SOURCE

CALIFORNIA-NEVADA SECTION AWWA v30 • N3 • Summer 2016

Presented by Staff 8/15/2016 Board Meeting Item 5

The Declining SNOWPACK:

Precipitation Is Only Half the Story

MONTEREY LOOKS to ALTERNATIVE for GROUNDWATER RECHARGE

A UNIQUE, MULTIAGENCY GROUNDWATER RECHARGE PROJECT utilizing an unconventional combination of local source waters is being planned to supplement curtailed drinking water supplies on the Monterey Peninsula. The project will also add to an existing program that provides recycled water for crop irrigation in the adjacent Salinas Valley.

Pure Water Monterey, a collaboration of the Monterey Regional Water Pollution Control Agency (MRWPCA) and the Monterey Peninsula Water Management District (MPWMD) will produce 3,500 acre feet a year (AFY) of highly purified water for purchase by California American Water, the area's drinking water provider, and approximately 4,400 AFY of high-quality recycled water for agricultural irrigation. California American Water will purchase the purified water (approximately $1,720 an acre foot) to recharge 54,000 AF Seaside Groundwater Basin, where it will account for approximately 6.5 percent of basin capacity. Overpumping of the Seaside Groundwater Basin has been a problem in the past, with seawater intrusion a distinct possibility unless the basin is brought into equilibrium. MRWPCA has been providing

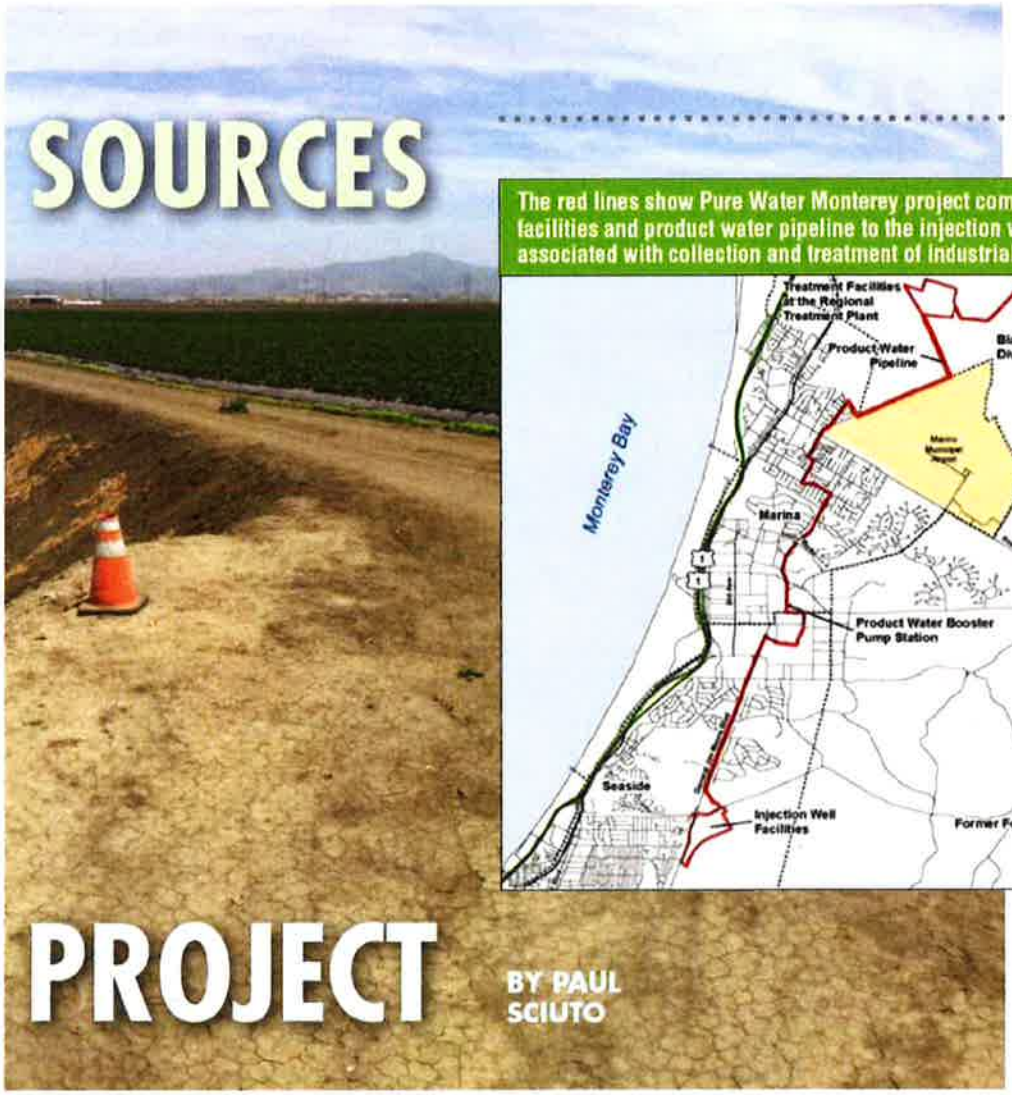
Pure Water Monterey
A Groundwater Replenishment Project

recycled water to the 12,000-acre Castroville Seawater Intrusion Project's (CSIP) crop irrigation since 1998. Seawater intrusion is a major problem in the CSIP area, and the addition of recycled water helps reduce groundwater pumping by 65 percent a year.

In addition to the agency's existing 16 million gallon a day (MGD) wastewater stream, source water for Pure Water Monterey will include water from the City of Salinas' agricultural wash water system (3 MGD average), stormwater flows from the southern part of the city, surface water and agricultural drain water from the Reclamation Ditch (1 MGD seasonal) and agricultural drain water from Blanco Drain (3 MGD average). The water will be collected and conveyed to MRWPCA's existing wastewater treatment plant, where 4 MGD will be run through advanced water treatment processes and the rest will be tertiary treated. The potable water being supplied for groundwater recharge will enable downsizing California American's planned desalination plant from 9.6 MGD to 6.4 MGD.

Although the verdant Monterey Peninsula and Salinas Valley conjure up images of world-class golf courses, natural beauty, and some of the most productive farmland in the nation, the peninsula has a history of chronic water supply issues.

SOURCES



The red lines show Pure Water Monterey project components: TOP LEFT: Collection and treatment facilities and product water pipeline to the injection well at lower left. TO THE RIGHT: Facilities associated with collection and treatment of industrial and agricultural water from the Salinas Valley.

PROJECT

BY PAUL SCIUTO

Entirely dependent on local water sources, MPWMD relies on a varied portfolio to meet residential, commercial and light industrial demands. These have typically included groundwater, surface water from the Carmel River, which has historically provided half of the area's supply, an existing .25 MGD desalination plant and aquifer storage and recharge, all managed by California American Water.

Overpumping in the Carmel River groundwater basin led to an upset in the delicate balance of the basin, causing the State Water Resources Control Board to issue a Cease and Desist Order in 2009. The order called for aggressive staged reductions in pumping, which significantly reduces water withdrawals from the river. Through robust conservation efforts (approximately 55 gallons per person), the Monterey Peninsula community has managed to stay below the required limits, including the incremental cutbacks that have already occurred to date. But at the end of 2016, the schedule mandates a nearly 6,000 acre foot reduction in allowable withdrawals.

As a result of the community's conservation efforts, underutilized capacity in the regional wastewater conveyance system and treatment plant will allow for collection, conveyance, and treatment of the various source waters from the 60 square miles of MRWPCA's service area. Additional infrastructure required for the $72 million Pure Water Monterey project includes: two source water diversion and conveyance facilities (over two miles of conveyance pipelines), the advanced water treatment plant (ozonation, membrane filtration, reverse osmosis, advanced oxidation with ultraviolet disinfection plus product water stabilization), a product water conveyance pipeline (seven miles of 16-20 inch pipe), and product water injection facilities (two deep injection wells, two vadose zone wells, and four monitoring wells).

The project is currently in the design phase, and is expected to be operational by late 2017 with full build-out in early 2018. Funding is being provided through a loan from the Clean Water State Revolving Fund. The project was also able to qualify for the one-percent loan program under Gov. Jerry Brown's January 2014 emergency drought declaration. Initial environmental planning began in May 2013 and a certified environmental impact report (EIR) was approved in October 2015. All relevant permits have been submitted and the agencies are currently awaiting formal notification to begin construction.

Because Pure Water Monterey product water is being sold to California American Water, which is an investor-owned utility, the water purchase agreement must be approved by the California Public Utilities Commission (CPUC). A criterion for CPUC approval is that the blended cost of water from the Pure Water Monterey Project and California American Water's downsized 6.4 MGD desalination plant must be just and reasonable when compared with the cost of water from the larger desalination project alone. Initial testimony was submitted in July 2012 and sporadically at subsequent filings and hearings. Testimonies and rebuttal testimonies have been ongoing since January 2016. A final decision is anticipated from the CPUC by July 2016.

EDITOR'S NOTE: The Fall 2016 issue of SOURCE *will be focused on groundwater management and recharge. Our goal is to develop a directory of projects in operation or in the works. Contact* SOURCE *Editor Penelope Crenoble,* pbg1747@sbcglobal.net