

**Greater Monterey County Integrated Regional Water Management Plan  
Regional Water Management Group Meeting  
July 17, 2013  
1:30 - 3:30 PM  
Monterey County Water Resources Agency, Salinas, CA**

**RWMG Representatives:**

Rob Johnson – Monterey County Water Resources Agency  
Elizabeth Krafft – Monterey County Water Resources Agency  
Mike Jones – California Water Services Company  
Michael Ricker – City of Salinas  
Ken Ekelund – Garrapata Creek Watershed Council  
Monique Fountain – Elkhorn Slough National Estuarine Research Reserve  
Karen McBride – Rural Community Assistance Corporation  
Christina McGinnis – Monterey County Agricultural Commissioner’s Office  
Brian True – Marina Coast Water District  
Horacio Amezcuita – San Jerardo Cooperative, Inc.  
Bridget Hoover – Monterey Bay National Marine Sanctuary  
Rachel Saunders – Big Sur Land Trust  
Sierra Ryan – Central Coast Wetlands Group  
Julianne Rhodes – California State University Monterey Bay

**Non-RWMG Attendees:**

Susan Robinson – IRWM Plan Coordinator  
Dave Stoldt – Monterey Peninsula Water Management District  
Patrick Dobbins – Harris & Associates  
Kelly Leo – The Nature Conservancy  
Pam Krone Davis – Monterey Bay National Marine Sanctuary  
Rachel Housego – Monterey Bay National Marine Sanctuary intern

**Meeting Minutes:**

**1. Brief Introductions.**

**2. Water Supply in Monterey County:** Susan welcomed everyone by explaining that this meeting would be focused entirely on water supply in Monterey County. She noted that there is an awful lot of discussion about water supply in Monterey County, not all of it necessarily based on fact. The purpose of this meeting was for the Regional Water Management Group to learn some facts about water supply from three water supply experts in the county, and to set the foundation for later discussion on how local water resource managers might better integrate water supply with other aspects of water resource management, including water quality, flood management, and environmental restoration/protection. Michael Ricker then introduced the first water supply expert, David Stoldt, General Manager of the Monterey Peninsula Water Management District. [Note: The meeting notes for Dave Stoldt’s and Rob Johnson’s presentations have been taken almost entirely from their presentation slides.]

**Presentation 1: David Stoldt, General Manager, Monterey Peninsula Water Management District:** Dave began by giving an historical overview of the Monterey Peninsula water supply. In 1883 the Pacific Improvement Company (led by Charles Crocker) built the original Carmel River Dam in order to supply the recently constructed Del Monte Hotel. The dam, built by 700 Chinese laborers, included 25 miles of pipeline. Years later, the City of Monterey became a purchaser of water supplied by the dam. In 1915 SFB Morse was hired to manage Crocker’s holdings. He formed the Del Monte Property Corp in 1919 and acquired all of the assets. In 1921 they built the San Clemente Dam to supply water for Pebble Beach. San Clemente Dam is now slated for removal

(construction cost in 1921 was \$2 million; removal cost is expected to be \$83 million). The

California Water & Telephone Company acquired the Del Monte Properties water system in 1935, and in 1948 constructed the Los Padres Dam. In 1958 the Monterey Peninsula Municipal Water District was formed by voters by a 2 to 1 margin. The District attempted to purchase two private Peninsula water companies for \$17.5 million in 1965 but failed. The District disbanded shortly thereafter. In 1966, American Water Works (Cal-Am) bought one of the same two companies, and eventually the other. In 1975-76 a severe drought occurred; the Monterey Peninsula Water Management Agency was formed as a JPA to administer water rationing. In 1976 it called for a Peninsula-wide district with greater powers to resolve the area's water issues. In 1977 the State Legislature created the Monterey Peninsula Water Management District to "manage, augment, and protect water resources for the benefit of the community and the environment."

Dave then turned to the question: "What is the problem?" He explained that water for the Monterey Peninsula comes from two sources: the Carmel River and the Seaside Groundwater Basin. There are physical limitations, however, to this water supply including:

- Extreme annual and seasonal variability of streamflow in the Carmel River
- Inadequate surface water and groundwater storage capacity in Carmel River Basin
- Infrequent, but certain drought events, i.e., consecutive dry or critically-dry years
- Threat of seawater intrusion in Carmel River and Seaside Groundwater Basins

By the mid-1980s the District began looking at new water supply options. It was determined at that time that the Carmel River aquifer was not a stand-alone aquifer but essentially the river running underground. Dave presented a timeline, highlighting some legal limitations to water supply solutions:

- Mid-1980s: Lower 6.5 miles of Carmel River would go dry 5-6 months a year
- 1995: State determined that Cal-Am had been over-drafting the river and its actual right was roughly 30% of its then current draw; Order 95-10 required reductions by Cal-Am and suggested additional pumping from Seaside Basin.
- 1998: Steelhead was listed as threatened species under ESA
- 2003: Seaside Basin Adjudication mandated forced reductions of groundwater pumped from the basin
- 2009: State Cease and Desist Order (CDO) mandated forced reductions of Carmel River diversions

Dave noted that customer demand for water exceeds available "legal" supplies. A new supply is needed just to keep up with existing demand – without consideration to future needs for lots of record or new construction. Currently there is a moratorium for any new connections. However, he says they think they're beginning to see less water use, which may be an effect of the tiered conservation phase rate structure or simply a habit from using less water during the drought years. Possible outcomes if a new water supply is not implemented by 2017 include:

- Imposition of administrative civil liability under Water Code Sec.1055
- Referral to Attorney General under Water Code Sec. 1845 for injunctive relief and/or civil liability
- Retroactively include all Cal Am violations of Water Code section 1052 since Order 95-10 adopted
- Enforced mandatory conservation, with its effects on Peninsula health and welfare

Dave presented an historical timeline of plans for solutions to the water supply problem:

- Plan A (1981): Army Corp plan for 154,000 AF via New San Clemente Dam
- Plan B (1986): MPWMD plan for 29,900 AF via New San Clemente Dam

- Plan C (1992): MPWMD plan for 24,000 AF via New Los Padres Dam
- Plan D (1993): MPWMD plan for 3,400 AF desal plant in Sand City, and New Los Padres Dam (1993 vote for desal fails; 1995 vote for dam fails)
- Plan E (1997): Cal-Am plan for New Carmel River Dam (this plan was abolished due to steelhead concerns and CPUC)
- Plan F (2004): Cal-Am plan for Coastal Water Project desal plant in Moss Landing
- Plan G (2010): Cal-Am /County/Marina Coast plan for desal plant in North Marina

What actually got done was the following:

- 1980s: Peralta Well Expansion (900 AF)
- 1992: Pebble Beach Reclamation Project (530 AF)
- 2000s: Aquifer Storage and Recovery (1,000 AF and growing)

Dave presented “Plan H”: Demand is calculated at a total of 15,296 AF, which includes 5-year customer demand (13,290 AF), 500 AF for economic recovery, 325 AF for Pebble Beach buildout, and 1,181 AF for legal lots of record. The plan for supply, then, is:

3,376 AF legally from Carmel River (2017)  
 1,474 AF legally from Seaside Basin (2021)  
 (700) AF Cal-Am intends to leave in the Seaside Basin for recharge for 25 years  
 94 AF available from Sand City long term  
 1,300 AF assumed available from Aquifer Storage and Recovery  
 3,500 AF assumed from Groundwater Replenishment (GWR)  
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 9,044 AF total from above  
 6,252 AF from small desal  
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 15,296 AF total supply

The Groundwater Replenishment portion of this plan would produce 3,500 AF of water and would be complete by 2016. Groundwater Replenishment would involve advanced treatment of wastewater and injection of the treated wastewater into the soil and groundwater table. This would result in safe, clean water for use six months later. There would be a public component, and initial funding from water supply charge. A three-party MOU exists between:

- Monterey Regional Water Pollution Control Agency (MRWPCA) will own and operate
- MPWMD will finance and purchase recycled water
- Cal-Am will purchase potable water from MPWMD

The Aquifer Storage and Recovery portion of this plan involves moving excess winter flows from the Carmel River or surplus desalination production to the groundwater basin until high demand in summer. ASR would produce 1,300 AF of water (with an eventual ASR capacity of 3,000+ AF), and would be complete by 2016. There would be both public and private components. Cal Water would work jointly with Cal-Am on this project, and the project would involve additional MPWMD capital costs over the next 2-3 years.

Dave said that Cal Water is generally supportive of desal options, either a large desal plant owned by Cal-Am or a smaller plant. The desal option he discussed would be owned and operated by Cal-Am, would produce 6,252 AF

of water (goes to 9,752 AF if GWR cannot be built), and would include slant well construction with below-ground intake. The anticipated cost for a facility that would produce 6,252 AF would be \$223.5 million, and \$277 million for the 9,752 AF facility, plus \$107 million for transmission, distribution, and storage. Dave briefly discussed the various parties involved in CPUC A.12-04-019 (the CPUC, four environmental groups, three ag groups, five public agencies, six citizen groups, a business coalition, and Cal-Am). Key legal issues include claims over water rights with respect to the Salinas Valley Groundwater Basin and recycled water, in both cases as it affects the growers.

**Presentation 2: Rob Johnson, Assistant General Manager, Monterey County Water Resources Agency:** Rob began his presentation with some background information, including a brief clarification of water-related terms, a review of the water cycle, and a diagram depicting relative amounts of groundwater withdrawal by state (across the U.S.). He noted that solving water supply issues requires asking, “where does our water come from?” and “what can we do with what we have?” In Monterey County, water resource managers assumed there was enough water and so made the decision to not import water from outside the region (i.e., from existing State or Federal water projects).

Rob showed a map depicting the Salinas River watershed in relation to Monterey County boundaries, highlighting Monterey County’s \$8 billion agriculture and \$2 billion tourism economies. He also showed a rainfall map: the Salinas Valley floor receives less than 11” of rain on average per year. He described the average annual outflow of each of the region’s major rivers (e.g., the Salinas River’s average annual outflow is 263,000 AF).

Rob then went on to discuss water usage in the county. Water usage is shown in MCWRA’s annual Groundwater Extraction reports, though he noted that not all groundwater use is reported, only Salinas Valley groundwater users with wells that have discharge lines greater than 3” (Susan’s note: in 2010, for example, about 97% of wells in the Salinas Valley were reporting). He described a break-down in use of current “developed water” in Monterey County and he projected a change in future “developed water” to consist of the following: a relatively larger amount of water conserved, less water use coming from groundwater sources (which is currently at about 95%), and more water use coming from a combination of surface water, recycled water, and desalination (which is currently at about 5%), with the amount of reservoir releases staying about the same. Rob described the four major hydrologic subareas that comprise the Salinas Valley Groundwater Basin (Pressure, East Side, Forebay, and Upper Valley), explaining that they are all hydrologically connected. Groundwater is the primary source of water supply and storage for the County. Agriculture currently uses 510,000 AF of water while urban uses account for 90,000 AF. Geographically, the Salinas Valley uses 550,000 AF, North County 31,000 AF, and the Monterey Peninsula 15,000 AF. Rob noted how irrigation methods have changed since the 1980s, with sprinkler and furrow methods declining as drip irrigation is steadily increasing in use.

The two major water supply issues in Monterey County are seawater intrusion and nitrates. MCWRA has been most concerned with seawater intrusion. Rob demonstrated the nature of the problem with a diagram depicting a cross-section of the 180-Foot, 400-Foot, and Deep Aquifers from the ocean to Gonzales, showing seawater intruding in the 180-Foot and 400-Foot Aquifers. He also showed a map illustrating the historic progression of seawater intrusion through 2011. Ken asked whether the water in the Deep Aquifer is “fossil water”: do we understand how long that water has been in the ground? Rob said the first well dug into the Deep Aquifer was in 1972 – and the water shot 30 feet into the air! He said the Marina Coast Water District has some water data on the Deep Aquifer.

MCWRA’s strategy for addressing the problem of seawater intrusion has consisted of: developing a new water source, moving water north to reduce the need for coastal pumping, and stopping water pumping along the coast. Thus far the Agency has implemented the following:

- Nacimiento Reservoir (completed in 1957 with a lake capacity of 377,900 AF) and San Antonio Reservoir (completed in 1967 with a lake capacity of 335,000 AF)

- Monterey County Water Recycling Projects, including the Salinas Valley Reclamation Project and the Castroville Seawater Intrusion Project
- Salinas Valley Water Project, which included the Nacimiento Spillway Modification (which uses an inflatable dam to capture and store water during the winter) and the Salinas River Diversion Facility (which diverts water to the Monterey County Water Recycling Project, while allowing for fish passage). The Salinas Valley Water Project was completed in 2010. Rob noted that after this project was approved by voters, it still took seven years for the project to get constructed. Rob made the point that the voters approved the project at a certain cost, but no one really knew everything that was entailed. Ken added that it took four years just to negotiate with NOAA Fisheries about fish passage. He emphasized that with projects like this, “you need to know what to expect from regulators.”

For “lessons learned,” Rob concluded that water supply solutions *take time to implement and come from working together* (not from lawsuits!): “Collaboration is better than litigation.”

**Presentation 3: Mike Jones, Salinas District Manager, California Water Services Company:** Mike began by encouraging everyone to go to Cal Water’s website (calwater.com) and to download the Urban Water Management Plan for the Salinas District. The Salinas District serves the City of Salinas and the communities of Salinas Hills, Las Lomas, Bolsa Knolls, Oak Hills, and Country Meadows. He explained that Cal Water is a major private water utility – they are for profit, a public utility privately owned (same as Cal-Am) – though he adds that the company is very conscientious about rates. Bridget asked if Cal Water was regulated by the CPUC, and Mike said yes, they were. Cal Water uses groundwater entirely for its water supply, and draws from the Pressure and East Side sub-aquifers of the Salinas Valley Groundwater Basin; their new wells are focused in the Pressure zone. They have 316 miles of pipeline.

Their major water concern is not water supply but water quality, in particular, nitrate contamination. He referred to the recent UC Davis report on nitrates, and noted that the problem is bad and getting worse. In Salinas, 14 wells are impacted by nitrates. Cal Water has six ion exchange treatment plants. Cal Water acquired the water systems in Oak Knolls in 1988, and that is the area most heavily impacted by nitrates. All of their wells near the Rec Ditch also have nitrate problems. They see increasing conductivity in their most westerly wells. Their new wells are focused more along the Salinas River area. He noted that there is no legal limit on how much water they are allowed to pump.

Cal Water has done a lot of planning over the years. In 1995 they produced a long-term supply study for Salinas water. In 2006 they produced a study to determine the most economical way to keep the infrastructure solid, whether that involve new wells, desalination, or other methods. At this point they are essentially looking for new well locations. They are looking at new technology on ion exchange treatment, focusing specifically on a pilot project in Israel (selective electro-dialysis). Cal Water is currently producing 2500 gallons/minutes, 24 hours a day.

Mike said Cal Water is pulling out of the Deep Aquifer. The 180-Foot Aquifer is totally saturated with nitrates in their areas of service, so they are now drawing from 1,000’. They have discovered, however, that if they pull from deeper than that they run into problems with arsenic (which is naturally occurring in the deep areas). They will be drilling new wells at the Ag Industrial Center (off of Abbott Street).

Mike noted that Las Lomas’s water is highly affected by chromium 6. Depending on what MCL the Department of Public Health decides on, they will know what kind of treatment will be needed. He also noted that since Taylor Farms opened up their new facility in 2006 they are seeing a big increase in water usage. He said that Cal Water monitors everything remotely (“we can control the Salinas water system from an iPad!”).

Rachel asked what typical household water usage was. Mike answered that based on an assumed average of 3.3 people/household, typical usage is 110 gal/day per person.

Mike noted that the MCWRA has done a lot to mitigate seawater intrusion, but it is still a problem. (Rob said that the seawater intrusion rate is slowing, but is still progressing.) Mike said that they are trying to stop pumping in the north, but they need to have the *transmission capacity* to move the water up there. He said that in the Deep Aquifer (1000') they are detecting 2-4 ppm (a low level) of nitrates.

Unfortunately there was no time for questions, as many of the attendees had to leave the meeting 15 minutes early. Susan said she hopes to resume this conversation at the next RWMG meeting, and thanked the presenters for presenting.

**Next month's RWMG meeting is scheduled for September 18<sup>th</sup> from 1:30 – 3:30 PM, location TBD.**