

Summary of Land Use and Well Permitting Authorities West Placer County, California

Prepared for:
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Prepared by:



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SUMMARY OF LAND USE AND WELL PERMITTING AUTHORITIES
WEST PLACER COUNTY

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Abbreviations and Acronyms

AF	acre-feet
AFY	acre-feet per year
ASR	Aquifer Storage and Recovery
Cal Am	California American Water
CASGEM	California Statewide Groundwater Elevation Monitoring
CEQA	California Environmental Quality Act
CFW	Camp Far West
CHWD	Citrus Heights Water District
County	Placer County
DWR	Department of Water Resources
GMP	Groundwater Management Plan
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
ILRP	Irrigated Lands Regulatory Program
IRWMP	Integrated Regional Water Management Program
JPA	Joint Powers Authority
JPa	Joint Powers Agreement
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
PCWA	Placer County Water Agency
NID	Nevada Irrigation District
RWA	Regional Water Authority
SB	Senate Bill
SGA	Sacramento Groundwater Authority
SGMA	Sustainable Groundwater Management Act
SJWD	San Juan Water District
SSWD	South Sutter Water District
Subbasin	North American Groundwater Subbasin
SWRCB	State Water Resources Control Board
Water Board	State Water Resources Control Board
WWTP	Wastewater Treatment Plant

1. Introduction

In 2014, Placer County (County), received grant funding from the California State Department of Water Resources (DWR), through the Proposition 1, Sustainable Groundwater Planning – Counties with Stressed Basins Grant Agreement, DWR Grant No. 4600011504, for the Western Placer County Groundwater Assessment Project. The Project Work Plan included four tasks: to develop a summary of land use authorities and forecast of future demand; develop a Groundwater Sustainability Agency organization structure; develop a well extraction facilities inventory database and website; and to perform water quality sampling at six selected wells. This report provides a description of the land use authorities and a forecast of future groundwater demand from a Sustainable Groundwater Management Act (Act) perspective for the West Placer County portion of the North American Subbasin (Subbasin).

Within the County, multiple agencies have land use planning authorities and plans. The goal of this subtask is to identify and summarize land use authorities and plans in support of the development of the Groundwater Sustainability Agency (GSA). GEI has obtained and reviewed local and County plans to identify existing management authorities, areas of control, policies and regulations and identified existing and common authorities that can be incorporated into a Memorandum of Agreement (MOA), a Joint Powers Agreement (JPa), or a Joint Powers Agency (JPA) agreement and to identify where new authorities or ordinances may be required.

During this review, GEI evaluated existing and projected groundwater demand to assess potential increase or decrease in future groundwater extractions for use in the Groundwater Sustainability Plan (GSP) and to support future groundwater modeling.

2. State Authorities

This section provides a brief discussion of the state regulatory agencies and acts that oversee water supply, water quality and groundwater in the state. These state agencies may have delegated some of their authorities to local governments. The regulatory authority as it relates to SGMA is also provided.

2.1 State Water Resources Control Board

The State Water Resources Control Board (SWRCB) was created and given the broad authority and responsibility to protect water quality, balance competing demands on water resources and attempt to resolve decades-long water disputes. The five-member SWRCB allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine Regional Water Quality Control Boards (Regional Boards) located in the major watersheds of the state. The Regional Boards, each comprised of seven members, serve as the frontline for state and federal water pollution control efforts.

The SWRCB, under a limited set of circumstances, could step in to assist with the protection of local groundwater resources (SGMA) through direct basin management. The process of SWRCB intervention is sometimes referred to as the State Backstop or State Intervention, and only occurs when local efforts are not successful. State Intervention requirements remain in place until local efforts are able to sustainably manage groundwater resources.

The Regional Boards are subsidiaries of the SWRCB and serve as the frontline for state and federal water pollution control efforts. There are nine Regional Boards that exercise rulemaking and regulatory activities by basin. The County is within the Central Valley Region, the State's largest, encompassing 60,000 square miles, or about 40 percent of the state's total area. In 2008, the Central Valley Regional Water Quality Control Board adopted Resolution No. R5-2008-0181 in support of Developing a Groundwater Strategy for the Central Valley Region. The Groundwater Quality Protection Strategy for the Central Valley Region was developed to provide a long range planning document that defines the regulatory programs to be enhanced, and identify ways to expand on partnering opportunities to protect groundwater quality. Groundwater quality from agricultural lands in the area is managed under the Irrigated Lands Regulatory Program (ILRP). The ILRP addresses discharge of wastes (e.g., sediments, pesticides, nitrates) from commercial irrigated lands. These wastes can harm aquatic life or make water unusable for drinking water or agricultural uses. The goal of the ILRP is to protect surface water and groundwater and to reduce impacts of irrigated agricultural discharges to waters of the State

A few pertinent programs and permitting authorities are provided in the following sections.

2.1.1 Well Permitting

Water supply well permitting evolved from degraded groundwater quality caused by improper construction and destruction of water supply wells. The Department of Water Resources (DWR) has responsibility for developing standards for wells for the protection of water quality under California Water Code Section 231. Water Code Section 231 was enacted in 1949.

California Water Code §231: “The department, either independently or in cooperation with any person or any county, state, federal or other agency, shall investigate and survey conditions of

damage to quality of underground waters, which conditions are or may be caused by improperly constructed, abandoned or defective wells through the interconnection of strata or the introduction of surface waters into underground waters. The department shall report to the appropriate California regional water quality control board its recommendations for minimum standards of well construction in any particular locality in which it deems regulation necessary to protection of quality of underground water, and shall report to the Legislature from time to time, its recommendations for proper sealing of abandoned wells.”

The law for establishing and implementing well standards changed in 1986 (Water Code Section 13801) and required:

1. By September 1, 1989, the SWRCB adopt a model well ordinance implementing DWR standards.
2. By January 15, 1990, all counties and cities, and water agencies where appropriate, adopt a well ordinance that meets or exceeds DWR well standards.
3. By February 15, 1990, the Board’s model ordinance is to be enforced by any county, city, or water agency failing to adopt a well ordinance.

The well ordinances require well permits be obtained from designated well permitting agencies. Approval of the well permitting agencies is granted by the SWRCB.

2.1.2 Aquifer Storage and Recovery

To streamline the permitting process and to ensure consistent requirements, in 2012 the SWRCB adopted a general waste discharge requirements (General Order 2012-001) for Aquifer Storage and Recovery (ASR) projects that inject treated drinking water into aquifers. The Regional Boards may use the General Order to permit projects in their areas. The General Order permits injection of water into an aquifer. It does not permit construction of the wells. Separate approval by the Division of Drinking Water is also required to serve recovered injected water to the public is also required.

2.2 State and Local Agencies

The California Environmental Quality Act (CEQA) applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project."¹ A project is an activity undertaken by a public agency or a private activity which must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency (state or local public agency) which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

Most proposals for physical development in California are subject to the provisions of CEQA, as are many governmental decisions which do not immediately result in physical development (such as

¹ § 21065. PROJECT

“Project” means an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:

- (a) An activity directly undertaken by any public agency.
- (b) An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- (c) An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

adoption of a general or community plan). Every development project which requires a discretionary governmental approval will require at least some environmental review pursuant to CEQA, unless an exemption applies.

Certain elements of the Sustainable Groundwater Management Act (SGMA) are subject to CEQA approval. The formation of a Groundwater Sustainability Agency (GSA) is not expressly exempt from CEQA. CEQA does not apply to the preparation and adoption of a Groundwater Sustainability Plan (GSP). However, any implementation actions taken pursuant to an adopted GSP are subject to CEQA, effectively requiring CEQA compliance.

3. Summary of Local Land Use Authorities

There are seven purveyors that provide water in the North American Subbasin within Placer County that are included in this review. They are Placer County, City of Roseville, City of Lincoln, Placer County Water Agency (PCWA), California American Water (Cal Am), Nevada Irrigation District (NID), and South Sutter Water District (SSWD). Three of the water purveyors have land use authority. Agencies with land use authority are the City of Lincoln, City of Rocklin, City of Roseville, and Placer County. Their jurisdictional areas and sphere of influences are shown on **Figure 1**. Other water purveyors that provide water to small portions of the Subbasin include, San Juan Water District, Camp Far West Irrigation District, Citrus Heights Water District, and Reclamation District 1001. Their service areas are not shown on **Figure 1** due to their small size.

3.1 Local Land Use Authorities and Policies

Land use management and planning authority is granted through the State of California and is derivative of the city or county general police power. This power allows cities and counties to establish land use and zoning laws that govern development. Agencies with land use authority are the City of Lincoln, City of Rocklin, City of Roseville, and Placer County. The City of Roseville is considered a charter city, which provides the City with additional constitutional freedoms to govern municipal affairs even if a conflict with State law exists.

Water purveyors also have a voice in land use planning, if not necessarily an authority. Because they provide water supply, any new development is required to prove adequate water supply will be made available to serve the project and therefore may affect land use. Proof of adequate water supplies is required under SB 610 and SB 221 which are intended to assist water suppliers, cities, and counties in integrating water and land use planning. SB 221 prohibits a city or county from approving a residential subdivision of more than 500 units unless there is written verification that a sufficient water supply for 20 years is or will be available. SB 610 requires retail water agencies under prescribed circumstances with responsibility for prepare water supply assessment of purposes of predicated and ensuring long-term (20-year water supply reliability) for those projects that are subject to CEQA.

There are similarities between the four entities' land use policies and may affect the consideration of potential groundwater management options. **Table 1** summarizes the policies from each entity by general category to demonstrate their common purpose. These similarities will provide the foundation for integration and incorporation into an agreement between agencies to form a GSA.

It should be noted that Cal Am, although not a public water agency, has similar authority as the public water agencies for determination of adequate water supplies for new developments.

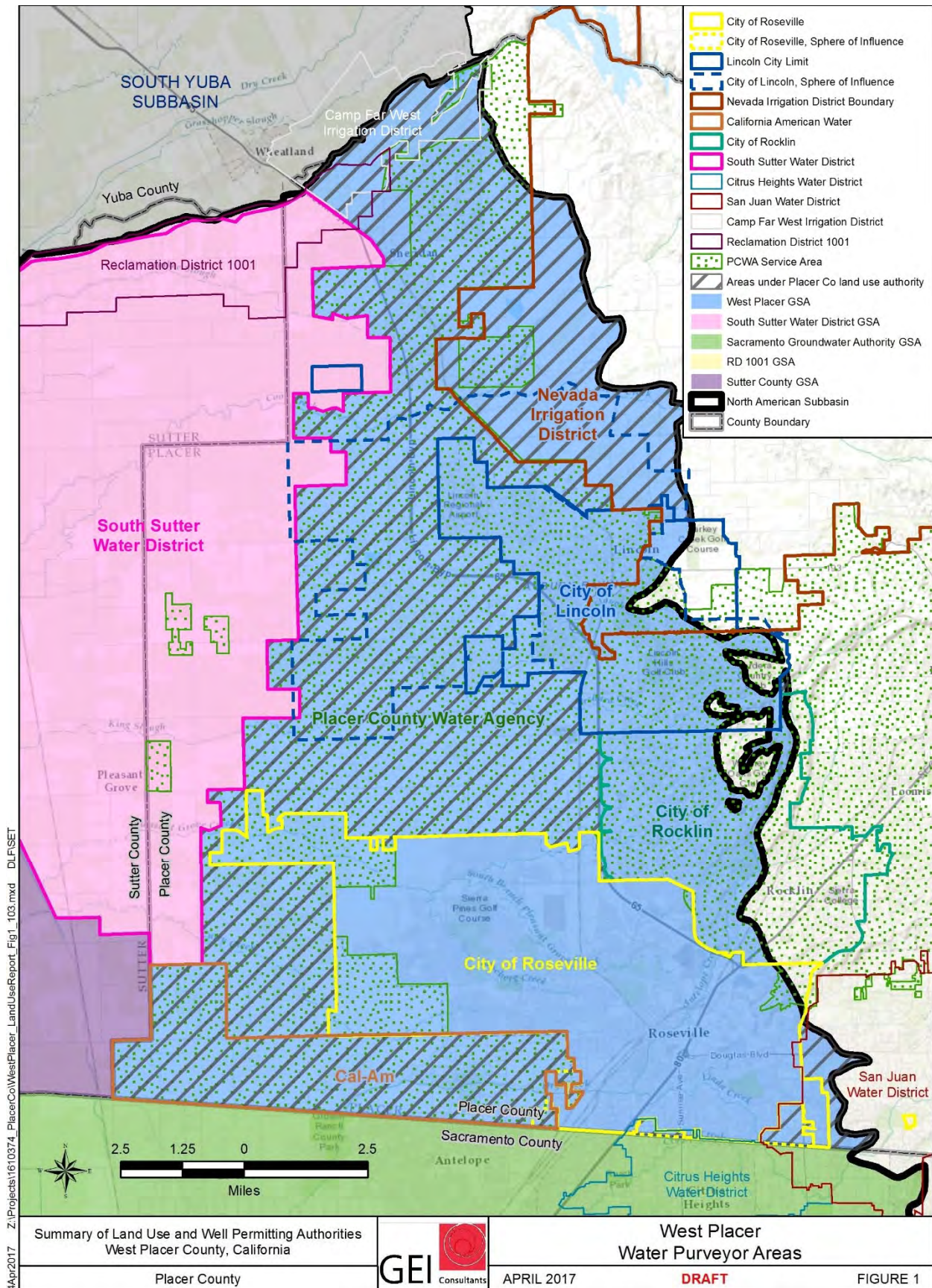


Figure 1. West Placer Water Purveyor Areas

Table 1. Summary of Similar Policies

	City of Lincoln	City of Rocklin	City of Roseville	Placer County
Adequate Water Supply for New Development	<ul style="list-style-type: none"> ▪ Policy PFS-2.3 – The City shall require the availability of an adequate water supply to be demonstrated before approving new development. ▪ Policy PFS-2.5 - The City shall not allow development within newly annexed areas until a potable water supply is obtained through Placer County Water Agency (PCWA) or Nevada Irrigation District (NID) or, where appropriate, other water districts. 		<ul style="list-style-type: none"> ▪ Any development proposal west of Roseville that does not have a sufficient supply of surface water shall secure additional supplies above what the City currently has available. ▪ Any development proposal that does not have a sufficient supply of surface water shall secure additional supplies above what the City currently has available. Development proposals shall also provide financial assistance to incorporate the new source of supply into the City’s water supply portfolio (surface water, groundwater and recycled water); and development proposals shall include measures to reduce water demand by implementing the use of conservation best management practices, recycled water and other off-sets. 	<ul style="list-style-type: none"> ▪ Policy 4.C.1 - The County shall require proponents of new development to demonstrate the availability of a long-term, reliable water supply. The County shall require written certification from the service provider that either existing services are available or needed improvements will be made prior to occupancy. Where the County will approve groundwater as the domestic water source, test wells, appropriate testing, and/or report(s) from qualified professionals will be required substantiating the long-term availability of suitable groundwater. ▪ Policy 4.C.2 - For approval of new development: a) Urban and suburban development should rely on public water systems using surfaced supply, b) Rural communities should rely on public water systems. In cases where parcels are larger than those defined as suburban and no public water system exists or can be extended to the property individual wells may be permitted.

Table 1. Summary of Similar Policies

	City of Lincoln	City of Rocklin	City of Roseville	Placer County
Utilize Reclaimed Water	<ul style="list-style-type: none"> ▪ Policy PFS-2.4 - The City shall require the use of reclaimed water by industrial, commercial, recreational users and roadway landscaping, whenever it is deemed feasible by the City. The City will also promote the use of reclaimed water by surrounding agricultural users as part of a water conservation program. <ul style="list-style-type: none"> • All development will be required to utilize reclaimed water in areas determined to be appropriate by the City. (Specific Plan) 		<ul style="list-style-type: none"> ▪ Any development proposal that does not have a sufficient supply of surface water shall secure additional supplies above what the City currently has available. Development proposals shall also provide financial assistance to incorporate the new source of supply into the City's water supply portfolio (surface water, groundwater, and recycled water); and development proposals shall include measures to reduce water demand by implementing the use of conservation best management practices, recycled water, and other off-sets. 	<ul style="list-style-type: none"> ▪ Policy 4.C.7 -The County shall promote the use of reclaimed wastewater to offset the demand for new water supplies.
Develop Groundwater Supplies	<ul style="list-style-type: none"> ▪ Policy PFS-2.6 - The City shall consider development of groundwater supplies in the western portions of the City's sphere of influence to provide emergency back up and to supplement the domestic supply provided by the PCWA and NID. 		<ul style="list-style-type: none"> ▪ The City will also update the Groundwater Management Plan as needed to further the City's desire to increase water supply reliability. 	<ul style="list-style-type: none"> ▪ Policy 4.C.13.- In implementation of groundwater use policies, the County will recognize the significant differences between groundwater found in bedrock or 'hardrock' formations of the foothill/mountain region and those groundwater found in the alluvial aquifers of the valley. The County should make distinctions between these water resources in its actions.
Water Conservation Practices	<ul style="list-style-type: none"> ▪ Policy PFS-2.17 – The City shall require new development to use the best available technologies (BAT) for 	<ul style="list-style-type: none"> ▪ PF-41 Assist the Placer County Water Agency in implementing water conservation practices. <ul style="list-style-type: none"> • OCR-60 Work with the 	<ul style="list-style-type: none"> ▪ Develop and implement water conservation standards and measures as necessary elements of the water system. 	

Table 1. Summary of Similar Policies

	City of Lincoln	City of Rocklin	City of Roseville	Placer County
	<p>water conservation, including, but not limited to water-conserving water closets, showerheads, faucets, and water conserving irrigation systems.</p> <ul style="list-style-type: none"> • Policy PFS-2.18 – The City shall require meters for all new water connections. 	<p>Placer County Water Agency to ensure that available methods and techniques to conserve potable water supplies are applied in Rocklin.</p>	<ul style="list-style-type: none"> ▪ Any development proposal that does not have a sufficient supply of surface water shall secure additional supplies above what the City currently has available. Development proposals shall also provide financial assistance to incorporate the new source of supply into the City’s water supply portfolio (surface water, groundwater, and recycled water); and development proposals shall include measures to reduce water demand by implementing the use of conservation best management practices, recycled water, and other off-sets. 	

Table 1. Summary of Similar Policies

	City of Lincoln	City of Rocklin	City of Roseville	Placer County
Regional Coordination	<ul style="list-style-type: none"> Policy PFS-2.19 – The City shall work in concert with the County of Placer, other cities and local water purveyors to share groundwater data, develop a mutually beneficial Integrated Regional Water Resources Management Program, define the long-term sustainability of the groundwater basin, and work to manage groundwater uses in ways that facilitate the basin’s sustainability. 	<ul style="list-style-type: none"> LU-65 Continue to participate in the activities of regional entities as deemed appropriate, such as the Highway 65 Joint Powers Authority, the South Placer Regional Transportation Authority (SPRTA), Placer County Transportation Planning Agency (PCTPA), the Sacramento Area Council of Governments (SACOG), the Placer County Flood Control and Water Conservation District, and the landfill authority. 	<ul style="list-style-type: none"> Coordinate and take a lead role, where feasible, with local state, federal and other jurisdictional agencies on regional issues of importance including but not limited to air quality, transportation, water supply, sewage treatment, solid waste disposal and recycling. 	
Recycled Water	<ul style="list-style-type: none"> Policy PFS-3.4 - The City shall research viable options for the reuse of treated wastewater with priority to recreational, industrial and agricultural users; landscaping along roadways; and wetland mitigation areas. 		<ul style="list-style-type: none"> Expand recycled water distribution system to deliver and meet estimated irrigation demands. Develop, plan, and provide incentives for use of recycled water by the public and private sectors. Protect the quality and quantity of the City’s groundwater and consider designating areas as open space where recharge potential is high. 	
Groundwater Recharge, Groundwater Quality	<ul style="list-style-type: none"> Policy PFS-2.11 - The City shall evaluate groundwater recharge capabilities as necessary, but at least every five years and ensure adequate long-term protection of groundwater 	<ul style="list-style-type: none"> OCR-11 Protect the groundwater recharge value of riparian and wetland areas while recognizing that minor modifications to such areas may be a necessary outcome of the 	<ul style="list-style-type: none"> (Goal OS Element) Groundwater Recharge and Water Quality focuses on protecting the quantity of groundwater and the quality of surface water resources. 	<ul style="list-style-type: none"> 6.A.13. The County shall protect groundwater resources from contamination and further overdraft. 6.A.15. The County shall encourage the protection

Table 1. Summary of Similar Policies

	City of Lincoln resources.	City of Rocklin development process.	City of Roseville	Placer County
			<ul style="list-style-type: none"> ▪ (Policy OS Element: GW Recharge and Water Quality) Continue to monitor and participate in, as appropriate, regional activities affecting water resources, groundwater, and water quality. ▪ Continue to monitor groundwater resources and investigate strategies for enhanced sustainable use. Areas where recharge potential is determined to be high shall be considered for designation as open space. ▪ Where feasible, locate stormwater retention ponds in areas where subsoil is suitable for groundwater recharge. ▪ Through the Environmental Utilities Department, continue to monitor the City's wells for water quality and quantity. ▪ Protect the quality and quantity of the City's groundwater and consider designating areas as open space where recharge potential is high. 	<p>of floodplain lands and, where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.</p> <ul style="list-style-type: none"> ▪ 6.4 The County shall prepare, adopt, and implement a comprehensive surface and groundwater management program to ensure the long-term protection and maintenance of surface and groundwater resources. ▪ 6.D.7. The County shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored or expanded, where possible.
ASR			<ul style="list-style-type: none"> ▪ Develop and implement an aquifer storage and recovery program. ▪ Implement the City's Aquifer Storage and Recovery (ASR) program. 	

Table 1. Summary of Similar Policies

	City of Lincoln	City of Rocklin	City of Roseville	Placer County
			<p>The ASR Program allows the City to maximize sustained use of the groundwater basin in conjunction with surface water supplies, while providing a strong backup water supply during critically dry years consistent with the City's commitments contained in the Water Forum Agreement.</p>	

3.2 Water Well Permits

DWR maintains a list of statewide well permitting agencies. The City of Roseville and Placer County are identified as well permitting agencies.

3.2.1 Placer County

Placer County administers the well permitting program for the entire County, with the exception of lands within the City of Roseville. The Placer County Water Well Construction Ordinance provides the minimum requirements for construction, repair, and destruction of water wells, cathodic protection wells, and monitoring wells. Whomever wishes to drill a well within the County's boundaries, with the exception of the City of Roseville, must first obtain a County Environmental Health permit.

3.2.2 City of Lincoln

Any wells planned within the City of Lincoln must first be approved by the City, prior to issuance of a County Environmental Health permit. Starting in 1998, Lincoln assumed the permitting responsibility from Placer County for the construction of all private and public wells within the city limits (MWH, 2007); however, since that time something changed but documentation has not been located. DWR no longer lists the City as a well permitting agency. The County Environmental Health website, states that any well planned within the City of Lincoln must first be approved by the City prior to issuance of an Environmental Health permit.

3.2.3 City of Roseville

Roseville's Environmental Utilities Engineering Division is the permitting agency for wells located within the Roseville's city limits. To permit a well in Roseville, a Well Construction Application and Permit Form must be filed with the Environmental Utilities Department. An engineer from Roseville provides inspection services when new wells are constructed, including observations during well seal grouting and when wells are destroyed.

4. Groundwater Demand

The supply relationships between agencies are complex, with many agreements and arrangements. This section summarizes the source of water for each of the water purveyors, some of those agreements between agencies, as well as a brief overview of groundwater supply. Current and projected groundwater demand are also included.

4.1 Water Supply Summary

A summary of the water type sources and their use in each water purveyor area or sphere of influence in the West Placer County portion of the North American Subbasin is summarized below.

4.1.1 California American Water

California American Water (Cal Am) receives treated surface water from PCWA that is delivered through the City Roseville for consumptive use. Recycled water is also delivered from the City of Roseville for irrigation of greenbelt areas, golf courses and schools. PCWA contracts with Roseville to provide surface water to a small area within the Cal Am Franchise Service Area. Prior to 2002, water for this area was provided by municipal groundwater supply wells.

The remainder of the Cal Am Franchise Service Area is rural. Domestic users and growers rely upon private wells for groundwater supplies. The Sacramento Regional Model² was used to estimate the amount of groundwater pumped by agriculture in this area. Cal Am has two wells (PFE/Billy Mitchell and Vandenberg) in Placer County although both wells are considered to be part of the Antelope System which almost entirely resides in Sacramento County.

Cal Am is also signatory to the Water Forum Agreement.

4.1.2 City of Lincoln

The City of Lincoln has renewable contracts with PCWA and NID for supplies of treated surface water as well as non-potable raw water. PCWA and NID will supply the City the volume of potable surface water required to meet maximum daily demands for build-out of the sphere of influence.

The City owns and operates five groundwater wells that supplement PCWA and NID surface supplies. These groundwater wells supply about 10 percent of the annual demand during normal years. These wells, however, are able to supply more than 30 percent of the City's demand during daily shortages related to seasonal peaks and emergency outages.

4.1.3 City of Rocklin

The City of Rocklin obtains its water from PCWA. Generally, developments are required to enter into a Pipeline Extension Agreement as approved by PCWA and to provide all pipelines and facilities necessary to supply adequate amounts of water for domestic and fire protection purposes. The City does not own any groundwater wells in the Subbasin.

² The Sacramento Regional Model (SRM) is a ten-layer numerical groundwater flow model, developed on behalf of the City of Roseville by the HydroGeo Group.

4.1.4 City of Roseville

Folsom Lake has been the primary source of water for the City of Roseville since 1971. Through the Folsom Lake Municipal and Industrial Intake the City receives untreated Central Valley Project (CVP) water and untreated water from PCWA as allotments of their North Fork American River water rights. The City also operates six groundwater wells, all which possess Aquifer Storage and Recovery (ASR) capabilities, for emergency and dry year supply and plans to construct ten more, for a total of approximately 22,000 acre-feet per year (AFY) of emergency supply. The City maintains interties with PCWA, San Juan Water District, Cal Am, Citrus Heights Water District, and Sacramento Suburban Water District.

It is the current policy that groundwater will be used only for reliability in times of shortage. Therefore, groundwater use is not assumed as part of normal water supply conditions within its 2040 planning horizon. To prepare for shortages in the future, and the eventual development of conjunctive use programs currently being studied, additional wells are being planned for the system. For planning purposes, each well is assumed to produce a nominal 1,500 gallons per minute (gpm). When wells are used for backup or dry year supply, it is anticipated that they will be run for only short periods of time (in the case of backup), and for only a portion of the year (in the case of dry year supply). All wells will be constructed with capability to recharge the aquifer directly with treated surface water as a key element of the conjunctive use program.

4.1.5 Nevada Irrigation District

The Nevada Irrigation District (NID) primary source of supply is local surface water derived principally from the Yuba River, Bear River, and Deer Creek watersheds that is diverted and stored under the NID's pre-1914 and post-1914 appropriative water rights. The water rights allow for a diversion of up to 450,000 AFY. NID has an extensive system of storage reservoirs that provides surface water supply to NID's seven water treatment plants as well as to raw water customers.

NID does not utilize groundwater as an existing or planned source of water supply or recharge due to limited groundwater availability beneath lands within its service area. NID has no groundwater supply wells. However, there are 1,639 single family dwelling units within NID's service area that are considered standby accounts because they are located in close proximity to NID transmission mains but are currently served by private groundwater wells and are not NID customers. It is assumed that these dwelling units will eventually become NID customers.

NID's service area overlies the North American Subbasin. It serves surface water to Turkey Creek Golf Course, as well as to PCWA for treatment. PCWA treats raw NID source water for distribution through Lincoln's system.

4.1.6 Placer County

Placer County provides water for the small town of Sheridan. Groundwater is the sole source of supply with an average consumption of about 150 AFY.³

4.1.7 PCWA

Placer County Water Agency was created in 1957 through approval of "The Placer County Water Agency Act" by the California State Legislature for the purpose of developing and operating major

³ 2013 Sustainable Yield Report

water facilities in Placer County. PCWA is self-governed by an independently elected five-member Board of Directors and is under administrative direction of a general manager. The boundaries of PCWA generally coincide with the boundaries of Placer County.

PCWA supplies wholesale and retail water to a variety of customers including residential, commercial, industrial, and agriculture. Raw water irrigates pastures, orchards, rice fields, farms, ranches, golf courses, and other uses in the North American Subbasin. PCWA retails treated water to customers residing in City of Rocklin and small portions of the City of Roseville. PCWA also wholesales treated water to City of Lincoln and several smaller special districts who then retail water to their customers. PCWA provides raw water to Roseville, San Juan Water District, and Sacramento Suburban Water District on a contract basis. These agencies provide their own treatment and then retail the water to their customers.

PCWA does not currently produce groundwater from the subbasin but has two wells for emergency supply and redundant water supply sources. The wells are located in Rocklin. PCWA's water supply plans project the use of groundwater in dry hydrologic conditions if surface water supplies are limited. PCWA does not anticipate utilizing groundwater to support its normal year water deliveries. Specifically, PCWA's Sunset and Tinker wells each have a production capacity of 1,000 AFY. These wells are to be used for backup and dry-year supplies and therefore are accounted for as dry-year supply only, and not included as part of the water supply.

PCWA anticipates recycled water supplies will be developed and potentially available as a supply in its retail service area. However, these supplies would be provided through agreements with the City of Lincoln and the City of Roseville for recycled water produced at each city's wastewater treatment facility. The details of recycled water supply plans are being developed as part of on-going regional discussions.

4.1.8 South Sutter Water District

The major supply of surface water available to SSWD comes from the Bear River, where SSWD holds licensed appropriative surface water rights for direct diversion as well as storage in Camp Far West (CFW) Reservoir. In addition to surface water rights to the Bear River, SSWD holds water rights to divert local surface water from several small streams within its boundaries, including Yankee Slough, Coon Creek, Markham and Auburn Ravines, and the East Side Canal. These small streams are also utilized by SSWD as part of its conveyance system to redistribute and deliver Bear River from CFW Reservoir. The District also adheres to a minimum required release volumes for the protection of fish and wildlife during specific times of the year. Historically, the District also has had the opportunity to purchase water from NID at the downstream end of NID's system in years of surplus supply.

SSWD does not own or operate any groundwater wells. However, there are private groundwater wells in their service area that provide about two-thirds of the water to meet irrigation demands. Groundwater continues to provide a dependable source for agriculture and displacement for surface water, particularly during drier years. The groundwater levels in the North American Subbasin underlying SSWD vary both spatially and temporally, and fluctuate with seasonal and annual hydrologic conditions.

4.1.9 Other Water Purveyors and Agencies

There are several other water purveyors that have small service areas within the Subbasin. San Juan Water District (SJWD) provides treated surface water to a small portion of Granite Bay. Citrus Heights Water District (CHWD) is a service area mostly within Sacramento County, but has a small area within

Placer County. CHWD supplies both groundwater and retail surface water purchased from SJWD. Camp Far West Irrigation District provides surface water for agricultural purposes for a small area adjacent to the Bear River. Reclamation District 1001, reclaims water for reuse mostly in Sutter County, but also has a small area within Placer County adjacent to the Bear River.

4.2 Groundwater Use

The Western Placer County Sustainable Yield Study, (GEI, 2013) quantified the hydrology of Western Placer County so that groundwater resources could be sustainably managed. Although many of the entities listed in this document do not use or supply groundwater, groundwater extractions occur privately. The Sustainable Yield Study used the Sacramento Regional Model to create groundwater budgets, estimate groundwater extractions by area, and ultimately developed an estimate of the sustainable yield of the Western Placer County portion of the North American Subbasin. **Table 2** utilizes data published in the study and provide groundwater pumping estimates. In 2012, the total groundwater use was about 87,000 AF.

4.3 Groundwater Use Projections

Most of the agencies do not provide groundwater as a service, although groundwater is used in their regions. **Table 2** provides actual and projected future groundwater use by each agency and by private well owners within the service boundaries of the agencies. It should be noted that over 95 percent of the groundwater use in the West Placer County portion of the subbasin is not metered but is being estimated.

Table 2. Groundwater Use Projections

Entity	2012 ¹	2015	2020	2025	2030	2035	2040
	acre-feet per year						
California American Water	0	<i>No reported projection</i>					
Private Well Owner (Cal Am area)	7,383	<i>No reported projection</i>					
City of Lincoln ^{3 and 4}	2,443	707	1,119	1,271	1,486	1,701	2,056
Private Well Owner (Lincoln SOI)	13,853	<i>No reported projection</i>					
City of Rocklin	0	<i>No reported projection</i>					
City of Roseville ^{2 and 3}	0	6	9,684	16,947	16,947	21,789	21,789
City of Roseville (Reason Farms)	1,729	<i>No reported projection</i>					
Nevada Irrigation District	0	<i>No reported projection</i>					
Placer County Water Agency	749	<i>No reported projection</i>					
Private Well Owner (PCWA area)	28,152	<i>No reported projection</i>					
Placer County (Sheridan)	100	<i>No reported projection</i>					
Placer County (Unfranchised Areas)	2,285	<i>No reported projection</i>					
South Sutter Water District ⁵	0	<i>No reported projection</i>					
Private Well Owner (SSWD area)	30,292	<i>No reported projection</i>					
San Juan Water District	NR	<i>Not reported for Placer County Portion</i>					
Citrus Heights Water District	NR	<i>Not reported for Placer County Portion</i>					
Camp Far West Irrigation District	NR	<i>No reported projection</i>					
RD 1001	NR	<i>Not reported for Placer County Portion</i>					

¹ Extraction values obtained from the 2013 Sustainable Yield Report.

² Roseville values 2020-2040 are for urban water demand. Projected future groundwater supply based on a well expansion program and is not part of normal year operations. Supply is to back-up or dry year supply augmentation.

³ Sources 2015-2040 are from each agency's Urban Water Management Plan.

⁴ In 2011 and 2012 City of Lincoln used about two to three times its normal groundwater use which results in a significantly lower projection for 2015 from the UWMP.

⁵ South Sutter Water District only provides surface water to agricultural users to meet about one-third of water demand. The remaining water demand is met from private groundwater wells.

NR = Not reported

5. Conclusion and Summary

Each of the land use agencies have existing policies in place that allow for future development yet maintain a sustainable and reliable water supply. The policies allow for protection and reasonable use of groundwater. As demonstrated in Table 2, each of the agencies have similar policies that can be maintained to allow for future groundwater sustainable management by each agency within their governance area. In development of a GSA agreement these policies need to be acknowledged and preserved.

During the review of the policies no land or groundwater use policies were found that allowed for an assessment of the impacts, approval and monitoring of groundwater use by the agricultural communities. Agriculture is not required by CEQA to assess potential impacts of construction of new wells on existing wells, to the groundwater resources within the North American Subbasin, to the potential to degrade groundwater quality due to pumping effects drawing brackish water from underlying marine sediments or the effects on surface water depletion. There are no ordinances to restrict the placement of new wells near streams and limit future surface water depletion. New ordinances and policies may need to be developed by land use agencies as they form a GSA to sustainably manage groundwater in the Subbasin.

6. Reference List

ACWA:

Association of California Water Agencies, October 2014. Sustainable Groundwater Management Act of 2014 Summary

California American Water (Cal Am):

Water Systems Consulting, October 17, 2011. California American Water Sacramento District 2010 Urban Water Management Plan.

Lincoln, City of:

City of Lincoln Department of Public Services. Water Well Application/Permit

Joiner Ranch Development Standards, 1985.

Lake Development - Lincoln, LLC, July 2013. Village 1 Specific Plan.

Mintier & Associates, March 2008. City of Lincoln General Plan.

RRM Design Group, January 2003. City of Lincoln: Twelve Bridges Specific Plan

Saracino-Kirby-Snow, November 2003. City of Lincoln Groundwater Management Plan.

Terrance E. Lowell and Associates, Inc., December 2004. Lincoln 270 Specific Plan General Development Plan Design Guidelines.

Tully & Young, July 2016. City of Lincoln 2015 Urban Water Management Plan.

Nevada Irrigation District (NID):

Brown & Caldwell, January 29, 2016. 2015 Agricultural Water Management Plan

Brown & Caldwell, January 29, 2016. 2015 Urban Water Management Plan

Placer County Water Agency (PCWA):

Brown & Caldwell, August 2006. Placer County Water Agency Integrated Water Resources Plan.

MWH, April 25, 2014. Dry Creek Raw Water Diversion: High Level Feasibility Study Memorandum

MWH, June 2008. East Loomis Basin Canal Efficiency Study

PCWA, 2015. Placer County Water Agency Water Shortage Contingency Plan.

PCWA, 2015. Resolution No. 15-10 of the Board of Directors of the Placer County Water Agency

Placer County Water Agency, February 18, 2016. Board of Directors Meeting Minutes.

Tully & Young, June 2016. Placer County Water Agency 2015 Urban Water Management Plan

Placer County:

Placer County, July 19, 1990. Water Well Construction Ordinance.

Placer County, May 21, 2013. Placer County General Plan Update.

Placer County. Hand Dug Well Policy

Torrence Planning & Design, MacKay & Soms, Inc. 2015 Amended Placer Vineyards Specific Plan.

Rocklin, City of:

City of Rocklin, October 2012. City of Rocklin General Plan

Economic & Planning Systems, Inc. May 27, 2008. Northwest Rocklin Annexation Area Public Facilities Financing Plan 2008 Update

OMNI-MEANS, Ltd. 1995. Sunset West General Development Plan

Whitney Oaks General Development Plan, 1996.

Roseville, City of:

City of Roseville, June 15, 2016. City of Roseville General Plan

West Yost Associates, May 2016. City of Roseville 2015 Urban Water Management Plan

Sacramento Groundwater Authority (SGA):

Sacramento Groundwater Authority, 2014. Sacramento Groundwater Authority Groundwater Management Plan.

South Sutter Water District (SSWD):

MBK Engineers, March 2016. South Sutter Water District Agricultural Water Management Plan

MBK Engineers, November 2003. South Sutter Water District Water Management Plan

State Agencies:

California Department of Water Resources, May 18, 2016. GSP Regulations.

California Department of Water Resources, October 2015. SGMA: DWR's Role in Sustainable Groundwater Management slides

California Environmental Protection Agency, August 2010. Groundwater Quality Protection Strategy: A "Roadmap" for the Central Valley Region

California State Legislature Senate Local Government Committee, August 2007. "Governments Working Together, A Citizen's Guide to Joint Powers Agreements"

California Water Boards. Fact Sheet: Streamlined Regulatory Process for Aquifer Storage and Recovery (ASR) Project that Inject Drinking Water into an Aquifer

California Water Boards. Fact Sheet: The Nine Regional Water Quality Control Boards in California

California Water Boards. Fact Sheet: Triggering State Intervention

Irrigated Lands Regulatory Program, November 2016. Frequently Asked Questions.

State of California Natural Resources Agency Department of Water Resources, October 2016.

California Laws for Water Wells, Monitoring Wells, Cathodic Protection Wells, Geothermal Heat Exchange Wells

Sustainable Groundwater Management Act, September 2014. [And Related Statutory Provisions from SB1168 (Pavley), AB1739 (Dickinson), and SB1319 (Pavley) as Chaptered]

West Placer County:

GEI Consultants, November 2013. Western Placer County Sustainable Yield.

GEI Consultants, November 2013. Draft Western Placer County Biennial State of the Basin Report.

MWH, 2007. Western Placer County Groundwater Management Plan.