

Appendix M
Interregional Coordination between the
Greater Monterey County and
Monterey Peninsula, Carmel Bay, and South Monterey Bay IRWM
Regions

Summary Report (April 18, 2014)

Project 5. Integrated Regional Water Management Inter-Regional Coordination:
Greater Monterey County and Monterey Peninsula, Carmel Bay, and South
Monterey Bay Regions

Abstract: The Greater Monterey County Integrated Regional Water Management (IRWM) region shares a border with the Monterey Peninsula, Carmel Bay, and South Monterey Bay (Monterey Peninsula) IRWM region. Along this border, the 45-square-mile Ord Community is a geographical transition zone containing areas and resources that are managed by many agencies, including some that are in both IRWM Regional Water Management Groups (RWMG). Fundamental challenges are: 1) determining which regional IRWM Plan proposed projects should be described in each IRWM Plan; 2) prioritizing projects in each region; 3) how to cooperate between regions in order to ensure that Ord Community projects do not fall into a “no man’s land” between the regions; and 4) moving projects forward that benefit both regions. This report describes the relationship between the regions, identifies resource challenges, and outlines areas of potential coordination between the regions.

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Introduction and Background

In the physical transition zone between the Greater Monterey County and the Monterey Peninsula, Carmel Bay, and South Monterey Bay IRWM planning regions, a fundamental issue affecting water resource management is that the Ord Community is served water from the Salinas Valley Groundwater Basin (SVGB), which is in the Greater Monterey County region, while approximately one third of the area and water demand for the Ord Community is within the Monterey Peninsula region (see [Figure 1: Jurisdictional Boundaries in the Ft. Ord Area](#)).

Another geographical peculiarity is that a portion of the Ord Community overlies the Seaside Groundwater Basin (SGB), which is a place of water supply storage and extraction for the Monterey Peninsula; however, the Ord Community portion overlying the SGB is not supplied from the SGB. This arrangement was agreed to in 1993 with the transfer of the responsibility for water supply from the United States Army (the Army) to the Monterey County Water Resources Agency (MCWRA).¹

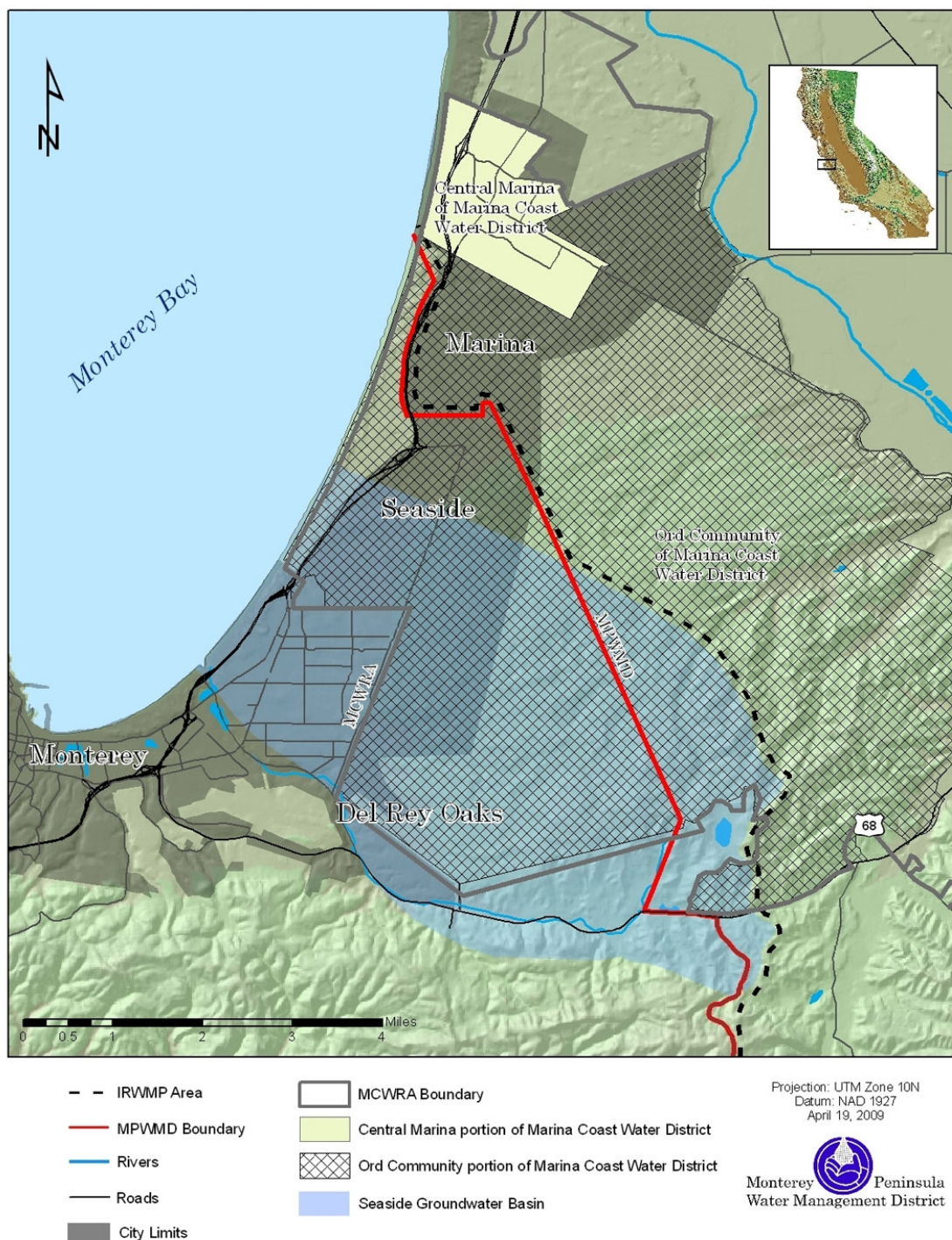
It is critical for both IRWM regions to have an understanding of the physical and jurisdictional interactions between the planning regions and for each region to understand each other's objectives and priorities. The following sections describe the work conducted by Monterey Peninsula Water Management District (MPWMD) on behalf of the Monterey Peninsula RWMG and by Susan Robinson, Program Manager for the Greater Monterey County IRWM Plan on behalf of the Greater Monterey County RWMG, to provide both regions with the basic information necessary to understand proposals within the regional and inter-regional context and to prioritize future management actions. Bulleted items indicate information to be developed or updated for the joint chapter.

The purpose of the Project Summary Report is to document how the two regions have coordinated:

- to help identify inter-regional opportunities and projects;
- to promote the cooperative development of projects that benefit both regions;
- to ensure consistency in project evaluation; and
- to promote cooperation and coordination between regions in the development and sustainable management of water resources (see pages 20, 24 and 41 of Final Guidelines).

The original nexus of this component of the IRWM planning process was the recognition in 2010 by both regions that Ord Community needs and resources were shared between the regions. For the 2010 DWR Planning Grant solicitation, both regions submitted a proposed scope of work that included addressing inter-regional issues. Subsequently, MPWMD agreed to take the lead with support from the Greater Monterey County region. At the time that the Planning Grant work was initiated, the Monterey Bay Regional Water Program/Project, the goal of which was to address water supply issues within both the Greater Monterey County and Monterey Peninsula regions, was moving through the approval process. That project is no longer being pursued by regional stakeholders, as discussed further, below. However, there are other projects being pursued by stakeholders in the region that have similar objectives, would achieve similar results if implemented, and involve regional integration, cooperation, and collaboration.

¹ The Marina Coast Water District (MCWD) subsequently won the right to provide water and sewer service to the Ord Community.

Figure 1: Jurisdictional Boundaries in the Ft. Ord Area

Relationship between IRWM Regions

This section summarizes the information presented in the Regional Acceptance Process and other communications to California Department of Water Resources (DWR) about the formation of the two regions.

The primary area where overlap may occur between the Greater Monterey County IRWM Plan and the Monterey Peninsula, Carmel Bay, and South Monterey Bay IRWM Plan is in the vicinity of the Seaside/Salinas Valley Groundwater Basin divide and in particular, the management of the Seaside Basin as a place of storage and extraction (see [Figure 1: Jurisdictional Boundaries in the Ft. Ord Area](#)). The Seaside Basin and Fort Ord area constitutes a geographic area within which a significant opportunity exists for stakeholders in the two IRWM planning regions to collaborate and coordinate on projects of interest to both regions.

In Bulletin 118, DWR considers the Seaside Groundwater Basin (Basin 3-4.08) to be a sub-basin of the Salinas Valley Basin (Basin 3-4). Physically, a regional analysis of groundwater levels found that the boundary between the Seaside and Salinas Valley Groundwater Basins is represented by a groundwater flow divide, which is simply the high point in the regional water-level surface between pumping depressions in Seaside, the Salinas Valley, and the El Toro Creek area. The lack of wells and water extraction in proximal areas of the former Fort Ord lands and highland areas adjacent to the Salinas Valley may encourage this divide, which acts as a “ridge” of higher groundwater levels between lower groundwater level areas in adjacent areas of Seaside and Salinas Valley. Because a large portion of these lands is controlled by the Bureau of Land Management (BLM) or are not arable lands, it is unlikely that groundwater extraction in this area would increase in the foreseeable future. It is beyond the scope of this report to describe these interactions, but extensive information may be found in the following documents:

- *Laguna Seca Subarea Phase III Hydrogeologic Update*, Prepared for the Monterey Peninsula Water Management District by Eugene B. Yates, Martin Feeney, and Lewis I. Rosenberg, November 2002
- *Seaside Groundwater Basin: Update on Water Resource Conditions*, prepared for the Monterey Peninsula Water Management District by Eugene B. Yates, Martin Feeney, and Lewis I. Rosenberg, April 14, 2005
- *Seaside Groundwater Basin Salt & Nutrient Management Plan* prepared for the Monterey Peninsula Water Management District by Hydrometrics WRI, April 2014.

Potable water is provided to customers in the Seaside basin by several dozen water distribution systems. Water production and delivery are reported annually to MPWMD by all water system operators. Over 90% of the water is delivered by a single purveyor (Cal-Am). Cal-Am operates several water distribution systems in the area, some of which are interconnected. The main system serves the Carmel Valley, Monterey Peninsula, and coastal subareas of the Seaside basin. Presently, water is obtained from approximately 17 wells along the Carmel River and eight wells in the Seaside coastal subareas. The Carmel Valley wells extract groundwater from the Carmel Valley alluvium and operate year-round. Wells in the Seaside coastal subareas are used primarily in late spring, summer, and fall. Cal-Am also operates several other water distribution systems in the Laguna Seca Subarea that it acquired from previous operators during the past 15 years, including the Hidden Hills, Ryan Ranch, and Bishop systems. The first two of these have interties with the main system, but the Bishop system does not.

The City of Seaside operates a single well in the Seaside Groundwater Basin to serve residential customers in part of the city. The principal nonpotable use of water in the basin is irrigation of golf courses. The Laguna Seca and Pasadera golf courses are in the Laguna Seca Subarea and are supplied by nearby wells. The Bayonet and Black Horse golf courses are located on the former Fort Ord military base north of Seaside and are currently being supplied with irrigation water from Marina Coast Water District (MCWD) under a five-year agreement that is set to expire in 2015.

MCWD provides municipal supply water to existing and future developed areas on the former Fort Ord military base. Within the Seaside basin, this includes the residential areas and schools surrounding the Bayonet and Black Horse golf courses. The water is obtained from wells near Marina, in the Salinas Valley Groundwater basin. Although there is currently a general prohibition on groundwater exportation from the Salinas Valley, Section 52-9 “Powers of Agency” of the MCWRA Act enabling legislation states:

The Agency has perpetual succession and may do any of the following:

(u) Prevent the export of groundwater from the Salinas River Groundwater Basin, except that use of water from the basin on any part of Fort Ord shall not be deemed an export. Nothing in this act prevents the development and use of the Seaside Groundwater Basin for use on any lands within or outside that basin.

There are a number of proposals that would link water resources in the Salinas Valley with supplies to the Seaside Groundwater Basin. Currently wastewater from the Monterey Peninsula region is conveyed to the Salinas Valley and reused for irrigating crops. There are ongoing discussions among agencies with responsibilities over these supplies, which include desalinated water, brackish groundwater near the coast, and recycled water. In addition, surface flow from the Salinas River under the unexercised SWRCB Permit No. 11043 issued to MCWRA is being considered for supplying additional water to MCWD. The following section details these water supply projects and plans.

Boundary Region Description

Fort Ord was established as a U.S. Army post by the Department of Defense in 1917 and proposed for closure in 1991 by the Base Realignment Commission. In 1994, the state legislature created the Fort Ord Reuse Authority (FORA) to oversee the reuse and redevelopment of the former military base, which includes more than 45 square miles of the former Fort Ord (also referred to as the Ord Community). A small portion of the former Ft. Ord remains under Army control and is now called the Presidio of Monterey Annex. Other property within the former Fort Ord falls under the following jurisdictions: the Bureau of Land Management, the cities of Seaside, Marina, Monterey, and Del Rey Oaks, the County of Monterey, the University of California, California State University at Monterey Bay, and the Presidio of Monterey Annex. The California Department of Parks and Recreation administers the Fort Ord Dunes State Park area that stretches along the western portion of the former Fort Ord between Highway 1 and the ocean.

Physical Setting

Former Fort Ord lands lie between Canyon del Rey and Toro Creek to the south, the Salinas Valley to the northeast, and the Pacific coast to the west. The landscape slopes gradually down toward the northwest through moderately dissected rolling hills from approximately 900 feet above sea level near Impossible Canyon to sea level. On the eastern portion of the base lie canyons and ridges that drop steeply into the bottom of the Salinas Valley. The northeast portion of the base borders ancient sand dunes within the City of Marina.

Most of the area is underlain by young terrestrial deposits. The stratigraphy includes Eolian deposits, Upper Tertiary Santa Margarita Sandstone, Plio-Pleistocene Paso Robles Formation, and Quaternary Aromas Sandstone. Interdune areas have internal drainage, whereas the dissected areas drain to the Salinas Valley either directly, or by way of Toro Creek along Highway 68 (Smith et al., 2002). A very small amount of stormwater runoff from the Fort Ord

lands may enter Canyon Del Rey near the southwest corner of the former base; however, this is likely to be from roadway runoff during intense storms.

The western portion of the base, where most development has occurred, contains deposits of Type A soils with infiltration rates of 6 to 20 inches per hour. The 85th percentile 24-hour rainfall depth is estimated at 0.7 inches (PRISM Climate Group). Currently, all rainfall percolates into this area and there is no stormwater runoff to the ocean through the barrier beach, as the last of the storm drain outfalls built for the Army base have been removed by CSUMB. Type B soils are present over the remainder of the base and have a permeability of 0.6 to 6 inches per hour. This latter area has locally resistant beds, but the overall geologic substrate has a high erosion and mass-wasting potential, as evinced by the great number of gullies, and the local presence of badlands topography and shallow landslides (Smith et al., 2002; 2004).

Because all stormwater runoff from impervious areas in the Ord Community percolates, it tends to recharge the shallow dunes aquifer in the SVGB and the shallow dunes aquifer and the upper portion of the Paso Robles formation overlying the SGB.

Jurisdictional Boundaries

Within the area shared by the two IRWM regions, responsibility for and management of groundwater, potable water, wastewater, recycled water, stormwater, desalinated water, and resources dependent on all of these waters, are divided among many stakeholders. These stakeholders range from private water distribution systems to federal agencies involved in the reuse of the former Fort Ord. However, most management responsibilities lie with the Cities of Seaside and Marina, California American Water (Cal-Am), Marina Coast Water District (MCWD), MPWMD, County of Monterey, Monterey County Water Resources Agency (MCWRA), Monterey Regional Water Pollution Control Agency (MRWPCA), Fort Ord Reuse Authority (FORA), the Bureau of Land Management (BLM), and the Department of Defense (primarily, the U.S. Army).

MCWD provides potable water and sanitary sewer collection services to existing and most future developed areas of the Ord Community. Within land overlying the SGB, this includes the residential areas and schools surrounding the Bayonet and Blackhorse golf courses. The Seaside Community Services District is currently the designated entity to provide wastewater collection service to areas east of General Jim Moore Boulevard and south of Eucalyptus Road (through a service area amendment issued by the Monterey County Local Agency Formation Commission in 1997). Water is obtained from wells near “central” Marina (the area outside of the former Fort Ord military base), in the SVGB. Both Cal-Am and the City of Seaside operate municipal supply systems in the SGB to serve residential customers within the City of Seaside (but not residents of the Ord Community overlying the SGB). Water is produced from the SGB under the supervision of a Watermaster appointed by the Superior Court. The Watermaster is comprised of overlying pumpers including the City of Seaside and Cal-Am, MPWMD, and MCWRA.

Wastewater from the Ord Community is taken to the Regional Treatment Plant operated by MRWPCA along with other communities’ wastewater, where a majority of it is recycled and used to irrigate crops in the Castroville area through the Castroville Seawater Intrusion Project (CSIP). Use of recycled water with the CSIP reduces the need for groundwater production in the Salinas Valley aquifers closest to the coast that are impacted by seawater intrusion.

Recently, there has been a focus on recreation associated with the creation of the Fort Ord Dunes State Park west of Highway 1 and the Fort Ord National Monument in the eastern half of the former Army base. Competing ballot initiatives in the November 2013 sought to modify

portions of the Base Reuse Plan by re-designating how certain lands could be used. Neither measure passed, so the Reuse Plan was not amended. However, the issues raised during the election campaign remain, including water availability, preservation or development of open space, jurisdictional claims, and the economics of base redevelopment. These issues are shared by both IRWM regions.

Water Supplies

Monterey Peninsula. The Monterey Peninsula has a current water supply replacement need of about 9,750 AFY with an additional 3,400 AFY needed for 20-year General Plan development (2014 MPWMD estimate). The Monterey Peninsula region's water supplies are legally constrained by orders from the SWRCB to cut back production from Carmel Valley and an adjudication of the SGB (currently the two primary supplies for the Monterey Peninsula). Physically, the water supply system is also old in many areas and requires re-plumbing in order to deliver water from the north (in Seaside) to the southern and eastern portions of the region. The region has evaluated up to about 150 alternatives over more than 50 years to increase supplies, but only the following projects have proven to be viable and thus have been constructed:

- (1) Aquifer Storage and Recovery - cooperatively implemented by MPWMD and Cal-Am, this project includes the diversion of excess winter/spring flows from the Carmel River system for recharge of, storage in and subsequent recovery from the SGB;
- (2) Carmel Area Wastewater District/Pebble Beach Community Services District/Pebble Beach Company Recycled Water Projects - provision of tertiary-treated, recycled wastewater for irrigation of golf course and some other recreational areas within Pebble Beach; and
- (3) Sand City Desalination Plant - provides 300 AFY to the community, including 94 acre-feet that have been committed long-term for use in areas outside the City.

The Ord Community has been allocated 6,600 AFY from the SVGB, of which just over 5,600 AFY has been committed; however, many of these commitments are intended for future developments that have not been built. As shown in **Attachment 2**, over 4,000 AFY has remained unused since the allocation system was created and water use tracked. FORA manages its groundwater allocation and sub-allocations through a Development and Resource Management Plan that annually tracks water use. The Reuse Plan anticipated that a total of 9,000 AFY would be needed to provide water for redevelopment of the former Fort Ord; therefore, a balance of 2,400 AFY of water is needed to augment the 6,600 AFY of available groundwater. A more recent analysis in the MCWD Urban Water Management Plan based on jurisdictional surveys projects that total demand in 2030 for the Ord Community will be about 8,200 AFY, which is 800 AFY less than the original Reuse Plan. It is likely that the economic downturn beginning in 2007 has influenced the perceived future demand.

Greater Monterey County. All of the water supplied to the Ord Community area of the Greater Monterey County IRWM region originates from the Salinas Valley Groundwater Basin, specifically wells in the 400-foot and deep aquifers. Two of the aquifers in the SVGB are in a condition of long-term overdraft (the 180- and 400-foot aquifers) near the coast, with seawater intrusion in the 180-foot aquifer extending more than 7 miles inland to the outskirts of the City of Salinas. MCWRA has taken steps to address this, including use of recycled water for agricultural irrigation (through the wastewater recycling facility, called the Salinas Valley Reclamation Project, and the CSIP) and use of Salinas River water to supply the CSIP area irrigators using an inflatable (rubber) dam to make seasonal impoundments from which to divert

water. However, to date, seawater intrusion has not been reversed although the rate of intrusion appears to be slowing (MCWRA, 2013). MCWRA requires that MCWD take no more than 5,200 AFY from the 180- and 400-foot aquifers in order to reduce the risk of exacerbating seawater intrusion.

Although MCWD can develop additional hydraulic capability to meet demand (i.e., install more wells) by tapping the “deep aquifer” in the SVGB to supply the allocated amount for the Ord Community, there is concern that recharge mechanisms in this aquifer may not be adequate to support additional extraction – in other words the deep aquifer could become overdrafted by additional production. MCWD has pursued a Seawater Desalination Project and a Recycled Water Project, and is also pursuing surface water rights in the Salinas Valley to meet its obligations to supply the Ord Community. Additional background on MCWD’s water supply planning for the Ord Community is provided in **Attachment 1**, including past efforts at developing regional water supply projects that provide mutual benefits to both the Greater Monterey County and Monterey Peninsula IRWM regions. The following section describes additional inter-regional water management planning efforts that have occurred due to the IRWM programs.

Water Supply Projects and Plans Related to Both IRWM Regions

The following water supply-related projects and studies are considered relevant to both the regions and/or are related to the water supply issues of the two regions.

Monterey Peninsula Water Supply Project (MPWSP)

The MPWSP proposal consists of a Cal-Am-only 9.6 million gallon per day (MGD) desalination project at a location different from the Coastal Water Project or a combination of a Cal-Am 6.4 MGD desalination project and a groundwater replenishment project (Groundwater Replenishment Project), described below.

The Cal-Am project proposal to locate a desalination plant in north Marina to supply the Monterey Peninsula region is one of the largest in California. It includes the following features: subsurface slant source water intake wells; extraction of brackish water from the SVGB; and discharge of hyper-saline brine concentrate into the Monterey Bay National Marine Sanctuary (MBNMS). A critical aspect of the Cal-Am desalination proposal is to determine what effect that extraction of subsurface water near the coast would have on Salinas Valley Groundwater Basin aquifers. Due to seawater intrusion into the aquifers, agricultural interests in the Salinas Valley are strongly opposed to removal of any water from the 180- or 400-foot aquifers near the coast and currently, MCWRA has a prohibition against new wells in the 180-foot aquifer. In addition, extraction of seawater using slant wells extending below the seafloor requires wells to be installed and operated in areas potentially affected by climate change and the associated coastal erosion triggered in part by both large storm events and rising sea levels. Discharge of brine to the MBNMS must meet newly proposed Ocean Plan Amendment standards that include dilution of the brine to no more than 5% above natural salinity at 100 meters from the discharge point (the zone of initial dilution).

The review and project selection process for the Cal-Am proposal is being conducted at the local level through a Governance Committee formed with Cal-Am, the Monterey Peninsula Regional Water Authority (MPRWA), the Monterey

Peninsula Water Management District, and the Monterey County Board of Supervisors (an example of inter-regional coordination). The Governance Committee was formed to ensure efficient and effective public input to the project.

The MPRWA is a Joint Power Authority (the Authority) that consists of the six Monterey Peninsula cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Sand City, and Seaside, and the County of Monterey. The purpose of the MPWRA is to study, plan, develop, finance acquire, construct, maintain, repair, manage, operate, control and govern water projects either alone or in cooperation with other public or private non-member entities. In addition, the MPRWA established a Technical Advisory Committee to assist in carrying out the purposes and objectives of the Authority.

The CPUC will eventually rule on whether a Groundwater Replenishment Project (see description below) would be implemented to reduce the scale of the desalination and be part of the water supply solution for the Monterey Peninsula. Hearings for the Groundwater Replenishment Project are scheduled for December 2014. As Lead Agency, the CPUC will also rule on the MPWSP EIR as part of the ratemaking process for the Cal-Am project. Certification of an EIR and issuance of a Certificate of Public Convenience and Necessity is anticipated in 2015.

Monterey Peninsula Groundwater Replenishment Project.

The proposed Monterey Peninsula Groundwater Replenishment Project (Groundwater Replenishment Project) would create a reliable source of water supply by taking highly-treated water from a new advanced water treatment plant, and injecting it into the Seaside Groundwater Basin using a series of shallow and deep injection wells. The Groundwater Replenishment Project is being proposed by the Monterey Regional Water Pollution Control Agency (MRWPCA) in partnership with the MPWMD. See <http://www.mpwatereplenishment.org> for more information and maps. Once injected into the Seaside Basin, the treated water would mix with the groundwater present in the aquifers and be stored for future use. The primary purpose of the proposed project is to provide 3,500 acre-feet per year (AFY) of high quality replacement water to the Seaside Basin to allow Cal-Am to extract the same amount for delivery to its customers in the Monterey District service area, thereby enabling Cal-Am to reduce its diversions from the Carmel River system by this same amount.² Cal-Am is under a state order to secure replacement water supplies and cease overpumping of the Carmel River by January 2017. The proposed project components include the following (the geographic location in relationship to the two regions is provided in parenthesis):

- source water collection and conveyance - some proposed source waters, such as Lake El Estero Storage Management Water, would originate from land located within the Monterey Peninsula IRWM region and some

² CalAm is an investor-owned public utility with approximately 38,500 connections in the Monterey Peninsula area.

alternative source waters are located in the Greater Monterey County IRWM region³,

- treatment facilities - including both existing and proposed facilities to be located within the Greater Monterey County IRWM region at the MRWPCA's regional treatment plant,
- treated water conveyance system, including pipelines and pump station - conveyance systems would be located and pass through both IRWM regions to carry the high quality, advanced-treated water between the regional treatment plant and the SGB,
- injection wells for recharging the SGB – these would be located within the city of Seaside's portion of the former Fort Ord south of Eucalyptus Road and east of General Jim Moore Boulevard, and
- potable water distribution system improvements outside of, and south of, the Ord Community within the cities of Seaside, Monterey, and Pacific Grove.

The Groundwater Replenishment Project would assist both the Greater Monterey County and the Monterey Peninsula regional stakeholders, including RWMGs, in complying with numerous state and federal policies aimed at improved water resource management and associated societal benefits. In addition to the project objectives, the Groundwater Replenishment Project may provide public benefits and important progress toward meeting the following statewide environmental goals, policies and orders:

- The State Water Resources Control Board (SWRCB) supports the use of reclaimed water to reduce discharges of wastewater. In particular, Order WQ 84-7 says dischargers in water-short areas that propose to release treated wastewater to the ocean must evaluate the potential for water reclamation. This order was specifically recognized within the SWRCB Cease and Desist Order issued to Cal-Am (see section 19.1). The Groundwater Replenishment Project would assist in compliance with this statewide order by creating a water supply use for treated wastewater that is presently discharged to the ocean during periods when the Salinas Reclamation plant doesn't use all the secondary effluent to produce tertiary-treated wastewater for agricultural irrigators in the CSIP areas.
- The SWRCB's Recycled Water Policy (adopted May 2009 and amended April 2013) states: "We strongly encourage local and regional water agencies to move toward clean, abundant, local water for California by emphasizing appropriate water recycling." It also says, "Included in these goals is the substitution of as much recycled water for potable water as possible by 2030." The policy also states, "Groundwater recharge with recycled water for later extraction and use in accordance with this policy and state and federal water quality law is to the benefit of the people of the state of California. The State Water Board and Regional Water

³ There are several raw or source waters that would require agreements from Salinas Valley stakeholders, such as MCWRA and the City of Salinas, and others would require appropriative water rights from the SWRCB.

Boards will exercise the authority granted to them by the Legislature to the fullest extent possible to encourage the use of recycled water, consistent with state and federal water quality laws." The Groundwater Replenishment Project would satisfy this statewide policy (see: http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/, accessed April 11, 2014).

- In 2006, Gov. Arnold Schwarzenegger signed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. It directed the California Air Resources Board to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. Groundwater Replenishment requires much less electricity than desalination requires for the same amount of processed water. Therefore, the Groundwater Replenishment Project would help satisfy this statewide goal.
- The City of Salinas's Industrial Wastewater Treatment Facility is currently unable to meet its National Pollutant Discharge Elimination System/Waste Discharge Requirements of the Regional Water Quality Control Board on a year-round basis (City of Salinas, Industrial Wastewater Treatment Facility, 2013 Annual Report, Waste Discharge Number R3 2003 0008, WDID NO. 3 27011003, January 30, 2014). The Groundwater Replenishment Project proposes to utilize that water to augment wastewater flows to the Regional Treatment Plant to enable year-round, advanced treatment and recharge operations.

Potential sources of water for recycling include stormwater and urban runoff, and agricultural wash water that is treated, evaporated, and percolated near the Salinas River at Davis Road (about four miles upstream of the ocean). In addition, a detailed alternatives analysis is being prepared for both the Groundwater Replenishment Project Environmental Impact Report and for a U.S. Bureau of Reclamation WaterSMART Grant Feasibility Study and State Water Resources Control Board Facility Plan that includes analyzing the diversion and reuse of polluted waters in the Salinas Reclamation Ditch, the Tembladero Slough, and Blanco Drain. These sources are impaired waters on the Central Coast Region of the RWQCB list of 303(d) streams and include a variety of contaminants associated with agricultural and urban runoff. More details of the analysis of these projects will be available in the Fall of 2014. These alternatives are also discussed below under "Future Wastewater Recycling and Water Quality Projects."

Salinas and Carmel River Basins Study

In February 2014, the Monterey Peninsula Water Management District, the Monterey Regional Water Pollution Control Agency, the Monterey County Water Resources Agency, and the San Luis Obispo County Public Works Department submitted a WaterSMART grant proposal to the U.S. Bureau of Reclamation (Reclamation) for an inter-regional water supply planning study called a Basin Study.

According to Reclamation, basin studies entail basin-wide efforts to evaluate and address the impacts of climate change on future water supplies and sea level rise. Funding is available for comprehensive water studies that define options for meeting future water demands in river basins in the western United States where imbalances in water supply and demand exist or are projected. Each study would include four key segments:

- State-of-the-art projections of future supply and demand by river basin.
- An analysis of how the basin's existing water and power operations and infrastructure will perform in the face of changing water realities.
- Development of options to improve operations and infrastructure to supply adequate water in the future.
- Recommendations on how to optimize operations and infrastructure in a basin to supply adequate water in the future. (U.S. Bureau of Reclamation website, <http://www.usbr.gov/WaterSMART/bsp/>, accessed on April 10, 2014)

The study proposed by the three IRWM planning regions (Greater Monterey County, Monterey Peninsula, and San Luis Obispo County) is titled the Carmel and Salinas River Basins Study and its goals include providing an opportunity to improve collaboration between the project partners, collectively estimating and planning for changing conditions, and cooperatively identifying regional water supply opportunities in both basins. The Ord area is a key link between two of the regions as discussed elsewhere in this report and would benefit from this study as it is situated between key areas of water demand. The Ord Community overlies the Seaside Groundwater Basin (with its unique subsurface storage characteristics) and overlies and utilizes the northern area (or Pressure subarea) of the Salinas Valley Groundwater Basin.

The complexity and numerous challenges of operating the Salinas and Carmel River Basins and sub-basins have resulted in studies by the US Bureau of Reclamation (Reclamation), US Geological Survey (USGS), the US Army Corps of Engineers (Corps), US Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), Monterey Bay National Marine Sanctuary (MBNMS) and state and local agencies. The proposed Basin Study will help water management agencies having jurisdiction in one or both basins to better collaborate and develop long-term strategies that build on an extensive array of existing analyses to focus on the imbalances between water supply and demand under the projected impacts of climate change, such as sea level rise and variations in marine influence. The goal of the study is to understand, anticipate and adapt to climate change effects on coastal resources and to support management practices that will yield sustainable water surface and groundwater supplies capable of meeting the needs of agriculture, municipal users, the environment, and recreation. A significant amount of recent and on-going work funded by the non-federal partners will contribute to the "in-kind services" cost share (in excess of \$1.2 million planned and a total of \$4.7 million since June 2013). In addition, the nonfederal partners are committed to participating and collaborating with Reclamation on data and technical needs, stakeholder engagement through the ongoing IRWM plan groups, and performing model runs with existing watershed and groundwater models to

determine the projected impacts of climate change scenarios, as well as improvements due to proposed adaptation strategies.

Information on the San Luis Obispo County region's IRWM program can be found at the following website:
<http://www.slocountywater.org/site/Frequent%20Downloads/Integrated%20Regional%20Water%20Management%20Plan/IRWM%20Plan%20Update%202014/>.

Regional Urban Water Augmentation Project (RUWAP)

The RUWAP is a joint water supply planning effort of the Marina Coast Water District and the Fort Ord Reuse Authority. The project proposes construction and operation of both a desalination component and a recycled water distribution component. The desalination component would include a plant producing between 1,273 and 1,500-acre-foot-per-year of potable water at the Marina Coast Water District Armstrong Ranch property, north of the city of Marina in Monterey County. The RUWAP desalination project component was proposed to extract seawater and potentially brackish water, produce desalinated water, and convey it to the existing District distribution systems. During the 2008-2011 timeframe, MCWD pursued a regional collaborative version of the RUWAP called the Monterey Bay Regional Desalination Project that would have provided water to areas of the Greater Monterey County and Monterey Peninsula regions. That project is no longer being pursued. Additional details about the RUWAP are provided in **Attachment 1**, Overview of the Ord Community Water Supply Planning.

Future Wastewater Recycling and Water Quality Projects

Future water supply and water quality enhancement projects also have the potential to enhance water supplies for the Salinas Valley, including the Ord Community, and to enhance water quality and habitat in the northernmost portions of the Salinas Valley and the Monterey Bay. The following potential water resources strategies could be future components of one or more regional water solutions projects. Some of these are currently being evaluated by the relevant agencies as components of recycled and potable water supply projects:⁴

1. Shared use of infrastructure for multiple benefit projects, such as RUWAP Recycled Water and/or Monterey Peninsula Groundwater Replenishment Projects, for delivering recycled water to urban irrigation users in the Marina Coast Water District's service area.
2. Provision of excess raw source water collected by Groundwater Replenishment Project facilities or facilities constructed by other local jurisdictions to existing or future agricultural irrigation users within the Castroville area of northern Salinas Valley. Excess Groundwater Replenishment-collected runoff and wastewaters would be treated by the primary and secondary wastewater systems and the Salinas Valley

⁴ These opportunities are being pursued outside of the current planning process for the Monterey Peninsula Groundwater Replenishment Project Environmental Impact Report. The current proposed project for that EIR does not include these components, except as alternatives to the proposed project.

Reclamation Project tertiary treatment system prior to storage and delivery to CSIP.

3. Increased reuse of wastewater effluent disposed via the MRWPCA's ocean outfall through increased wintertime diversion and recycling of secondary effluent.
4. Diversion, treatment, and reuse of polluted waters from several source water bodies listed on the regions list of impaired water bodies, Clean Water Act Section 303 (d) for the benefit of irrigation users or for use to augment potable supplies through groundwater replenishment (i.e., indirect potable reuse).

Regarding item #3, above, the State Water Resources Control Board prioritizes protection of the quality of the ocean waters for use and enjoyment by the people of the state, and requires control of the discharge of waste to ocean waters in accordance with the provisions contained in the California Ocean Plan 2012 (SWRCB, effective August 19, 2013). The Ocean Plan specifically seeks to limit discharges to the ocean. Increased water recycling for potable reuse associated with the Groundwater Replenishment Project has the dual benefit of reducing wastewater discharge pollutant loads and, by decreasing the size of a proposed desalination plant required to meet local water supply need, the discharge of desalination brine to the MBNMS can be reduced. These future water supply projects could capture a variety of sources for beneficial drinking water use that would otherwise flow to the ocean.

Regarding item #4 above, the Central Coast Regional Water Quality Control Board is in the process of amending its Basin Plan to include Total Maximum Daily Loads (TMDL) that will apply to several of the surface water bodies in the vicinity of the proposed project that are affected by existing "impaired" flows (RWQCB, Notice of Opportunity to Comment on the Proposed Approval of an Amendment to the Water Quality Control Plan for the Central Coastal Basin to Establish Total Maximum Daily Loads in the Lower Salinas River and Reclamation Canal Basin, and the Moro Cojo Slough Subwatershed for Nitrogen Compounds and Orthophosphate, September 3, 2013). The Groundwater Replenishment Project or one or more of these futures projects would potentially capture, treat and reuse one or more of the impaired flows as source waters for influent to the existing RTP, then for further treatment and reuse using the SVRP tertiary treatment plan, and/or the proposed Groundwater Replenishment advanced treatment facility.

Surface Water / Recycled Water Storage

The MCWD service area is located near the Salinas River, and MCWD Board of Directors has considered purchasing surface water rights in the Salinas River Basin as a means of meeting long-term (beyond 2030) demands. MCWD has previously been in negotiations with a senior (pre-1914) water right holder. No decisions have been made as to the purchase of surface water supplies, but that option is potentially available to meet additional demands beyond the 20-year planning horizon. A constraint to use of surface water is that it is unlikely to be a year-round supply due to demands by agricultural users and instream flow requirements for fisheries. Also, a second phase of the SVWP, examined at a

program level in the SVWP EIR, calls for surface water to be made available to coastal urban water agencies in the future.

Monterey County Water Resources Agency holds water right permit #11043 for 135,000 AFY of Salinas River surface water that was to be revoked by the State Water Resources Control Board (SWRCB) in August 2013. Through MCWRA staff and counsel efforts, a settlement agreement was signed and the Permit will be valid, as long as the Agency adheres to a strict, aggressive set of milestones for water project implementation. The milestones end with a project being developed and delivering water by July 2026. The water allocated to the Permit will be used to continue to remedy seawater intrusion in the Salinas Valley.

MCWD and MCWRA are also considering the potential to construct a seasonal surface water and/or recycled water storage reservoir on MCWD land south of the Regional Treatment Plant. Currently, adequate water supplies are available in the winter time; however, peak demands occur in the summer. A surface storage reservoir would reduce the seasonal inconsistencies between supply and demand (Brian True, personal communication, April 2014 and MCWRA, Regional Advisory Committee Meeting April 17, 2014 Agenda and Packet, April 2014).

Conclusion. The above projects can provide a significant opportunity for stakeholders in both IRWM planning regions to collaborate and coordinate on water management projects with potential long-term benefits for both regions.

Inter-Regional Prioritization Processes

In 2011 and 2012, the Monterey Peninsula and Greater Monterey County IRWM planning regions met separately to develop their respective IRWM Plan objectives. The following describes the activities of each region regarding prioritization of their regions' objectives.

Monterey Peninsula Region Objectives Prioritization

At the July 2012 Stakeholder meeting, stakeholders were asked to provide general comments and input to a draft set of goals and objectives revised in accordance with the 2011/2012 Guidelines from DWR and new regional circumstances and conditions. To gather meaningful feedback, the participants were also provided written forms and asked to rank draft objectives as high, medium or low priorities for the Monterey Peninsula region. In addition, the Objectives Feedback form was provided to the full list of stakeholders via email to enable those who could not attend the meeting to provide feedback on the draft objectives. The results of the July 25, 2012 stakeholder meeting, including the Objectives Feedback/Prioritization Exercise Results, are available in the Monterey Peninsula IRWM Plan, Chapter 3, Goals and Objectives.

Based upon stakeholder input (including verbal and written comments) and the Objectives Feedback/Prioritization Exercise, the draft objectives were modified and re-ordered. The 2012 objectives review process resulted in twenty five (25) total objectives, including eight (8) considered "high priority." The result of the objectives review and prioritization effort is shown in **Attachment 3**, under the column labeled: "Monterey Peninsula, Carmel Bay, and South Monterey Bay Region."

Greater Monterey County Region Objectives Prioritization

After much debate and careful consideration, the RWMG made a decision to not prioritize objectives. The rationale for this decision is as follows. The Greater Monterey County IRWM

region is a broad geographic area made up of a very diverse group of stakeholders. The RWMG itself reflects that diversity. The RWMG has aimed to be as inclusive as possible of all stakeholders in the region, encouraging their active participation in the IRWM planning process and promising serious consideration of their concerns and needs. The 57 objectives included in the IRWM Plan were based on the “issues and conflicts” perceived to exist throughout the region, as described by different groups of stakeholders in all corners of the region. The RWMG therefore recognizes that each of the objectives carries special weight and significance for at least some groups of stakeholders. By prioritizing some objectives over others, the RWMG feels they would effectively be prioritizing the needs of certain stakeholders over others. In order to maintain inclusivity, and to avoid the possibility of alienating certain groups of stakeholders or discouraging their participation in the IRWM planning process, the RWMG has therefore decided not to prioritize objectives. The project ranking system reflects that decision (Greater Monterey County RWMG, *Greater Monterey County Integrated Regional Water Management Plan*, March 2013).

Inter-Regional Coordination of Prioritization Efforts. After each region developed their individual objectives (and prioritization, as applicable), representatives of both regions developed a comparison of objectives, which is presented in **Attachment 3**. The comparison was presented at a meeting of RWMG and Ord Community representatives on February 7, 2013 (see Attachment 4 which contains the agenda, presentation, draft matrix of objectives, and summary meeting notes). In general, the two regions have similar, but region-specific, objectives in the broad categories of water supply, water quality, flood management, environmental protection, and climate change. As shown in **Attachment 3**, the revised draft matrix of objectives, the two regions have both developed objectives covering the key statewide priorities of the IRWM planning program. Some key differences in the objectives include the following:

Water Supply

- The Greater Monterey County region’s objectives are heavily influenced by the large agricultural industry throughout Monterey County’s Salinas Valley; therefore, numerous objectives are focused on issues related to agriculture production, and the environmental and water supply issues of that industry.
- Each region prioritized water supplies; however, the Monterey Peninsula includes specific requirements for meeting replacement and future demands.

Water Quality

- The Monterey Peninsula focuses more on protecting water quality for habitat and Areas of Special Biological Significance, while the Greater Monterey Plan has more of an emphasis on reducing the impacts associated with agriculture production on water quality.

Flood Protection, Floodplain Management, and Erosion Prevention

- Each region seeks to protect infrastructure and property; however, the Monterey Peninsula includes protecting habitat and taking into consideration sea level rise.

Environmental Protection and Enhancement

- The Monterey Peninsula region includes climate change in its discussion of environmental protection and in its own goal category. The Greater Monterey County region includes protection of existing pristine natural resources in its climate change category. The Greater Monterey County region includes specific objectives addressing

research and monitoring, sedimentation, native/non-native species, purchasing fee titles/easements and wildfire that are not included in the Monterey Peninsula region.

Climate Change

- The Greater Monterey County region addresses implementation of efforts such as carbon sequestration that are not addressed in the Monterey Peninsula region.

Regional Communication and Cooperation

- The Monterey Peninsula region has a more comprehensive goal statement with objectives that relate to building relationships, cooperating, collaborating integrating, and public outreach, education, and communication (including with DACs). The Greater Monterey County region has more specific details, including focusing on collaboration and reducing regulatory inconsistencies to facilitate compliance and permitting.

Disadvantaged Communities

- The Greater Monterey County region has an entire goal category dedicated to DAC objectives while the Monterey Peninsula region includes discussion of DACs in the Regional Communication and Cooperation category, above.

Ord Inter-Regional Project Coordination Activities

To adequately incorporate the priorities and select projects for the Ord Community, this report is intended to be included in the development and update of the Monterey Peninsula IRWM Plan. During the development of the updated plan, the RWMG representatives conducted additional outreach to numerous Ord Community stakeholders and engaged RWMGs and stakeholders with interest and purview in the Ord Community to meet and discuss issues. The following tasks were carried out in connection with the development of this Project Report, and in parallel with the development and update of the IRWM Plan:

- A sub-committee was established of members of the RWMG and plan preparers (Susan Robinson and Alison Imamura, DD&A) from each region that were familiar with the Ord Community area. The purpose of the sub-committee was to identify objectives and priorities and plan for Ord Inter-Regional Project activities. Both regions' representatives agreed to actively solicit projects within the Ord Community, and set a meeting to prioritize objectives. This planning occurred during meetings in January and April 2012.
- The Monterey Peninsula RWMG Representative, Larry Hampson, attended a Fort Ord Reuse Authority Water and Wastewater Oversight Committee Meeting in April 2012 to present an overview of the Monterey Peninsula IRWM Plan process and the purpose and goals of the Inter-Regional Coordination Project. Additional participation in the Inter-Regional process, including stakeholder meetings, was solicited.
- Stakeholders that have not been represented in one or the other IRWM Plan were invited to an Ord Inter-Regional Stakeholder Meeting on February 7, 2013. A list of key Ord Community Stakeholders that were invited by email and personal phone call to attend the meeting is provided in **Attachment 4** (in addition they were invited to the February 6, 2013 general stakeholder meeting about project review process for the Monterey Peninsula region).
- A focused Ord Community inter-regional public/stakeholder meeting was held on February 7, 2013 to take input on issues and to comment on priorities and objectives for the Ord Community. Meeting agendas, presentation materials, and meeting notes are provided in **Attachment 3**. Fifteen people attended the meeting, including officials from

the Army, Marina Coast Water District, City of Monterey, and the Monterey Regional Water Pollution Control Agency. The Greater Monterey County region RWMG was represented by Bridget Hoover (Monterey Bay National Marine Sanctuary) and Susan Robinson (Coordinator for Greater Monterey County). Both IRWM regions investigated any environmental justice concerns associated with the reuse of Fort Ord including noting that several areas of Fort Ord have unexploded ordnance, pre-World War II lead paint contamination, and groundwater plumes of toxic substances. However, the primary focus was on improving water supply infrastructure and augmentation of the water supply to meet anticipated Ord Community requirements.

- The issues, objectives, priorities, and projects for the Ord Community, which lies astride the common regional boundary, were identified during the meeting through the use of a draft matrix shown in **Attachment 3**, Comparison of Objectives. In addition, the meeting participants identified additional issues, constraints, and objectives for the Ord Community as described in the Summary meeting notes from the meeting that are included in **Attachment 4**.
- Certain project components described above can most appropriately fit within one region or the other; however, several have a place in both IRWM plans. Using the respective ranking system and prioritization process from each region, these components will be prioritized within the respective region.
- This project report will be presented to each of the Monterey Peninsula IRWM RWMG members prior to and as part of public hearing for plan adoption of the plan by the MPWMD Board. The draft project report will also be provided to Greater Monterey County RWMG and they will be asked to update their plan to include the results of this project.
- Each IRWM Plan will be updated to include the results of this inter-regional coordination effort, including a summary within relevant sections of the plan and attaching this report to the plan, if appropriate.
- A total of four meetings were held with representatives of the Ord Community (including one Ord-specific inter-regional meeting and three MP IRWM stakeholder meetings that included numerous representatives of the Ord Community as documented in **Attachment 5**).

Conclusions and Recommendations

The Monterey Peninsula Groundwater Replenishment Project, the Ord Community Water Supply solution (i.e., RUWAP or another solution), and the Reclamation Basin Study hold the most promise for a truly integrated water management effort with multiple benefits that would involve inter-regional cooperation between the Monterey Peninsula and the Greater Monterey County region. In the case of the Basin Study, the inter-regional coordination would extend to the San Luis Obispo IRWM Region. Other projects can provide a significant opportunity for stakeholders in both IRWM planning regions to collaborate and coordinate on water management projects with potential long-term benefits for both regions.

References

City of Salinas, *Industrial Wastewater Treatment Facility, 2013 Annual Report, WDR NO. R3 2003 0008, WDID NO. 3 27011003*, January 30, 2014

MCWRA, *Coastal Salinas Valley Seawater Intrusion Program and Update*, February 2013.

RWQCB, *Notice of Opportunity to Comment on the Proposed Approval of an Amendment to the Water Quality Control Plan for the Central Coastal Basin to Establish Total Maximum Daily Loads in the Lower Salinas River and Reclamation Canal Basin, and the Moro Cojo Slough Subwatershed for Nitrogen Compounds and Orthophosphate*, September 3, 2013

SWRCB, *California Ocean Plan 2012 found in Section 13000 of Division 7 of the California Water Code [Stats. 1969, Chap. 482] pursuant to the authority contained in Section 13170 and 13170.2 [Stats. 1971, Chap. 1288] Effective August 19, 2013* (at http://www.swrcb.ca.gov/water_issues/programs/ocean/, accessed April 12, 2014)

SWRCB, *Recycled Water Policy*, adopted May 2009 and amended April 2013. (at http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/, accessed April 11, 2014).

U.S. Bureau of Reclamation website, *Basin Study Grant Application website*, at <http://www.usbr.gov/WaterSMART/bsp/>, accessed on April 10, 2014.

Yates, Eugene B., Feeney, Martin, and Rosenberg, Lewis I., *Laguna Seca Subarea Phase III Hydrogeologic Update*, Prepared for the Monterey Peninsula Water Management District by, November 2002.

Yates, Eugene B., Feeney, Martin, and Rosenberg, Lewis I., *Seaside Groundwater Basin: Update on Water Resource Conditions*, prepared for the Monterey Peninsula Water Management District, April 14, 2005.