SAN GORGONIO PASS
WATER AGENCY
Established 1961

San Gorgonio Pass Water Agency

Water Portfolio Strategic Program Report

February 2025

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Executive Summary

SAN GORGONIO PASS WATER AGENCY

Water Portfolio Strategic Program

San Gorgonio Pass Water Agency (SGPWA or Agency) continues to develop its long-term regional water supply plans. In 2020, the Agency embarked on its first foray into synthesizing regional demands with regional supplies to support a 25-year water planning horizon in its Urban Water Management Plan (UWMP). SGPWA's Board and Regional Water Purveyors (Purveyors) recognized the need to integrate long-term water plans to preserve and protect the regions valuable water supplies and ensure its economic growth. The 2020 UWMP also revealed the changing landscape of regulatory structures that affect the regional water supply reliability – like the Delta Reform Act (DRA) and the Bay-Delta Water Quality Control Plan (BDWQCP).

Since the development of the UWMP, SGPWA secured an additional water supply through a State Water Project (SWP) lease from the City of Ventura. In addition, SGPWA has refocused its attention on other long-term water supply reliability actions, like Sites Reservoir and the Delta Conveyance Project, and increased its attention on the emerging regulatory developments related to the Sacramento-San Joaquin Bay Delta (Delta). The region has also completed Groundwater Sustainability Plans that complement the existing Beaumont Basin Adjudication and give perspective on native groundwater supplies and potential water storage options. Additionally, the Agency has conducted an assessment of water availability and conveyance to determine the feasibility of conveying acquired water to SGPWA's service area. These actions necessitated an updated and synthesized analysis of the Agency's long-term water reliability and security.

This Water Portfolio Strategic Program (WPSP) represents the next phase in SGPWA's regional water planning. The report expands the water planning horizon through 2075, examines existing opportunities related to the Agency's secured water assets, and investigates new opportunities that could supplement the regional water supply

portfolio. It is the next step in aggregating water reliability planning for the Agency and the region's Purveyors. The WPSP is a living program that will continue to synthesize the Agency's and Purveyors' long-term water planning in light of evolving regulations and climate uncertainty.

ES-1 Program Objectives

The overall objective of meeting long-term SGPWA service area demand through 2075 requires a methodical acquisition of supplies that allow for opportunistic water management. The goal is to optimize long-term water supplies and storage to safeguard the region's economic future.

Water supply reliability requires integrating SGPWA's planning objectives with both retail water management plans and statewide regulatory criteria that affect SGPWA's entire service area. Accordingly, the Portfolio Strategy incorporates these considerations and prioritizes: (1) asset reliability and supply diversification; (2) local and south-of-delta originated supplies; (3) ample water storage and recovery assets; and (4) regional collaboration. Thoughtful integration of these strategy components will improve water supply options and management flexibility when confronted with increasing hydrologic variability, limited conveyance for external supplies, and a changing regulatory landscape.

ES-2 Geographic and Operational Fundamentals

The Agency's service area boundaries are not coterminous with the hydrogeologic boundaries of the underlying groundwater basins. Surface water supplies that are delivered through the State Water Project enter these basins through groundwater recharge and return flow cycles and cross the SGPWA service area boundaries becoming part of the larger groundwater basin supply for the region. Figure ES-1 shows the Agency boundaries and the underlying groundwater boundaries.

Figure ES-1: SGPWA Boundaries and Groundwater Sub-basins

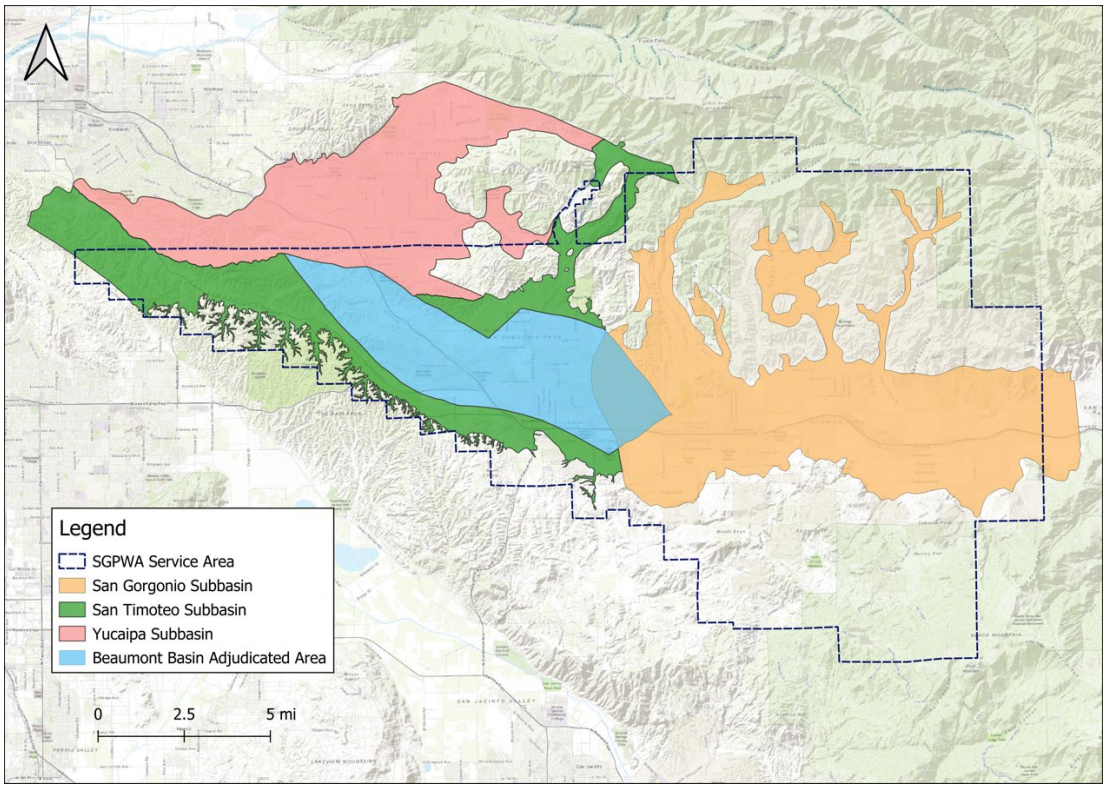
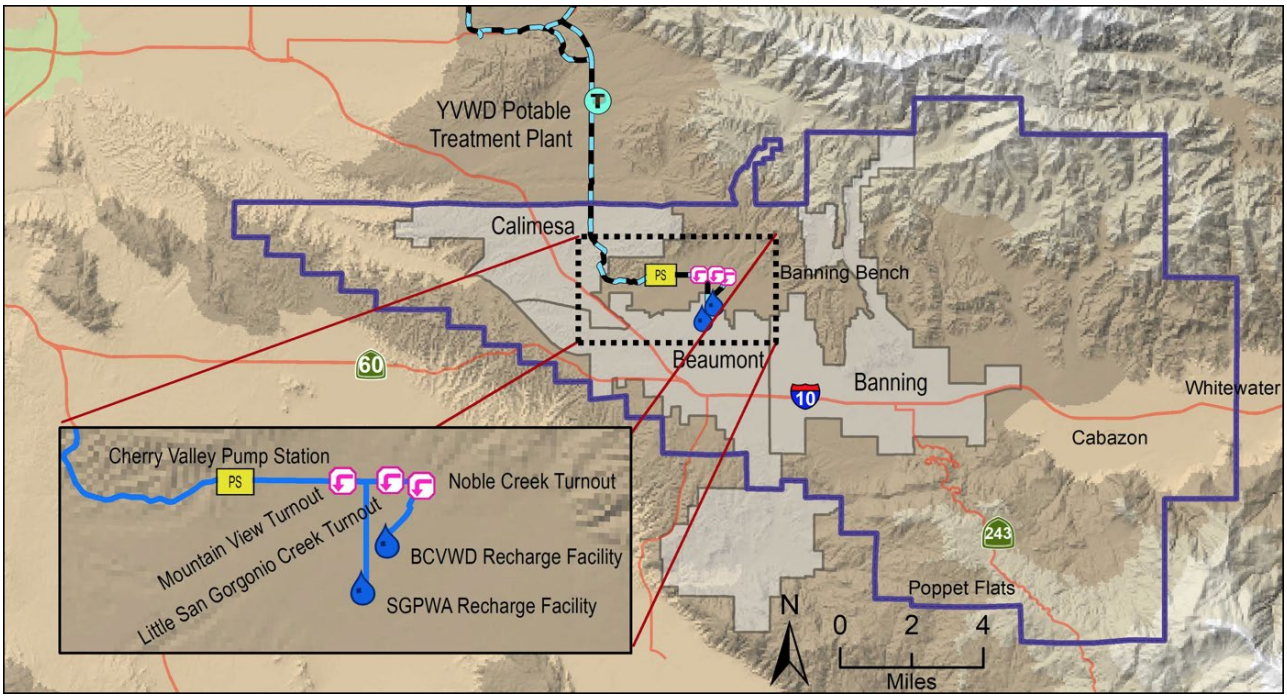


Figure ES-2 shows the fundamental components of the Agency's water system.

Figure ES-2: SGPWA Water System



ES-3 Report Organization and Structure

This report examines the Agency's current water supply portfolio, projected demands, and potential alternatives to ensure long-term water supply reliability through 2075. This comprehensive analysis integrates existing water assets, future supply opportunities, storage capabilities, and regulatory requirements to develop strategic recommendations across four key time periods.

Section 2 provides a Factual Background that examines, in depth, SGPWA's existing water asset portfolio. This critical component provides the fundamental starting point from which to examine water asset portfolio management and augmentation. In addition, Section 2 examines the regulatory framework that will impact the Agency's long-term water asset portfolio planning.

Section 3 introduces the analysis undertaken of SGPWA's water supply and demand to assess long-term reliability. It breaks down the data components and assumptions used in the analysis for existing and long-term supply and storage. The analysis uses demand projections based on regional calculations from retailers in SGPWA's service area, showing demand growing from 32,506 AFY in 2025 to approximately 57,718 AFY by 2075. The section also considers potential demand management measures through retailer conservation actions. The analysis described in Section 3 provides the framework for understanding SGPWA's future water supply needs and reliability challenges addressed by the WPSP.

Section 4 of the report analyzes a refined list of water supply alternatives that the Agency and Purveyors could pursue to support the region's long-term water supply reliability objectives. The water supply alternatives list was refined based on coordinated engagement with SGPWA senior management. This refinement analyzed the Legal, Economic, Political, and Technical (LEPT) components of each identified alternative and then ranked those alternatives based on the LEPT criteria in order to refine variables and identify options that may be more accessible. The ranking was conducted independently through SGPWA and Zanjero staff and where significant gaps were identified, further analysis was employed. The refined list of alternatives was then incorporated into the WPSP supply and demand analysis developed and described in Section 3. In addition, the refined list was vetted through a public workshop held at SGPWA in 2024.

Section 4 also assesses regulatory constraints and criteria to better understand the regulatory compliance related to supported alternatives. For instance, the Delta Reform Act should guide the Agency and Purveyors to identify water supply projects, continue water conservation, and develop recycling and reuse opportunities to

address DRA criteria and BDWQCP's looming implementation. These regulatory items may further evolve over time and the WPSP will adjust as necessary.

Section 5 integrates the supply and demand analysis with the water supply alternatives, in light of regulatory conditions. The analysis examines four critical time periods through 2075: Current Period, Near-Term Period, Medium-Term Period, and Long-Term Period. Each period incorporates different water year types (normal to critically dry) and provides snapshots of supply and storage conditions. Accordingly, the supply alternatives are integrated in Section 5 into scenarios that show how the Agency could meet its ultimate water supply reliability objectives as part of the ongoing WPSP.

ES-4 Fundamental Findings

The Report's fundamental findings are not surprising – the Agency and Purveyors will need to identify and secure additional water supplies from imported and local sources to meet the 2075 water supply reliability objectives. For instance, the reliability of SWP supplies is projected to decrease from current 53% average allocations to approximately 46% by 2043 due to climate variability and regulatory constraints. This declining reliability, coupled with growing regional demand, necessitates portfolio diversification and expanded storage capabilities.

Regional water demand is projected to grow significantly:

- 2025: 32,506 AFY
- 2042: 41,078 AFY
- 2056: 48,137 AFY
- 2075: 57,718 AFY

Success will depend on regional collaboration between SGWPA, retail agencies, Groundwater Sustainability Agencies, and local stakeholders, including the Morongo Band of Mission Indians.

Key strategic recommendations include:

- Effectively manage SWP contract carryover supplies
- Maximize Article 21 water when available
- Continuing to pursue and execute short-term transfer opportunities
- Coordination with retail agencies to augment native groundwater supplies

- Expand local storage and recharge capabilities
- Explore and engage in water banking activities outside of the service area
- Support retail agency recycled water expansion projects
- Pursue long-term supply asset augmentation alternatives

The Agency and Purveyors are already engaged in many activities to support the regional long-term supply reliability. For instance, the Agency and Beaumont Cherry Valley are invested in the Sites Reservoir project in Northern California that would provide significant dry-year reliability through storage and conveyance. In addition, local purveyors (and the Agency) have developed long-term sustainable yields for underutilized groundwater basins as well as additional recycled water facilities. These efforts are the first steps in synthesizing the long-term demands with supply needs.

The Agency and Purveyors will need to further develop water supplies to meet their 2075 needs both locally and outside the Agency boundaries. The report identifies numerous options, including securing additional permanent Table A supplies, engaging in short-term transfers, and augmenting local recycled water supply projects and storage. In short, the 2075 regional water supply reliability will require continuing investment in ongoing water augmentation projects and identifying new opportunities and securing those opportunities in the future. The next phase of this Water Portfolio Strategic Program effort will refine the supply opportunities and hone the analyses to begin the acquisition process.

Section 2

SGPWA ASSET SUMMARY

This section describes San Gorgonio Pass Water Agency's current water supply portfolio and groundwater storage.

The San Gorgonio Pass Water Agency's (SGPWA or Agency) Water Portfolio Strategic Program (WPSP) examines the fundamental factual components of each water supply, water storage opportunity, and the Sacramento-San Joaquin Delta's regulatory structure. Accordingly, this section describes SGPWA's State Water Project Water Supply Contract (SWP Contract), the Agreement For Transfer of State Water Project Water with the City of Ventura, Antelope Valley-East Kern Water Agency (AVEK) Water Supply Agreement (Nickel Water), Yuba Accord water supply, Regional Recycled water supplies, existing local groundwater storage, groundwater basin descriptions, and the Delta Reform Act (DRA). Moreover, the section also addresses water supply and storage actions that SGPWA is securing – like Sites Reservoir and the Delta Conveyance Project – to provide additional factual baselines for SGPWA current and future asset portfolio. All of these items provide the framework for addressing future actions to bolster SGPWA's long-term water supply reliability.

2.1 SGPWA State Water Project Water Supply Contract

The State Water Project (SWP) provides a primary water supply for the San Gorgonio Pass Water Agency. The water supply is derived from a series of water rights and water contracts as well as pumping and conveyance structures that connect the SWP water supplies to the Agency's delivery system. SGPWA's SWP Contract is held with the California Department of Water Resources (DWR). The original SWP Contract became effective in November of 1962 and includes 20 amendments, including a 2019 amendment extending the term through 2085.

SGPWA's SWP Contract entitles the Agency to a maximum of 17,300 acre-feet of water per year as well as storage and conveyance opportunities in the SWP system. SGPWA's SWP Contract water is delivered through the California Aqueduct to the

SGPWA service area. The California Aqueduct conveys water along the west side of the San Joaquin Valley to the Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains. At this location, the Tehachapi Afterbay, the California Aqueduct divides into the East and West Branches. SGPWA takes its SWP Contract deliveries from the East Branch Extension. SGPWA and San Bernardino Valley Municipal Water District (SBVMWD) partnered with the DWR to build the East Branch Extension while DWR was charged with operating the extension in accordance with its other operational obligations throughout the State Water Project system.

SGPWA's SWP Contract has six important provisions that characterize the available supplies and the water delivery activities. The key aspects are: (1) Annual Table A Amount, (2) Annual Table A Allocation, (3) Article 56 Carryover, (4) Article 21 Surplus Supplies, and (5) Article 12(f) on SWP conveyance priorities, and (6) water transfer and exchanges supported by Amendment No. 20 "Water Management Tools".

The Annual Table A Amount refers to the maximum Table A amount available to SGPWA under its SWP Contract. The Agency's Annual Table A Amount is 17,300 acre-feet. Although SGPWA's SWP Contract provides for the Annual Table A Amount, that total volume of water supply is subject to reduction each year based on actual water supply availability in the State Water Project system as determined by DWR. SGPWA's average Table A Allocation under existing conditions is 53% of the Annual Table A Amount.[1] In this case, SGPWA's current average annual Table A Allocation would be 9,169 acre-feet, 53% of its Annual Table A Amount. This average Table A Allocation provided by DWR's 2023 DCR is based on fluctuating Table A Allocations from past years as well as water supply and climate change projections for the future. As an aside, DWR's updated DCR reduced the projected average annual Table A Allocation from 58% in 2019 to 57% in 2021, to an adjusted DCR 2023 of 55%, to the Final DCR 2023 at 53%.

DWR's 2043 projected Table A Allocation for SGPWA is less than the average Table A Allocation projected for under current conditions. DWR modeled future scenarios using "percentile levels-of-concern" which essentially translates to an exceedance probability of delivery conditions having a 50% chance of being better or worse than the 46% Table A allocation of the Agency's Table A Amount determined in this model. This allocation equates to 7,958 acre-feet per year.[2] As a point of reference, from

[1] The State Water Project Delivery Capability Report 2023, July 2024, Table 6-3 at p. 6.52.

[2] Ongoing processes such as the Healthy Rivers and Landscapes Agreement (Voluntary Agreements) and Reinitiation of Consultation for Long-Term Operations of the CVP and SWP are not included in this modeling.

2010-2020, Table A average delivery for SGPWA was 8,335 AF (48% of max) in which allocations ranged from 5% - 85%. This period closely aligns with the 2023 DCR model for future conditions. It is important to note that extreme hydrologic variability may become more commonplace in future climate scenarios, and SGPWA could experience extreme variations in Table A Allocation in the future.

Article 56 of SGPWA's SWP Contract outlines the rules for storing unused Table A Allocation in any year for use in a subsequent year. The Article 56 Carryover water is stored in San Luis Reservoir. There are limitations to the total carryover amounts, subject to a percentage of the Annual Table A Amount, dependent on the final allocation percentage for that year. For example, if the final Table A allocation was 53% (9,169 AF), SGPWA could store (carryover) 28% of its Table A Amount (4,844 AF), as shown in **Table 2-1**. If storage requests exceed capacity in San Luis Reservoir, the available capacity will be allocated among contractors in proportion to their Table A entitlement. Reallocation can also result in "displacement" of stored water, sometimes known as "spill" that results in stored amounts being released. Storing water in San Luis Reservoir for multiple years is allowed but comes with risk because of the potential of losing the stored water due to capacity restraints. Nevertheless, storage of State Water Project water in San Luis Reservoir under Article 56 is a critical component of San Gorgonio Pass Water Agency's water asset management portfolio because it is a south of Delta storage option that allows carryover in multiple years.

Table 2-1: Article 56 Carryover Limits

Final Water Supply Allocation Percentage	Maximum Percentage of Agency's Table A Amount That Can Be Stored
50% or less	25%
51%	26%
52%	27%
53%	28%
54%	29%
55%	30%
56%	31%
57%	32%
58%	33%
59%	34%
60%	35%
61%	36%
62%	37%
63%	38%
64%	39%
65%	40%
66%	41%
67%	42%
68%	43%
69%	44%
70%	45%
71%	46%
72%	47%
73%	48%
74%	49%
75% or more	50%

Article 21 of SGPWA's SWP Contract outlines the rules for "interruptible water service." Interruptible water service means allocation of water that is surplus in the SWP system and may be delivered to the Agency in addition to its Table A Allocation in any given year. For example, in a water year where the Table A Allocation is 75% to all SWP contractors, DWR may determine at a later date that there is additional water that could be delivered to desiring contractors that is in excess to that system-wide allocation. As a SWP Contractor, the Agency has access to Article 21 water when this "excess" water is made available. In other words, the Annual Table A Amount is the maximum amount of water that is allocated and delivered under the Agency's SWP Contract, while Article 21 water is identified as non–Table A water that is surplus to the Table A Allocations that becomes available on an intermittent, interruptible basis.

Notifications of Article 21 water availability are based on DWR's forecasting and existing hydrology, and the Article provides for the timely processing of requests by SWP contractors for delivery. Demands are typically submitted for Article 21 water on a weekly basis. Article 21 water is not available for carryover storage in SWP facilities. Importantly, the 2021 Amendment No. 20 "Water Management Tools" update allows Article 21 water to be stored outside a contractor's service area and in another contractor's service area (e.g., a groundwater bank) for later retrieval to the contractor's own service area. Amendment No. 20 also allows transfers of Article 21 water, giving this classification of SWP water more value and flexibility. Transfers must be with another SWP Contractor and the contractor acquiring the water, "must demonstrate a special need for the transfer or interruptible water."[3]

Several factors make Article 21 water a less reliable water supply component for SGPWA. Primarily, Article 21 water's availability is unpredictable. Furthermore, the Agency's location at the end of the East Branch Extension factors into the inherent conveyance priority limitations associated with Article 21 water that generally becomes available in SWP surplus conditions when conveyance capacity may be limited. Still, the Agency could look for banking options within other SWP Contractor service areas to take advantage of the Amendment No. 20 tools that allow storage of Article 21 water. In summation, Article 21 water requires opportunistic operational flexibility for storage and conveyance to maximize its intermittent availability.

Conveyance in the California Aqueduct and SWP facilities is explained in SWP Contract Article 12(f) which was added through Amendment 13. This Article outlines the water origination priority for water supplies conveyed in SWP facilities yet

[3] Amendment No. 20 (The Water Management Amendment) To Water Supply Contract Between the State Of California Department Of Water Resources And San Gorgonio Pass Water Agency, Article 21 (d).

operationally, the Agency and other SWP Contractors deliver various supplies in their proportionate share of conveyance facilities. The priorities in Article 12(f) are as follows:

- First, project water to meet scheduled deliveries of contractors' annual entitlements for that year. This means current year Table A deliveries.
- Second, interruptible water to the extent contractors' annual entitlements for that year are not met by the first priority. This means Article 21 water in a year in which Table A allocations are less than 100%.
- Third, project water to fulfill delivery requirements pursuant to Article 14(b)[4]. This means requested deliveries that were not previously fulfilled because of SWP maintenance or other outages of SWP delivery facilities.
- Fourth, project water previously stored pursuant to Articles 12(e) and 56 (Carryover). This is Carryover water stored in San Luis Reservoir.
- Fifth, nonproject water to fulfill contractors' annual entitlements for that year not met by the first two priorities. This means conveyance of non-SWP water in volumes to meet full SWP Contract Amount in years where Table A allocation is less than 100%, minus Article 21 water that has been taken.
- Sixth, additional interruptible water delivered to contractors in excess of their annual entitlements for that year. This means Article 21 water in years of 100% Table A allocation.
- Seventh, additional nonproject water delivered to contractors in excess of their annual entitlements for that year. This means conveyance of non-SWP water in years of 100% Table A allocation.

Article 12(f) allocates the highest priority for pumping and conveyance to Table A Allotments followed by other sources of water based on source and other criteria. For instance, Article 56 carryover water is allotted the 4th priority for conveyance, and nonproject water in excess of annual entitlements is relegated to last priority[5]. This prioritization is broadly construed among the SWP Contractors and DWR to maximize

[4] Article 14 (Curtailment of Delivery) provides for DWR curtailing deliveries due to maintenance of project facilities or outages beyond the state's control. 14(b) provides for later delivery of water that otherwise would have been delivered if not for the project facility related curtailment.

[5] An additional conveyance study is being developed by Provost & Pritchard in conjunction with this supply assessment.

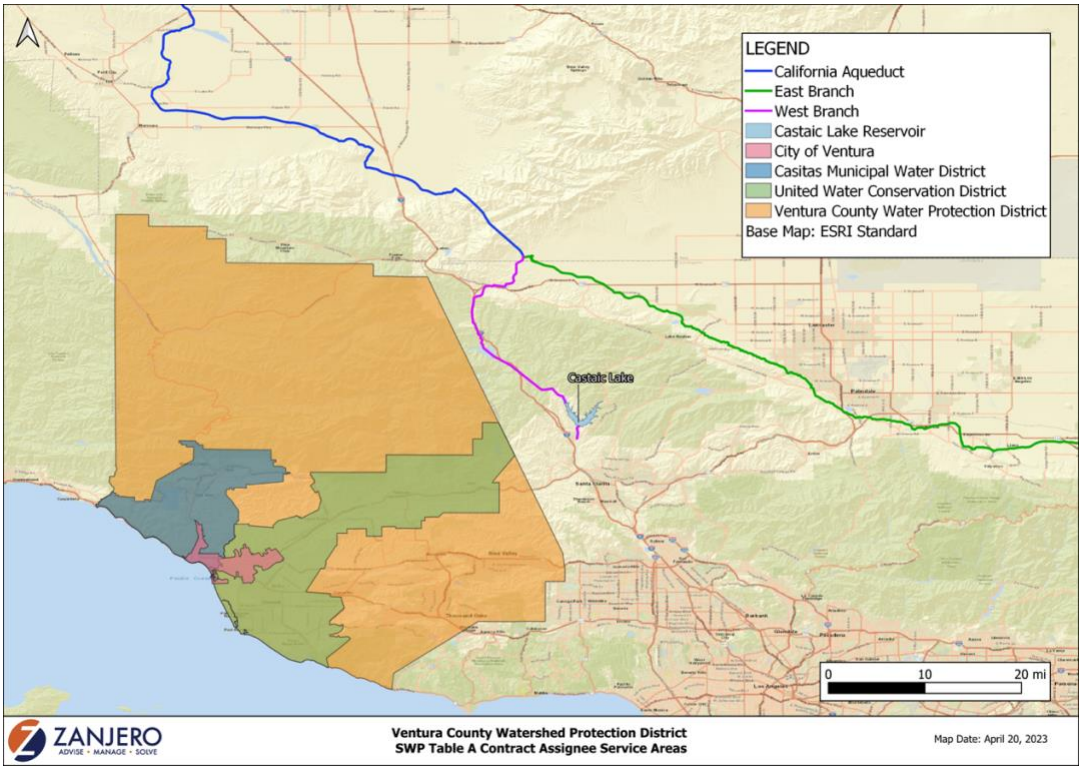
conveyance of available water assets. DWR is typically able to schedule and deliver all priorities of water in most years.

Last, Amendment No. 20 to the SGPWA SWP Contract, sometimes referred to as the "Water Management Tools" updated Articles 21 and 56 and added Article 57. In brief, Amendment No. 20 supplements and clarifies terms of the SWP Contract related to water transfers and exchanges within the SWP service area to improve water management capabilities and options. Provisions require SGPWA to submit a preliminary water delivery schedule to the State by October 1 of each year that identifies the quantity of water the Agency wishes to store as Article 56 Carryover Water, and the quantity of Article 56 Carryover Water it wishes to transfer or exchange with another contractor in the next succeeding year.

2.2 City of Ventura Table A Water Supply

The City of San Buenaventura (Ventura or City) has an agreement with Casitas Municipal Water District (Casitas) to receive a SWP water supply from Casitas' Annual Table A Amount (Table A) under its SWP contract. Ventura's Table A water supply is derived from a series of underlying agreements that tier from the Ventura County Watershed Protection District (VCWPD) SWP contract. An overview of the VCWPD is shown in Figure 2-1.

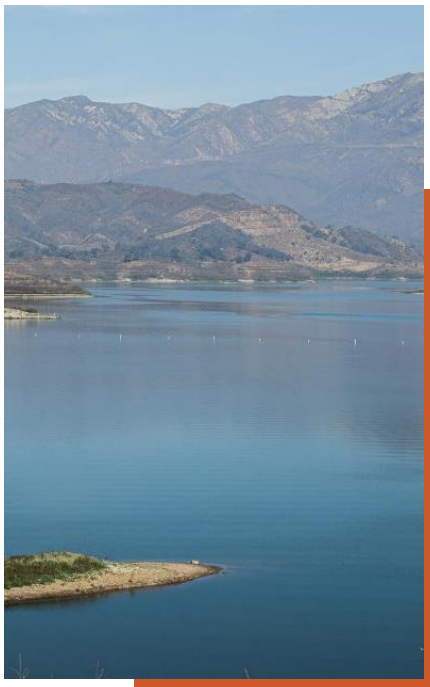
Figure 2-1: VCWPD SWP Table A Water Service Area Overview



Ventura and SGPWA entered into State Water Project Water Transfer Agreement (Agreement) on April 26, 2022, for a long-term transfer of Ventura's SWP Table A entitlement (Ventura Water) which was approved by DWR on December 29, 2022. The Agreement expires on December 31, 2042. Before executing the Agreement, SGPWA and Ventura entered short-term, one-year agreements (Prior Agreements) for the transfer and exchange of Ventura's Table A water. The Prior Agreements between the two parties created an Outstanding Exchange Obligation (OEO) balance of 1,400 AF, 675 AF, and 500 AF that SGPWA is obligated to return to Ventura by 2028, 2029, and 2030, respectively.

The OEO for SGPWA to return 2,575 AF of water from Prior Agreements will be extended through the life of the Agreement. SGPWA is required to maintain an amount of at least 750 AF of OEO water available through its water storage facilities or supply portfolio that can be made available should Ventura provide written request on or before April 1 of that delivery year.

Ventura does not currently have a physical connection to the SWP but is pursuing an Interconnection Project. The Interconnection Project will enable delivery of SWP water by wheeling through Metropolitan Water District of Southern California and Calleguas Municipal Water District (Calleguas) to the City. If this connection manifests, Ventura has the option to utilize some of its SWP allocation in the future.



Starting in 2022 and continuing through December 31 of the delivery year during which the Interconnection Project is completed, SGPWA will have rights to the full amount of the Ventura Table A Allocation. After the Interconnection Project is completed and through the expiration of the Agreement, Ventura will have the priority right, but not obligation, to take delivery of up to 2,000 AF of Table A during the subsequent delivery year (Priority Allocation), provided the Table A allocation from DWR is sufficient to provide the 2,000 AF. The supply was being used for water quality mitigation and blending in Ventura's service area and Ventura staff believes 2,000 acre-feet per year (AFY) will be more than adequate to meet water quality and supply needs.

Additionally, Ventura staff has represented that SWP water is expected to be its most expensive supply source[6].

The Ventura Table A water supply, like all SWP supplies are subject to reduction each year based on actual water supply availability as determined by DWR. The average Table A Allocation based on existing conditions is 53% of the Annual Table A Amount.[7] In this case, the Ventura average Table A Allocation would be 5,300 acre-feet, 53% of its Annual Table A Amount of 10,000 acre-feet.

Conveyance of Ventura water begins, like other SWP water, north-of-delta, and travels down the California Aqueduct to the West Branch and East Branch split. Ventura has rights to move the water down the West Branch to Castaic Lake. SGPWA seeks to deliver Ventura Water via the East Branch and subsequently the East Branch Extension to SGPWA's service area. The alternative delivery path – East Branch compared to West Branch – is generally limited only by the 29 cfs conveyance capacity in the East Branch in higher allocation years. Lower allocation years tend to accommodate more conveyance capacity in the East Branch. Although Article 12(f) may apply to this water under some future scenario, the practical activities among SWP Contractors allows conveyance of various supplies so long as the conveyance capacity is not exceeded.[8] The storage rights and capacity available for Ventura water in San Luis reservoir is still being analyzed and is likely available. The Ventura supply is subject to the same DWR reclassification and operational criteria as SGPWA's SWP Contract supplies but active management among DWR, the Agency, and State Water Contractors generally ameliorate purported limitations.

2.3 Nickel Water

SGPWA and Antelope Valley – East Kern Water Agency (AVEK) entered an agreement dated July 7, 2017, for 1,700 AFY of non-State Water Project water (Nickel Water). The Nickel Water agreement expires December 31, 2036, and SGPWA has a first right of refusal to renew for an additional 20-year term through 2056. Should AVEK not wish to renew the term they must provide one year's written notice. The agreement is subject to a take or pay provision, meaning SGPWA is required to pay for the water every year whether SGPWA takes the contract water or not.

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[6] City of Ventura, Ventura Water Commission – Staff Report, "State Water Project Multi-Year Transfer Program with San Gorgonio Pass Water Agency", February 15, 2022. Presented in Ventura Water Commission Regular Meeting, February 22, 2022

[7] The State Water Project Delivery Capability Report 2023, July 2024. Table 6-3 at p. 6.52.

[8] The conveyance model being prepared by Provost & Pritchard helps characterize the availability of conveyance based on water supply available in the SWP system to the East Branch SWP contractors.

The Nickel Water is derived from Nickel Family, LLC's (Nickel LLC) Kern River water rights by way of historical agreements and assignments between La Hacienda, Inc., Nickel LLC, AVEK, Kern County Water Agency (KCWA), DMB Communities II LLC (DMBII), DMB Pacific LLC (DMB) and CV Communities LLC (CV). The water supply is highly available in all year types and can be delivered directly into SGPWA's service area through the California Aqueduct, subject to the conveyance criteria governing the system.

A Letter Agreement (SWPAO #20011) between SGPWA, KCWA, AVEK and the California Department of Water Resources (DWR) dated April 24, 2020, approves conveyance of the 1,700 AF of non-SWP water to SGPWA's service area in accordance with Article 55 of SPGWA's SWP Water Supply Contract. KCWA makes the 1,700 AF of Nickel Water available at a point called Tupman within Reach 12E of the State Water Project, just north of the Buena Vista Pumping Plant in Kern County. Subsequent delivery of the non-SWP to the SGPWA service area is done by DWR in the California Aqueduct along the East Branch and East Branch Extension to SGPWA turnouts at Reach 4A and/or 4B. The delivery schedule is submitted in accordance with SGPWA's SWP Contract. Because Nickel Water is non-SWP water it must be jointly managed by the Agency and DWR for conveyance and delivery.

2.4 Yuba Accord Water

SGPWA has historically been able to acquire up to approximately 300 acre-feet of water from Yuba County Water Agency (YCWA) each year under the Yuba Accord. This water supply is a small component of SGPWA's water asset portfolio, reasonably priced, and is generally reliable in dry and critically dry conditions. The 2008 Yuba River Accord is a settlement agreement created to resolve issues associated with operation of the Yuba Project on the Yuba River in a way that protects lower Yuba River fisheries and local water supply reliability, while providing revenues for local flood control projects, water to use for protection and restoration of Delta fisheries, and improvements in state-wide water supply management.

The Yuba River Accord includes three major elements, all of which must be in place for the Yuba River Accord to become effective: (1) the Fisheries Agreement (dated November 3, 2007) to provide higher flows for fish in the lower Yuba River under certain conditions, (2) Conjunctive Use Agreements between Yuba and other Yuba County water districts for implementing a conjunctive use and water use efficiency program; and (3) the "Agreement for the Long-Term Purchase of Water from Yuba County Water Agency by the Department of Water Resources" (dated December 4, 2007) (Yuba Water Purchase Agreement). The Yuba Water Purchase Agreement expires on December 31, 2025, "or when all obligations under this Agreement have been satisfied, whichever is later, unless this Agreement is terminated earlier." DWR

and YCWA are currently discussing extending the Yuba Water Purchase Agreement and there is no indication that it will not be renewed.

DWR purchases water under the Yuba Water Purchase Agreement to make water available for the Dry Year Water Purchase Program (Dry Year Program). The Dry Year Program uses the Yuba Water as the basis for a separate agreement that DWR controls and makes water available for purchase by State Water Project Contractors, including SGPWA. In 2008, SGPWA entered into an agreement with DWR as part of the Dry Year Program to acquire Yuba Water Purchase Agreement water. The water purchased under this agreement is subject to losses associated with transporting it to SGPWA's service area through the State Water Project (SWP).

The amount of Dry Year Program water available to DWR depends on the calculated Sacramento Valley Water Year Index. For the Yuba Water Purchase Agreement, each Water Year will be classified: (1) as "Wet," "Above-Normal," "Below-Normal," "Dry" or "Critical," based on the Sacramento Valley Water Year Hydrologic Classification[9]; or (2) as a "Conference Year." Conference Year means a Water Year for which the North Yuba Index is less than 500,000 acre-feet, calculated according to the procedures and formulas set forth in Exhibits 4 and 5 of the Yuba Accord Fisheries Agreement, and using the latest available forecasts for the Water Year.

Between 75,000 AFY (Dry Years) and 140,000 AFY may be available to the group of Contractors depending on the Water Year Index. If all 22 Contractors decide to participate in a given year, SGPWA's share of the Yuba Accord Water is 0.21% based on the proportion of SGPWA's Table A and the Table A of the 22 participants. If some SWP Contractors do not want to participate in a given year, the allocation to each Contractor is adjusted upward.

[9] Figure 1 on page 188 of the State Water Resources Control Board's March 15, 2000, Revised Water-Right Decision 1641

From 2009 through 2020, SGPWA purchased Yuba Accord Water four times with average purchases of about 374 AF, and deliveries averaging 280 AF (25% loss)[10]. While the amount of water made available varies each year depending on hydrologic conditions, the Agency anticipates receiving an average future amount of approximately 300 AFY under the Dry Year Program[11]. Once the Yuba Water Purchase Agreement extension is signed, SGPWA will continue to capture this water for use in its service area – and there is nothing indicating the Yuba Water Purchase Agreement will not be extended.

2.5 Regional Recycled Water

SGPWA currently does not supply recycled water but is supportive of recycled water projects that augment the regional water supply portfolio. The regional recycled water supplies are provided by local retail agencies and should be considered in assessing the regional water supply portfolio – since all regional water assets are linked (e.g. SGPWA's provided supplies become recycled water supplies developed by local agencies).

Several local water agencies operate wastewater treatment plants ("WWTP") and use recycled water to varying degrees. Yucaipa Valley Water District ("YVWD") operates the most extensive recycled water system in the SGPWA boundary, with a 2.5 million gallon per day (MGD) reverse osmosis treatment system. YVWD also operates the Wochholz Water Recycling Facility, which has a total wastewater treatment capacity of 8 MGD. The recycled water supply derived from this facility allows YVWD to meet 16% of its overall demand with recycled water. Total recycled water usage is split between the SGPWA service area and SBVMWD's service area. Expansion plans are underway, furthering YVWD's ability to meet future growth and water demand.

The City of Banning (Banning) also operates a recycled water system, complemented by their own 3.6 MGD capacity WWTP. This vertically integrated system allows Banning to treat wastewater to secondary standards before discharging it to percolation ponds for groundwater recharge.

Last, the City of Beaumont (Beaumont) wastewater treatment plant has been upgraded to produce up to 6 MGD with a future buildout of 8 MGD. Beaumont is considering indirect potable reuse options including potentially conveying recycled water to the BCVWD and/or SGPWA spreading basins.

[10] DWR Bulletin 132 series and Portero Logistics Center Water Supply Assessment for Beaumont-Cherry Valley Water District, December 2020 at p. 45.

[11] 2020 SGPWA UWMP at 3-12

Recycled water supplies and integrated recycling systems will have more importance in the region by improving efficiency in use of raw water component – whether sourced locally or imported into the Agency's service area. In addition, improving local water systems through recycling and reuse projects will bolster regional self-reliance actions that are addressed in the Delta Reform Act (further discussed in Section 2.10 and Section 4) as well as Urban Water Use Objective targets that affect each retail water service provider. As such, although the Agency does not create or manage recycled water systems, integrating those supplies into a regional supply portfolio has important implications in meeting evolving regulatory and legislative requirements that will impact the Agency and the local retail agencies.

2.6 Local Groundwater Storage and Supply

In 2004, the stipulated judgment San Timoteo Watershed Management Authority, vs. City of Banning, et al., Case No. RIC 389197 (2004 Judgement) adjudicated portions of the San Timoteo and San Gorgonio Pass Subbasins for a number of interested parties. The adjudicated areas in the Basins are exempt from the requirements of the Sustainable Groundwater Management Act (SGMA) and under the authority of a court appointed Watermaster committee[12]. Nevertheless, the adjudicated portions of the subbasins intersect with SGMA management of the unadjudicated portions of the subbasins.

The 2004 Judgment created the five-member Watermaster committee that manages all adjudicated water rights in the Beaumont Basin. The Beaumont Basin Stipulation allows the Watermaster committee to allocate available storage to regional entities seeking to store water supplies for later extraction and use. Total storage within the basin is approximately 1.4 million acre-feet. However as of December 31, 2021, the total storage allowed in the Beaumont Basin to the participating agencies was 290,000 acre-feet. There are 7 participating agencies with available storage allocations. SGPWA is allocated 10,000 acre-feet of storage in the basin. Table 2-2 below shows the allocations of this storage capacity.

[12] Pursuant to the Judgment, the Court appointed a five-member Watermaster committee consisting of representatives from the City of Banning, the City of Beaumont, the Beaumont-Cherry Valley Water District, the Yucaipa Valley Water District, and South Mesa Water Company. While the Judgment assigns the management of the Beaumont Basin to the Beaumont Basin Watermaster, the Court retains continuing jurisdiction should there be any need in the future to resolve difficult issues between the parties.

Table 2-2: Beaumont Basin Adjudicated Storage

Agency/Party to the Judgment	Storage Allocation
City of Banning	80,000
City of Beaumont	30,000
Beaumont Cherry Valley WD	80,000
South Mesa Water Company	20,000
Yucaipa Valley Water District	50,000
Morongo Band of Mission Indians	20,000
San Gorgonio Pass Water Agency	10,000
Total:	290,000

There are multiple groundwater recharge facilities within the SGPWA service area and the neighboring Beaumont Cherry Valley Water District (BCVWD) service area. According to SGPWA staff, the BCVWD recharge facilities and the SGPWA recharge facilities together effectively provide about 20,000 AF of annual recharge capacity. These recharge facilities allow regional water purveyors to regulate the use of delivered surface water supplies for future uses.

The utility of the larger storage capacity has not been fully developed. The completion of the East Branch Extension and its conveyance limitation impacts the total imported water supply that may enter the Agency's system. In addition, the recharge facilities are not yet optimized to increase groundwater storage. Nevertheless, the Agency and its regional partners are exploring options to maximize storage opportunities and improve put-capacity conditions.

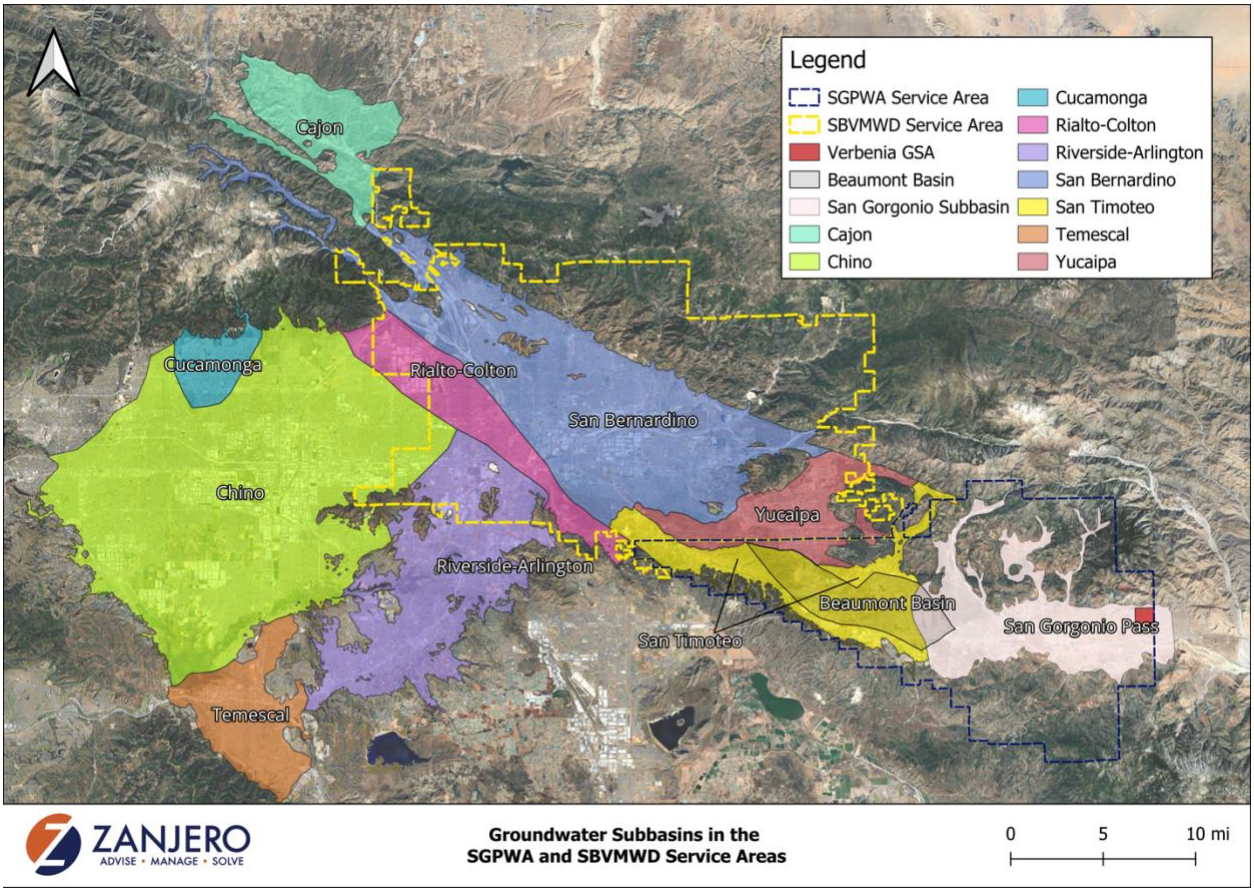
The Safe Yield of the Beaumont Basin was originally established at 8,650 AFY to be distributed among the Overlying Producers. There are 17 Overlying Producers, pumping from 21 groundwater wells in the basin. The Safe Yield of the Basin is to be re-evaluated every 10 years, at a minimum. As of January 2024, the long-term safe yield of the Beaumont Basin was re-determined to be 6,700 AFY. Additional groundwater management opportunities have emerged through the Sustainable Groundwater Management Act implementation actions described in the next section.

2.7 Groundwater Sustainability Agencies

There are numerous groundwater management actions occurring in the San Gorgonio Pass Water Agency (SGPWA) jurisdictional boundary that impact regional supply activities. These management actions tier from compliance with the Sustainable Groundwater Management Act (SGMA). The Groundwater Sustainability Agencies (GSAs) within the SGPWA service area include the San Timoteo GSA, the

Yucaipa Sustainable Groundwater Management Agency, the San Gorgonio Pass GSA, and the Verbenia GSA. Each GSA's boundary is associated with the groundwater subbasin. However, the Verbenia GSA covers one square mile in the eastern portion of the San Gorgonio Pass Subbasin, and the San Gorgonio Pass GSA encompasses the remainder of the eastern portion of the subbasin within SGPWA service area boundary. In addition, the San Timoteo GSA manages the non-adjudicated portions of the San Timoteo Subbasin. A map depicting the GSA's and the groundwater basins is shown below in Figure 2-2.

Figure 2-2: Groundwater Sustainability Agencies in the SGPWA Service Area



SGMA requires the development of a Groundwater Sustainability Plan (GSP). The GSAs develop and implement the GSPs to avoid undesirable results and mitigate overdraft in the groundwater basins. The Yucaipa and San Gorgonio Pass GSAs have developed GSPs and determined the sustainable yield of the basin to allow for pumping to occur without causing undesirable results. The Yucaipa GSP has estimated the sustainable yield of the Yucaipa Subbasin to be 10,980 acre-feet per year.[13] The San Gorgonio Pass

[13] Dudek. (2022). Final Groundwater Sustainability Plan for the Yucaipa Groundwater Subbasin Part 1. pp. 183.

GSP states that the sustainable yield of the San Gorgonio Pass Subbasin is 10,200 acre-feet per year. It should be noted that the sustainable yield will continue to be evaluated in the future based on monitoring data that indicate the presence or absence of undesirable results.[14] Accordingly, the opportunity to utilize additional local groundwater supplies may be a viable alternative to augment existing local water supply sources and more fully explored in Section 4. Local groundwater storage options are also addressed in Section 4 of this report.

2.8 Sites Reservoir Project Member Agreement

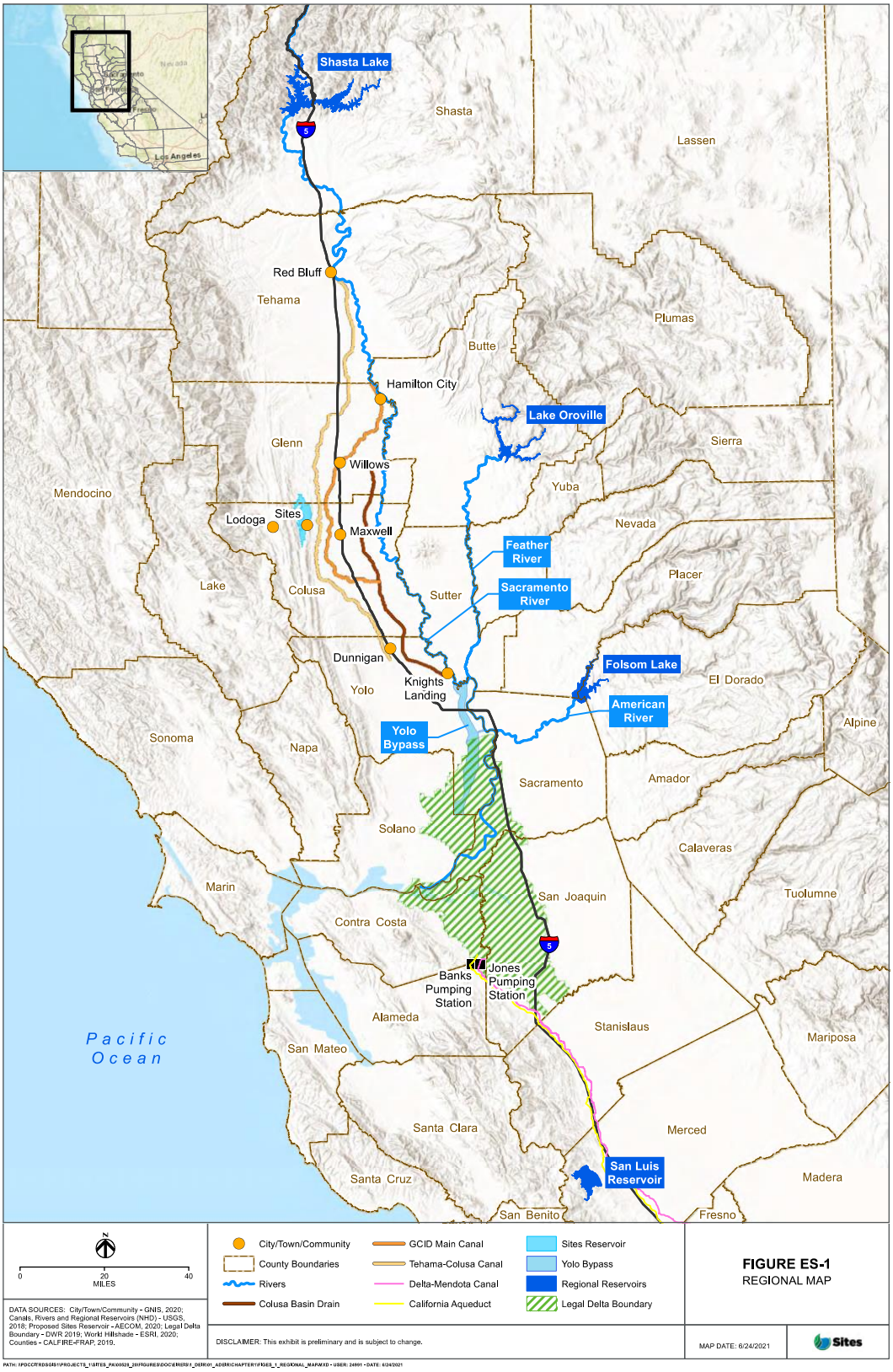
Also called the North of Delta Offstream Storage (NODOS), the Sites Reservoir Project (Sites Project) would be situated on the west side of the Sacramento Valley in Glenn and Colusa Counties. Sites Reservoir is designed to capture and store stormwater flows from the Sacramento River – after all other senior water rights and regulatory requirements are met – for release in dry and critical years for beneficiaries across the State.

SGPWA is invested in the Sites Reservoir Project with 14,000 shares in its name which is 6.2% of the total 166,503 shares allocated to Project Members as of the Third Amendment Participation report[15]. Storage allocated in Sites for these 14,000 shares is estimated at 87,276 AF. Beaumont-Cherry Valley Water District (BCVWD) holds 4,000 of those shares pursuant to a 2020 costs and benefits sharing agreement with SGPWA, which retains 10,000 shares for SPGWA. The Project Member investment in Sites Reservoir provides a share of storage space and access to a proportionate share of water diverted to storage. Project Agreement Member representatives make up the Reservoir Committee that works with the local Authority agencies. The Committee, in cooperation with the Authority's Board, provides and approves operating budgets and budget targets, annually or more frequently as needed. Each Project Agreement Member is an investor in the Sites Project. SGPWA General Manager Lance Eckhart is the SPGWA representative for the Reservoir Committee. The Sites Project is addressed in more detail later in this report in Section 4. The Sites Project Area is shown in Figure 2-3.

[14] San Gorgonio Pass Groundwater Sustainability Plan. (2021). pp. 182. https://www.sgpgsas.org/wp-content/uploads/2022/01/Final_SGPGSP_1230_2021-web.pdf

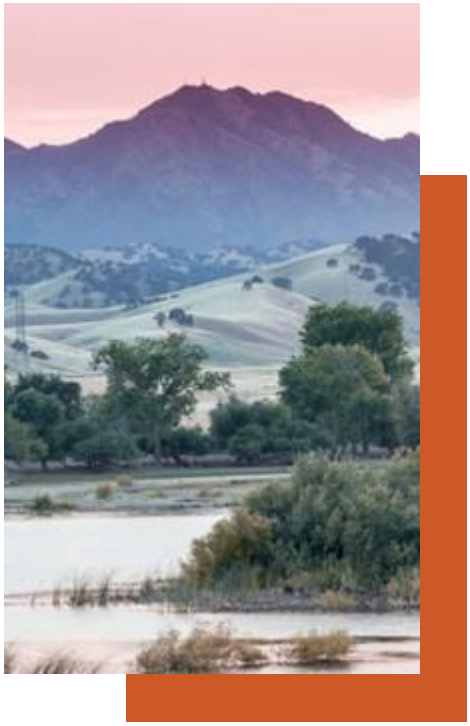
[15] Excludes State of California and United States Bureau of Reclamation share of the Project.

Figure 2-3: Sites Project Regional Map (Sites Project Authority 6/24/2021)



2.9 Delta Conveyance Project

The DCP is a proposed project by DWR to mitigate lost supply to the State Water Project associated with transporting water through the Sacramento-San Joaquin Delta (Delta). This decrease in supply, and basis for the DCP, can partially be attributed to compliance with statutes and authorities protecting federally endangered and threatened species under the Endangered Species Act (ESA), D-1641 Bay Delta Water Quality Control Plan, and California Endangered Species Act (CESA), among others. Additional mitigation against other water supply risks driven by rising sea levels, earthquakes, progressive risk of levee failures, and extreme drought and flood are also identified as DCP benefits. Continuation of existing operation of the Delta is expected to increasingly expose water users that depend on water exported from the Delta to risks of interrupted water supply and decreasing water supply reliability over time. In short, the DCP is a significant risk mitigation component to help overcome uncertainties associated with conveying SWP water through the Delta.



SGPWA is an investor and participant in the DCP. The investment costs associated are to fund the work plan and reserve capacity space in the project. The Agency's proportionate share of the DCP is 2%. In October 2024, SPGWA staff recommended the board adopt resolution 2024-12 to authorize additional funding for the next phase of environmental review, planning, and design costs of the proposed Delta Conveyance Project (the "DCP") in an amount of up to $6,000,000. When the DCP is built, it should increase reliability of State Water Project (SWP) supply to south-of-delta contractors. The DCP does not increase water rights associated with the SWP but rather would restore losses caused by current physical and regulatory issues and mitigate against future changed conditions affecting SWP exports by adding a new point of diversion in the northern Delta. The Final Environmental Impact Report (EIR) for the DCP was certified by DWR in December 2023 and a Change in Point of Diversion Petition was filed with State Water Resources Control Board (SWRCB) February 22, 2024, The DCP is addressed in more detail later in this report in Section 4.

A map of the potential alignments of the DCP is shown in Figure 2-4.

Figure 2-4: Delta Conveyance Project Alignment Alternatives Map (Final EIR, December 2023)

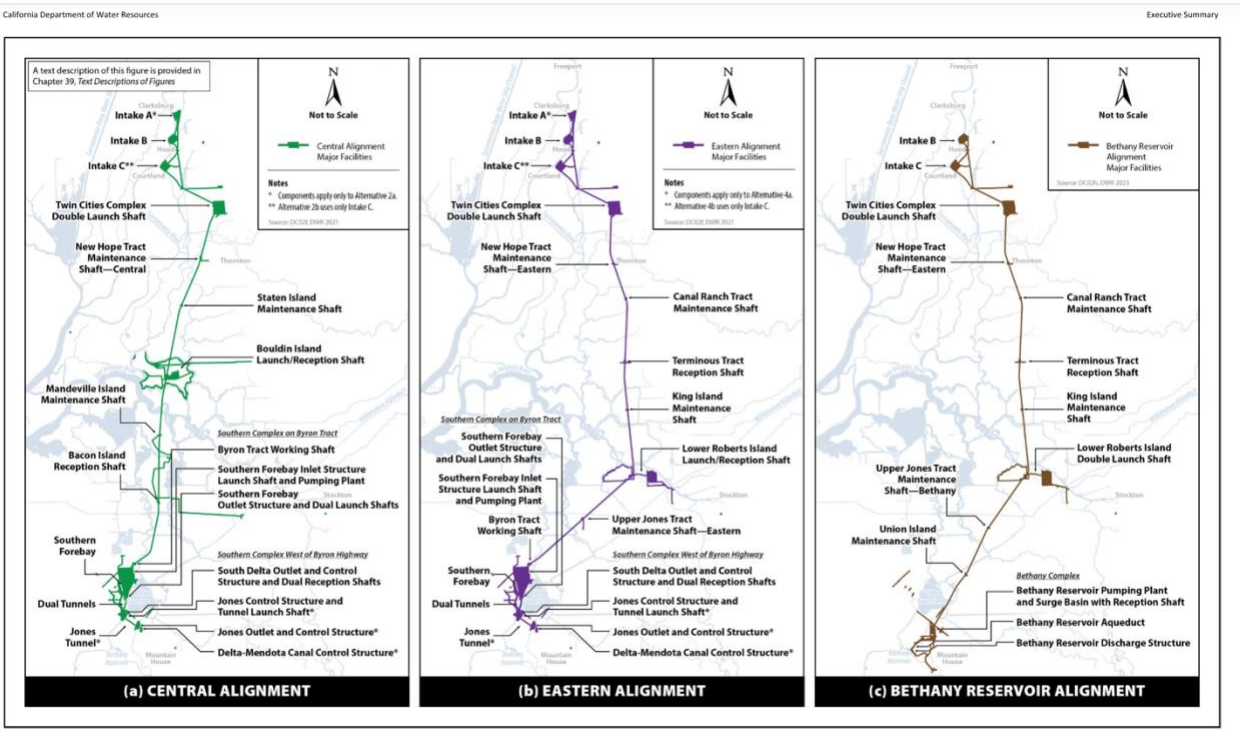


Figure ES-2. Delta Conveyance Alternative Alignments and Major Facilities

2.10 Delta Reform Act

The Delta Reform Act (DRA) of 2009 established the Delta Plan and the Delta Stewardship Council.[16] Ultimately, the DRA requires water purveyors to reduce reliance on water supplies derived from the Sacramento-San Joaquin Delta and improve reliance on locally developed water sources. The Delta Plan is the governing document that guides the Delta's future and spawned the DRA regional self-reliance policies. The Delta Plan has two "co-equal goals": (1) providing a more reliable water supply for California; and (2) protecting, restoring, and enhancing the Delta ecosystem.

The Delta Stewardship Council (Council) is the governing agency charged with achieving the co-equal goals through implementing the Delta Reform Act. The plans, programs, or projects of state and local agencies, including SGPWA and the local water purveyors, can be considered "covered actions" if they significantly impact the

[16] California Water Code section 85225

achievement of coequal goals, are covered by one or more provisions of the Delta Plan, and will be approved, completed, or funded by a state or local public agency.

The Delta Reform Act requires state and local agencies to prepare a written certification of consistency with Delta Plan policies before initiating a covered action in the Delta.[17] The written certification of consistency must be submitted to the Delta Stewardship Council and include detailed findings as to whether the covered action is consistent with applicable Delta Plan policies.[18] The submitted certification of consistency may be appealed by any person and the Delta Stewardship Council may grant the appeal to address contested issues.[19] In short, water suppliers that anticipate participating in a proposed covered action must comply with the requirements of the Delta Reform Act.

Proposed covered actions, as articulated by the DPC, may include a multi-year water transfer, a conveyance facility, or a new diversion that involves transferring water through, exporting water from, or using water in the Delta. Urban purveyors that may participate in a proposed covered action should provide information that can be used to demonstrate consistency with the Delta Plan. Specifically, the urban purveyors should demonstrate consistency with Delta Plan Policy WR P1 – Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).[20] WR P1 subsection (a) states that:

Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:

(1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);

(2) That failure has significantly caused the need for the export, transfer, or use; and

(3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above. WR P1 subsection (c)(1) states:

[17] California Water Code section 85057.5.
[18] California Water Code section 85225.
[19] California Water Code section 85225.10-85225.25.
[20] Cal. Code Regs., tit. 23 section 5003.

Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8.

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and

(C) Included in the Plan, commencing with 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The DRA is relevant to SGPWA's water asset portfolio and its retailers' water asset portfolios because the DRA's rules require reduced reliance on water supplies derived from the Delta in favor of locally developed water supplies. The exact methodology needed to comply with DRA's regulatory requirement as noted in the policy is a reduction in "the percentage of water used from the Delta watershed." The SGPWA 2020 Urban Water Management Plan included a spreadsheet calculation that demonstrated regional reduced Delta reliance through the UWMP's planning horizon. This reduced reliance criteria and development should be revisited and updated in future regional water supply planning actions and plans.

2.11 Summary

SGPWA has secured water supplies to meet its current water supply reliability objectives. The SWP water supply and Ventura supply are linked to DWR's water management criteria as well as the SWP operational criteria used to deliver supplies into SGPWA's service area. The projected reduced reliability of these supplies into the future coupled with regional economic development, necessitates examining alternatives that could be used to augment regional reliability. Importantly, the Ventura supply contract is subject to renewal in 2042 and alternative supplies should be identified and simultaneously developed that continue similar annual deliveries. In addition, the Agency imports water supplies through the Yuba Accord and the

operational criteria established for short-term transfer of those supplies may also change. Last, these supplies are imported from the Sacramento-San Joaquin Bay Delta and should be considered in the context of the Delta Reform Act and the emerging regulatory requirements associated with that law. Specifically, the Agency should examine these imported supplies in the regional self-reliance context required by the DRA.

Other sources of water supply, like the Nickel Water and Regional Recycled Water, are developed south of the Delta and may be helpful in meeting Delta Reform Act requirements. Although the Nickel Water contract expires in 2036, there is a right of renewal that would allow that supply to continue to be available to the Agency through 2056 and additional extensions may also be developed. Recycled water supplies are not controlled by SGPWA but are important in ascertaining regional water supply reliability. Recycled water supplies rely, in part, upon water assets that SGPWA brings into the SGPWA boundary. In other words, recycled water supplies are derived from supplies that SGPWA develops for regional purveyors. Expanding recycled water supplies, in addition to continuing Nickel Water use, will improve the Agency's and the region's long-term compliance with the Delta Reform Act.

Water storage and banking is also an integral component for the Agency's current water asset portfolio. SGPWA has opportunities to store water through its SWP contract and Ventura contract in San Luis Reservoir. This storage is less reliable than other storage opportunities available to SGPWA because the storage may be subject to reclassification – in whole or in part – once San Luis Reservoir fills. The Agency may store water in the Beaumont Basin under its current groundwater storage allocation of 10,000 AF and can develop additional storage options in coordination with regional urban purveyors and the Watermaster. This storage opportunity is somewhat limited by conveyance systems and the capability of the Agency's and retailers' recharge systems. Retailers in the service area often purchase Agency water directly to their own storage accounts and additional options can be explored. Still, groundwater storage for the Agency both inside and outside Agency boundaries is a necessary objective to maintain long-term water supply reliability.

The Sites Project and DCP are investments that could greatly impact SGPWA's water supply and conveyance reliability. Continued participation and investment are important to track closely with both projects' progress and should be juxtaposed against other supply assets as they become available for SGPWA. Water supply and water storage alternatives are more fully developed and integrated in Section 4 of this WPSP report.

Section 3

SGPWA DEMAND AND SUPPLY ANALYSIS

This section characterizes the SGPWA regional water supplies and demands to assess long-term water supply reliability.

This section describes the analysis undertaken to assess regional water supplies and demands, water supply and storage characteristics, and the operational criteria for their use as part of the Agency's ongoing Water Portfolio Strategic Program (WPSP).

3.1 Introduction

Long-term water supply reliability analysis is essential to inform sustainable growth planning for San Gorgonio Pass Water Agency and its regional suppliers. Water supply and demand assumptions are at the core of the WPSP. Accurate forecasting of demand, supply, and storage as well as conservative assumptions related to supply reliability underpins the Agency's water management and planning decisions. The ability to understand how SGPWA's existing supplies work together over time – taking into consideration individual asset reliability, duration of contracts, availability of local storage, regulatory issues, water year type, and implementation of demand management measures – is integral to successful long-term planning.

Accordingly, Zanjero performed a supply analysis that incorporates the water demands, supply assets, and storage assets in the SGPWA portfolio as a baseline for assessing future demand, supply, and storage alternatives. The analysis was further disaggregated into seven different categories: (1) Demand, (2) Existing Long-Term Supply; (3) Short-Term Options; (4) Storage; (5) Future Supply Alternatives; (6) Future Groundwater Storage; and (7) Asset Summary. Each component of this supply analysis was modified to examine specific characteristics that impact supply reliability assumptions. Importantly, the analysis depended upon the appropriate characteristics of each water asset that was analyzed. As such, significant effort was made to address reasonable assumptions related to each input which are more fully described in Chapter 2.

The supply analysis identified four critical time periods through a 2075 planning horizon. These time periods are: (1) Current Period; (2) Near-Term Period; (3) Medium-Term Period; and (4) Long-Term Period. These periods roughly correspond to important components of the Agency's water asset portfolio. For example, the Near-Term Period roughly aligns with the duration of the Agency's Ventura Water Supply Contract. This important point in time necessitates continued Agency actions to renew or replace the Ventura supply to ensure continued supply augmentation.

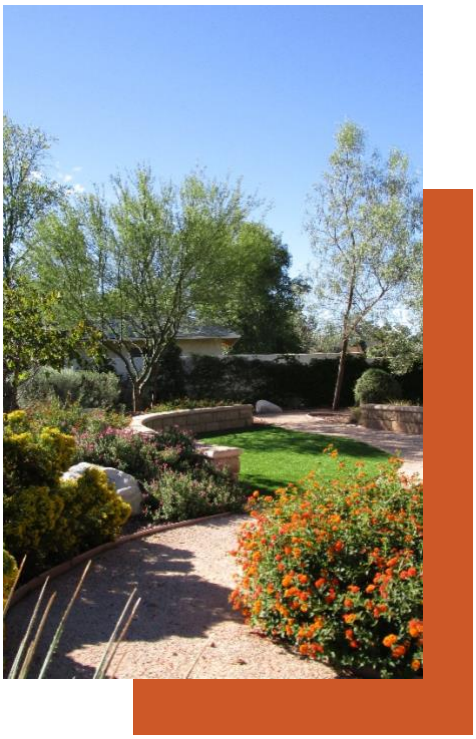
The analysis carried forward a 5 to 6-year outlook at each of these four intervals to incorporate different water year types (wet to critically dry) and provided a snapshot of supply and storage conditions. Each year within the planning period was analyzed based upon conditions selected for the analysis. All of these were then carried forward for long-term demand, supply, and storage scenario projections.

The analysis also used demand projections based upon regional demand calculations provided by retailers in the Agency's service area that are expected through the long-term planning horizon. Demand projections are consistent with the SPGWA Urban Water Management Plan (UWMP) and the individual retailer UWMPs that were completed in the SGPWA service area[1].

This section describes the basic assumptions that went into the analysis. Section 4 in this report provides a narrative of supply and storage augmentation options. The options are combined reviewed in Chapter 5 to determine the priority alternatives that can be further investigated and developed to ensure long-term water supply reliability in the Agency's service area while addressing changed climatologic and regulatory conditions.

[1] UWMPs are required for urban water suppliers that serve more than 3,000 customers or supply more than 3,000 acre-feet of water annually, pursuant to California Water Code, §10610-10656 and §10608.

3.2 Data Components and Assumptions



SGPWA's existing water supply and storage assets have different water source origins, contract authority, operational flexibility, and environmental factors that affect projected supply reliability over a planning horizon. Section 2 provides an in depth look at the Agency's asset portfolio and key attributes from each asset that affect long-term reliability. Zanjero used the best available data related to each water supply and storage asset in analyzing water availability assumptions in current and future scenarios. Supply availability outcomes for each water year type were assessed according to this data to understand limitations or adjustments needed in the Agency's portfolio. The analysis aggregates the water demand conditions, water year types, allocations derived from existing supply and storage assets, and anticipated resources derived from future supply and storage alternatives into a water supply reliability summary. The key criteria for each demand, supply, and storage asset are described in this section as they affect the Supply Analysis. The interaction of all data components with identified supply alternatives from Section 4 is provided in Section 5.

3.2.1 Demand Projections and Demand Management Measures

Demand was projected through the 2075 planning horizon using the SPGWA 2020 Urban Water Management Plan (UWMP) and the UWMPs and Integrated Regional UWMPs of the service area retailers: City of Banning, Beaumont Cherry Valley Water District, Yucaipa Valley Water District, and South Mesa Water Company. Other areas factored in were High Valley, Cabazon Water District, Mission Springs Water District, and the Morongo Band of Mission Indians. Adjustments were also made based on the information made available for the SGPWA 2022 and 2023 Annual Assessments submitted to DWR. SGPWA service area demand is projected to be 32,506 AFY in 2025 and growing to approximately 57,718 AFY at the 2075 fifty-year planning horizon.

Demand Management Measures (DMM) can make a significant difference in overall service area demand and can be critical to meeting end-user demands during consecutive dry years. The analysis incorporated a demand management assumption that service area demand could be reduced by a factor of 10% or 20% within the region's retail service areas. Although SGPWA does not implement DMMs

(as it is not a retail water service provider), regional actions at the service provider level or required actions through a statewide Executive Order should be considered in dry period conditions. As such, DMM's can be applied to all years in each of the four time periods described above in anticipation of local retail conservation actions. The 20% demand management was the mandated demand reduction required by Governor Newsom's Executive Orders in the most recent critical drought, in 2022. Projected demand and DMM reductions are shown in **Table 3-1** and reflect reasonable demand management conditions that are applicable to significant drought conditions reflected in the historical climatological record.

Table 3-1: Service Area Demand and DMM Reduction Assumptions

DMM Stage	DMM Assumed Reduction	Current Demand (2025)	Near-Term Demand (2042)	Medium-Term Demand (2056)	Long-Term Demand (2075)
None	None	32,506	41,078	48,137	57,718
Stage 1	10%	29,255	36,970	43,324	51,946
Stage 2	20%	26,055	32,862	38,510	46,174

Staged DMMs result in less water demand in each identified time-period as compared to a baseline demand in that same time-period. However, water end-uses generally become more efficient over time, as high water using indoor and outdoor systems are replaced with more efficient systems, making short-term demand management measures potentially less valuable in meeting critically dry conditions. Nevertheless, the demand characterization is based upon a conservative estimate of overall regional demand growth to reasonably assess supply and storage alternatives. This document does not address the intricate details that could be examined with a complex future demand projection.

3.2.2 State Water Project Asset Inputs and Assumptions

The Supply Analysis used State Water Project (SWP) historical and future allocation modeling as the basis to determine supply reliability in different water year types. Inputs are derived from various technical reports, including the 2023 Delivery Capability Report (DCR) and Bulletin 132 published by the California Department of Water Resources (DWR). These allocation projections use CalSim 3 modeling, and input data incorporating Article 21 demands and Article 56 carryover along with predictive climate change conditions, to generate simulated allocations. Scenarios

were run with different water year type assumptions tied to a percentage allocation for the SWP assets. Examples are shown in Table 3-2 below.

Table 3-2: Supply Analysis Year Type and SWP Contract Allocation

Water Year Type	Allocation	SGPWA Table A Amount (AF)	Ventura Table A Amount (AF)
Max	100%	17,300	10,000
Wet	75%	12,975	7,500
Normal Historical	53%	9,169	5,300
Normal Future (climate change)	46%	7,958	4,600
Dry	21%	3,633	2,100
Critically Dry	5%	865	500

Article 56 Carryover amounts were quantified in the analysis based on the Water Management Tool Amendment[2] Article 56 carryover provisions. However, because of the risk of DWR reclassification and the assumption that an equal amount of water went unused the prior year (and thus was committed to storage in San Luis Reservoir), the Article 56 amount was not considered as a reliable annual amount in the analysis. Furthermore, storing Article 56 water is an annual management decision that may be targeted to various storage opportunities. Thus, characterizing DWR's reclassification of carryover water under surplus conditions is outside the scope of the analysis. Nevertheless, Article 56 allowed carryover amounts under Amendment 20 are an extremely valuable attribute of the Agency's SWP Contract, particularly from an operational flexibility and economic perspective allowing transfers and exchanges. Transfers and exchanges are discussed in more detail later in this report.

[2] Amendment No. 20 (The Water Management Amendment) To Water Supply Contract Between The State Of California Department Of Water Resources And San Gorgonio Pass Water Agency, January 5, 2021

Article 21 water supply is "surplus" water to Table A Allocations and DWR makes this water available on an intermittent, interruptible basis. Historically, the water is generally available in above normal years but there are situations where Article 21 water is available in dry years. DWR's Delivery Capability Report models Article 21 demands and deliveries based on historical minimums, maximums, and averages in both historical and future modeling scenarios. Assumptions were made based on these figures for scenario runs using a proportionate share equation for South of Delta Contractors (SOD Contractors) to determine conservative estimate Article 21 amounts in the different water year types. Current Table A assets include SPGWA's SWP Contract amount and the City of Ventura's SWP Contract amount. The proportionate share of SGPWA and Ventura's Table A amounts in relation to other SOD Contractors are 0.43% and 0.25% respectively. These proportionate shares are shown in relation to the example scenario water year types in Table 3-3.

Table 3-3: Supply Analysis Year Type and Article 21 Proportionate Share (AF)

Water Year Type	SGPWA A21 Amount	Ventura A21 Amount
Max	4,176	2,414
Wet	3,978	2,299
Normal Historical	379	219
Normal Future (climate change)	336	194
Dry	13	7
Critically Dry	13	7

In summary, the Table A Allocation under the Agency's SWP Contract and its Ventura Contract were assessed consistent with the historical data and future projections as shown in Tables 3-2 and 3-3.

3.2.3 Nickel Water and Yuba Accord Water

Nickel Water and Yuba Accord Water have historically proven to be reliable under all conditions. Neither the Nickel Water nor Yuba Accord Water were curtailed during the most recent critical dry year in 2022. The Yuba Accord is currently under renegotiation between Yuba Water Agency and DWR but there are no indications that the agreement will not be renewed. As such, the analysis incorporated these supplies under various conditions as available in full. Yuba Accord expected annual amounts are taken from the 2020 UWMP and were considered for projections at 300 AFY. The

Yuba Accord Water may have limited variability under certain conditions, but this variability is insignificant in addressing the broader water asset integration components. Therefore, no adjustment for Yuba water is made in the Supply Analysis. Nickel Water is reliably delivered at the full contract amount of 1,700 AFY and was incorporated into the analysis accordingly.

3.2.4 Native Groundwater

Native Groundwater supplies were also incorporated into the baseline supply portfolio to demonstrate supply reliability. Native Groundwater supplies are those supplies that are available naturally in the identified groundwater basins and are derived from the Beaumont Basin Adjudication documents, GSPs, and retailer planning documents. Importantly, the characterization of Native Groundwater must satisfy two components: (1) the extraction of the native groundwater comports with safe yield or sustainable yield designations; and (2) that physical facilities needed to extract Native Groundwater exist in the identified basin. SGPWA does not extract groundwater from any basin, but the surrounding retail agencies do extract Native Groundwater through operational wells. The primary extraction occurs from the adjudicated Beaumont Basin with a safe yield of 6,700 acre-feet per year. This supply is reliable in all year types. In addition, BCVWD pumps an additional 1,600 acre-feet per year of water from the San Timoteo Basin for non-potable uses in its service area that is available in all year types.

As noted in Section 2, there are additional Native Groundwater supplies that are available for extraction and use in the SGPWA's service area. As of this writing, the additional supplies from other groundwater basins have not been developed. They are assessed more thoroughly in Section 4 – Alternatives.

3.2.5 Recycled Water

Much of the SGPWA provided water is ultimately used more than once as recycled supplies and basin return flow. Current recycled water capacity in the SGPWA service area was quantified based on retail supplier representations in various planning documents, including the 2020 UWMPs. Two retail suppliers have current recycled water capacity which includes basin recharge and recycled landscape connections. BCVWD has a non-potable distribution system that is also set up for recycled water. The current non-potable supply in this purple pipe system is not yet treated recycled water but ongoing efforts are being made to provide recycled water from the City of Beaumont to BCVWD. Yucaipa Valley Water District operates the most extensive recycled water system in the region, meeting 16% of its service area demand with

recycled water[3]. The suppliers and annual recycled water totals are shown in Table 3-4.

Table 3-4: Current Recycled Water Capacity

Agency	Description	Recycled Water Amount (AFY)
City of Banning	Recharge with secondary treated wastewater.	2,215
BCVWD and the City of Beaumont	300 existing landscape connections to non-potable water system. Future recycled capacity from City WWTP.	Pending
YVWD	2020 total service area use. Recycled water serves 16% of all demand[4].	1,374
South Mesa Water Company	No current production. Wastewater is treated in YVWD recycling facilities.	0

3.3 Storage

Storage was contemplated and quantified in the analysis and using a baseline storage amount of 10,000 AF allocated to SGPWA in the adjudicated Beaumont Basin. There are seven other participating agencies that also have allocated storage capacity in the Beaumont Basin. As described in Section 2, the overall storage capacity in the Beaumont Basin Adjudication is 290,000 acre-feet, although this capacity is not entirely utilized. The importance of further leveraging local storage capacity should not be understated. Additional storage is considered in Section 4 and Section 5 of this report as the availability of that storage capacity expands. An increase in storage both internal and external to the SPGWA service area would be advantageous particularly in years with surplus supply. In wet-year scenario analyses the 10,000 AF limit on local storage reached capacity, leaving potentially stranded assets. The Agency is considering short-term actions to augment available storage

[3] YVWD 2020 UWMP, Table 11-19 at 11-33.

[4] Yucaipa Valley Water District 2020 Urban Water Management Plan, Section 11.6.6.2 at 11-32.

capacity should the need arise. For instance, obtaining a lease for water storage from another agency that is party to the judgment could offset the storage need.

Importantly, however, storage capacity is also constricted by the availability of facilities to absorb water spread in percolation areas into the groundwater basin. Developing additional storage facilities to take advantage of the basin storage capacity is an integral component for importing and storing surface water supplies. Presently, recharge capacity into the Beaumont Basin is approximately 20,000 acre-feet per year. However, SGPWA received federal funding in 2024 to expand its Brookside Recharge Facility which will increase recharge capacity by about 9,000 AF.[5] Increasing regional recharge capacity is a critical to increasing resiliency.

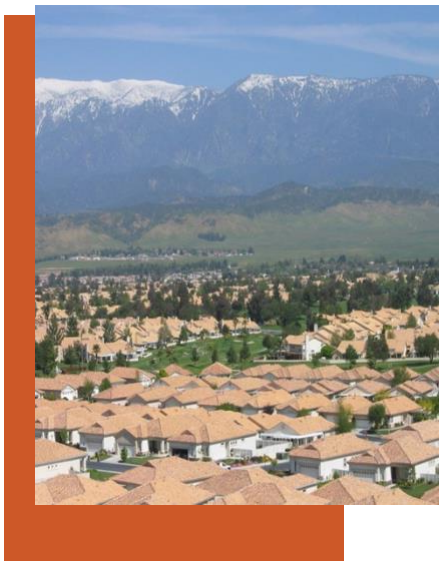
The location of identified storage is also important as it relates to the conveyance and delivery capacity in the East Branch of the California Aqueduct. As discussed in Section 5 different storage alternatives are considered and the resulting storage capacity can significantly augment supply.

3.4 Demand, Supply, and Storage Forecasts in Key Time Periods

The next section explains the utility of quantitatively analyzing the Agency's existing water asset portfolio as well as the ongoing augmentation actions that will supplement the asset portfolio into the future. The analysis, undertaken in this initial stage of the WPSP, allowed for integrating demand scenarios, supply scenarios, and storage scenarios into a single platform in the Current Period, Near-Term Period, Medium-Term Period, and Long-Term Period. The analysis included five consecutive-year scenarios to stress test supply in different hydrologic and regulatory conditions, much like UWMP five dry-year planning. For instance, during the Near-Term Period (approximately 2040), an assessment over a five-year planning horizon with critically dry hydrology should include demand management measures as well as different considerations of the supply portfolio and storage augmentations. Analyzing demand, supply, and storage over this planning period shows a plausible scenario related to overall supply reliability. In the 2040 planning horizon it becomes clear that augmentation of supply will be necessary to meet service area demand, particularly after the expiration of the City of Ventura SWP agreement.

[5] https://www.sgpwa.com/wp-content/uploads/2024/05/SGPWA_WaterSMARTGrant_PressRelease_v3.pdf

3.4.1 CURRENT PERIOD BASELINE CONDITIONS



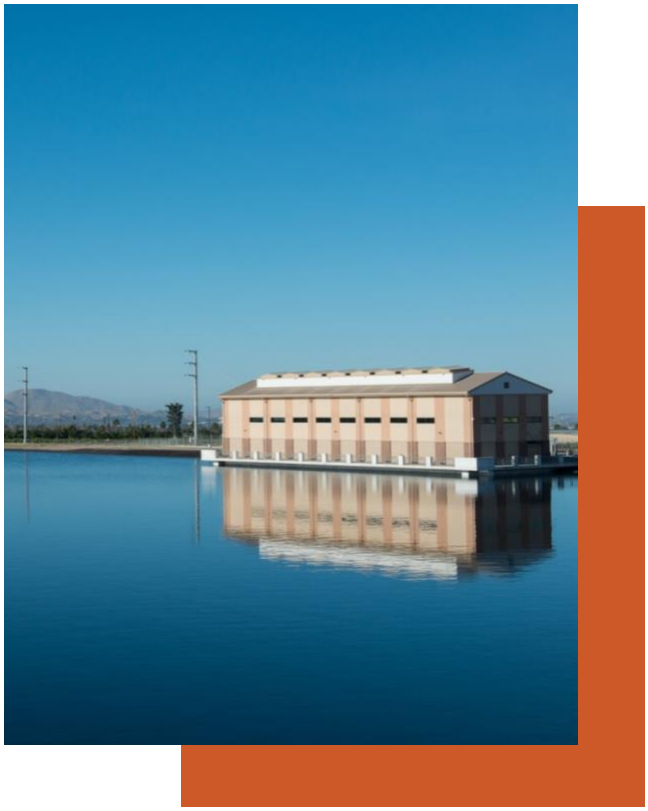
The current period analysis incorporated existing long-term supply assets, 2023 short-term transfers, and available local storage. Water Year 2023 was exceptionally wet in the State of California and provides an excellent "baseline", starting the period with a supply scenario that saw 100% Table A allocation for State Water Project contracts and SGPWA taking a large volume of Article 21 deliveries. In addition, the Nickel Water and Yuba Accord Water were available along with full groundwater volumes in the adjudicated Beaumont Basin and the San Timoteo Basin. In addition, the existing recycled water portfolio was also considered available.

The regional water supply baseline exceeded 45,402 acre-feet as compared to a baseline regional demand in the SGPWA service area of 32,506 acre-feet, showing a robust regional surplus in 2023. The analysis did not make assumptions about which water assets are used in differing ways within the Agency boundary. In other words, it was approached as a combined asset management platform for deployment of water assets within the regional framework. The Agency's objective is to ensure the water asset portfolio, including excess assets within the portfolio, can be stored and used by the regional purveyors to meet regional demands. The assessment addressed the macro-level demand, supply, and storage planning rather than functioning in the minutia of each water asset arrangement. For example, some regional purveyors have assets that cannot be used by other regional purveyors (like recycled water). However, as long as the recycled water asset is not stranded and unusable by its designated purveyor, it meets a portion of the regional demand that allows other components of the regional supply to be deployed to other regional purveyors. This high-level planning allows the Agency to assess the utility of engaging in various supply and storage activities.

The supply analysis baseline identified all existing long-term water supplies and storage as well as short-term options that may supplement existing regional supplies. These short-term options allow the Agency to potentially augment supplies as well as address other components of its portfolio management – like repaying water obligations from the Agency's previous water exchange.

The supply analysis characterized demands, supplies, and storage over a 50-year planning horizon. The planning horizon builds upon the current portfolio conditions and layers-in additional supply augmentation actions that support the long-term growth projections. The Agency is actively engaged in several of these augmentation actions already – like Sites Reservoir, Delta Conveyance Project, and regional groundwater planning under the Sustainable Groundwater Management Act. These types of supply augmentation actions are aggregated in each planning horizon to determine overall supply reliability.

Further comparison of the advantages and drawbacks associated with each potential supply augmentation alternative in the context of various water year types is integral to ongoing analyses as part of the WPSP. For instance, one supply augmentation alternative may need more storage as compared to another option or be highly valuable in dry conditions yet less valuable in normal and wet conditions. Thus, by assessing year types as against the supply augmentation action proposed, the Agency will have tangible guidance related to the utility of the combined augmentation actions at some prescribed condition in the future.



3.4.2 Multiple Year Planning in Each Period

The second important component of supply reliability planning is extending a prescribed static period into a multiple-year planning period. This approach is also consistent with Urban Water Management Planning documents required every five years. This planning extension allows the Agency to gage the utility of an identified augmentation action over a longer planning period. For example, in the Current Period, the water supplies made available in the region were maximized due to an especially wet water year. As such, the region has water that is surplus to its current demands. Multiple-year planning allows the Agency to examine the utility of these surplus supplies throughout the planning period. For instance, "Year 1" following the current year could be analyzed as a Wet, Normal Historical, Normal Future, Dry, or

Critically Dry. Depending upon the choice for assessment, Year 1 may affect the disposition of the surplus water assets and how the region deploys those assets. Simplistically, if it were a critically dry year, the surplus supplies may be used whereas in a wet year the surplus supply may be preserved for a future use.

Adjusting various items in scenario runs provides valuable assessment of future conditions. For example, choosing a 20% demand reduction in multiple critically dry years to align with the historically mandated Governor's Executive Order, helps assess the integrated effectiveness of demands, supplies, and storage over a prolonged dry period. Combining this attribute with a short-term water augmentation action helps show the combined effectiveness of multiple actions. Extended period planning capability provides a necessary tool to assess DMM and augmentation actions in the four identified planning periods.

3.5 Summary

A comprehensive supply reliability analysis incorporating supply, demand, and storage assets in the SGPWA water portfolio across four separate projection time periods through a 2075 planning horizon provides a solid foundation for the Agency's Water Portfolio Strategic Plan. Each of the years in these periods were assessed with multiple data runs that incorporated demand management measures, water year type, supply augmentation actions, and storage actions. Understanding the interaction of how these factors affect regional supply reliability over time is essential to a successful WPSP and meeting service area demands in all year types. This in-depth data analysis process quantified supply reliability by displaying either the surplus or the shortfall of supplies using the inputs and assumptions described above. Results are intended to provide a snapshot assessment to inform supply reliability planning for the SPGWA service area over the fifty-year planning horizon and as one of the tools utilized in the ongoing WPSP.

Section 4

SGPWA ALTERNATIVE ASSETS

This section describes individual water portfolio assets that were considered to meet service area demand targets over a 50-year planning horizon.

These future potential alternatives (Alternatives) are evaluated alongside existing SGPWA assets to provide context and efficacy for long-term planning. Ongoing consideration of Alternatives and implications of the regulatory and compliance landscape are key considerations in the Agency's Water Portfolio Strategic Program (WPSP).

4.1 Introduction

Long-term water supply reliability for SGPWA will depend on the augmentation of its portfolio. As discussed in Section 3 of this report, some key water assets that currently help meet demand have contract expirations that will require advanced planning to either renew or replace. Increasing demand in the service area will also require continuing to supplement supply and storage in the SGPWA portfolio to enable growth in the service area, compliance with the Delta Reform Act[1], and other regulations, and water security in the future.

Each of the Alternatives discussed in this section are considered within the context of demand targets at key points in time relevant to the existing asset portfolio described in Section 3 of this report. Planning assessments and supply augmentation actions should continue in accordance with demand targets and timelines. Meeting demand and navigating hydrologic conditions with short-term transfers and the inherent flexibility of its existing supply assets will be coupled with Alternatives providing more long-term reliability. As with any projection-based planning framework, the targets

[1] California Water Code Section 85225

and the data that inform them require periodic reassessment and revision, as necessary, to ensure portfolio adequacy and reliability as part of this WPSP.

While detailed economic and SGPWA financial considerations are not within the scope of this report, it is important to note that not all types of projects and sources of water are considered equal in terms of the Agency's ability to fund them. For instance, there may be limitations on what assets can be funded by different revenue sources, such as ad-valorem tax or water rates. These considerations are essential to evaluate as part of short and long-term supply planning and water asset investments and will be considered in the next iteration of water asset augmentation research.

4.2 Discussion of Considerations

During the water asset supply portfolio planning process many alternative supplies were given qualitative considerations through their legal, economic, political and technical (LEPT) factors that impact each Alternative's viability. For example, the "Legal" factor addresses regulatory complexity and impediments. "Technical" addresses items like engineering issues and conveyance distances. All of these items were considered in evaluating each Alternative.

Each potential Alternative was then weighted on the basis of the following criteria:

- Water Supply Reliability
- Storage Opportunity
- Legal/Regulatory Complexity
- Operational Flexibility
- Technical Complexity
- Cost to Implement
- Time to Implement
- Political Willingness

These ranking criteria guided the analysis for the overall chance for success to meet the targets presented across each interval in the 2075 planning horizon.

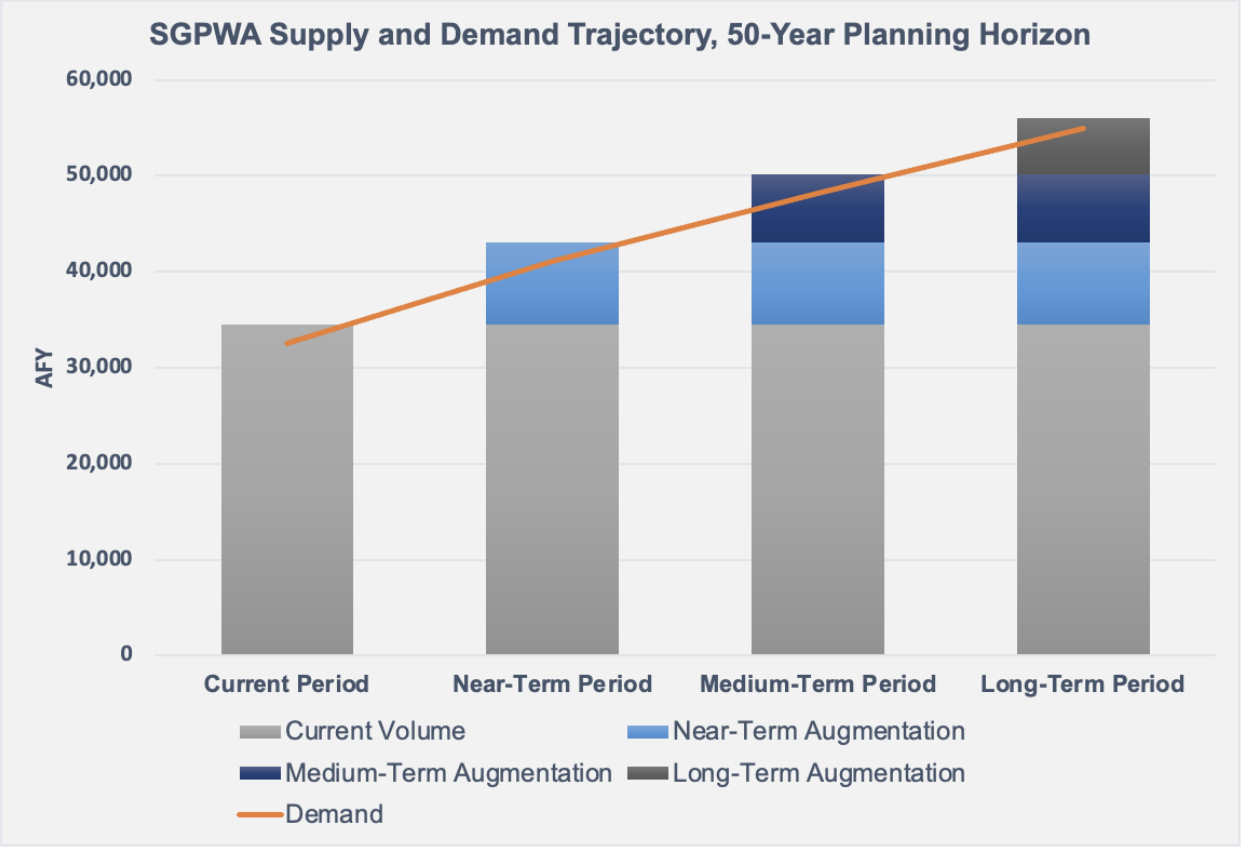
Additionally, a quantitative evaluation of Alternatives was run through a supply analysis and stress test, which is described in Section 5 of this report. These data were used to understand which combination of assets could meet demand targets at the key time periods during the planning horizon against the baseline scenario presented

in Section 3. A thorough analysis of each alternative asset was conducted to determine a priority set of Alternatives which are presented in the following pages.

It is important to note that many Alternatives were considered during the planning process, some of which are not presented in this section due to their inadequacy in meeting demand targets or qualitative complexity affecting overall chance for success. Consistent with the ongoing implementation of the WPSP, Alternatives will be considered in context with changing conditions and updates to the SGPWA asset portfolio.

The Alternatives considered in this section represent the mechanisms to maintain and build volumes of water assets over a long-term planning horizon. Figure 4-1 characterizes demand increases and stacked water supply volumes that supplement current portfolio resources over time.

Figure 4-1: Demand and Supply Trajectory, "Normal" Water Year



The water assets and alternative asset types that constitute each volume block is the primary focus of this Section. SGPWA and local water purveyors have already initiated actions that potentially fill the supply augmentation thresholds in the Near-Term, Medium-Term, and Long-Term planning horizons. The refinement of Alternatives in this Section provides additional context through the LEPT analysis and supplements existing information to further priorities for project development. Each alternative described in this Section was compared against numerous Alternatives originally identified. The consulting team and SGPWA staff analyzed the Alternatives and narrowed the list to a group discussed in Section 5 as recommendations. This Section provides a synopsis of the selected Alternatives, and the supply volumes associated with each that would support the long-term supply reliability planning.

4.3 Delta Reform Act, Bay-Delta Plan, and Voluntary Agreements

Ongoing consideration of the Delta Reform Act (DRA) and implementation of the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) and its Agreements to Support Healthy Rivers and Landscapes (Voluntary Agreements) is critical when planning SGPWA's water supply future. These ongoing activities will directly impact the Agency's primary water asset – its State Water Project Contract – where water originates from the Bay-Delta watershed.

As described in the Section 2, the DRA requires water purveyors to reduce reliance on water supplies derived from the Sacramento-San Joaquin Delta and improve reliance on locally developed water sources. SGPWA acquires water supplies from the Delta and the retail agencies in SGPWA's service area rely upon these water supplies to supplement local supplies to meet growing demands. SGPWA and the local agencies anticipate adding new supplies from projects north of the Delta and these supplies must be juxtaposed against the DRA requirements.

The fundamental conclusion related to the DRA is to identify which water supply actions that SGPWA may engage in that are subject to the DRA. Once those are identified, SGPWA would need to evaluate those water supply actions in light of the legal and regulatory criteria. For example, the Agency needs to evaluate whether the addition of the water supply reduces the Agency's reliance on the Delta and improves regional self-reliance. While specific quantifications are not detailed in the DRA, measurable reduction in Delta reliance and improvement in regional self-reliance are required to be reported in the Agency's Urban Water Management Plan as the reduction in the amount of water used, or in the percentage of water used from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code Section 1011(a). As such, the Alternatives considered in this section of the report weigh supplies that can help

mitigate the DRA requirements more favorably in addition to supplies that may be problematic with respect to DRA obligations. To this end, SGPWA and local retail agencies must develop, in part, local water supplies, groundwater storage, and demand management measures that would help support reduced Delta reliance and regional self-reliance requirements.

The Bay-Delta Plan is a plan used by the State Water Resources Control Board (SWRCB) to safeguard the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) watershed. The primary objectives of the plan are to enhance water quality and bolster fish and wildlife populations by increasing water flow into the Delta. Additionally, it seeks to protect the watershed's beneficial uses, including agriculture, municipal and industrial activities, and overall water quality.

The plan sets forth water quality control measures and flow requirements, accompanied by a program designed to achieve these goals. This program outlines specific actions that the SWRCB will take, such as enforcing flow requirements, as well as collaborative efforts with other entities. The SWRCB is tasked with periodically reviewing and updating the plan to ensure its continued effectiveness. On December 12, 2018, the SWRCB adopted the Bay-Delta Plan amendments and establishing the Lower San Joaquin River flow objectives and a revised southern Delta salinity objective[2]. It is anticipated that in 2024 the SWRCB will implement amendments and flow objectives for the Sacramento River System focused on the Sacramento River and its tributaries, Delta eastside tributaries, interior Delta flows, and Delta outflows, including consideration of proposed Voluntary Agreements. SWP Contractors are collaborating on the Voluntary Agreements along with several other agencies. If the Bay-Delta Plan is implemented per the SWRCB's staff recommendations, or in combination with staff recommendations and the proposed Voluntary Agreements, there will likely be reductions in SWP water supply reliability that exceed the projections in the most recent DWR Delivery Capability Report.[3]

4.4 Ongoing Alternatives – Short-Term Transfers

SGPWA has carried out numerous short-term water transfers and exchanges with regional and state-wide partners to maximize supply reliability and provide beneficial returns using the flexibility of its assets. The access to conveyance that SGPWA has through the California Aqueduct makes short-term backfilling of service area demand possible across a statewide network of partners, while the SWP Contract

[2] SWRCB Resolution No. 2018-0059

[3]The State Water Project Delivery Capability Report 2023 (July 2024) at p. 7-64. Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan (September 2023), Appendix A-1, Sacramento Water Allocation Model Methods and Results at p. A1-433.

provides abundant transfer and exchange opportunities that provide economic benefits for the Agency in times of surplus water. These transfers and exchanges will continue to play a key part of the WPSP for SGWPA bolstering supply reliability across each planning horizon.

4.5 Sites Reservoir Project

Also called the North of Delta Offstream Storage (NODOS), the Sites Reservoir Project (Sites Project) would be situated on the west side of the Sacramento Valley in Glenn and Colusa Counties. Sites Reservoir is designed to capture and store stormwater flows from the Sacramento River – after all other water rights and regulatory requirements are met – for release in dry and critical years for beneficiaries across the State.

The Sites Project Authority (Authority) has made significant progress in development of the Sites Project plan, including finalizing the EIR/EIS in 2023. The Authority filed permit application (A025517X01) on May 10, 2022 with State Water Resources Control Board that has an effective date of May 11, 2022 with a current status of "pending". The permit application requests diversion of up to 1.5 million acre-feet per year of unappropriated water to storage based on a reassignment of permit application A025517, which describes the State of California's proposed water rights for Colusa Reservoir to be used in the service area of the State Water Resources Development System which includes the California State Water Project (SWP) and the federal Central Valley Project (CVP).

4.5.1 Membership

SGPWA is currently invested in the Sites Reservoir Project with 14,000 shares in its name which is 6.2% of the active storage allocation of Project Members at 87,276 AF. Beaumont-Cherry Valley Water District (BCVWD) holds 4,000 of those shares pursuant to a 2020 costs and benefits sharing agreement with SGPWA, which gives SPGWA 10,000 shares as a remainder. This agreement puts cost sharing between SGPWA and BCVWD at 71.43% and 28.57%, respectively. The Project Member investment in Sites Reservoir provides a share of storage space and access to a proportionate share of

water diverted to storage in the reservoir. Project Agreement Member representatives make up the Reservoir Committee that works with the local Authority agencies. The Committee, in cooperation with the Authority's Board, provides and approves operating budgets and budget targets, annually or more frequently as needed. Each Project Agreement Member is an investor in the Sites Project.

4.5.2 ECONOMIC CONSIDERATIONS

The Sites Project is estimated to be a $3.9 billion project[4] that is being developed on a beneficiary pays principle. Funding for the project includes Project Member cost shares, California Proposition 1 funding, and Federal funding Financing agreements are not yet finalized, and ongoing quarterly progress reports are published on the California Water Commission website[5]. The beneficiaries of the Project include the federal government, state government, and local public agencies. The Bureau of Reclamation, State of California, urban areas of Southern California and the Bay Area, and public irrigation districts in the Sacramento and San Joaquin Valley are all participants and beneficiaries. At the time of publication of the 2021 RDEIR/SDEIS, there were 23 Members. The most recent Third Amendment to the Sites Project Agreement (Third Amendment) was dated January 1, 2022, in which Members agreed to fund just over $67 million for the 2022-2024 Work Plan. Members split this funding using a percent share based on annualized acre-feet totaling 167,620, and storage allocation totaling just over 1,000,000 AF. SGPWA's share is 6.2%, or 14,000 shares, and 87,276 acre-feet of storage allocation. Current investment level in the Sites Project reflects the proportional share that project members contribute to the Work Plan. The Third Amendment Work Plan payment agreement stipulates a cost of $400 per share shown in Table 4-1.

Table 4-1: Sites Project Agreement Third Amendment Work Plan Share – SGPWA

San Gorgonio Pass Water Agency **Sites Reservoir Work Plan 2022-2024 Budget Share (14,000 AF)**	
Installment 1 – Due May 1, 2022	$1,400,000
Installment 2 – Due January 1, 2023	$1,960,000
Installment 3 – Due January 1, 2024	$2,240,000
Total:	**$5,600,000**

[4] https://cwc.ca.gov/Water-Storage/WSIP-Project-Review-Portal/All-Projects/Sites-Project

[5] Ibid.

The Project Member investment in Sites Reservoir provides a share of storage space and access to a proportionate share of water diverted to storage. The Project Authority estimates 300 TAF as an annual average. The long-term average deliveries projected by the Authority in 2021 estimates about 7,900 to 10,900 AF of water annually for the 14,000 AF shares held in SGPWA's name. In wet years, while the reservoir will more frequently be able to divert supplies to storage, conveyance capacity in the SWP could be more limited for Sites supply delivery. However, the inherent value in the Sites Project lies in water deliveries in dry and critically dry years, where the Authority estimates SGPWA's share of deliveries will be between 19,900 – 27,400 AF. The supply analysis performed for the WPSP planning projections uses conservative estimates for Sites Project deliveries.

Over the next year, the Authority will work with Participants to update the 2021 Draft Plan of Finance and 2021 Draft Guiding Principles and Preliminary Terms which will be incorporated into the Sites Reservoir Benefits and Obligations Contract. The Benefits and Obligations Contract is estimated to be completed in 2024[6].

In November 2023 California certified the Sites Project under SB 149 for streamlined judicial review, thus expediting litigation under CEQA for the Final EIR. On November 17, 2023 the Sites Authority, as the lead agency under CEQA, certified and approved the Final EIR for the Sites The certification was indeed challenged in 2024, but the court ruled in favor of the state and the Sites Project. That ruling was appealed but on September 20, 2024, the Third District Court of Appeals found that the Project's environmental review fully complied with CEQA.

4.5.3 PROJECT SUMMARY

Future investment in the Sites Project will be required by Project Members to fund the ongoing Work. The Sites Project has completed the EIR/EIS phase and is beginning construction. SGPWA will retain a valuable membership status with continued investment that would result in a significant water supply when the project is realized. SGPWA owns 10,000 shares, with retail agencies in the service area invested in an additional 4,000 regional shares.

Because the Sites Project is north-of-delta it will rely on Delta Conveyance facilities and the California Aqueduct to transport water to SGPWA's service area. It is unclear at this time what conveyance priority will be given at Banks Pumping Plant to Sites Project water, however Sites exports would likely be junior to exports for CVP and SWP

[6] Sites Project Quarterly Report to California Water Commission, October 31, 2023. https://cwc.ca.gov/-/media/CWC-Website/Files/Projects/Sites-Project/Quarterly-Reports/Sites_QR_10312023.pdf

contract purposes according to the Sites Reservoir Project EIR/EIS[7]. Still, the extra capacity available in SWP facilities during most dry years may counterbalance lower conveyance priority for Sites Project water. Furthermore, the Project Authority represents that Project Members will have flexibility with their allocated water allowing Members to hold water, sell water, take water, or lease storage.

The Sites Project could offer considerable storage and supply benefits for SGPWA when the project is built. The benefits for additional supply in dry or critically dry years when SWP allocations are low are even more significant. Conveyance capacity of Sites Project water to the SPGWA service area is an essential consideration for local use of this additional water supply. Additional storage south-of-delta—either within or outside of the SGPWA service area—would be valuable to make use of this supply as well. Because of the Sites Project Reservoir's north-of-delta location significant exchange and transfer options could exist with Sites Project water. All water deliveries related to Sites Reservoir will also be considered through the DRA context. The economic commitment necessary to maintain project Member shares will be ongoing. The Site Project Authority draft project schedule estimates construction beginning in 2024 with full operation estimated by the end of 2032.[8] This timeline assumes full approval, permitting, water rights, final design, and funding.

4.6 Nickel Water Renewal

San Gorgonio Pass Water Agency (SGPWA) and Antelope Valley – East Kern Water Agency (AVEK) entered an agreement dated July 7, 2017, for 1,700 AFY of non-State Water Project water (Nickel Water). The Nickel Water agreement expires December 31, 2036, and SGPWA has a first right of refusal to renew for an additional 20-year term through 2056. Though Nickel water is a relatively small supply, its high degree of reliability makes it an important supply and one that SGPWA may consider for a longer-term renewal or potentially a permanent transfer.

The Nickel Water is derived from Nickel Family, LLC's (Nickel LLC) Kern River water rights by way of historical agreements and assignments. The water supply is highly reliable in all year types and can be delivered directly into SGPWA's service area through the California Aqueduct. Although the Nickel Water may have a lower priority than other water sources under Article 12(f) (conveyance priority) of SGPWA's SWP Contract, the supply has been consistently delivered through conveyance arrangements supported by DWR and the State Water Contractors. The Nickel water's place of origin

[7] Sites Reservoir Project Final EIR/EIS, Chapter 5 Surface Water Resources, at 5-57.

[8] https://sitesproject.org/wp-content/uploads/2024/10/04-04B-Work-Plan-Progress-Report-Summary-of-Changes.pdf

in the Kern River system is south of the Delta and therefore may provide a more favorable balance of supply related to DRA requirements. Specifically, the Nickel water's source origin helps demonstrate reduced reliance on Delta water supplies and regional supply reliance that are important DRA policies. Estimated Nickel Water supply in future conditions is maintained in the WPSP supply analysis at 1,700 AFY.

4.7 Ventura Table A Contract Renewal

Ventura and SGPWA entered into the Agreement for Transfer of State Water Project Water (Agreement) on April 26, 2022, for a long-term transfer of Ventura's SWP Table A entitlement (Ventura Water) of 10,000 AFY. This Agreement greatly increased SGPWA's overall reliability and delivery opportunities well into the future with a current expiration date of December 31, 2042. The Ventura Water supply is a significant supply source for SGPWA and should be considered for a longer-term renewal or extension to maintain this reliable supply source. This section examines the considerations for renewal over the planning horizon.

The Ventura Water is derived from a series of underlying agreements, including the original 1963 SWP Contract between DWR and Ventura Country Watershed Protection District (VCWPD) and its assignment of 20,000 AFY of Table A water to Casitas Municipal Water District (Casitas), from which the Ventura Water of 10,000 AFY was assigned.

The Ventura Table A water supply, like all SWP supplies are subject to reduction each year based on actual water supply availability as determined by DWR. The average Table A Allocation based on existing conditions is 53% of the Annual Table A Amount.[9] In this case, the Ventura average Table A Allocation would be 5,300 acre-feet, 53% of its Annual Table A Amount. Average deliveries of Table A Water in future conditions considering hydrologic variability are predicted to be between around 46%[10], depending on the "Level of Concern" for SWP system performance in a 2043 condition considering climate change[11]. It should be noted that VCWPD is currently a participant in the Delta Conveyance Project that could impact the reliability of this water supply. For purposes of the WPSP supply analysis, we do not increase the Ventura reliability beyond the SWP predictions identified earlier in this section.

[9] The State Water Project Delivery Capability Report 2023, July 2024, Table 6-3 at p. 6.52

[10] The State Water Project Delivery Capability Report 2023, July 2024, Table 7-3 at p. 7.70

[11] The State Water Project Delivery Capability Report 2023, July 2024, Section 7. SWP Water Delivery Capability Under Future Climate Change Conditions at pp. 7.63-7.64.

Ventura does not currently have a physical connection to the SWP but is pursuing an Interconnection Project. An Interconnection Project would enable delivery of SWP water by wheeling through Metropolitan Water District of Southern California and Calleguas Municipal Water District (Calleguas) to the City. SGPWA retains its right to the full amount of the Ventura Table A Allocation until the Interconnection Project is completed. At that time, Ventura will have the priority right, but not obligation, to take delivery of up to 2,000 AF of Table A each year, provided the Table A allocation from DWR is sufficient to provide the 2,000 AF. The supply is currently used for water quality mitigation and blending in Ventura's service area and Ventura staff believes 2,000 AFY will be more than adequate to meet water quality and supply needs. Additionally, Ventura staff has represented that SWP water is expected to be its most expensive supply source[12], therefore an extension or renewal of the Agreement could be feasible.

Conveyance of Ventura Water begins, like other SWP water, north-of-delta, and travels down the California Aqueduct to the West Branch and East Branch split. Ventura moves the water down the West Branch to Castaic Lake. SGPWA seeks to deliver Ventura Water via the East Branch and subsequently the East Branch Extension to SGPWA's service area.

The Ventura extension does not provide a permanent solution to the Agency's water asset management program. The extension would provide another interim period – potentially through 2075 – where the Agency would have a reliable water supply. Accordingly, the Ventura extension provides security to the Agency's water asset portfolio but does not provide a permanent solution.

4.8 Permanent Table A Purchase

Additional SWP Table A supplies derived from long-term or "permanent" acquisitions are a favorable source of new supply with a relatively high degree of reliability. A permanent Table A transfer could arise from a number of SWP contractors but would preferably arise from an entity located south of the Delta. The WPSP supply analysis uses a hypothetical SWP contractor located south of the Delta as an example of a permanent SWP transfer.

A SWP contractor could provide a water acquisition opportunity to the Agency to permanently acquire up to 8,000 acre-feet of water, for example. The water would be conveyed to SGPWA via the California Aqueduct and its East Branch Extension. In this example, with a permanent transfer 8,000 acre-feet to SGPWA's Annual entitlement,

[12] City of Ventura, Ventura Water Commission – Staff Report, "State Water Project Multi-Year Transfer Program with San Gorgonio Pass Water Agency", February 15, 2022. Presented in Ventura Water Commission Regular Meeting, February 22, 2022

SGPWA would increase its Table A entitlement to 25,300 acre-feet per year (17,300 AF of its own SWP Contract and 8,000 Table A permanent transfer).

While expensive, a permanent SWP contract acquisition would provide a permanent supply to SGPWA, further bolstering the Agency's broader water asset portfolio. This supply could be managed in accordance with its reliability characteristics. For example, in 2023 – one of the wettest years in the recent hydrologic record – SGPWA would look to capture and store as much of this new supply as possible. In dry conditions, it would look to retrieve its stored water supplies for delivery and use in its service area.

A new Table A Amount would likely follow the same reliability predictions as SGPWA's existing Table A Amount. By 2043, the reliability of SGPWA's SWP supplies is modeled to be around 46% of the annual Table A amount on average in future conditions, compared to a current average of 53% of the annual Table A amount[13]. Any additional SWP water acquired for SGPWA would increase resiliency and buffer anticipated SWP supply volatility so long as appropriate capture and storage options are also developed. Additional considerations relating to the Delta Reform Act, debt financing, storage capacity, and others should be evaluated for any permanent SWP transfer.

4.9 Delta Conveyance Project

The Delta Conveyance Project (DCP) is a proposed project by DWR to mitigate lost supply to the State Water Project associated with transporting water through the Sacramento-San Joaquin Delta (Delta). This decrease in supply and basis for the DCP can partially be attributed to compliance with statutes and authorities protecting federally endangered and threatened species under the Endangered Species Act (ESA), D-1641 Bay Delta Water Quality Control Plan, and California Endangered Species Act (CESA) protections, among others. Additional mitigation against other water supply risks driven by rising sea levels, earthquakes, progressive risk of levee failures, and extreme drought and flood are also identified as DCP benefits. Continuation of existing operation of the Delta is expected to increasingly expose water users that depend on water from the Delta to risks of interrupted water supply and decreasing water supply reliability over time. In short, the DCP is essentially an "insurance policy" to help overcome uncertainties associated with conveying SWP water through the Delta.

SGPWA is an investor and participant in the DCP. The investment costs associated are to fund the work plan and reserve capacity space in the project. The Agency's

[13] The State Water Project Delivery Capability Report 2023, July 2024, Table 6-3 at p. 6.52, and Table 7-3 at 7.70.

proportionate share of the DCP initially was 0.41%, then was increased to 1.22%, and in 2020 the SGPWA Board agreed to increase the participation level to 2%. SGPWA's proportionate share of the estimated $15.9 billion total cost would range from about $194 million up to $318 million depending on participation level. Participants received project benefits such as conveyance capacity, priority, and water delivery benefits in proportion to investment level. If and when the DCP is built, it would increase reliability of State Water Project (SWP) supply to south-of-delta contractors. The DCP does not increase water rights associated with the SWP but rather would restore losses caused by current physical and regulatory issues and mitigate against future changed conditions affecting SWP exports by adding a new point of diversion in the northern Delta and conveying that water in pipelines to avoid exporting water directly from the Delta.

With 2% participation, SGPWA's participation would correspond to somewhere between 60 and 150 cfs of capacity in the DCP. Total annual SWP deliveries and Table A deliveries are expected to decrease under long-term average, dry water, and critical years with no DCP project and DWR operating the SWP consistent with current applicable laws and contractual obligations. This operational reduction is shown in DWR's 2023 State Water Project Delivery Capability Report. Article 56 carryover supplies could decrease with construction of the DCP because more water could be exported under normal conditions thereby reducing the need for SWP facility storage, but delivery of Article 56 carryover water could improve because of increased conveyance capacity. Conversely, Article 21 deliveries are expected to increase on the long-term average because of improved export capacity yet decrease during dry and critical years relative to existing conditions. All of these considerations are important in assessing SGPWA's interest in the DCP. When it is built, DWR estimates the DCP would maintain and even increase current SWP export capacity over the long-term relative to the 2040 No Project conditions.

The DCP has considerable obstacles to implementation. These include significant CEQA hurdles. Most recently State of California CEQA facilitation bills (SB 147 and SB 149) specifically excluded the DCP project from California Endangered Species Act and CEQA administrative and judicial "streamlining" benefits for new infrastructure

projects. It is also unclear how the implementation of the Delta Reform Act would affect the DCP as it proposes to bypass flows from the Delta. Significant political support will be necessary to build the DCP. However, catastrophic natural disasters such as earthquake and levee failure, and increased pressure from rising sea levels and hydrologic variability that includes significant flood events due to climate change, could force political will to build the DCP as safeguarded conveyance through the Delta is critical to water security of the large population and communities of people located south-of-delta.

4.9.1 SUMMARY

The primary benefit of the DCP is as a hedge against water supply risk associated with climate change and natural disasters for SWP water. As written in the Agreement in Principle (AIP) to Participating Water Agencies (PWA), the additive nature that allows DWR to provide water supply and capacity benefits attributable to the DCP for Table A and Article 21 water is significant. Article 21 water specifically is provided for in the AIP as having additive benefits for participating PWAs. With the increase in extreme wet and dry cycles predicted with a changing climate, the DCP would provide additional measures of reliability and the ability to benefit from opportunities for additional conveyance capacity and priority, thus making the DCP valuable for obtaining average and wet-year supplies. Other benefits include carriage water savings[14] and the potential to use DCP capacity to move non-SWP water through the facilities providing increased opportunity for supply originating north-of-delta. The economic commitment necessary to maintain status as a participating PWA could be significant, especially with an unknown project timeline.

DCP construction progress has been slower than anticipated due to a number of political and technical factors. The likelihood that DCP is built, however, may depend on outages that affect existing pumping facilities through saltwater intrusion caused by sea water intrusion or catastrophic levee failure in the Delta. In these circumstances, DCP will need to be built to maintain basic water deliveries to the southern half of California. As a PWA, SPGWA would maintain a valuable position when the DCP is built but would need to contend with the ongoing funding timeline.

[14] The SWP and CVP (Projects) must comply with various water quality and environmental requirements in the Delta, including those that address flow and salinity. To mitigate the potential for increased salinity, an additional water quantity is required to carry a unit of water across the Delta to the Projects' export facilities to maintain a constant salinity level at a given location or provide the additional outflow needed to offset the degradation to water quality as a result from the increased exports for transfers. Carriage water is assessed as a percent of transfer water and has varied between 20 – 35% of the transfer amount depending on Delta conditions. Carriage water applies to non-Project transfers.

4.10 Colorado River Water

A further consideration for supply augmentation is Colorado River water (CO River). The 242-mile CO River Aqueduct runs through the SPGWA service area on its way west towards its terminus at Lake Mathews in Riverside County southwest of the SPGWA service area. The CO River Aqueduct enters the eastern edge of the service area and passes through the community of Cabazon on its southeast side. CO River water is a primary source for service areas adjacent to SGPWA, including other California State Water Project contractors.

SGPWA could consider arrangements similar to existing exchange and delivery agreements between Metropolitan Water District (MWD), Desert Water Agency (DWA), and Coachella Valley Water District (CVWD). MWD and CVWD share the same imported source waters (CO River water and State Water Project water), which allowed MWD to receive CVWD's and DWA's State Project Water supplies and delivering a like amount of Colorado River water in return. The water is delivered through the MWD-owned and operated Colorado River Aqueduct to the turnout on the Whitewater River located in the western Coachella Valley. The transferred water is used for direct groundwater in the Indio and Mission Creek Subbasins. In a similar arrangement, SGPWA could exchange its SWP Table A with MWD and deliver CO River water within the SGPWA service area or form another arrangement. Facilities would have to be built to deploy the CO River water from the existing Aqueduct pipeline, however groundwater recharge opportunities exist adjacent to the CO River Aqueduct within the SGPWA service area. This approach – potentially in conjunction with the proposed "Backbone Pipeline" project that would extend delivery from the current terminus of the East Branch of the California Aqueduct – could provide additional water to the eastern side of the SGPWA service area to better serve the community of Cabazon and the Morongo Band of Mission Indians.

4.10.1 Summary

Colorado River water is already flowing through the SGPWA service area, and neighboring water agencies have long-standing arrangements for exchange of SWP for CO River water. Infrastructure projects could be considered to deliver this alternative source of water to recharge the San Gorgonio Pass groundwater basin or potentially for direct delivery to communities in the eastern part of the SGPWA service area. This alternative source could also provide a benefit with respect to the regulatory requirements of the Delta Reform Act by lowering dependence on water imported from the Sacramento-San Joaquin Delta. An alternative source of imported water could also provide a dry-year hedge in years when SWP allocations are low by sourcing water from an alternative watershed.

4.11 External Water Banking

Water storage outside of the SPGWA service area will be an important part of the SGPWA long-term strategy to preserve water in wet years for use in future dry years. Supplemental storage will be an important part of the SGPWA portfolio to ensure long-term water supply reliability. This section examines some of the Alternatives explored and others that could be considered as part of this strategy as SGPWA continues to evaluate groundwater banking opportunities to expand its water resources portfolio. A water asset analysis as part of this WPSP estimated a need for approximately 20,000 – 30,000 AF of external storage "put/take" to maximize water resources that originate outside of the SPGWA service area.

4.11.1 AVEK Water Bank

In April 2020, Antelope Valley-East Kern Water Agency (AVEK) proposed a water banking partnership with SGPWA for a recharge and recovery capacity along with a storage volume in a water banking project. This project, or one similar in the AVEK service area, could increase operational flexibility for SGPWA's existing and future water assets, particularly considering the conveyance limitations in the California Aqueduct in transporting water to the SGPWA service area. The Antelope Valley Groundwater Basin is located in the western Mojave Desert, covering 1,580 square miles in portions of Los Angeles, Kern, and San Bernardino counties. In 2015, the Antelope Valley Groundwater Adjudication Judgement was administered. A native safe yield of 82,330 acre-feet per year was established by the Court and the Parties to the Adjudication were allocated production rights. The adjudication also provided for the Watermaster to enter into Storage Agreements with Parties to the judgement, including AVEK. The AVEK water bank could be implemented on an approximately 1,500-acre site located adjacent to the East Branch of the CA Aqueduct to store and recover SWP water. "The project would store (SWP) water during wet weather years when supplies exceed demands and would recover the water during dry weather years when demands exceed supplies or at other times when there are disruptions to SWP supplies."[15] Initial project documents propose to store approximately 70,000 acre-feet per year conveyed to the site via the East Branch[16]. A "Phase One" banking project was a partnership between AVEK and Metropolitan Water District of Southern California with AVEK functioning as the Lead Agency, and Metropolitan functioning as the Responsible Agency.

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[15] CEQA Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code, by Metropolitan Water District of Southern California, State Clearinghouse Number 2017061030 dated April 15, 2019.

[16] Initial Study Addendum 1, High Desert Water Bank. Filed as CEQA NOD Addendum on 11/5/2021, SCH No. 2017061030, at p. 2.

In 2023, AVEK disclosed a "Phase 2" opportunity to interested parties with a further refinement of project capacity and operational criteria. The opportunity included a project development plan targeting additional banking to be operational in 2030, however project details are not solidified. In general, the development phases would be funded by the banking partners according to the project work plans based on a cost sharing agreement and includes an initial deposit for the respective recharge and recovery capacity allocated under the banking agreement. AVEK indicated that during the project construction phase partners will pay an initial deposit for their respective recharge or recovery capacity, plus a pro-rata share of AVEK's banking allocation to cover project management costs. Operations, Maintenance and Replacement (OM&R) fees are also outlined and include local watermaster fees, recovery costs, and a use fee for water returned that will be escalated annually based on the CPI. All of these components are subject to refinement as conditions change.

The Phase Two project is being further assessed and refined to improve the operational components and cost allocations. AVEK will likely further coordinate with SGPWA as the project progresses.

4.11.2 Additional External Banking Alternatives

The previously mentioned AVEK water bank is well positioned to receive, store, and recover SGPWA SWP supplies in large part due to its geographical location: it is south-of-delta; it's located directly along the East Branch of the California Aqueduct; and it is relatively close to the SGPWA service area. Additional water banking options with similar characteristics should be considered with agencies in nearby geographies such as Mojave Water Agency should the opportunity arise.

Additional considerations for external water banking could be studied in banks such as Semitropic Groundwater Storage Bank, the Aquaterra Water Bank Project within the McMullin Area GSA (MAGSA), the Cadiz Water Project, or others.

4.11.3 Summary of External Banking

Sufficient groundwater storage outside of the SGPWA service area is a key component of long-term water supply reliability for the Agency. The ability to harvest water in wet periods to bolster supplies during multiple dry years is fundamental to the Agency's WPSP, particularly considering the conveyance limitations of the SWP. Multiple opportunities and Alternatives exist and should be considered to maximize SGPWA assets that originate outside of its service area.

4.12 Regional Ongoing Activities

Regional collaboration and alignment of objectives between SGPWA, its retail agencies, the GSAs, and Morongo Band of Mission Indians is central to long-term water supply reliability. This section examines Local Water Banking opportunities, recycled water and reuse in the region, and the importance of collaboration with the Morongo Band of Mission Indians.

4.12.1 Local Water Banking

SGPWA's service area overlies prominent groundwater subbasins to consider for future alternative water supplies. Currently, the San Timoteo Subbasin (defined by the Bulletin 118 boundary) produces the majority of groundwater within the service area and a large amount of the subbasin is adjudicated (the Beaumont Basin). The San Gorgonio Pass Subbasin (SGP Subbasin) is entirely contained within the SGPWA service area aside from a small portion the eastern boundary that lies outside on the eastern service area boundary. Additionally, the Yucaipa Subbasin straddles the northwestern boundary line of the SGPWA service area, with the majority of the subbasin within San Bernardino Valley Municipal Water District's (SBVMWD) service area. These two subbasins offer potential recharge and recovery projects to bank future water supplies for SGPWA that could be additional to existing local storage accounts in the Beaumont Basin and Bunker Hill Basin in SBVMWD's service area.

4.12.2 Yucaipa Groundwater Subbasin

The Yucaipa Subbasin encompasses approximately 40 square miles and underlies the southeast part of San Bernardino Valley and the northern tip of the SGPWA service area. In addition to SBVMWD, the Yucaipa Water District, South Mesa Water District, and the City of Redlands Water District overly the subbasin.

Because of several faults in the Yucaipa Subbasin, it is further divided into hydrogeological management areas based on apparent influences of the faults on groundwater flow. There are 9 hydrogeological management areas (Triple Falls Creek, Crafton, Gateway, Wilson Creek, Oak Glen, Western Heights, Calimesa, Singleton, and Live Oak). The Yucaipa Groundwater Sustainability Plan (GSP) has estimated the

sustainable yield of the Yucaipa Subbasin to be 10,980 acre-feet per year.[17] Water demands within the Yucaipa Subbasin historically relied on groundwater supplies. To augment these supplies, imported water from the East Branch Extension has been recharged at the Wilson Creek and Oak Glen Creek spreading basins since 2002. These facilities are located within the Yucaipa Valley Water District (YVWD) and SBVMWD service areas, in the northern portion of the subbasin, within the Gateway and Wilson Creek hydrogeological management areas. The Oak Glen Creek Project consists of three spreading basins that have the capacity to store up to 45 to 50 acre-feet of water per basin. The Wilson Creek Project consists of five spreading basins. According to the 2020 YVWD IRUWMP, YVWD has recharged 28,783 acre-feet of water into the Wilson Creek Basins.

SGPWA purchased a piece of property on March 8, 2022, for the development of a new recharge facility within the SGPWA service area, in the southern Yucaipa subbasin within the Calimesa hydrogeological subarea. The County Line Recharge Facility will use South Mesa Water Company existing water mains that cross the East Branch Extension which can be repurposed to transport imported water to the recharge facility.

Expanding recharge capacity in Yucaipa Subbasin within the Calimesa management area and working collaboratively with Yucaipa SGMA partners and SBVMWD to expand groundwater banking opportunities within the Yucaipa Subbasin on the whole will provide needed local storage opportunities for SGPWA's imported water. Groundwater storage estimates were identified in the Yucaipa Subbasin GSP. The total volume of groundwater storage in the Yucaipa Subbasin at the end of the 2016 WY was 2,233,000 AF. The estimated sustainable yield of the basin was determined to be 10,980 AFY. The Yucaipa Subbasin is further divided into multiple hydrogeologic management areas. The largest is the Calimesa management area, total volume of groundwater storage in this management area was estimated in the 2016 WY to be approximately 638,000 AF. The sustainable yield in the Calimesa management area is 4,955 AFY.

[17] Dudek. (2022). Final Groundwater Sustainability Plan for the Yucaipa Groundwater Subbasin Part 1. pp. 183.

4.12.3 San Gorgonio Pass Subbasin

The SGP Subbasin lies within the major faults of the San Andreas and the San Gorgonio Pass Fault Zones, along with numerous ancillary faults that have affected the landscape, and geologic and hydrogeologic evolution of the Subbasin. These faults affect the groundwater flow and have been used to define several storage units in the SGP Subbasin. The westernmost portion of the subbasin is included in the Beaumont Basin Adjudication. Excluding the adjudicated portion of the Beaumont Storage Unit, four additional storage units make up the subbasin: the Banning Storage Unit, the Banning Bench Storage Unit, Banning Canyon Storage Unit, and the Cabazon Storage Unit.

The Cabazon Storage Unit is the largest hydrogeologic area within the subbasin. Investigations of this area have concluded a general water movement within the aquifer to the east from the Beaumont Adjudicated Basin towards the Coachella Valley which has led to some measurable decline documented in the Cabazon basin. Because of the natural groundwater movement in the basin, groundwater flow direction is generally easterly within the basin. Significant modeling and other technical assessments have been undertaken in this area with an effort to further understand and manage the groundwater movements. Notwithstanding the directional groundwater movement, this basin may have utility for future storage so long as the hydrogeology is further vetted and modeled.

The GSP estimates that the sustainable yield of the SGP Subbasin is 10,200 acre-feet per year. It should be noted that the Sustainable Groundwater Management Act (SGMA) defines sustainable yield as the amount of pumping that can occur without causing undesirable results. The sustainable yield will continue to be evaluated in the future based on monitoring data that indicate the presence or absence of undesirable results.[18]

4.12.4 Local Groundwater Banking Summary

Augmenting groundwater supplies through recharge and recovery provide an alternative related to the future development of water resources within the SGPWA service area. The Yucaipa Subbasin currently supports recharge and banking opportunities and there may be additional opportunities to develop recharge within the SGPWA's service area within the San Gorgonio Pass Subbasin. Demonstrating

[18] San Gorgonio Pass Groundwater Sustainability Plan. (2021). pp. 182. https://www.sgpgsas.org/wp-content/uploads/2022/01/Final_SGPGSP_1230_2021-web.pdf

sustainable use of local groundwater resources also plays well into the Delta Reform Act regulations that will require less reliance on water from the Delta.

4.12.5 Recycled Water and Reuse

Drought and increasing hydrologic variability linked to climate change will drive an increasing need for resilient sources of water. Reusing water – either through direct delivery from recycling or reuse after treatment and storage – should play an increasing role in securing current and future water supplies in the SGPWA service area. SGPWA and the retail agencies that own and operate recycled and reuse facilities can consider these supplies in the context of the regional portfolio. Water recycling and reuse offers additional protection against droughts or curtailments and reducing overall potable demand. Several of the local retail water agencies in the SGPWA service area already operate recycled water systems, that allow for various forms of water reuse and have plans to expand further. This section evaluates the feasibility of water reuse through water recycling facilities as an additional future supply for retail users in the SGPWA service area boundary.

SGPWA currently does not supply recycled water. As a wholesaler it provides imported water delivered through the State Water Project (SWP) facilities that are directly delivered and stored in the Agency's service area. As discussed in Section 3, several of the local water agencies in the SGPWA service area operate wastewater treatment plants (WWTP) and use recycled water to varying degrees that are derived from imported water supplies.

Yucaipa Valley Water District (YVWD) operates the most extensive recycled water system in the region, with a 2.5 million gallon per day (MGD) reverse osmosis treatment system. YVWD operates the Wochholz Water Recycling Facility, which has a treatment capacity of 8 MGD. As a result, YVWD uses recycled water to meet 16% of its overall demand. With additional expansion plans underway, recycled water is well positioned to augment supply and meet the region's future growth and water demand. In addition to direct recycled water deliveries, this recycled water may be delivered to groundwater storage and reused in other ways in the future as well.

The City of Banning also operates a recycled water system. Banning operates its own 3.6 MGD capacity WWTP, thus allowing for vertical integration of its recycled water system. The WWTP has a current capacity of 3.6 MGD and treats wastewater to secondary standards, which is then discharged to percolation ponds for groundwater recharge in the Cabazon Storage Unit within the San Gorgonio Pass Subbasin.

Beaumont Cherry Valley Water District (BCVWD) is anticipating water demand to increase 50% over the next 25 years. To meet this demand, the BCVWD is actively

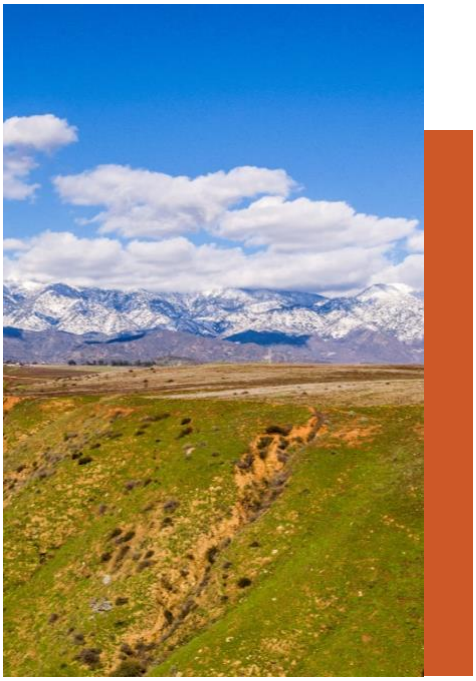
installing pipeline and expanding its ability to serve recycled water from the City of Beaumont's wastewater treatment plant its planned reverse osmosis treatment unit.

Support and coordination in expanding these regional recycled water supplies is an important strategy in meeting long-term demand. Table 4-2 shows planned projects by SGPWA retail suppliers as represented in various planning documents.

Table 4-2: Planned Recycled Water - Estimated Water Supply in Future Conditions (AFY)

Agency	Supply Type	Expected Supply
City of Banning	Tertiary/Recharge	2,700
Beaumont Cherry Valley Water District	Tertiary/Non-Potable	2,646
Yucaipa Valley Water District	Tertiary/Aquifer Storage Recovery	4,500
	Total:	9,846

According to the retailer representations taken from their respective UWMPs in Table 4-2 above, recycled water is anticipated to account for 9,846 acre-feet of future water supply. This represents more than doubling of recycled water's current capacity of approximately 3,600 AFY. Depending on the use, treatment level, and subsequent cost, recycled water could be a viable option for additional water supplies, regardless of drought or water year. Recycled water not only increases local water supply resilience and regional self-reliance, but potentially makes recycled water have additional benefits that complement uses from imported water assets. It is important to note that imported water is used multiple times as it is treated, recycled, and often times, used to recharge the groundwater basins. As consumptive outdoor use declines, the water use efficiency and utility of imported water also increases.



Tertiary treatment facilities could treat wastewater to potable standards for immediate consumption. These facilities can also be efficient. As an example, the City of Vacaville's Elmira WWTP received 8,412 acre-feet and discharged 8,154 acre-feet as tertiary effluent in

2020, yielding a 97% recovery rate[19]. The 258 acre-feet difference is attributed to use for onsite cleaning. While more advanced and costlier to build and maintain, tertiary treatment plants have a demonstrated efficacy for improving water supply resilience.

Increasing groundwater recharge using treated wastewater would result in considerable benefits. Expansion of existing, or construction of new, recharge facilities would allow for greater recharge opportunities and resilience in dry water years when imported supplies are less available. Using treated wastewater to recharge groundwater would augment imported supplies while contributing to the region's overall supply.

Augmenting supply by increasing recycled water capacity is an important part of long-term supply reliability. Significantly, decreased reliance on imported water also can help SGPWA and the local retailers' continued compliance with the Delta Reform Act by increasing locally generated supplies and reducing reliance on imported supplies. Maximizing SGPWA imported water reuse and ensuring return flows of imported water to support basin recharge is an important component as well. Coordination with retailers on recycled water projects will benefit the entire SGPWA region and provide long-term resiliency for water supply.

4.12.6 Morongo Band of Mission Indians

The SGPWA service area encompasses the Morongo Band of Mission Indians (Morongo Tribe) sovereign nation lands and community, however the Morongo Band operates its own water department. The Morongo Tribe is a Participating Agency in the Beaumont Basin judgement and stipulation with an allocation of 20,000 AF of storage. The Morongo Tribe is not subject to the requirements of the Sustainable Groundwater Management Act because of their status as a sovereign nation. The community is an important regional partner and manages numerous facilities including the Potrero Canyon groundwater recharge facility, various reservoirs, wells, and conveyances systems. Involvement of the Morongo Tribe in long-term regional collaboration will provide benefit for supply reliability planning for the entire service area.

4.12.7 Regional Ongoing Activities Summary

Engaging in inter-regional planning studies, conjunctive use opportunities, and resource coordination will provide durability for the region's water resources and its stakeholders. Mutually beneficial operations agreements between regional partners and coordination with the Groundwater Sustainability Agencies (GSAs) and the

[19] The City of Vacaville 2020 Urban Water Management Plan, Section 6.3.1, at p. 6-8.

Beaumont Basin Watermaster will allow sustainable growth and economic development in the region and maintain a reliable water supply over the decades to come. Maximizing opportunity within the local groundwater basins for water storage and recharge projects is essential to maintaining safe yields and adequate supplies, especially in times of drought and with hydrologic and regulatory pressures. Similarly, continued development of recycled water production and reuse infrastructure can mitigate increasing demand and increase regional self-reliance.

4.13 SGPWA Alternative Assets Summary

Numerous potential assets can be considered to meet San Gorgonio Pass Water Agency's long-term portfolio needs. Having access to SWP conveyance allows for many viable options to add water sources. These options include extending or renewing beneficial existing contracts such as Ventura Water and Nickel Water. Additionally, investment in the Sites Project and DCP potentially provides SGPWA significant new long-term water supply and storage.

Improving regional self-reliance is paramount to pursue which will provide resiliency in times of drought, compliance with the Delta Reform Act, and increased adaptability amongst regional partners. Expanding recycled water projects, local groundwater storage and recovery, acquisition of local groundwater and surface water supply, and investing in banking outside of the SGPWA service area can strengthen the regional water asset portfolio.

Additionally, conservation and demand management measures should continue to be implemented as these actions improve local resiliency, support long-term water conservation practices, and expand water efficiency that advances regional self-reliance pursuant to the Delta Reform Act[20]. Paramount to successful long-term supply reliability is the alignment and coordination of regional purveyors and agencies to ensure water resources are managed effectively and, in order to benefit both SGPWA and the retail agencies, in accordance with applicable rules and regulations that could impact development of some water resources. SGPWA is addressing these issues through ongoing interaction with its WPSP team.

[20] For the purposes of DRA reporting, water efficiency is considered a new source of water supply, consistent with Water Code Section 1011(a).

Section 5

SGPWA RECOMMENDATIONS OF ALTERNATIVES

This section introduces recommendations for augmentation of water assets to meet demand across the planning horizon time periods.

5.1 Introduction

San Gorgonio Pass Water Agency (SGPWA or Agency) has sufficient assets to meet the near-term service area demands in coordination with the retail suppliers it serves and their various water assets and facilities. The regionally secured water assets include a viable mix of acquired supplies, native groundwater, and recycled water that provide near-term water reliability. Importantly, SGPWA's imported water that is not consumed, recharges the groundwater basins and is integral to the reuse operations in the service area. In other words, SGPWA's water is used multiple times throughout its service area. Short-term transfer and exchange activities also shore-up supplies to meet long-term demands and provide economic benefits to the Agency and the region. These short-term transfer activities are one of the principal Agency strategies that supports tactical supply management that benefits all retail agencies and groundwater sustainability activities. In addition, these short-term actions can lead to long-term water supply opportunities as revealed by the long-term contract with the City of Ventura. A comprehensive strategic approach in maximizing portfolio assets and improving system flexibility is fundamental to the Agency's Water Portfolio Strategic Program (WPSP).

The entire SGPWA service area water demand – including retail water service demand – is expected to grow by about 77% by 2075 from current levels. The WPSP analysis identifies water management actions that could be immediately implemented as well as those that may not manifest for a longer time horizon. For instance, adding a new supply now would create a surplus to the Agency's regional supply portfolio but could be stored and then used later to meet future needs. Importantly, the WPSP assumes coordination between SGPWA and the retail agencies

to maximize water supply augmentation, comply with state law and regulations, expand storage opportunities, and improve management actions. Accordingly, the WPSP considers actions and opportunities that range throughout the expansive planning horizon, including immediate ripe actions and opportunities that have a prolonged planning and implementation timeline.

As demonstrated in previous sections of this report, key water asset contracts that play a critical role in meeting current and future demands will eventually require renewal or expire, and alternative supplies and storage facilities may be needed to meet SPGWA demands. Accordingly, Zanjero assessed and evaluated a number of water supply and storage alternatives in conjunction with SGPWA senior management. Several leading alternatives are presented in detail in Section 4 of this report. Additional alternatives were evaluated based on their legal, economic, political and technical feasibility along with overall chance for success. While those secondary alternatives are not presented in narrative form in this report, they were developed at a sufficient level of detail to be considered for the WPSP in the future.

The overall objective of meeting long-term SGPWA service area demand requires a methodical acquisition of supplies and storage that allow for opportunistic water management. Moreover, the SGPWA's long-term water supply reliability objective requires integrating SGPWA's planning objectives with both retail water management plans and statewide regulatory criteria that affect SGPWA's entire service area. Accordingly, the WPSP incorporates these considerations and prioritizes: (1) asset reliability; (2) local and south-of-delta origination supplies; and (3) water storage and recovery assets. All of these should be considered to achieve expanded water management flexibility when confronted with increasing hydrologic variability, limited conveyance for imported supplies, and a changing regulatory landscape.

SGPWA and the retail agencies it serves manage their supply portfolios to meet service area demands. Management of individual assets are not within the scope of this WPSP, however ongoing regional collaboration and inter-agency efforts between retailers and SGPWA to manage a broader portfolio of supply and storage assets in a coordinated manner will benefit long-term water supply reliability. For instance, a static total of 6,700 AFY of native groundwater from the adjudicated Beaumont Basin[1] was considered as a long-term supply to assess overall efficacy of supplies. While the adjacent Yucaipa Subbasin and San Gorgonio Subbasin Groundwater Sustainability Agencies (GSAs) have both developed Groundwater Sustainability Plans (GSPs) quantifying sustainable yields of over 10,000 AFY each, the WPSP is not using these

[1] This amount is the long-term safe yield as determined in the January 2024 Watermaster Report.

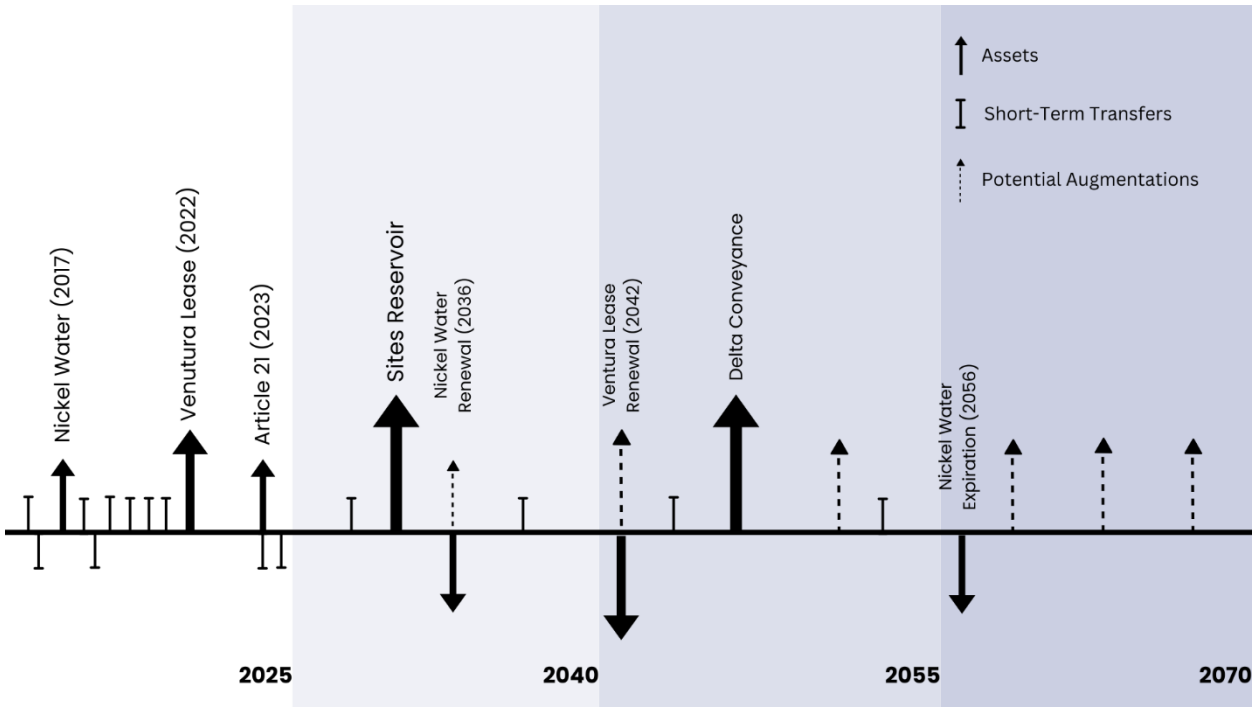
supplies in its planning assumptions in the current period.[2] Nevertheless, groundwater pumping can be a variable management action that is undertaken by the local retail agencies to backstop operational and demand-management needs. Similarly, "carry-over supply" and banked supplies that exceed projected demands have second-tier associated management actions to either keep water in storage or engage the transfer and exchange market to leverage assets and improve long-term reliability objectives. When hydrologic conditions in wet years lead to higher allocations for State Water Project (SWP) supplies there tends to be more surplus supply than storage available. This presents yet another management decision of maximizing available supply by securing additional storage or engaging in a transfer or exchange of the supply assets.

Section 5 uses the data derived from the factual background in Section 2 and supply and demand analysis described in Section 3 to demonstrate how various alternatives described in Section 4 would augment the water supply to meet demands. These scenarios are juxtaposed against reasonable demand projections that increase through the 2075 planning horizon. These data were used to understand which combination of assets could meet demand objectives at the key time periods during the planning horizon against the baseline water management scenarios presented in Section 3. Figure 5-1 shows a timeline of key supply assets and actions which will be addressed in this section.

[2] Sustainable yield in Yucaipa Subbasin GSP quantified as 10,980 AFY. Dudek. (2022). Final Groundwater Sustainability Plan for the Yucaipa Groundwater Subbasin Part 1. pp. 183.

Sustainable yield for San Gorgonio Pass Subbasin GSP quantified as 10,200 AFY. San Gorgonio Pass Groundwater Sustainability Plan. (2021). pp. 182. https://www.sgpgsas.org/wp-content/uploads/2022/01/Final_SGPGSP_1230_2021-web.pdf

Figure 5-1: SGPWA Supply Timeline



5.2 Current Period Scenario (2025)

The current period scenario replicates the 2023 water year that saw a 100% Table A allocation for SWP contractors. This extraordinarily wet water year was used as a maximum water supply year ("max year") in the WPSP supply analysis. The portfolio analysis did a data run that considered a normal year following this max year and then five consecutive dry years to stress-test SGPWA's regional water supply portfolio in a prolonged drought. The baseline year essentially created a reset for the Agency's water asset portfolio by providing an opportunity to increase water resources acquisition, maximize deliveries of water to retail customers, and store water with all available storage assets. Table 5-1 shows the maximum potential supplies as described. It is important to note that the maximum supplies described here may not fully manifest in a "max year" or develop as supplies significantly vary in both volume and timing and are subject to management actions of municipal purveyors. Nevertheless, this characterization provides an important foundation to assess the utility of supply and storage in dry years as well as additional short-term actions, like transfers and exchanges, that could augment the portfolio further.

Table 5-1: SGPWA Water Supplies at 100% Allocation in the Current Period

Demand Forecast (AF)	32,506
Water Year Type	Max
STATE WATER PROJECT	**100%**
SGPWA Table A	17,300
Allowed Annual Article 56 Carryover	8,650
Article 21 - Interruptible Water	5,075
Ventura Table A (2042)	10,000
Allowed Annual Article 56 Carryover	5,000
Nickel Water (2036 renewal to 2056)	1,700
Yuba Accord Water	300
GROUNDWATER	
Native Groundwater	
Beaumont Basin	6,700
Non-Potable BCVWD	1,600
*San Gorgonio Pass Basin Sustainable Yield**	*10,200*
*Yucaipa Basin Calimesa Mgmt. Area Sustainable Yield**	*4,955*
*Estimated San Timoteo Basin (not adjudicated)**	*200*
Existing Recycled Water	3,589
TOTAL	59,914

**Not included in Section 5 SGPWA supply table totals, however basins overlap SGPWA service area and are available supply for regional purveyors.*

Table 5-1 creates a static picture for a "max year" period that does not reflect management actions that would be incorporated into the regional water management strategy. The "Current Period" WPSP assessment provides a set of conditions that direct the water augmentation and management actions that may be implemented by SGPWA and the retail agencies. During a multiple dry-year scenario, the current SPGWA assets are sufficient to meet demand provided the Agency manages Article 56 carryover water effectively, local storage and recharge of imported water is practically managed, and SWP conveyance is adequate as in prior years. The Agency demonstrated its acumen in achieving these management activities through the 2023-2024 water years. Additionally, supplies made available through SGPWA SWP Contract's Article 21 are an additional intermittent resource that

the Agency took advantage of in 2023. Even in dry years, Article 21 can be made available by the California Department of Water Resources during unique weather events and should be taken when available and economical. Augmenting supplies with increased native groundwater pumping and short-term transfers can be considered as part of a multiple dry-year strategy as well.

5.2.1 Current Period Recommendations

Per SGPWA's normal operating protocols, SGPWA should begin identifying short-term transfer opportunities to augment supplies starting in year 2025-2026 in preparation for an extended drought. Short-term transfer opportunities can manifest through independent investigations of water assets or through group activities – generally sponsored by the State Water Contractors. The Agency has existing partnerships and "good will" with numerous SWP Contractors and historically has executed beneficial transfers and exchanges that benefit its asset portfolio. Importantly, none of the short-term transfers need to be formally executed early in the water year, but creating "option agreements" that allow expedited execution once a need is identified is a prudent action. Short-term transfers that originate water with south of the Delta contractors will likely be more expensive than transfers originating with north of the Delta contractors. Article 56 water that is stored in San Luis Reservoir may be the easiest asset to acquire since those supplies are located south of Delta and would not be constrained by Delta pumping capacity limitations and additional water loss criteria. Organizing short-term actions when water supplies are relatively abundant would be a prudent step towards planning for a prolonged drought.

SGPWA should also begin working with retail agencies to augment native groundwater supplies in the Agency's service area boundary. The recently completed regional GSPs show that the groundwater sustainable yield located outside the Beaumont Basin could be available to use in the local service areas where practicable. For example, the San Gorgonio Pass Subbasin sustainable yield is 10,200 AFY and the GSP indicates 8,400 AFY of current pumping. Thus, there is capability of 1,800 AFY of additional pumping. These water supplies may provide both short-term benefits as well as long-term benefits that align well with the Delta Reform Act and emerging regulatory obligations. Nevertheless, native groundwater use is fully within the purview of local water purveyors and Groundwater Sustainability Agencies (GSA) and would require coordinated actions to implement.

SGPWA should continue to effectively manage SWP contract carryover supplies stored in San Luis Reservoir and plan for multiple dry-year periods and drought. Additionally, monitoring weather conditions and San Luis Reservoir storage levels and being prepared for spill conditions and reclassification of Article 56 stored water is

essential. Furthermore, taking advantage of Article 21 water, when available, is an ongoing recommended current period action.

5.3 Second Period – "End of Ventura" (2042)

The second period, beginning in 2042, is a critical milestone in the medium term for extension of existing water assets or acquisition of new water assets. This period occurs when the Ventura Table A water lease expires as designed in 2042. At this point in time, the regional demand is projected to be just over 41,000 AFY which is about a 26% increase from the current period. In a 100% Table A allocation year, SGPWA can assume it has sufficient assets to cover basic service area demand. However, the Agency would need to consider supply augmentation and having water banked and available for recovery in normal and dry years.

After 2042, without Ventura Water and no further augmentation, supplies will not be sufficient to cover the projected demand. In other words, an allocation of SWP Table A water at the "normal future" projection (approximately 46%[3]) with local groundwater pumping near current levels, unchanged recycled supplies, and no other stored supplies, would leave the region short in meeting its projected demand. SGPWA has several options to supplant the Ventura supply volume if the planned renewal does not come to fruition. These options are discussed in the following sub-sections.

5.3.1 Scenario 2.1 – Sites Reservoir

The Sites Reservoir Project (Sites Project) would be a potentially significant source of water supply and storage. SGPWA is currently invested in the project in partnership with Beaumont Cherry Valley Water District (BCVWD) for a total of 14,000 shares – SGPWA holds 10,000 shares and BCVWD holds 4,000 shares. The Project Member investment in Sites Reservoir provides a share of storage space and access to a proportionate share of water diverted to storage. The Sites Project Authority estimates 300,000 acre-feet as an annual average of available supplies for member agencies. The long-term average deliveries projected by the Authority in a 2021 report estimates about 7,900 to 10,900 AF of water annually for the 14,000 AF shares held by SGPWA and BCVWD. However, the inherent value in the Sites Project – beyond the 87,000 AF of storage – lies in water deliveries in dry and critically dry years, where the Authority estimates the regional share of deliveries could be between 19,900 – 27,400 AF. If the Sites Project comes online before or during this period, SGPWA is projected to have sufficient supply to meet service area demand even without Ventura Water.

[3] The State Water Project Delivery Capability Report 2023, July 2024, Table 7-3 at p. 7.70.

Table 5-2 shows the SGPWA portfolio in the Second Period with Sites Project water available following the expiration of the Ventura Water lease. The dry-year utility of Sites water will presumably take advantage of increased conveyance capacity in the California Aqueduct allowing more stored water to be delivered in dry years.

Table 5-2: SGPWA Supply Portfolio Projection with Sites Reservoir Supply Augmentation (2042)

Demand Forecast (AF)	41,078	41,078
Water Year Type	Normal (Future)	Critically Dry (Future)
STATE WATER PROJECT	**46%**	**12%**
SGPWA Table A	7,958	2,076
Allowed Annual Article 56 Carryover	4,325	2,076
Article 21 - Interruptible Water	336	13
Ventura Table A (2042)	0	0
Article 56 Carryover	0	0
Article 21 - Interruptible Water	0	0
Nickel Water (2036 renewal to 2056)	1,700	1,700
Yuba Accord Water	300	300
Native Groundwater	8,300	8,300
Existing Recycled Water	3,589	3,589
Sites Project Supply	15,344	24,112
TOTAL	41,852	42,166

The large allocations of Sites Reservoir water deliveries shown in Table 5-2 could be restricted and kept in Sites Reservoir or transferred with other regional partners for to address strategic water supply management objectives, boost economic objectives in the transfer and exchange market, or meet Delta Reform Act requirements. This assessment shows surplus water supply conditions yet purposefully keeps the strategic decisions related to transfers and exchanges as well as Delta Reform Act compliance in the background. In the next phase of this analysis, the team will further refine the economic opportunities and regulatory constraints to better hone the management activities that would best benefit the Agency and its regional purveyors. Additional storage capacities add another variable that will be synthesized with regulatory constraints.

5.3.2 Scenario 2.2 – Alternatives to Sites Reservoir

If Sites Project water is delayed or diminished, SGPWA would likely need to consider alternative actions to supplement its portfolio. It is assumed that Nickel Water, a reliable source in all year types will have been renewed with the planned extension from 2036 to the 2056. Pursuing a long-term lease or permanent transfer of Table A water in the form of a renewal with Ventura, or an acquisition from a new partner would be advisable. Another feasible alternative discussed in Section 4 would be the addition of Colorado River Water by building infrastructure within the SGPWA service area and engaging in an exchange or longer-term agreement with a Colorado River water contractor like Metropolitan Water District of Southern California (Metropolitan). A third augmentation option considers the addition of approximately 1,800 AFY of native groundwater pumping from the San Gorgonio Pass Subbasin. It should be noted that the increase in groundwater pumping still falls within the safe yield in the San Gorgonio Pass Subbasin as discussed in Section 5-2. This increase in local groundwater supply would help bring the regional supply in line with demand in a future water year scenario where Table A allocation reliability is projected to be just 46% of contract amount in normal years. Table 5-3 shows an extreme example of a critically dry year, highlighting necessary regional collaboration. In this scenario SGWPA uses its ongoing strategy of entering into short-term transfer agreements, and retail purveyor management actions (increased pumping within safe yield, transfer opportunities, demand management) in the adjacent Yucaipa or San Timoteo Subbasins help meet demand.

As described in Section 4, expanding water reuse in the SGPWA service area could also help mitigate against droughts or other regulatory curtailments while reducing overall potable demand. “Extending the life” of existing water supplies with recycled return flow to recharge basins, and recycling water in retail service areas will continue to be an important component of the WPSP. Several of the local retail water agencies in the SGPWA service area already operate recycled water systems that allow for various forms of water reuse and have plans to expand these facilities further in the future. This increase in production is also considered as an activity to fortify the region’s supply portfolio and dry year resilience. Table 5-3 estimates supply in normal and critically dry years with these additional alternatives.

Table 5-3: SGPWA Supply Portfolio Alternatives (2042)

Demand Forecast (AF)	41,078	41,078
Water Year Type	Normal (Future)	Critically Dry (Future)
STATE WATER PROJECT (2085)	**46%**	**12%**
SGPWA Table A	7,958	2,076
Allowed Annual Article 56 Carryover	4,325	2,076
Article 21 - Interruptible Water	336	13
Ventura Table A (2042)	0	0
Article 56 Carryover	0	0
Article 21 - Interruptible Water	0	0
Nickel Water (2036 renewal to 2056)	1,700	1,700
Yuba Accord Water	300	300
Native Groundwater	8,300	8,300
Existing Recycled Water	3,589	3,589
ADDITIONAL ALTERNATIVES CONSIDERED		
New Long-Term or Permanent Table A (10,000 AF)	4,600	1,200
Colorado River Water	5,000	5,000
Increase Native Groundwater Pumping	1,800	1,800
Planned Recycled Water	6,257	6,257
Short-term Transfers/ Regional Management Actions	0	8,767
TOTAL	44,165	41,078

5.3.3 Scenario 2.3 – Storage Augmentation Alternatives

Current levels of SGPWA allocated local storage in the Beaumont Basin (10,000 AF) would likely accommodate supply banking needs that pair supply sources and expected demand during this period. In most scenarios, however, existing volumes of water supply prompts a need for additional storage capacity and facilities. For instance, Sites Project water delivery and other augmented supplies require additional storage alternatives to handle large volumes of water (cordially termed "Big Gulps"). These additional storage facilities will benefit the Agency with increased operational flexibility and the ability to harvest water for the Agency's and retailers' benefits. SGPWA should consider storage solutions as close to its service area as possible, or ideally within the service area so as to avoid conveyance limitations in the California Aqueduct when recovering stored water.

With new south-of-delta storage, a compounding value of water can be captured in in years of excess supply. If significant additional banking was added to the SGPWA portfolio, capturing the surplus made available by alternative supplies would provide a considerable backstop to bring forward to meet demands in subsequent years.

If SGPWA is focused on simply covering demand on an annual basis, rather than creating storage surplus conditions, then a more narrowly targeted supply acquisition strategy is feasible. However, without additional storage SGPWA and the regional purveyors could be subject to diminished management options and potentially stranded assets that cannot be used or banked in high allocation years. Banking surplus supply is a key strategy for long-term supply reliability for SGPWA. With decreasing allocations of Table A water expected in the future, increased variability of supply availability, and the complexity of the regulatory landscape, storage augmentation would provide essential supply reliability and management adaptability. If the Agency's goals are to provide for a surplus condition, then a more aggressive supply acquisition strategy paired with additional groundwater storage as proposed could be assessed. These policy considerations are integral components for the next phase of this WPSP.

5.3.4 Second Period Recommendations Summary

Sites Project supply and storage coming online could be a "gamechanger" for SGPWA and the region's local purveyors. Still, conveyance to SGPWA's service area from Northern California is a significant consideration for the supply in all years. It is recommended that SGPWA work in close coordination with local retail agencies to expand recycled water, and work to find either local or SWP-adjacent storage and

recharge options as close to the service area as possible. The advent of local water supply and water reuse options helps alleviate the potential constraints imposed by the Delta Reform Act regulatory structure. The implementation of the Delta Reform Act, however, may be limited to an average balance of supplies over a period of time. In this instance, importing large portions of water supplies in some years while restricting those imports in other years in favor of local supplies, may be an amenable solution to handling DRA's percentage balancing requirements. Additional groundwater banking could assist SGPWA and the retail agencies in maximizing supply administration and efficiencies – including recharacterizing supplies through actions that divorce them from their original sources. Although this type of administrative activity is not within the scope of this report, it should be considered in the next iteration of WPSP effort, keeping in mind that DRA rules and implementation is still in process and should be monitored and addressed as required in regular compliance reporting.

In summary, SGPWA should continue to pursue both locally developed supplies and alternative supplies delivered through the California Aqueduct while remaining mindful of the need to balance both sources of supplies under the DRA in a future condition. Furthermore, developing additional storage and water recycling would provide additional assurances to bolster the regional water asset portfolio.

5.4 Third Period – Long-Term (2056)

In 2056 service area demand is expected to be 48,137 AFY, which is about a 17% increase over the Second Period. SGPWA is an investor in the Delta Conveyance Project which, if built, would increase reliability of SWP supply to south-of-delta contractors as described in detail in Section 4. Increases in deliveries for SWP water and other north-of-delta sources could be expected compared to baseline future conditions with the DCP. However, unlike the Sites Project, the DCP would not provide sufficient supply augmentation to meet the expected increased demand as a stand-alone project. Still, the DCP provides a significant hedge against conveyance and regulatory constraints through the Bay-Delta and could be expected to increase Table A deliveries above long-term averages modeled in both 2042 "No Project" condition and the Current Period conditions. Importantly, the frequency and quantity of SWP Article 21 interruptible supply would be expected to increase allowing more opportunities for supplemental supply in wet weather. In addition, the development of the DCP may increase opportunities to convey water supplies that rely upon the State Water Project system because some of the regulatory constraints that inhibit deliveries would be removed with a diversion facility located in a different location. It is important to note that the DCP supply increases shown in Table 5-4 are conservative and account for increases in regular Table A deliveries over "No Project" conditions.

Assuming SPGWA renews its contract in 2036 for Nickel water, 2056 will be the last year of that asset before it expires according to the existing contract structure. Nickel Water is a reliable asset that originates south-of-delta and should be considered for renewal, if possible.

As previously discussed, water banking will be a key component to supply reliability as demand increases and conditions change. As such, this assessment of meeting demand in the Third Period includes an assumption of having at least 10,000 AF of stored water to meet demand. Having the opportunity to access more water that has been stored would act like a water availability buffer to insulate against unexpected outages. Further storage development in this period may be worthwhile as more storage becomes available through banking projects and SGPWA seeks to create a positive water portfolio balance to hedge against water supply outages and emergencies. In an extreme critically dry year scenario shown in Table 5-4 SGWPA uses its ongoing strategy of entering into short-term transfer agreements and retail purveyor management actions help meet demand.

While planned recycled water in this analysis has remained constant based on existing planned facility upgrades, recycled water supplies should target increases in

proportion to demand. In other words, as demand grows and water is used, recycled water supplies will also grow if recycled water treatment facility capacity is available.

Table 5-4 shows the SGPWA portfolio in the Third Period bringing forward all supplies considered in the previous periods with the addition of 10,000 AF in storage and an expected increase in Table A deliveries over "No Project" conditions as a result of the DCP's activation.

Table 5-4: SGPWA Supply Portfolio Alternatives (2056)

Demand Forecast (AF)	48,137	48,137
Water Year Type	Normal (Future)	Critically Dry (Future)
STATE WATER PROJECT (2085)	**46%**	**12%**
SGPWA Table A	7,958	2,076
Allowed Annual Article 56 Carryover	4,325	2,076
Article 21 - Interruptible Water	336	13
Ventura Table A (2042)	0	0
Article 56 Carryover	0	0
Article 21 - Interruptible Water	0	0
Nickel Water (2036 renewal to 2056)	0	0
Yuba Accord Water	300	300
Native Groundwater	8,300	8,300
Existing Recycled Water	3,589	3,589
ADDITIONAL ALTERNATIVES		
New Long-Term or Permanent Table A (10,000 AF)	4,600	1,200
Colorado River Water	5,000	5,000
Increase Native Groundwater Pumping	1,800	1,800
Planned Recycled Water	6,257	6,257
DCP Increase in Table A Deliveries 2040 Conditions		
SGPWA Table A	1,272	279
New Long-Term or Permanent Table A (10,000 AF)	735	161
Short-term Transfers/ Regional Management Actions	0	7,086
Water In Storage	10,000	10,000
TOTAL	54,472	48,137

5.4.1 Scenario 3.1 – Impact of Increased Storage Alternatives

As SGPWA expands and diversifies its water asset portfolio there will be an increased need for water storage, particularly in times of surplus allocations in wet years where large water supply volumes will be available. Hydrologic variability is expected to increase through the planning horizon generally trending to wetter wet years with more precipitation falling as rain (with a decreasing average snowpack), and more frequent and intense multiple dry year periods. Because of these expected trends it is even more important to capture water when it is available and store it for dry years when allocations are low. The supply analysis for this Long-Term Period when adjusting for significant augmentation of supply across a multi-year planning period suggests that 20,0000 – 40,000 AF total storage could be utilized. At the upper end, this would be approximately 30,000 AF of storage in addition to the 10,000 AF of adjudicated storage rights in the Beaumont Basin the Agency currently has. Further study would need to be done to "right size" this future storage number taking into consideration offstream storage assets closer to San Luis Reservoir and the undetermined operations policy for the Sites Project. Nevertheless, this range of additional groundwater storage would be integral in providing supply reliability in dry years.

If additional storage assets are not incorporated into the long-term SGPWA WPSP strategy, then the Agency would likely leave stranded water assets in various locations that would be lost and result in negative economic consequences (loss of asset value and loss of utility). Additionally, without additional storage, dry-year reliability would be significantly challenged with the potential for inadequate supply availability for the region, particularly in prolonged periods of drought. Adequate conveyance capacity for water originating outside of SGPWA's service area and sufficient local recharge facilities to capture available supplies should also be considered. Storage alternatives outside of the service area, through direct acquisition, leases, or subleases, would shore up supply volumes and allow operational flexibility for conveyance and recharge within the SGPWA service area.

5.4.2 Third Period Recommendations Summary

Third Period supply reliability can be achieved by carrying forward supply additions in the form of long-term or permanent asset acquisitions and maintaining current investments for future supply and storage projects. The investment in the Delta Conveyance Project and Sites Reservoir Project will bolster overall supply volumes but provide challenges for capturing the water and conveying it for Agency use. Recycled water supplies should also be augmented by the retail agencies. In

addition, the continued implementation of short-term transfers and exchanges as well as capturing Article 21 water will further augment the overall supply volumes. All of these supply augmentation activities necessitate water storage actions so that the supplies can be captured when available and metered out to satisfy regional demands. In short, supply augmentation must be accompanied by storage augmentation in order to effectively improve supply reliability over the longer-term planning horizon.

5.5 Fourth Period – Planning Horizon (2075)

This report's fourth and final planning horizon extends fifty years, to 2075, for long-term reliability planning. In the fifty-year planning horizon, SGPWA's service area demand is projected to increase to 57,718 AFY. Additional augmentation to meet the increased demand at this point in the future will require completion of all of the augmentation activities mentioned in previous sections (or similar alternatives) along with sufficient storage to adequately manage the acquired supplies. Importantly, considering water supply plans that are fifty years into the future may be highly speculative, but the analysis addresses realistic issues and provides thoughtful opportunities that require further investigation and exploration in order to bring them to timely fruition.

SGPWA's regional demand is projected to grow by about 20% from 2042 to 2075. Even with the substantial supplies of Sites Project water, a permanent Table A transfer, the potential for the DCP, and additional recycled and native groundwater projects that could produce significant surplus in the Second and Third Periods, the increased demand projected at the 2075 planning horizon still will likely require additional supplies and additional storage to manage those supplies. Bolstering the Agency's water asset portfolio while addressing the Delta Reform Act and State Water Project conveyance limitations will continue to be a focus of the WPSP.

Moreover, regional collaboration and recognition of the interdependence of water resources among the region's purveyors will lend to beneficial outcomes. It is expected that at this point the growth curve will flatten leading to demand hardening. Still, regional alignment on conjunctive use, joint-use facilities, local banking initiatives, conservation, recycled water projects and resource coordination will ensure the common objective of water supply reliability is met.

Table 5-5 shows the entire SGPWA portfolio and alternatives as contemplated in previous sections. This includes alternatives such as Sites Reservoir supplies, DCP supply increases, a new Table A source, Colorado River water augmentation, increased native groundwater pumping, and 10,000 AF of additional storage.

Table 5-5: SGPWA Supply Portfolio Alternatives (2075 Planning Horizon)

Demand Forecast (AF)	57,718	57,718
Water Year Type	Normal (Future)	Critically Dry (Future)
STATE WATER PROJECT (2085)	**46%**	**12%**
SGPWA Table A	7,958	2,076
Allowed Annual Article 56 Carryover	4,325	2,076
Article 21 - Interruptible Water	336	13
Ventura Table A (expires 2042)	0	0
Article 56 Carryover	0	0
Article 21 - Interruptible Water	0	0
Nickel Water (expires 2056)	0	0
Yuba Accord Water	300	300
Native Groundwater	10,100	10,100
Existing Recycled Water	3,589	3,589
ADDITIONAL ALTERNATIVES		
Sites Project Supply	14,796	24,112
New Long-Term or Permanent Table A (10,000 AF)	4,600	1,200
Colorado River Water	5,000	5,000
Planned Recycled Water	6,257	6,257
Additional Recycled Water Potential	2,000	2,000
DCP Increase in Future Conditions		
SGPWA Table A	1,272	279
New Long-Term or Permanent Table A (10,000 AF)	735	161
Water In Storage	20,000	20,000
TOTAL	81,268	77,163

5.5.1 Fourth Period Recommendations Summary

Providing supply reliability through a 2075 planning horizon will require a deliberate execution of long-term supply and storage asset acquisition. A combination of

regional self-reliance and imported water, along with sufficient storage as close to the service area as possible will be the basis of meeting sustainable growth targets for the future. Developing new and expanding existing recycled water treatment facilities that can scale up treatment capacity alongside increased demand will help maximize utility of original water sources by reusing these imported and native supplies. Scaling recycled water treatment as demand increases is an important tactic for all agencies within the SGWPA service area to prioritize. Coordination of SGPWA, retail purveyors, the Groundwater Sustainability Agencies, Watermaster, and stakeholders such as the Morongo Band of Mission Indians, is integral to long-term supply reliability.

5.6 Section 5 Summary

The scenarios considered in Section 5 are meant to highlight the need for advanced planning to secure long-term service area reliability for SPGWA and long-term economic certainty for regional retail partners. Achieving long-term water supply reliability in the SGPWA service area requires a comprehensive strategy that integrates methodical acquisition of supplies and storage with retail water management plans and statewide regulatory criteria. This approach enhances water management flexibility by prioritizing asset reliability, emphasizing local and south-of-delta originated supplies, and ensuring ample water storage and recovery assets. Collectively, these measures will equip the region to navigate increasing hydrologic variability, limited conveyance for supplies originating outside of the region, and a continually evolving regulatory environment.

The most impactful contract in the medium-term for planning purposes is the expiration of the Ventura Water supply lease. If this lease fully expires, Sites Project water is likely the most impactful addition that the SGPWA would acquire, and the project has recently seen increased political and economic backing. A combination of other considered alternatives, including some that were not featured in the scenarios should be considered well in advance of the time periods assessed in this report. The Delta Conveyance Project was not included in the First, Second, and Third period scenarios in Section 5 as it has a smaller effect on supply quantity. However, the benefit of increased reliability of water originating north-of-delta still warrants consideration, and the likelihood of this becoming a reality only increases with time due to the probability of natural disaster and pressures on the Delta system.

A crucial part of portfolio planning calculus must consider the ratio of water that originates south-of-delta compared to north-of-delta supplies. Adding storage and recovery assets to supplement San Luis Reservoir and the currently limited local volume in the Beaumont Basin is also vital to long-term supply reliability. The ability to

store water as close to the service area as possible will allow for management flexibility to "harvest" water when available and recover during times of drought or a deficit of reliable supply.

Increasing recycled water treatment capacity as water demand grows is a crucial strategy for enhancing water supply reliability because it maximizes the reuse of available water resources thus reducing dependency on native groundwater and ensuring imported water used numerous times. By expanding recycled water treatment, SGPWA retailers can create a consistent, drought-resistant water supply alternative.

The purveyors in the region each have individual supply portfolios that rely on shared resources and therefore must operate as a "system of systems". Regional coordination of management actions, resource deployment, conjunctive use opportunities, and inter-regional planning studies will sustain long-term water supply reliability efforts. SGPWA supply, conveyance, and storage assets are an essential component of the holistic regional portfolio. The Agency's Water Portfolio Strategic Plan will focus on the immediate and long-term actions needed to maintain water supply reliability through the 2075 planning horizon.