated with the City's proposed land use plans would cause an increase in local water demands. Demand for surface water and groundwater would increase as a result of new residential, commercial, and industrial development within Rancho Cordova; however, a portion of this demand may be reduced through the conversion of irrigated agricultural land to urban land uses. ~~Insufficient~~ W~~w~~ater supplies are currently available to meet the City's 2030 (corporate limits) but not the expanded ~~and~~ 2050 (planning area) land use demands. The City would be required to secure additional water supplies to meet its projected demands. Increased groundwater pumping to meet demands would be limited because little surplus groundwater is available for pumping over the long term because planned future groundwater pumping would approximate the negotiated groundwater pumping yield for the Central Basin (i.e., 273,000 afy). As a result, there would be an increased demand for new surface water supplies or increased recycling and water conservation programs and an increased demand for local water purveyors to expand their service areas. Increased surface water demands could lead to increased water shortages, reductions in existing service levels of local water purveyors, and the inability of purveyors to serve new development.

To meet projected demands, water supply purveyors would need to pursue additional water supply projects that would bring in new water supplies or recycled water supplies to serve the city. Potential projects to secure additional supplies could include the negotiation of new water right transfers; construction of new diversion structures; expansion or construction of new water treatment plants; and construction of new potable water and recycled water distribution facilities. Examples of potential environmental impacts that could be caused by potential water supply projects that would serve the City's planning area are described in Table 15.

Table 15
Examples of Types of Environmental Impacts that could be caused by Other New Water Supply Projects, Water Rights Transfers, and Related Infrastructure

Types of Potentially Affected Resources	Related and Potential Impacts
Surface Water Hydrology	Changes in the magnitude and timing of flows in affected streams; changes in the level of affected reservoirs and lakes. Potential cumulative effects on the hydrology of Folsom Reservoir, South Fork American River, Middle Fork American River, and possibly other locations including the North Fork Cosumnes River, and Alder and Weber Creeks.

Table 15
Examples of Types of Environmental Impacts that could be caused by Other New Water Supply Projects, Water Rights Transfers, and Related Infrastructure

Types of Potentially Affected Resources	Related and Potential Impacts
Geology and Soils	Increase in erosion and sedimentation from construction activities; change in sediment transport in streams; geologic hazards could cause problems for new facilities and their operators if they are not sited carefully.
Water Quality	Changes in stream and reservoir/lake temperature, dissolved oxygen, turbidity, total suspended solids, and other water quality parameters of concern during construction and operation of new facilities.
Fishery Resources including Special-status Species	Change in the amount and quality of fishery habitat in affect streams and reservoirs/lakes, and potential fish entrainment at possible diversion sites in lakes and streams.
Wetlands and Riparian Habitat	Changes in the amount or functions and values of various types of wetlands from the construction of new facilities, or in riparian areas from changes in the operation of reservoir/lakes and changes in streamflows. Riparian habitat could be affected by hydrology changes or new construction and is especially important habitat for wildlife and botanical species.
Botanical Resources including Special-status Species	Disturbance to rare plants and their habitat and other types of vegetation from construction activities or changes in hydrology along streams and at reservoirs and lakes.
Wildlife Resources including Special-status Species	Changes in the amount and quality of affected wildlife habitat near affected reservoir/lakes, and streams and where appurtenant facilities would be located.
Recreation	Changes in the quantity or quality of recreation opportunities, including fishing, boating, hiking, and whitewater rafting affected reservoirs/lakes and in affected streams; some impacts could also occur during construction and operation of new conveyance, treatment, storage, and pumping facilities.
Visual Resources	Changes in reservoir/lake levels, and streamflows and the addition of new project facilities could affect the visual environment. New pipelines, pumping stations, or transmission lines near or in residential areas or highly visited areas would cause negative impacts.
Agriculture	Some irrigated land or grazing land could be taken out of production where project conveyance facilities need to be located and to accommodate growth. The availability of surface water supplies for agricultural uses could increase.
Cultural Resources	Historic, prehistoric, and ethnographic resources could be affected by hydrology changes or the construction and maintenance of new facilities.
Compatibility with Existing Land Uses and Other Policies and Plans	Some new project facilities may not be compatible with surrounding land uses, or may be inconsistent with related federal, state, tribal, and local plans and policies (including those of the U.S. Forest Service, USFWS, and California Department of Fish and Game).

Table 15
Examples of Types of Environmental Impacts that could be caused by Other New Water Supply Projects, Water Rights Transfers, and Related Infrastructure

Types of Potentially Affected Resources	Related and Potential Impacts
Mineral Resources	New project facilities could interfere with the extraction of minerals at known or yet-to-be-discovered mineral sites.
Public Utilities	The routing and sitting of new project facilities could interfere with the operation or maintenance of existing or planned public utilities, including communication and energy infrastructure.
Socioeconomic Resources	Customers of the water purveyors and other would enjoy the socioeconomic benefits associated with a more reliable water supply and related economic growth. Water rates would likely increase to help pay for new facilities. Facility construction would cause short-term and Beneficial employment and income impacts. Energy or mineral impacts would also cause related socioeconomic effects.
Air Quality and Noise	Air emissions from construction equipment and traffic and loud noises could occur during the construction phase of new projects. New pumping stations would likely cause adverse noise impacts for nearby residents and recreationists.
Transportation	Local roads would experience traffic increases during construction.
Public Health and Safety	Construction activities could create some safety hazards.
Growth-inducing Effects	New system infrastructure and water supply projects would likely cause growth-inducing impacts.

Source: EDAW 2006

6.1 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS IDENTIFIED IN RELEVANT WATER SUPPLY PLANNING PROJECTS

The WFA, SCWA's Zone 40 WSMP and the NVWF, evaluated as an element of the Sunrise Douglas Community Plan/Sunridge Specific Plan, which are described in Sections 3.3.1, 3.3.2, and 5.2.1 respectively all have certified EIRs that addressed the environmental impacts associated with delivery of water supply resources within the region. A brief summary of the significant and unavoidable environmental impacts identified in the EIRs for the WFA, Zone 40 WSMP, and NVWF is provided below.

6.1.1 WATER FORUM AGREEMENT EIR (CITY AND COUNTY OF SACRAMENTO 1999)

- **Water Supply:** Reduced Deliveries to SWP and CVP contractors.
- **Water Quality:** Seasonal Changes to Sacramento River and Delta water quality.
- **Fisheries:** Reductions in seasonal availability of reservoir littoral habitat for Folsom Reservoir's warmwater fisheries; flow-related impacts to fall-run Chinook salmon; flow and temperature-related impacts to splittail;

contribution to cumulative impacts to warmwater fisheries of Shasta and Trinity reservoirs; cumulative temperature-related impacts to Sacramento River fisheries resources; and cumulative flow-related impacts to Delta fish populations.

- **Power Supply.** Contribution to cumulative reduction in average annual average CVP hydropower capacity and generation.

- **Recreation.** Reduced rafting and boating opportunities on the Lower American River; reduced boating opportunities on Folsom Reservoir; and decreased late-season swimming breach opportunities at Folsom Reservoir.

- **Land Use and Growth-inducing Impacts:** Substantial growth-inducement and resultant land use impacts.

- **Cultural Resources:** Increased cycles of inundation and drawdown affecting cultural resources sites around Folsom Reservoir.

6.1.2 ZONE 40 WATER SUPPLY MASTER PLAN EIR (SCWA 2003)

- **Growth-Inducing Impacts:** Implementation of the 2002 Zone 40 WSMP would result in the removal of one obstacle to growth (water supply) in the 2030 Study Area. Growth would result in the conversion of undeveloped areas in the 2030 Study Area to urban land uses resulting in impacts on biological resources, scenic resources, air quality, noise, traffic, and other effects of increased urbanization. Because mitigation of growth-related effects is in the purview of the County and the cities of Elk Grove and Rancho Cordova through their existing land use authority, and because SCWA itself has no such authority, the 2002 Zone 40 WSMP cannot feasibly provide for additional mitigation of growth-related environmental impacts. This is a significant and unavoidable impact.

- **Conversion of Prime Farmland or Farmland of Statewide Importance:** The 2030 Study Area includes Prime Farmland and Farmland of Statewide Importance. Although specific locations of conveyance pipelines and groundwater facilities are not known at this time, construction of these facilities on designated farmland could result in an incremental loss of this resource. Also, as an indirect impact, farmland conversion could occur as a result of unknown development supported by the water supply plan.

- **Visual Impact of Project Facilities:** Depending on the size, location, and design of new facilities, significant visual impacts may occur with implementation of the 2002 Zone 40 WSMP. Once additional information becomes available, and specific projects are proposed, additional environmental analysis would be required to determine the magnitude of impacts, if any, that would result.

- **Short Term Construction-Related Emissions:** Short term construction generated emissions could potentially exceed SMAQMD daily emission thresholds of 85 ppd for NO_X and 275 ppd for fugitive dust (PM_{10}). As a result, short term construction generated air quality impacts would be significant and unavoidable.

- **Short-Term Construction-Generated Noise:** Construction activities associated with development of project facilities could exceed County noise thresholds at nearby noise-sensitive land uses. This would be a significant and unavoidable noise impact.

- **Stationary Source Noise:** Operation of proposed stationary noise sources could result in noise levels at nearby noise-sensitive receptors which could exceed County noise ordinance standards. This is a significant and unavoidable noise impact.

- **Special-Status Species:** A total of 8 special-status plants and 26 special-status wildlife species have been recorded, or have the potential to occur, in the vicinity of the 2030 Study Area. Construction and maintenance of project facilities could result in loss and/or disturbance of special-status plants and animals and their habitat. This is a significant and unavoidable impact.

- **Sensitive Habitats:** The 2030 Study Area and nearby locations support a number of several sensitive habitats. Construction and maintenance of project facilities could result in loss, alteration, and/or temporary disturbance of sensitive habitats. This is a significant and unavoidable impact.

- **Potential Impact on the South Sacramento Habitat Conservation Plan:** Construction of WSMP water facilities would facilitate development that could, in turn, result in the potential loss of important habitat areas inside the USB that are potentially critical components of the SSHCP. It is anticipated that the area in the UPA would be developed and thus that little or no habitat mitigation associated with the SSHCP would occur in the UPA. In addition, the 8,400 acres of land inside the 2030 Study Area (as analyzed in this EIR) but outside the UPA contains no resources critical to the success of the SSHCP. If land use authorities direct development of these 8,400 acres consistent with the 2030 Study Area, implementation of the Zone 40 WSMP would not significantly affect the SSHCP. However, at this point, it is unknown if land use authorities would direct development in the aforementioned 8,400-acre study area or would direct development elsewhere within the USB, which could potentially affect the viability of the SSHCP. As mitigation, SCWA will provide funding to facilitate and expedite completion of the SSHCP. However, because of the uncertainty of future land use decisions that could result in development of land outside the 2030 Study Area, this impact is potentially significant and unavoidable.

6.1.3 NORTH VINEYARD WELL FIELD ELEMENT OF THE SUNRISE DOUGLAS COMMUNITY PLAN/SUNRIDGE SPECIFIC PLAN EIR (SACRAMENTO COUNTY 2001B)

- No significant unavoidable adverse impacts associated with the North Vineyard Well Field were identified.

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7.2 PERSONAL COMMUNICATIONS

Angell, Patrick. Project Manager. Pacific Municipal Consultants. December 2005 through February 2006—telephone conversations with Diane Wagner of EDAW regarding land use for general plan and areas.

Eck, Darrell. Senior Engineer. Sacramento County Water Agency (SCWA). Multiple Meetings—January, February 2006. Discussions with Amanda Olekszulin (EDAW), Diane Wagner (EDAW) and Jonathan Goetz (MWH) regarding SCWA water supply and demand planning for North Service Area and Zone 40.

Goetz, Jon. Principal Engineer. MWH Americas, Inc. Multiple Meetings—January, February 2006-- Discussions with Amanda Olekszulin (EDAW), Diane Wagner (EDAW) and Darrell Eck (SCWA) regarding SCWA water supply and demand planning for North Service Area and Zone 40. Mr. Goetz also provided GIS data and maps showing SCWA's North Service Area and water purveyor boundaries within Sacramento County.

Jordan, Christopher. Assistant Planner. Pacific Municipal Consultants. January 3, 2006—telephone conversation with Diane Wagner of EDAW regarding population and land use estimates for planning areas.

Lowry, Ronald. General Manager. Omochumne-Hartnell Water District. January 3, 2006—telephone conversation with Diane Wagner of EDAW regarding water district's operations and water supply planning in Sacramento region.

Maisch, Einar. Strategic Affairs Director. Placer County Water Agency. January 31, 2006—telephone conversation with Amanda Olekszulin of EDAW regarding Placer County Water Agencies potential surplus water supplies for transfer and exchange opportunities.

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