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The Future of Water on the Monterey Peninsula:

Can California American Water establish a sustainable water system, and will it be taken public?

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I. Introduction

The Monterey Water District has long been characterized by the distribution of limited local water supplies by a for-profit company: for the past 50+ years, California American Water (Cal Am) has charged high rates for providing water to residents. Recent orders to limit its pumping of the Carmel River—the region’s only surface water supply—have forced them to identify alternative sources of fresh water, one of which is a proposed ocean desalination plant. A movement has long simmered to take Cal Am public, which proponents feel will result in a more resilient water supply being provided at lower rates. It is likely that these three long-standing issues—strengthening the sustainability of the Monterey Water District’s water supply, the role an ocean desalination plant will play in expanding water sources, and whether Cal Am will continue to provide water to residents—will be decided in the next few years. This paper will explore the history of these issues, outline their current status, and assess how they might shape the future of water on the Monterey Peninsula.

II. Background of Water Policy on the Monterey Peninsula

To understand the issues that water managers currently face on the Monterey Peninsula, it’s necessary to address the water sources, history of private water management, and current over-extraction of water resources of the Monterey Water District. All references to the Monterey Peninsula or the Peninsula refer to the Monterey Water District, which is comprised of the Monterey Peninsula and parts of Carmel Valley.

Local Precipitation. The Monterey Peninsula has a semi-arid climate, with an average of 4.9 inches of precipitation falling in the summer months from April to November (17.84 inches annually).¹ Many regions of the California coast have access to imported water: San Francisco relies on the Hetch Hetchy Reservoir² for its drinking water and Los Angeles pipes in water from the Eastern Sierras, among other places.³ Monterey, however, imports no water and depends exclusively on local precipitation to replenish its water supply.

Water Sources. A single source provides surface water to the Monterey Peninsula: the Carmel River, which “drains a 255-square-mile watershed and runs 36 miles from its source in the Santa Lucia mountains to the sea.”⁴ The Carmel River snakes through Carmel Valley, the northern border of Big Sur, eventually reaching its terminus at Carmel Bay and drains into the Pacific Ocean. The Carmel River is an important spawning ground for steelhead trout, which are protected by the endangered species act.⁵

A single underground basin provides all of Monterey’s groundwater: the Seaside Aquifer, which underlies the cities of Seaside, Sand City, Del Rey Oaks, Monterey, and portions of the unincorporated Fort Ord area.⁶ The Seaside Aquifer is recharged by local precipitation.

Brief History. The indigenous Rumsen people inhabited the Monterey Peninsula for thousands of years before the Spanish officially settled the area and founded Monterey in 1770.⁷ The first modern water project was completed in 1881 when the Pacific Improvement Company built a private water distribution system to bring water from the Carmel River to downtown Monterey. This entailed building 23 miles of pipe from Carmel Valley, toward the Pacific Ocean, around the Peninsula, and up to the Hotel Del Monte.⁸

The first dam was built on the Carmel River two years later, in 1883. Built by Chinese laborers, it was known as the “Chinese Dam” and was replaced in 1921 by the San Clemente Dam, located 18 miles inland.⁹ The San Clemente Dam was torn down in 2015 and was at the time the largest dam removal project in California state history.¹⁰ In 1935, a bid for the public takeover of the privately-held water system was defeated via ballot measure, the first in a lengthy battle between groups in favor of public water and the private companies in charge of the supply.¹¹ In 1948, the Los Padres Dam was built on the Carmel River, creating the Los Padres Reservoir, which is today the source of the majority of the Monterey Peninsula’s drinking water.¹² All water diverted from the Carmel River is sourced from the Los Padres Reservoir.

In 1965, the entity that is today California American Water (Cal Am) purchased the infrastructure and water rights to service the Monterey Water District. Cal Am was, and remains today, a publicly traded utility company, a central issue of Monterey water politics.¹³

In 1978 the State Legislature formed the Monterey Peninsula Water Management District (MPWMD), whose mission is “to promote or provide for long-term sustainable water supply, and to manage and protect water sources for the benefit of the community and the environment.”¹⁴ While Cal Am shares a similarly rosy vision—their motto is “Clean Water For Life”¹⁵—it has a fiduciary duty to generate a profit for its shareholders. Supporters of public water want MPWMD to buy Cal Am,¹⁶ lowering user rates.

Over-extraction of Water Resources. One of the most consequential decisions for water policy on the Monterey Peninsula occurred in 1995, when the State Water Resources Control Board (SWRCB), whose duty is “to preserve, enhance, and restore the quality of California’s water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations,¹⁷” ordered Cal Am to limit its extractions from the Carmel River.¹⁸

This order, known as Order WR 95-10, found that Cal Am “does not have legal right for about 10,730 acre-feet annually which is currently diverted from the river” and that “diversions are adversely affecting public trust resources of the river.”¹⁹ In short, Cal Am was taking too much water from the river and was endangering the habitat of the protected steelhead trout. The SWRCB ordered that Cal Am reduce the amount of water it was drawing from the Carmel River from a historic average of 14,104 acre-feet per year to 3,376 acre-feet per year.²⁰ They also ordered Cal Am “to maximize production from the Seaside aquifer” and identify alternative water sources.²¹

Summary of Background. It is important to understand the history of water politics on the Monterey Peninsula for several reasons. First, the Monterey Peninsula has limited local and sustainable freshwater resources and has always required innovative solutions to provide water to its residents. Order WR 95-10 is the culmination of decades of over-extraction and requires Cal Am to identify new sources of water. Second, private entities have provided water to residents for over a century, and the question of whether or not to publicize has been a source of debate for decades.

The legacy of these two historical trends—the need for innovative solutions to provide water to the Monterey Peninsula and the debate over whether to publicize the entity providing water—are responsible for the two

biggest water policy dilemmas today: how can the Monterey Water District strengthen the sustainability of its water system, and should that system be provided by a public or a private agency?

III. Strengthening the Sustainability of the Monterey Water District

Water is currently provided to the Monterey Peninsula by Cal Am, which still sources the majority of its supplies from the Carmel River and the Seaside Aquifer.²² Cal Am has yet to reduce its pumping of the Carmel River to state-mandated levels, and MPWMD recently noted that “although current water sources are sufficient to serve existing MPWMD customers, these sources are not sufficient to allow for growth.”²³ The primary challenge facing water managers on the Monterey Peninsula is securing a resilient water supply while complying with Order WR 95-10.

Over-extraction of Water Resources. Despite the 1995 order by the SWRCB, Cal Am has continued to exceed its legal extraction of water from the Carmel River. It has, however, complied with the part of the order requiring maximized production of the Seaside Basin.²⁴ In fact, Cal Am has maximized the extraction of groundwater from the Seaside Basin to the extent that is currently in overdraft,²⁵ withdrawing almost twice what experts consider a sustainable extraction level.

Cal Am’s extraction of both surface and groundwater exceeds sustainable limits, leaving two options to strengthen the water system’s sustainability. The first requires reducing demand by imposing conservation measures upon its customers, while the second requires expanding the source of fresh water.

Option 1: Reducing Demand. MPWMD is currently a leader in water conservation. They require the installation of low-flow toilets and showerheads, landscape restrictions to conserve water, and instant hot water systems during the construction or retrofitting of residential homes. Businesses must have high-efficiency toilets, aerators on faucets, and replace inefficient washing machines and ice machines.²⁶ MPWMD has also embarked on numerous public education campaigns, including the “Save Water—Go Blue” campaign aiming to persuade the public to conserve water.²⁷

While additional conservation measures are possible, Monterey residents have the “lowest per capita water consumption of any comparable community in the State of California, approximately 58 gallons per person per day,”²⁸—this, in a state that averages 85 gallons per person per day.²⁹ Further conservation measures could be imposed should Cal Am fail to develop additional water resources. However, short of implementing unpopular restrictions on water usage, conservation measures will do little to secure the resiliency of the Monterey Peninsula’s water supply.

Option 2: Increasing Supply. In 2012, Cal Am unveiled the Monterey Peninsula Water Supply Project (MPWSP), the goal of which is to reduce regional demand on the Seaside Basin and the Carmel River. The MPWSP plans to use a three-pronged approach to solve the water supply issue: the construction of aquifer storage and recovery (ASR) wells (1,300 acre-feet/year), purchasing recycled water from Monterey One Water (M1W) (3,500-5,750 acre-feet/year), and building an ocean desalination plant (6,252 acre-feet/year).³⁰ The MPWSP could add up to 13,302 acre-feet/year (afy) of capacity to the region’s water supply.

Prongs 1 & 2: ASR Wells and M1W: The first prong, constructing ASR wells, will require upgrading the capacity of an existing set of wells to “capture excess winter flows from the Carmel River for storage in the Seaside Aquifer and withdrawal during the dry, summer months.”³¹ The second prong, the Monterey One Water project, will capture wastewater and recycle it through an advanced treatment process. This treated water will then be injected into the Seaside Aquifer.

While neither of these plans will reduce demand on the Seaside Aquifer, they will make this water source more sustainable by closing the gap between extraction and recharge levels, reducing annual overdrafts. The Monterey One Water project, known as Pure Water Monterey, is expected to add at least 3500 acre-feet of potable water annually.³² It has the added benefit of capturing stormwater, agricultural wash water, and agricultural runoff during the water treatment process, reducing the pollutants that infiltrate groundwater or flow to the ocean.

Prong 3: Ocean Desalination Plant. While the first two prongs are likely sufficient to meet the existing needs of the Monterey Peninsula, they leave little room for error, drought—or growth. It is currently unclear whether Cal Am can reduce extractions from the Carmel River without building an ocean desalination plant in the nearby city of Marina, the details of which are addressed in Part IV.

Summary of Supply and Demand. According to a 2019 report prepared by David Stoldt, General Manager for MPWMD, the average customer water demand for the MPWSP is between 9,788 and 11,232 acre-feet per year, which is down significantly from the early 2000s when demand consistently exceeded 14,000 acre-feet.³³ The Seaside Basin is projected to provide 774 acre-feet per year, while the reduced limit from the Carmel River is 3,376 acre-feet per year, for a total of 4,150 afy.

Assuming the lower limit of demand (9,788 afy), the three-pronged approach must generate 5,638 acre-feet per year to make up the shortfall in supply from reducing the amount of water taken from the Carmel River. The Pure Water Monterey Project is projected to generate 3,500 afy, while the ASR project is projected to generate 1,300 afy, and alone are insufficient to make up the shortfall. Expanding the Pure Water Monterey project could increase supply, but the 6,252 acre-feet that an ocean desalination plant could provide each year would make the Peninsula’s water supply incredibly resilient against drought conditions, human error, and continued population growth.

IV. Is Ocean Desalination the Solution?

Ocean Desalination Plant. Cal Am has proposed a desalination plant that would obtain its saltwater from a brackish aquifer underneath the nearby city of Marina. While Monterey County has granted Cal Am the permits necessary to *build* a desalination plant, the City of Marina and the California Coastal Commission have not granted the permits needed to *extract* the water that it will purify and deliver to customers.

The City of Marina is closely related to its neighbors on the Monterey Peninsula, but it is serviced by the Marina Coast Water District. Cal Am is in no way involved with the sourcing or distribution of water to Marina residents, which has resulted in significant local resistance to the project. Marina residents are concerned that tapping the

brackish aquifer will taint their freshwater stores or result in Cal Am inadvertently extracting Marina's fresh water, reducing Marina's water security and creating environmental justice concerns.³⁴

Marina residents are also concerned about where the brine resulting from desalination will be discharged. This highly salinated effluent could be released into the ocean (affecting marine life) or into their nearby watersheds (polluting freshwater stores with salty water). While Cal Am has made assurances that the brine will be discharged into the ocean through an existing drain operated by the Monterey Regional Water Pollution Control Agency and monitored to ensure the saline content does not exceed unacceptable ratios,³⁵ opponents of the desalination project have taken a "NIMBY" approach to the desalination plant: they are unwilling to host a water treatment plant that poses such risks.³⁶

Amid these concerns, Cal Am withdrew its permit application seeking permission to extract seawater from the California Coastal Commission in September 2020.³⁷ They intend to address several issues relating to Marina's demands and resubmit the application once they believe the environmental justice concerns have been addressed. At this point, it is unclear whether these permits will be granted.

Meanwhile, the future of water on the Monterey Peninsula hangs in the balance: it's been 25 years since the SWRCB ordered Cal Am to reduce the water taken from the Carmel River, and they are still extracting more than their legally allotted share. Indeed, Cal Am recently missed another deadline, triggering a penalty from the SWRCB: an additional 1,000-acre reduction in extraction from the Carmel River.³⁸

According to a 2020 report by the MPWSP,³⁹ "current supplies can meet customer demand through the coming year. However, additional milestone reductions in September 2021 and ultimately, the final reduction of Carmel River withdrawals to 3,376-acre-feet at the end of 2021 will present challenges to the community and may necessitate stricter conservation, if not water rationing, if new supplies are not yet in place."

Cal Am sees an ocean desalination plant as the only solution to this problem. But not everyone shares that view—nor does everyone believe that Cal Am should be in charge of the decision.

V. Will Cal Am Be Taken Public?

Public Water Now. Cal Am charges Monterey Peninsula residents some of the highest water rates in the country—this, in a service district with some of the lowest usage rates in the state. After implementing conservation measures, Cal Am increased its rates to make up for the lost revenue. The projected cost of the desalination plant is \$322 million—costs that will be shouldered by ratepayers. The inability of Cal Am to reduce extractions from the Carmel River, coupled with its exorbitantly high rates, has increasingly garnered support for the Public Water Now campaign.

The Public Water Now campaign supports a public buyout of Cal Am, transferring ownership of the water rights and water delivery infrastructure to the Monterey Peninsula Water Management District (the public agency formed in 1978). Public water advocates believe that MPWMD can better serve Peninsula residents by providing cheaper water and more robustly accounting for environmental concerns.

Lower Costs. Since Cal Am is a private company, it must produce profits to distribute to its shareholders. A public water agency lacks similar profit motives and will be able to provide the same water services at a lower cost. Public water advocates also believe that the Peninsula’s water needs can be met by expanding the Pure Water Monterey program—rendering the ocean desalination plant unnecessary—a conclusion supported by a 2019 report by the General Manager of the MPWMD.⁴⁰

Public Water Now? In November 2018, voters approved a measure that authorized a study assessing the feasibility of a public takeover of Cal Am.⁴¹ In November 2019, that study found that a public takeover was feasible and would lower ratepayer fees. The operational savings would be primarily due to lower administrative, public financing, property and income tax, and regulatory costs.⁴²

An environmental impact report is currently being prepared in connection with a possible sale, and there are several procedural hurdles before MPWMD can make an offer to buy Cal Am.⁴³ Cal Am, however, is expected to reject any purchase offer. In that case, MPWMD would exercise eminent domain and the courts would set a fair purchase price, transferring ownership and oversight of the Monterey Peninsula’s water to a government agency and joining 87% of the country in having their water publicly administered.

VI. Conclusion

Water policy on the Monterey Peninsula has long been complicated for several reasons. First, Monterey has no source of imported water and relies solely on local precipitation to recharge surface water and groundwater supplies. Historical extraction of these supplies has exceeded sustainable levels, leading to a 1995 order requiring Cal Am to lower its extraction from the Carmel River. This requires Cal Am to either implement conservation measures to decrease demand or increase supply via a new water source. Residents have low rates of water usage while paying extremely high rates—making additional demand reductions unfeasible and stoking public discontent with Cal Am. Second, the proposed ocean desalination plant—which would increase water supplies—is extremely controversial, raising issues of environmental justice since the desal plant could endanger neighboring Marina’s water supply. Third, Cal Am is a private company providing water, and there has long been a movement to take this water delivery system public—reducing the cost of water to ratepayers.

These three issues—finding a sustainable water source and extraction rate, the proposed desalination plant, and taking Cal Am public—will likely be resolved in the next few years and will have significant implications for water policy on the Monterey Peninsula. Establishing a sustainable water supply could be achieved by building the desalination plant or increasing wastewater recovery efforts, though it is possible that neither supply is secured and water restrictions are implemented. However, the most consequential decision will be how and whether MPWMD acquires Cal Am: regardless of where Monterey’s water comes from, a public agency will provide cheaper water, account for environmental concerns, and provide solutions that are equitable for all citizens.

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