

# MONTEREY PENINSULA WATER SUPPLY & DEMAND

February 2025



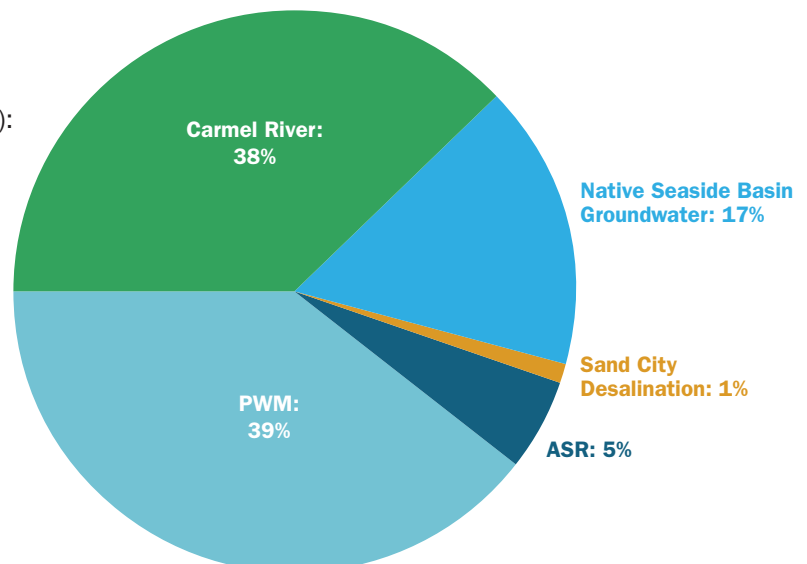
## A WATER SUPPLY SOLUTION

On the Monterey Peninsula, water supply and demand estimates are critical to achieving Cal-Am's number one priority: to deliver clean, safe, reliable and affordable water to our customers. We have a responsibility to ensure adequate water supply to meet customer demands.

### CURRENT WATER SUPPLIES

Monterey's existing water supplies include the following sources with corresponding acre-feet of water per year (AFY):

- Carmel River: 3,376 AFY
- Native Seaside Basin Groundwater: 1,474 AFY  
*NOTE: 1,474 AFY but reduced to 774 AFY for at least 25 years to satisfy obligations to pay back prior overproduction once desalination is online.*
- Sand City Desalination: 94 AFY
- Aquifer Storage & Recovery (ASR): 0 to 470 AFY (stored in Seaside Basin)
- Pure Water Monterey (PWM): 3,500 AFY (stored in Seaside Basin)



The total firm water supply in a normal or drought year accounts for the system operating at 90% capacity. The 10% contingency is prudent and responsible for water resources planning, especially over a long-term horizon. The contingency is to account for uncertainties and fluctuations in available supply or limitations to supply sources, including operations, maintenance, water quality, wildfire and other disaster response, climate change, environmental mitigations, habitat protection and Seaside Basin Protective Water Levels. **These water supply sources provide (at 90% operating capacity) 8,023 AFY in normal water years and 7,600 AFY in drought years. The current baseline average demand is 9,450 AFY (City of Monterey, Water Supply Assessment, December 2023).**



**BY 2050, CAL-AM ESTIMATES THE MONTEREY PENINSULA'S WATER DEMAND TO BE 14,480 AFY**

Cal-Am is prudently planning for a more secure water future in our region. We are seeking to move beyond a culture of scarcity by securing water that can be stored and used in the next inevitable dry year or multi-year drought.



**SECURING OUR WATER SUPPLY FUTURE**

For decades, the Monterey Bay region has operated under a perpetual state of “water poverty” due to a lack of diverse, reliable and climate-proof water supplies. Orders from the State of California exacerbated the challenge by requiring nearly 75% of the region’s water supplies be replaced and prohibiting Cal-Am from providing new water service connections until alternative water sources are in service and proven.

We are working with partners to meet the community’s water needs with innovative approaches that ensure we’ll have enough water for generations to come. For this reason, Cal-Am has been advancing our approach to secure the region’s water supply future, including:

- **Pure Water Monterey Expansion:** Partner with Monterey One Water and the Monterey Peninsula Water Management District to stretch existing supplies further with recycling to purify water and inject it into the Seaside groundwater basin for storage and extraction.
- **Desalination:** Build a new desalination plant to provide a drought-proof source of water, lift cease and desist orders and plan for sustainable future growth.

These enhancements to existing water supply sources are expected to provide up to **15,444 AFY** in normal water years and up to **13,220 AFY** in drought years. Final supply numbers may vary depending on the availability of the sources of the Pure Water Monterey Expansion.

**ESTIMATING FUTURE SUPPLY & DEMAND**

Water supply and demand estimates predict how much water is needed compared to how much supply is available. In California, large water suppliers like Cal-Am are required to prepare assessments that include anticipated water supply shortages and associated actions to ensure reliable supplies for communities.

Predicting the future is not an exact science, particularly because historical data alone doesn’t reflect climate extremes that are resulting in more frequent, prolonged droughts. But using data-centered water demand models help us make prudent estimates across water year types and include considerations for:

- Trends and changes in current customer behavior
- New government regulations
- Growth and new development
- Changes in commercial activity
- Climate change



**WE NEED AN ALL-OF-THE-ABOVE APPROACH**

Cal-Am relies on multiple supply sources to meet demands, and each of these sources has unique restrictions and use requirements. Diversifying our water sources will increase operational efficiency, allow for optimization of supplies and reduce risk of a supply shortage during drought conditions. Doing anything less would be irresponsible and hinder our future sustainability.

**ASR AND PWM EXPANSION ARE VULNERABLE TO DROUGHT CONDITIONS**

Water supplies for ASR and PWM are highly vulnerable to interruptions and can be unpredictable depending on weather conditions and drought. Desalination is needed as a drought-proof water source to ensure sufficient supplies to serve new and existing customers in California’s new climate extremes.

2050 SUPPLY WITH FUTURE SOURCES	WATER YEAR TYPE	
	Normal Year (AFY)	Dry Year (AFY)
With ASR <sup>1,2</sup> /PWM Expansion <sup>3</sup>	9,194 to 9,403	6,970 to 8,657
With Desalination <sup>4</sup>	15,444 to 15,650	13,220 to 14,910
Supply Excess or Deficit with All Options	964 to 1,170	-1,260 to 430

1. ASR availability is determined to be 470 AFY with 90% reliability.
2. ASR availability will likely be zero in a multi-year drought as any reserves will be depleted.
3. PWM Expansion can deliver 2,001 to 2,234 AFY based on assessment of source water availability during normal years. During drought years the assumption is PWM Expansion can deliver 0 to 1,100 AFY based on source water availability.
4. Assumes approximately 6,250 AFY of desalinated water by 2050. Initial Phase 1 of the desalination plant is sized at a plant capacity of 4.8 MGD or approximately 5,377 AFY. The plant capacity does not account for operating losses and allocation to Castroville.
5. During a multi-year drought it is assumed that PWM Reserves, if available, will be used to offset some of the resulting shortfall. The Amended and Restated WPA requires Operational and Drought Reserves of 2,875 AF and 1,000 AF, respectively, for a total of 3,875 AF. The analysis assumes that 775 AF will be available per year from Operational and Drought Reserves over a 5-year drought period ( $3,875/5 = 775$ ).

For more information, please visit [watersupplyproject.org](http://watersupplyproject.org).