

Eligibility and Project Information Tab

Attachment 6: Groundwater Basins Affected by the Sites Reservoir Project

Q.6 - Does the proposed project affect groundwater basins, as defined by Water Code section 10722 et seq.? If not, enter "Not Applicable"; if so, identify the affected groundwater basins and describe how the project would be integrated with future GSP(s). Explain how the project would reduce, eliminate, or have an effect on undesirable results (as defined in regulations section 6001(a)(85)) within the affected groundwater basin(s). Describe how the applicant would work with GSA(s) or adjudicated participants of the basin. See regulations section 6003(a)(1)(K).

No groundwater benefits have been monetized; however, the Sites Reservoir project would potentially beneficially affect groundwater basins within service areas of project participants, particularly those within the Sacramento River Hydrologic Region. Some of the participants are designated as a Groundwater Sustainability Agency (GSA) for affected groundwater basins, including but not limited to Colusa County, Colusa County Water District, Santa Clara Valley Water District, and Zone 7 Water Agency. Many other agencies participating in the Sites Project also participate in Groundwater Sustainability Agencies. These member agencies will be involved in the future integration of the Sites Project into their respective Groundwater Sustainability Plans (GSPs). Coachella Valley Water District, Desert Water Agency, Santa Clara Valley Water District, and Zone 7 Water Agency have each submitted prescribed Alternatives to a GSP, consisting of groundwater management plans or an analysis of basin conditions. The Sites Reservoir Project could be incorporated into future updates of these Alternatives.

In addition, Sites participants: Desert Water Agency, California Water Service, San Bernardino Valley Municipal Water District, Metropolitan Water District of Southern California and San Geronio Pass Water Agency are affiliated with adjudicated groundwater basins. Antelope Valley - East Kern Water Agency is affiliated with a groundwater basin that is pending adjudication. Water deliveries from the Sites Reservoir Project could be incorporated into the management strategy for these basins. The associated operations by participating agencies with adjudicated basins would be included in annual monitoring and reporting activities.

Undesirable conditions include chronic lowering of groundwater levels; reduction of groundwater storage, seawater intrusion; degraded water quality; land subsidence; and depletions of interconnected surface water. The Sites Reservoir project has the potential to improve these undesirable results within groundwater basins associated with its participants.

Table A.6-1 presents a listing of groundwater basins that could be beneficially affected by the project, depending on the exact application of the Sites Project deliveries to those regions. In order to retain water management flexibility at a local level, Sites Project deliveries are not specifically designated for a specific use. **Figures A.6-1 through A.6-3** show the location these groundwater basins in relation to service areas of the current Sites Project participants. A further discussion how the project would reduce undesirable results within the affected groundwater basins is presented below.

Reduction of groundwater storage and chronic lowering of groundwater levels

As shown in **Table A.6-1**, significant decline in groundwater levels or overdraft has been reported in many groundwater basins overlaid by the service areas of Sites Project participants. In general, the Sites Reservoir project would result in an increased use of surface water and could decrease use of groundwater through conjunctive use and management operations by its participants. These operations would increase surface water deliveries and change the timing of available surface and groundwater supplies by providing Sites participants with surface water for storage, use or replenishment (typically in

STATUS:	FINAL	PREPARER:	N SMITH	PHASE:	1	VERSION:	A
PURPOSE:	ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB	CHECKER:	J HERRIN	DATE:	2017 AUGUST		
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above normal and wet year conditions) and then recovering a portion of the water during periods of water supply shortages (in dry and critical year conditions). These changes would improve operational flexibility on a regional basis while providing a water supply benefit that could increase groundwater storage and reduce chronic lowering of groundwater levels.

Table A.6-2 presents the average annual increase in water deliveries by hydrologic region based on the current Sites Project participants and their water delivery requests. The Sacramento River Hydrologic Region would receive the greatest water supply benefits, primarily for agricultural uses. It should be noted that the modeled allocation of water to each hydrologic region is an approximation of how the flows would be distributed. The actual distribution would vary based on the final participants of the project and their level of participation. The project would improve groundwater sustainability by supplying surface water for replenishment to enhance aquifer storage recovery. Replenishment of groundwater can be accomplished using direct recharge and in-lieu recharge. Replenishment occurs when a groundwater basin is managed so that recharge is increased when compared with existing or baseline conditions, and ultimately groundwater levels are either maintained or improved. Direct recharge includes direct spreading of water on land surfaces and aquifer injection. In-lieu recharge may also be accomplished by providing an alternative source to users who would normally use groundwater, thereby leaving groundwater in place for later use and increasing the potential to improve groundwater levels.

Recent research by the University of California on the flooding of agricultural lands to increase groundwater replenishment has led to the development of a Soil Agricultural Groundwater Banking Index (SAGBI) and an associated map application (available at <http://casoilresource.lawr.ucdavis.edu/sagbi/>). The SAGBI identifies the suitability of soils for additional on-farm groundwater recharge in California. Much of the service areas of Sites participants within the Sacramento Valley are identified as having excellent or good potential for groundwater recharge (**Figure A.6-4**). Should a local groundwater bank be created, Sites Reservoir has the potential to provide water at rates and times to improve its effectiveness and include the banking of water within the aquifer system for future use, which can improve various undesirable aquifer conditions.

Seawater intrusion and degraded water quality

There are several groundwater basins within and overlain by the Sites Project participant's service area that are experiencing salt water intrusion and other water quality degradation issues (See Table A.6-1). Over-pumping may result in inversion of the groundwater flow causing expanded saltwater intrusion. Supplemental surface supplies provided by the project and conjunctive use management practices by project participants may result in reduced groundwater pumping that can assist with reducing the potential for seawater intrusion and water quality degradation. Conjunctive use could enable blending of surface and groundwater which could result in higher quality supply of water. Utilizing better quality surface water for direct recharge of groundwater may also result in groundwater quality improvements.

Land subsidence

Recent drought conditions have led to relatively large declines in groundwater levels throughout the state and within groundwater basins affiliated with Sites participants. Conjunctive use operations by Sites participants to increase water levels would also reduce inelastic (permanent) land subsidence.

Depletions of interconnected surface water

The interconnection of surface water features and groundwater are important for maintaining ecosystems and wetland habitat, particularly in the Sacramento Valley. Chronic lowering of water levels due to over pumping and stream diversions result in depletions of interconnected surface water and

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groundwater in some areas. Groundwater basins potentially affected by the project that provide important connections to surface water are identified in Table A.6-1. The Sites Reservoir project would allow for greater operational flexibility to support maintaining hydrologic connection between surface water and groundwater. Conjunctive use practices by Sites participants could reduce surface water diversions and improve surface water flows by using stored groundwater during dry and critical periods. In addition, supplemental water supplies from the Sites Reservoir project would assist with improving aquifer storage and groundwater levels.

Table A.6-1. Groundwater Basins Potentially Affected by the Sites Reservoir Project					
Hydrologic Region	Basin Number	Basin/Sub Basin Name	Groundwater Basin Rating	Sites Participant	Comments/Existing Undesirable Groundwater Conditions
San Francisco Bay	2-02.03	NAPA-SONOMA VALLEY	Very Low	American Canyon County WSA	--
San Francisco Bay	2-10	LIVERMORE VALLEY	Medium	California Water Service Co. Zone 7 Water Agency	Some areas have boron concentrations exceeding 2 mg/L (Bulletin 118).
San Francisco Bay	2-11	SUNOL VALLEY	Very Low	Zone 7 Water Agency	--
San Francisco Bay	2-32	VISITACION VALLEY	Very Low	California Water Service Co.	--
San Francisco Bay	2-35	WESTSIDE	Very Low	California Water Service Co.	--
San Francisco Bay	2-9.02	SANTA CLARA VALLEY - SANTA CLARA	Medium	California Water Service Co. Santa Clara Valley Water District	Elevated nitrate in some wells in the southern portion of the Basin.
San Francisco Bay	2-9.03	SANTA CLARA VALLEY - SAN MATEO PLAIN	Very Low	California Water Service Co.	--
Central Coast	3-03.01	GILROY-HOLLISTER VALLEY - LLAGAS AREA	High	Santa Clara Valley Water District	Nitrate has impacted a significant number of private domestic wells across the Llagas Subbasin due to historic and ongoing sources including agricultural activities and septic systems.
Central Coast	3-03.03	GILROY-HOLLISTER VALLEY - HOLLISTER AREA	Medium	Santa Clara Valley Water District	West portion of the basin has an impermeable barrier to groundwater flow. Salinity, nitrate, boron, hardness, and trace elements.
Central Coast	3-03.04	GILROY-HOLLISTER VALLEY - SAN JUAN BAUTISTA AREA	Medium	Santa Clara Valley Water District	Salinity, nitrate, boron, hardness, and trace elements occasionally exceed drinking water standards.
Central Coast	3-04.01	SALINAS VALLEY - 180/400 FOOT AQUIFER	High	California Water Service Co.	Critically overdrafted basin.
Central Coast	3-04.02	SALINAS VALLEY - EAST SIDE AQUIFER	High	California Water Service Co.	Coastal basin with saline intrusion in both 180-Foot and 400-Foot aquifers due to excessive groundwater pumping.
Central Coast	3-04.05	SALINAS VALLEY - FOREBAY AQUIFER	Medium	California Water Service Co.	Poor quality water along the eastern side of subbasin. Water system above MCL for inorganics and nitrates (Bulletin 118).
Central Coast	3-04.09	SALINAS VALLEY - LANGLEY AREA	Medium	California Water Service Co.	Portion of the subbasin has been affected by elevated nitrate levels in shallow aquifers
Central Coast	3-04.10	SALINAS VALLEY - CORRAL DE TIERRA AREA	Medium	California Water Service Co.	Lowering of water levels, TDS, hardness
South Coast	4-05	ACTON VALLEY	Very Low	Antelope Valley - East Kern Water Agency	--
South Coast	4-06	PLEASANT VALLEY	High	Metropolitan Water District	Critically over drafted basin; Discharge of poor quality groundwater from dewatering wells and effluent discharge from the wastewater treatment facility into the Arroyo Simi have led to rising water levels in the basin along with higher TDS and Chloride levels.
South Coast	4-07	ARROYO SANTA ROSA VALLEY	Medium	Metropolitan Water District	Elevated sulfates, nitrates, and TDS in the basin.(Bulletin 118)
South Coast	4-08	LAS POSAS VALLEY	High	Metropolitan Water District	TDS is generally high in this basin. REH - Pubic Comment includes reports of subsidence, overdraft and saline intrusion (chloride from adjacent basin).
South Coast	4-09	SIMI VALLEY	Low	Metropolitan Water District	--
South Coast	4-10	CONEJO	Low	California Water Service Co.	--
South Coast	4-10	CONEJO	Low	Metropolitan Water District	--
South Coast	4-11.01	COASTAL PLAIN OF LOS ANGELES - SANTA MONICA	Medium	Metropolitan Water District	MTBE contamination has led to significant reduction in groundwater production and locally high TDS.
South Coast	4-11.02	COASTAL PLAIN OF LOS ANGELES	Very Low	Metropolitan Water District	--
South Coast	4-11.03	COASTAL PLAIN OF LOS ANGELES - WEST COAST	Medium	California Water Service Co. Metropolitan Water District	Adjudicated basin. Basin in overdraft since 1960's. Saline intrusion problems. A seawater barrier project is in effect to reduce seawater intrusion.
South Coast	4-11.04	COASTAL PLAIN OF LOS ANGELES - CENTRAL	High	California Water Service Co. Metropolitan Water District	Adjudicated basin. Basin was adjudicated in the early 1960's due to overdraft. Several public supply wells are known to be impacted by various water quality issues.
South Coast	4-12	SAN FERNANDO VALLEY	Medium	Metropolitan Water District	Adjudicated basin. Several public supply wells have shown contamination (Bulletin 118)
South Coast	4-13	SAN GABRIEL VALLEY	High	Metropolitan Water District	Superfund sites are present within the basin and other areas with water quality impacts are known.
South Coast	4-15	TIERRA REJADA	Very Low	Metropolitan Water District	--
South Coast	4-16	HIDDEN VALLEY	Very Low	California Water Service Co. Metropolitan Water District	--
South Coast	4-18	HUNGRY VALLEY	Very Low	Antelope Valley - East Kern Water Agency	--
South Coast	4-19	THOUSAND OAKS AREA	Very Low	California Water Service Co. Metropolitan Water District	--
South Coast	4-20	RUSSELL VALLEY	Very Low	California Water Service Co.	--
South Coast	4-22	MALIBU VALLEY	Very Low	Metropolitan Water District	--
South Coast	4-23	RAYMOND	Medium	Metropolitan Water District	Water quality impacts and a superfund site.
South Coast	4-4.02	SANTA CLARA RIVER VALLEY - OXNARD	High	Metropolitan Water District	Saline intrusion, nitrates, pesticides, and PCBs have impacted some water wells per (Bulletin 118).
South Coast	4-4.03	SANTA CLARA RIVER VALLEY - MOUND	Medium	Metropolitan Water District	Some primary and secondary inorganic contaminants above the MCL (Bulletin 118).
South Coast	4-4.06	SANTA CLARA RIVER VALLEY - PIRU	High	Castaic Lake Water Agency	Groundwater quality impacts: nitrates, storm runoff, leaking tanks, etc. (Bulletin 118). High Selenium and other inorganics, average TDS was 1450 mg/L/

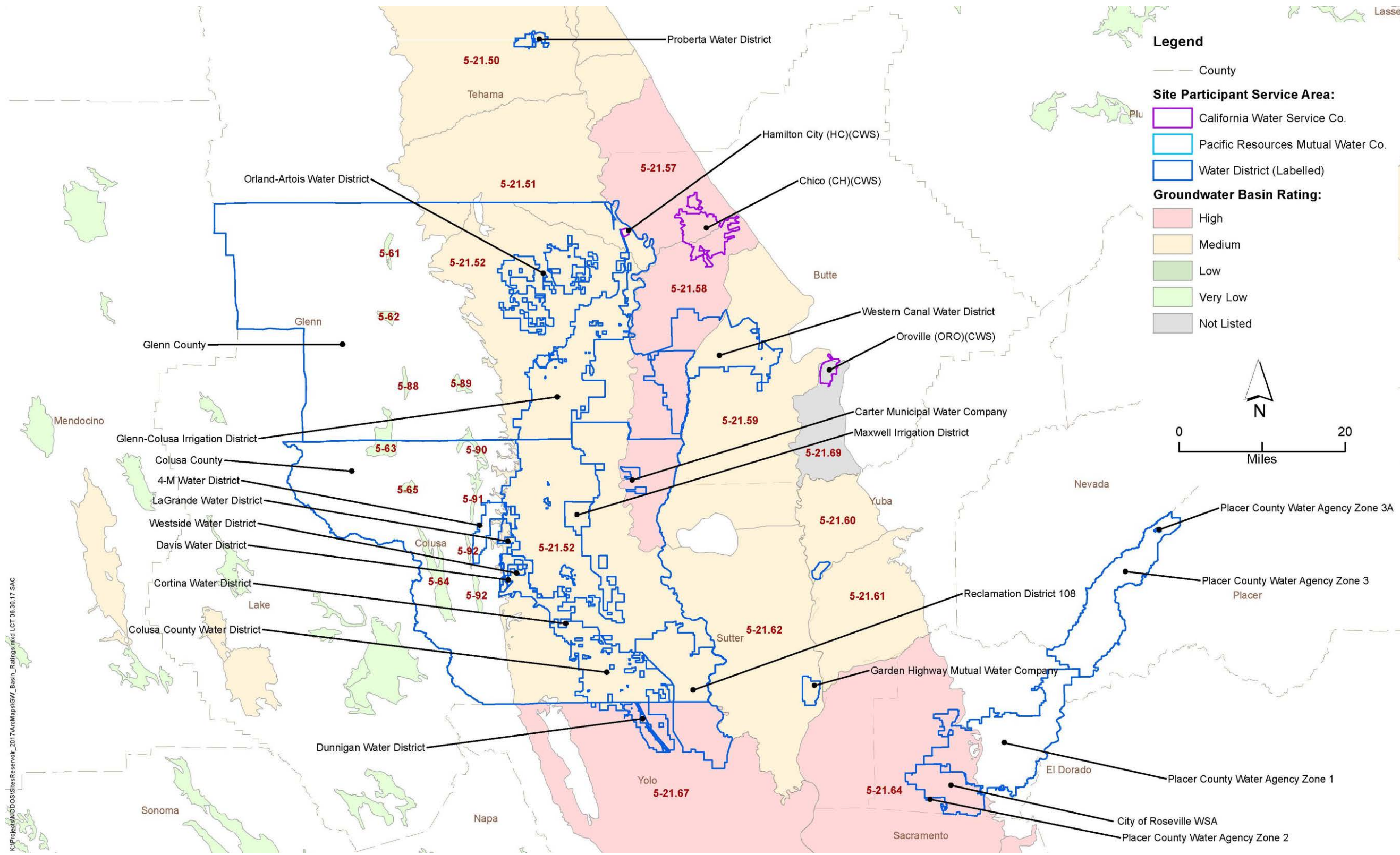
Table A.6-1. Groundwater Basins Potentially Affected by the Sites Reservoir Project					
Hydrologic Region	Basin Number	Basin/Sub Basin Name	Groundwater Basin Rating	Sites Participant	Comments/Existing Undesirable Groundwater Conditions
South Coast	4-4.07	SANTA CLARA RIVER VALLEY - SANTA CLARA RIVER VALLEY EAST	High	Castaic Lake Water Agency	Groundwater quality impacts: Nitrates, TCE, TDS, perchlorates, etc. (Bulletin 118)
Sacramento River	5-21.50	SACRAMENTO VALLEY - RED BLUFF	Medium	Proberta Water District	Some groundwater quality impairments as per B-118, declining groundwater levels in west-side subdivision, and very high number of domestic groundwater use wells.
Sacramento River	5-21.51	SACRAMENTO VALLEY - CORNING	Medium	Glenn County California Water Service Co. Glenn-Colusa Irrigation District	Continued groundwater level decline over most of the basin. This basin is becoming increasing dependent on groundwater due to uncertain reliability of CVP TCCA surface water supply.
Sacramento River	5-21.52	SACRAMENTO VALLEY - COLUSA	Medium	4-M Water District California Water Service Co. Colusa County Colusa County Water District Cortina Water District Davis Water District Glenn County Glenn-Colusa Irrigation District LaGrande Water District Maxwell Irrigation District Orland-Artois Water District Reclamation District 108 Westside Water District	Severely declining groundwater levels along the west-side of Glenn Co. Moderately declining groundwater levels in the Capay area. High TDS shallow aquifer in Maxwell-Williams area. Increase in housing development along I5. Groundwater-surface water interaction is important to maintaining waterfowl refuges. Area is being highlighted as solution area for Delta outflow issues and area of increased conjunctive use.
Sacramento River	5-21.57	SACRAMENTO VALLEY - VINA	High	California Water Service Co. Glenn County Glenn-Colusa Irrigation District	Groundwater from this basin is a key source of surface water inflow and serves eastside creeks which have endangered spring run.
Sacramento River	5-21.58	SACRAMENTO VALLEY - WEST BUTTE	High	California Water Service Co. California Water Service Co. California Water Service Co. Colusa County California Water Service Co.	Declining groundwater levels within the City of Chico and Durham areas (30-40' decline in mid-aquifer groundwater levels since 1998. High nitrates in north and west Chico area. High density of groundwater contamination plumes surrounding City of Chico. Groundwater serves as a source of underflow to Butte Creek, which has endangered spring-run salmon.
Sacramento River	5-21.59	SACRAMENTO VALLEY - EAST BUTTE	Medium	California Water Service Co. Western Canal Water District	Groundwater basin provides underflow to Butte Creek which supports endangered spring-run salmon.
Sacramento River	5-21.60	SACRAMENTO VALLEY - NORTH YUBA	Medium	California Water Service Co.	Strong surface water-groundwater interaction with Feather and Yuba River
Sacramento River	5-21.61	SACRAMENTO VALLEY - SOUTH YUBA	Medium	California Water Service Co.	Lowering of water levels.
Sacramento River	5-21.62	SACRAMENTO VALLEY - SUTTER	Medium	Garden Highway Mutual Water Company Reclamation District 108	Lowering of water levels, high concentrations of naturally occurring levels of minerals.
Sacramento River	5-21.64	SACRAMENTO VALLEY - NORTH AMERICAN	High	City of Roseville WSA Placer County Water Agency Zone 1 Placer County Water Agency Zone 2	Elevated levels of TDS, chloride, sodium, bicarbonate, boron, fluoride, nitrate, iron manganese, and arsenic may be of concern in some locations. There are 3 sites with significant groundwater contamination in the basin (B118). Groundwater levels in southwestern Placer County and northern Sacramento County have generally declined with many wells declining at a rate of about one and one-half feet per year for the last 40 years or more (Bulletin 118).
Sacramento River	5-21.66	SACRAMENTO VALLEY - SOLANO	Medium	California Water Service Co.	Overdraft. Documented impacts of nitrates and sulfates. (Bulletin 118)
Sacramento River	5-21.67	SACRAMENTO VALLEY - YOLO	High	Colusa County Water District Dunnigan Water District Reclamation District 108	Localized TDS problems preclude using groundwater for some M&I uses without treatment. Some subsidence in northeast of Davis and in northern Yolo.
Sacramento River	5-21.69	SACRAMENTO VALLEY - WYANDOTTE CREEK BASIN	--	California Water Service Co.	Proposed basin boundary revision request.
San Joaquin	5-22.01	SAN JOAQUIN VALLEY - EASTERN SAN JOAQUIN	High	California Water Service Co.	Critically overdrafted basin. Estimated that 70,000 af/year of overdraft occurs in northeastern San Joaquin County and about 35,000 af/year of overdraft occurs in the Stockton East Water District. Basin experiencing long term groundwater overdraft 160,000AF/yr as a result of overdraft, poor quality groundwater has been moving east along a 16- mile front on the east side of the Delta and has continued to migrate eastward. Large areas of nitrate contamination are located in the subbasin. (Bulletin 118).
San Joaquin	5-22.08	SAN JOAQUIN VALLEY - KINGS	High	California Water Service Co.	Critically overdrafted basin
San Joaquin	5-22.10	SAN JOAQUIN VALLEY - PLESANT VALLEY	Low	Pacific Resources MWC	--
Tulare Lake	5-22.11	SAN JOAQUIN VALLEY - KAWEAH	High	California Water Service Co.	Critically overdrafted basin; overdraft, water quality issues.

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Hydrologic Region	Basin Number	Basin/Sub Basin Name	Groundwater Basin Rating	Sites Participant	Comments/Existing Undesirable Groundwater Conditions
Tulare Lake	5-22.13	SAN JOAQUIN VALLEY - TULE	High	Pacific Resources MWC	Critically overdrafted basin; High Nitrate and TDS in some locations and some inorganic contamination issues.
Tulare Lake	5-22.14	SAN JOAQUIN VALLEY - KERN COUNTY	High	California Water Service Co. Pacific Resources MWC Wheeler Ridge-Maricopa Water Service District	Critically overdrafted basin; Important agricultural region. Subsidence, overdraft, water quality degradation
San Joaquin	5-22.15	SAN JOAQUIN VALLEY - TRACY	Medium	Zone 7 Water Agency	Poor water quality throughout the subbasin.(Bulletin 118)
Tulare Lake	5-22.18	SAN JOAQUIN VALLEY - WHITE WOLF	--	Wheeler Ridge-Maricopa Water Service District	Proposed basin boundary revision request.
Sacramento River	5-61	CHROME TOWN AREA	Very Low	Glenn County	--
Sacramento River	5-62	ELK CREEK AREA	Very Low	Glenn County	--
Sacramento River	5-63	STONYFORD TOWN AREA	Very Low	Glenn County	--
Tulare Lake	5-82	CUDDY CANYON VALLEY	Very Low	Antelope Valley - East Kern Water Agency	--
Sacramento River	5-88	STONY GORGE RESERVOIR	Very Low	Glenn County	--
Sacramento River	5-89	SQUAW FLAT	Very Low	Glenn County	--
Sacramento River	5-90	FUNKS CREEK	Very Low	Glenn County	--
South Lahontan	6-41	MIDDLE MOJAVE RIVER VALLEY	Low	Antelope Valley - East Kern Water Agency	--
South Lahontan	6-43	EL MIRAGE VALLEY	Medium	Antelope Valley - East Kern Water Agency	Groundwater levels have declined significantly in parts of the basin, some have recovered. Water is rated marginal to inferior for domestic and irrigation purposes. (Bulletin 118). Some documented VOCs issues also.
South Lahontan	6-44	ANTELOPE VALLEY	High	Antelope Valley - East Kern Water Agency Pacific Resources MWC	Pending Adjudication. Water reliability issues, and renewed subsidence. Closed basin. Water quality impacts per IRWMP, DWR B-118, and other sources. Extractions likely exceed natural recharge.
South Lahontan	6-46	FREMONT VALLEY	Low	Antelope Valley - East Kern Water Agency	--
South Lahontan	6-47	HARPER VALLEY	Low	Antelope Valley - East Kern Water Agency	--
South Lahontan	6-54	INDIAN WELLS VALLEY	Medium	Pacific Resources MWC Antelope Valley - East Kern Water Agency	Critically overdrafted basin. Overdraft has been documented since the 1960's. Water quality issues with respect to overdraft and mixing of aquifers.
Colorado River	7-21.01	COACHELLA VALLEY - INDIO	Medium	Coachella Valley Water District Desert Water Agency	Nitrates and addition of salts due to Colorado River imported water. Local areas of elevated fluoride.
Colorado River	7-21.02	COACHELLA VALLEY - MISSION CREEK	Medium	Coachella Valley Water District Desert Water Agency	Radiological and nitrate issues in the basin (Bulletin 118). Mission Creek groundwater also supplies drinking water to Desert Hot Springs and part of Indio subbasins.
Colorado River	7-21.03	COACHELLA VALLEY	Low	Coachella Valley Water District Desert Water Agency	--
Colorado River	7-21.04	COACHELLA VALLEY - SAN GORGONIO PASS	Medium	Desert Water Agency San Gorgonio Pass Water Agency	Adjudicated basin. Overdraft.
Colorado River	7-22	WEST SALTON SEA	Very Low	Coachella Valley Water District	--
Colorado River	7-31	OROCOPIA VALLEY	Very Low	Coachella Valley Water District	--
Colorado River	7-32	CHOCOLATE VALLEY	Very Low	Coachella Valley Water District	--
Colorado River	7-33	EAST SALTON SEA	Very Low	Coachella Valley Water District	--
Colorado River	7-63	VANDEVENTER FLAT	Very Low	Desert Water Agency	--
South Coast	8-01	COASTAL PLAIN OF ORANGE COUNTY	Medium	Metropolitan Water District	Saline intrusion issues.
South Coast	8-02.01	UPPER SANTA ANA VALLEY - CHINO	High	Metropolitan Water District San Bernardino Valley Municipal Water District	Adjudicated basin. Locally high nitrates and TDS. REH, per Pub Com, to include subsidence, historic overdraft, ground fissuring, problems mitigated with OBMP. REH Pub Com, program of controlled overdraft of 400,000 AF from the Chino Basin through 2030 to control the outflow of poor-quality rising groundwater.
South Coast	8-02.02	UPPER SANTA ANA VALLEY - CUCAMONGA	Medium	Metropolitan Water District	High nitrates reported in 14 of 24 wells tested (Bulletin 118)
South Coast	8-02.03	UPPER SANTA ANA VALLEY - RIVERSIDE-ARLINGTON	High	Metropolitan Water District San Bernardino Valley Municipal Water District	Water quality degradation issues known in several public supply wells (Bulletin 118).
South Coast	8-02.04	UPPER SANTA ANA VALLEY - RIALTO-COLTON	Medium	Metropolitan Water District San Bernardino Valley Municipal Water District	Extensive perchlorate contamination in basin.
South Coast	8-02.05	UPPER SANTA ANA VALLEY	Very Low	San Bernardino Valley Municipal Water District	--

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Hydrologic Region	Basin Number	Basin/Sub Basin Name	Groundwater Basin Rating	Sites Participant	Comments/Existing Undesirable Groundwater Conditions
South Coast	8-02.06	UPPER SANTA ANA VALLEY - BUNKER HILL	High	San Bernardino Valley Municipal Water District	Adjudicated basin (Western San Bernardino). The Bunker Hill sub-basin is impacted with PCE and TCE from the Newmark Superfund site and with perchlorate from the Crafton-Redlands plume.
South Coast	8-02.07	UPPER SANTA ANA VALLEY - YUCAIPA	Medium	San Bernardino Valley Municipal Water District San Gorgonio Pass Water Agency	Overdraft. Documented impacts of nitrates and sulfates. (Bulletin 118)
South Coast	8-02.08	UPPER SANTA ANA VALLEY - SAN TIMOTEO	Medium	Metropolitan Water District San Bernardino Valley Municipal Water District San Gorgonio Pass Water Agency	Parts of the subbasin are adjudicated. Locally high nitrates and salinity (Bulletin 118). GAMA reported upper basin water quality issues.
South Coast	8-02.09	UPPER SANTA ANA VALLEY - TEMESCAL	Medium	Metropolitan Water District	Groundwater quality impaired by nitrates and inorganics in some wells (Bulletin 118).
South Coast	8-04	ELSINORE	High	Metropolitan Water District	High TDS due to Nitrate and Sulfate in some portions of the basin. Some fluoride impacts to groundwater (Bulletin 118). Study done for Elsinore Basin groundwater Advisory Committee (Nov. 2012) indicates an average annual groundwater budget deficit of 1,800 af/yr for the last 11 years. Between 1990 and 2000 cumulative deficit was 19,000 af.
South Coast	8-05	SAN JACINTO	High	Metropolitan Water District San Bernardino Valley Municipal Water District	Adjudicated basin. Basin is in overdraft (MWD). Groundwater quality issues documented in DWR B-118. Pumping has increased some contaminant distribution in the basin.
South Coast	8-06	HEMET LAKE VALLEY	Very Low	Desert Water Agency Metropolitan Water District	--
South Coast	8-08	SEVEN OAKS VALLEY	Very Low	San Bernardino Valley Municipal Water District	--
South Coast	9-01	SAN JUAN VALLEY	Low	Metropolitan Water District	--
South Coast	9-02	SAN MATEO VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-03	SAN ONOFRE VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-04	SANTA MARGARITA VALLEY	Medium	Metropolitan Water District	Adjudicated basin (Federal). Groundwater in surface water part of basin is marginal to inferior for domestic and agricultural uses (Bulletin 118). Mg, SO4, Cl, NO3, and TDS concentrations are locally high for domestic. Use; Cl, B, and TDS are locally high for ag use (Bulletin 118).
South Coast	9-05	TEMECULA VALLEY	High	Metropolitan Water District	Adjudicated basin (Federal). Groundwater source is impaired in various parts of the basin due to elevated nitrates, fluoride, sulfates, TDS, and VOCs (Bulletin 118).
South Coast	9-07	SAN LUIS REY VALLEY	Medium	Metropolitan Water District	TDS is a concern according to MWD. B-118 indicates problems with nitrates, inorganics, radiologicals, and VOCs. Desalination generally required in all areas of the basin.
South Coast	9-09	ESCONDIDO VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-10	SAN PASQUAL VALLEY	Medium	Metropolitan Water District	Nitrate problems are widespread (Bulletin 118). TDS is also known to be high in places. During dry years, the basin has experienced water level declines up to 20 feet in one year.
South Coast	9-11	SANTA MARIA VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-12	SAN DIEGUITO CREEK	Very Low	Metropolitan Water District	--
South Coast	9-13	POWAY VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-14	MISSION VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-15	SAN DIEGO RIVER VALLEY	Medium	Metropolitan Water District	High Nitrates, Iron and Manganese treatment is required, high TDS (>3,000 mg/l) in western portion of basin
South Coast	9-16	EL CAJON VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-22	BATIQUITOS LAGOON VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-23	SAN ELIJO VALLEY	Very Low	Metropolitan Water District	--
South Coast	9-32	SAN MARCOS AREA	Very Low	Metropolitan Water District	--
South Coast	9-33	COASTAL PLAIN OF SAN DIEGO	Low	Metropolitan Water District	--

Table A.6-2. Increases in Deliveries by Hydrologic Region with the Sites Project

CalSim II Modeled Beneficiaries	Average Increase in Deliveries (TAF/yr)	Dry and Critical Increase in Deliveries (TAF/yr)	Average Increase in Deliveries (TAF/yr)	Dry and Critical Increase in Deliveries (TAF/yr)	Average Increase in Deliveries (TAF/yr)	Dry and Critical Increase in Deliveries (TAF/yr)
Sacramento River Hydrologic Region	2015		2030		2070	
Supplemental Water to CVP Settlement Contractors	2	6	2	5	1	4
Supplemental Water for CVP Service Area Ag	67	119	96	137	121	132
Supplemental Water for CVP Service Area M&I	0	0	0	0	0	0
Supplemental Water for SWP Service Area M&I	0	0	0	0	0	0
Supplemental Water for SWP Service Area Feather River Service Area	3	2	4	5	4	4
Supplemental Water for County of Colusa	7	8	8	9	8	8
Colusa Basin (Incremental Level 4 Refuge Water Supply)	1	0	1	0	1	0
Total	80	136	111	155	136	148
San Joaquin River Hydrologic Region	2015		2030		2070	
Supplemental Water for CVP Service Area Ag	0	0	0	0	0	0
Mendota Pool (Incremental Level 4 Refuge Water Supply)	29	13	28	10	25	8
San Francisco Bay Hydrologic Region	2015		2030		2070	
Supplemental Water for CVP Service Area Ag	0	0	0	0	0	0
Supplemental Water for SWP Service Area M&I	35	72	38	72	42	77
Central Coast Hydrologic Region	2015		2030		2070	
Supplemental Water for SWP Service Area M&I	0	0	0	0	0	0
Tulare Lake Hydrologic Region	2015		2030		2070	
Supplemental Water for CVP Service Area Ag	12	28	13	27	15	29
Supplemental Water for SWP Service Area M&I	0	0	0	0	0	0
Supplemental Water for SWP Service Area Ag	12	28	13	27	15	29
Tulare Basin (Incremental Level 4 Refuge Water Supply)	7	3	6	2	6	2
Total	31	58	33	57	36	61
South Lahontan Hydrologic Region	2015		2030		2070	
Supplemental Water for SWP Service Area M&I	1	3	2	3	2	3
South Coast Hydrologic Region	2015		2030		2070	
Supplemental Water for SWP Service Area M&I	60	126	67	126	73	134
Supplemental Water for SWP Service Area Ag	0	0	0	0	0	0
Delta Environmental Water Quality	2015		2030		2070	
Upstream and Delta Inflow	73	72	73	78	68	79



Source: Prepared by AECOM 2017

Figure A6-1. Potentially Affected Groundwater Basins in Sites Participants Service Areas – Northern California

STATUS:	FINAL	PREPARER:	N SMITH	PHASE:	1	VERSION:	A
PURPOSE:	ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB	CHECKER:	J HERRIN	DATE:	2017 AUGUST		
CAVEAT:		QA/QC:		REF/FILE #:	WSIP APPLICATION		
NOTES:	SITES_A6C			PAGE:	9	OF	12

Central Area

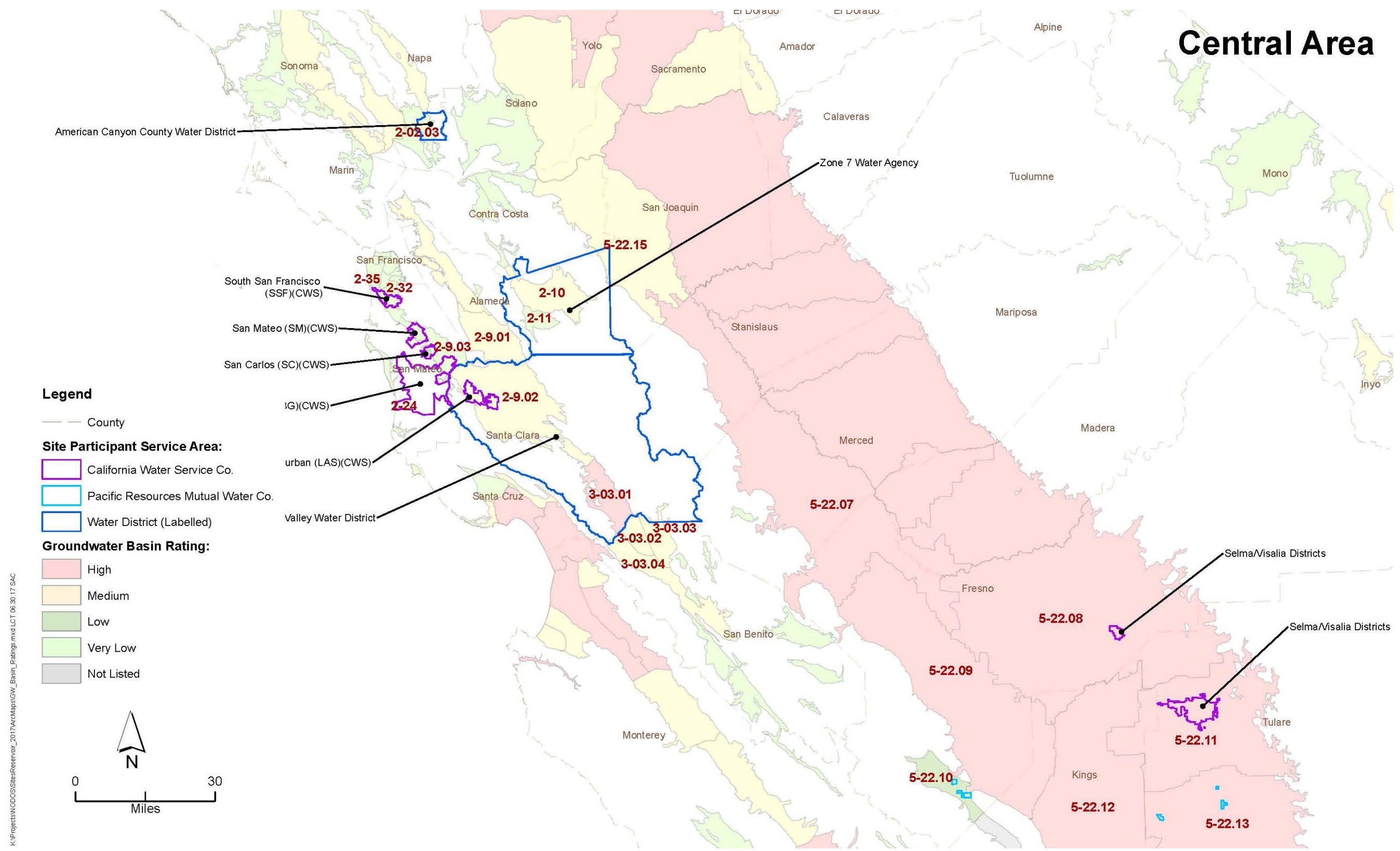
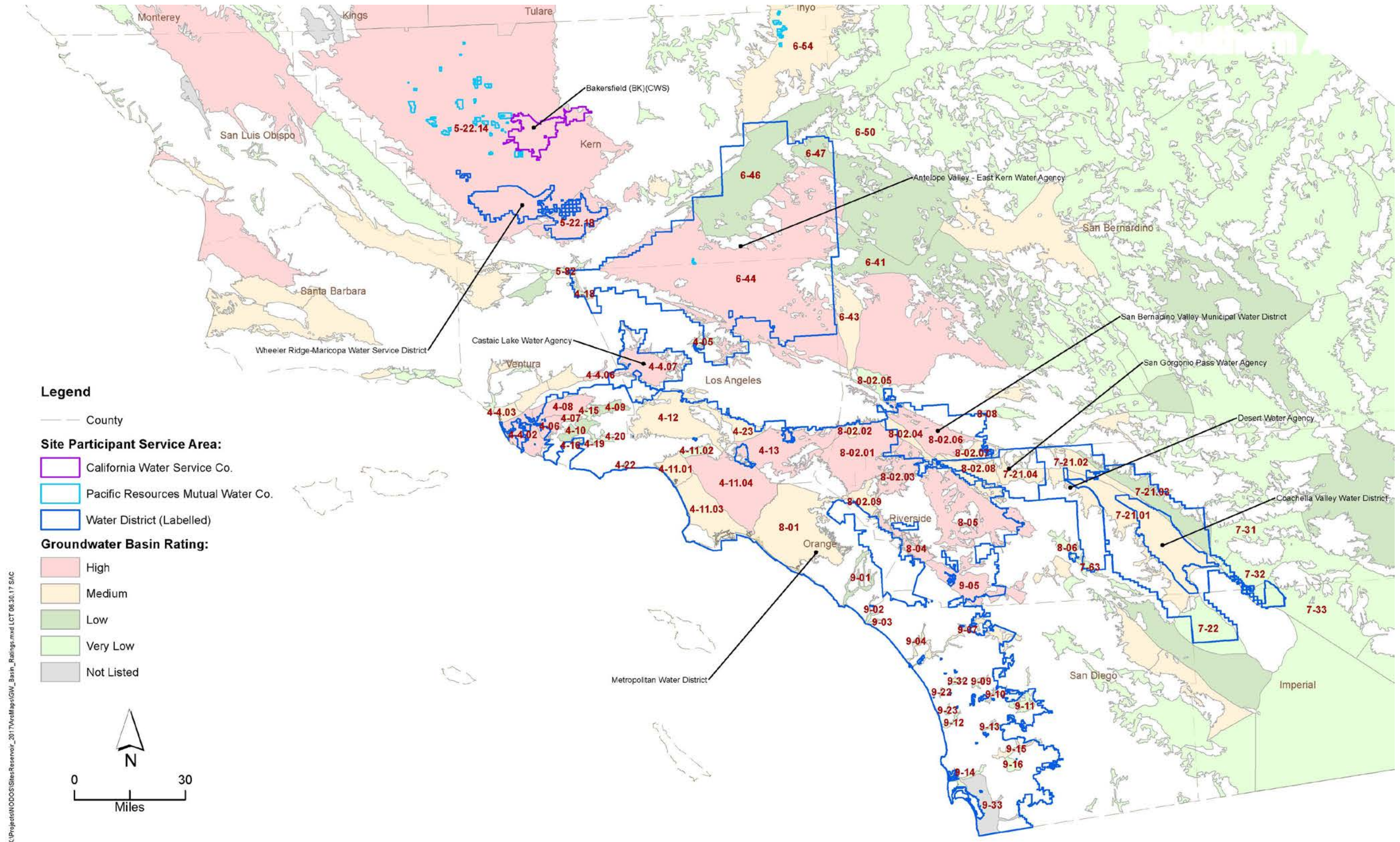


Figure A6-2. Potentially Affected Groundwater Basins in Sites Participants Service Areas – Central California

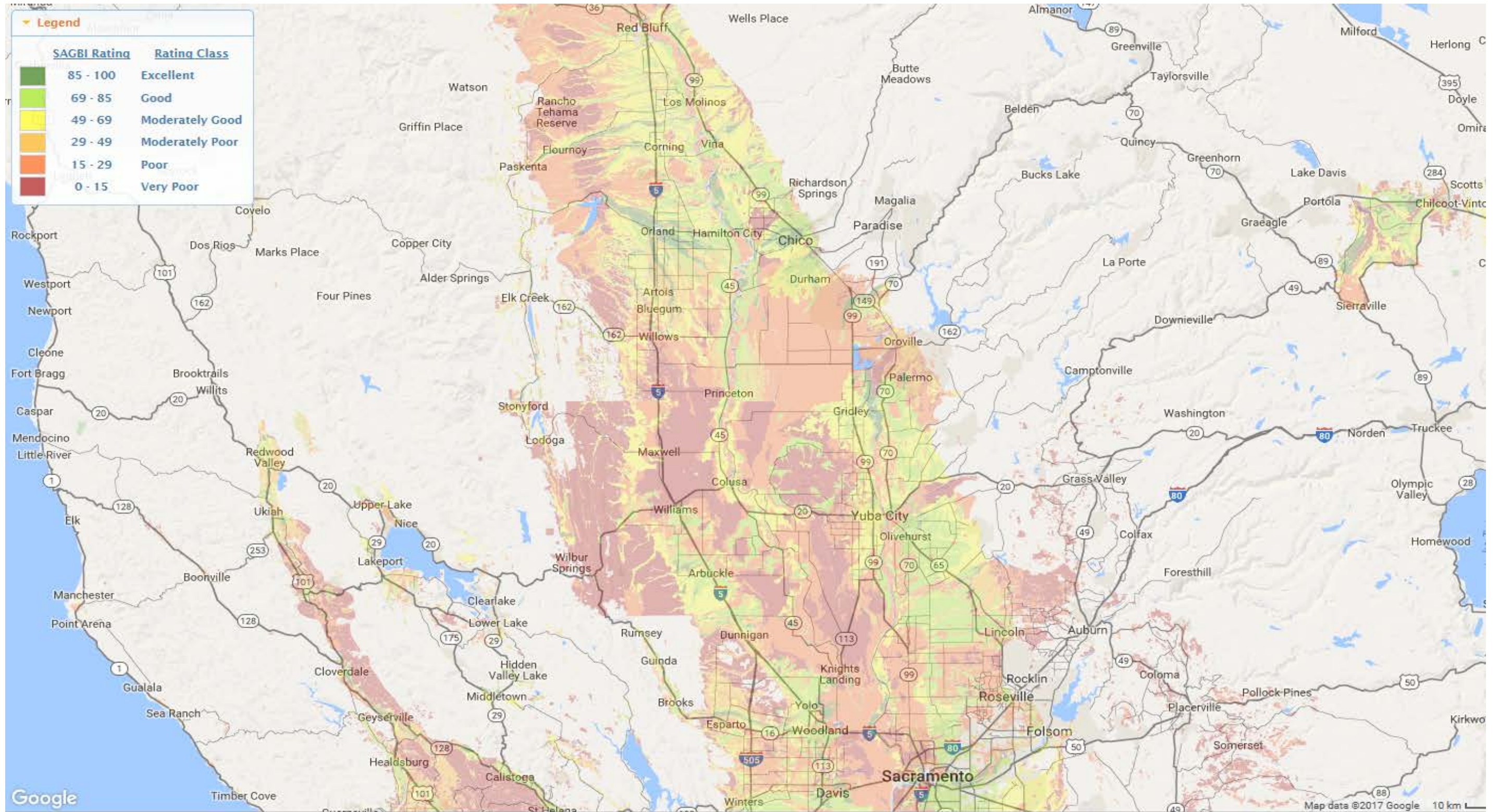
STATUS: FINAL	PREPARER: N SMITH	PHASE: 1	VERSION: A
PURPOSE: ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB	CHECKER: J HERRIN	DATE: 2017 AUGUST	
CAVEAT:	QA/QC:	REF/FILE #: WSIP APPLICATION	
NOTES: SITES_A6C		PAGE: 10	OF 12



Source: Prepared by AECOM 2017

Figure A6-3. Potentially Affected Groundwater Basins in Sites Participants Service Areas – Southern California

STATUS: FINAL	PREPARER: N SMITH	PHASE: 1	VERSION: A
PURPOSE: ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB	CHECKER: J HERRIN	DATE: 2017 AUGUST	
CAVEAT:	QA/QC:	REF/FILE #: WSIP APPLICATION	
NOTES: SITES_A6C		PAGE: 11	OF 12



Source: <https://casoilresource.lawr.ucdavis.edu/sagbi/>

Figure A6-4. Soil Agricultural Groundwater Banking Index Map