



3 MANAGEMENT PLAN RECOMMENDATIONS AND GOALS

The 2016 Annual Report contained twelve recommendations and future activities for year 2017 in the West San Jacinto Groundwater Management Area (Management Area). Those recommendations and activities, the status of efforts with regard to each, and the proposed goals for 2018 are outlined below.

3.1 Continue the Groundwater Quality and Groundwater Level Monitoring Programs

During 2017, 89 wells were sampled in the Management Area to assess groundwater quality. Groundwater levels were measured twice annually, spring and fall, to provide a time-series dataset of groundwater elevations, hydrologic conditions, and direction of groundwater flow. EMWD field personnel monitored spring and fall groundwater levels in 151 and 148 wells, respectively in 2017. An additional 257 wells were reported by March Air Reserve Base (MARB). These data were compiled and entered into the Regional Water Resources Database (RWRD) and subsequently utilized in the 2017 analysis and calculations.

This recommendation will remain in effect for 2018. Available wells are to be sampled and measured for groundwater levels to provide a comprehensive dataset of groundwater elevations, direction of flow and groundwater quality. In accordance with the monitoring programs, well owners will be provided copies of groundwater quality analyses and groundwater level measurements on an annual basis.

3.2 Continue the Groundwater Extraction Monitoring Program

A total of 56 major extraction wells in the Management Area were considered under the 2017 extraction analyses. This total is believed to represent all significant extraction wells in the Management Area. Groundwater extractions were metered in 42 wells, while extractions from 14 wells were estimated by EMWD staff. Where required, estimates for extraction wells are based on a property's acreage, crops, and/or number of livestock present. Additionally, review of the Annual Notices of Recordation of Groundwater Extraction filed with EMWD, and reported to the State Division of Water Rights, provides data to identify variances between estimates and recordations of metered wells.

Groundwater extraction monitoring will continue in 2018. It is believed that all significant groundwater extraction wells within the Management Area continue to be accounted for, and the resulting extraction figures should be the most comprehensive figures available. However, groundwater extractions for well owners not participating in the program are estimated, and estimation methods must be continually refined.

3.3 Continue the Inactive Well Capping/Sealing Program

Under the Inactive Well Capping/Sealing Program, inactive wells and open casings are capped and/or sealed by field staff at no expense to the well owner. The wells, when possible, may be subsequently used as monitoring wells for water level and/or water quality. During the seventeen (17) years the program has been in existence, sixty-four (64) wells in the Management Area have been capped/sealed. During 2017, one (1) well located in the Lakeview Management Zone was capped/sealed under this program.

EMWD will continue the Inactive Well Capping/Sealing Program to protect groundwater supplies from surface contamination as inactive wells represent a potential direct pathway to groundwater. Open casings are particularly vulnerable to the dumping of oil and waste products in addition to surface flows containing pollutants. Larger casings also pose a hazard that can trap animals and small children, especially once the well head becomes overgrown.

In cases where wells will not be capped or sealed, EMWD continues to coordinate with developers and the County of Riverside to identify and locate wells for proper abandonment and destruction within EMWD's service area.

3.4 Continue Providing Annual Reports to Well Owners Participating in the Groundwater Monitoring Programs

Annual Well Owners' Reports were provided to well owners participating in the Groundwater Monitoring Programs. Participants were assisted with the filing of their Annual Notices of Recordation of Groundwater Extraction with EMWD, and subsequent reporting to the State Division of Water Rights. First Notice forms were provided to owners of new wells or wells never recorded.

In May 2017, well owners participating in the monitoring programs were provided with copies of 2016 water quality analyses, water level measurements, and annual groundwater extraction amounts for each well they own in the Management Area.

These activities are scheduled to continue in 2018.

3.5 Continue Quarterly Reports to the Advisory Committee

Reports documenting activities within the Management Area are sent to the Advisory Committee on a regular basis in-lieu of holding more frequent informational meetings. At the November 23, 2010 meeting, the Committee agreed that status reports to the Advisory Committee will continue, but the frequency will change from monthly to quarterly. The Quarterly Reports for 2017 may be found in Chapter 8, Section 8-1.

EMWD will continue quarterly reporting in 2018.

3.6 Continue to Pursue Potential State or Federal Funding Sources for the Benefit of the Management Area

Whenever possible, EMWD pursues potential State and Federal funding sources for construction project subsidies, studies, or groundwater management. This will be an ongoing practice that continues in 2018.

In 2017, EMWD applied for a number of grant opportunities such as federal funds through the U. S. Bureau of Reclamation and the Army Corps of Engineers, Proposition 84 funding from California Department of Water Resources, and the State Water Regional Control Board.

3.7 Continue EMWD's Groundwater Salinity Management Program

As part of its effort to manage the salinity in the Management Area, EMWD supported the following projects in 2017:

3.7.a Perris Basin Desalination Program

During 2017, the Menifee and Perris I Desalters produced 2,393 AF and 4,013 AF of potable water for the Management Area, respectively, for a total of 6,406 AF. The completion of the iron and manganese removal facilities has allowed a number of inactive desalter wells to re-enter active service.

The Menifee and Perris I Desalters will remain in operation in 2018.

3.7.b Perris II Desalter

EMWD is preparing to construct a third brackish groundwater desalination facility in the Management Area. The initial project design was completed in 2009 and updated in 2011.

To supply the new desalter, EMWD has purchased property for the purpose of installing four new production wells. During 2016, equipping of Well 93 (Nuevo/Menifee) was completed and put into operation. Wells 95 (13th/Reservoir) and 96 (Santa Rosa) were drilled, tested and equipped in 2017 with anticipated groundwater production in 2018. Drilling and testing of Well 94 (12th/Reservoir) is scheduled for 2018 with equipping scheduled for 2019.

3.7.c Iron and Manganese Removal Facilities

EMWD was awarded grant funding from the California Department of Public Health in the amount of \$10 M for the construction of an iron and manganese removal facility. Construction was completed in 2013 and the facility began operation in 2014, which has allowed a number of inactive desalter wells to re-enter active service.

3.7.d Desalination Recovery Enhancement and Brine Concentrate Management

EMWD aims to increase the recovery of potable water for the Groundwater Salinity Management Program and is pilot-testing new technologies to further concentrate the brine from the desalters.

Additional details on these projects may be found in Chapter 4, Section 4.7.

3.8 Continue Operation of the North San Jacinto Water Supply Initiative

EMWD initiated the North San Jacinto Water Supply Initiative in cooperation with local dairy farmers to reduce groundwater production by providing raw water via a pipeline completed in 2008.

During 2017, EMWD served 282 AF of raw water to the dairies, 77 AF of which was delivered within the Management Area. EMWD will continue to serve raw water to the dairies in 2018.

Further information on the North San Jacinto Water Supply Initiative can be found in Chapter 4, Section 4.6.a.

3.9 Support EMWD's Participation in Regional Activities

3.9.a Basin Monitoring Task Force

As an outgrowth of the TIN/TDS Task Force, the agencies responsible for implementing the Basin Plan Amendments formed The Basin Monitoring Task Force. The Santa Ana Watershed Project Authority (SAWPA) was identified to administer/facilitate the Task Force. EMWD participates on the Task Force and attended meetings during 2017.

As part of the agreement to adopt the 2004 Basin Plan Amendment (Resolution No. R8-2004-0001), affected parties are required to complete a recomputation of ambient water quality for all groundwater management zones within the Santa Ana River Watershed once every three years. The latest was completed in 2017, the report is entitled "*Recomputation of the Ambient Water Quality in the Santa Ana Watershed for the Period of 1996 to 2015*." The primary objective of this project is to compute current-ambient groundwater quality for TDS and nitrate-nitrogen in all 40 groundwater management zones in the Santa Ana River watershed. The Task Force also updated the Waste Load Allocation model for the Santa Ana River Watershed and projected allocations for the next 20 years. An addendum to the 2008 Santa Ana River Wasteload Allocation Model Report was completed in 2015.

3.9.b Total Maximum Daily Loading Task Force

Lake Elsinore and Canyon Lake were identified in 1994, 1998, and 2002 by the California Regional Water Quality Control Board, Santa Ana Region (Regional Board) on the Clean Water Act (CWA) Section 303(d) list of impaired waters for nutrients. In 2000, the Regional Board initiated the process to develop Total Maximum Daily Loads (TMDL) for nutrients for both Lake Elsinore and Canyon Lake (LECL), as required by the federal Clean Water Act and California's Nonpoint Source Pollution Control Plan. This process included the formation of the LECL TMDL Task Force. EMWD participates in the LECL TMDL Task Force, which is comprised of local stakeholders, such as representatives from local cities, Riverside County, agricultural and dairy interests, environmental groups, as well as the regulatory community, interested in water quality issues within the San Jacinto Watershed.

In 2016, a Comprehensive Monitoring Work Plan was issued to include a focused reassessment of current conditions and establish an updated monitoring framework to better assess water quality trends towards meeting the existing TMDL numeric targets. During

2017, the Task Force continued to make progress on the task elements required by the Nutrient TMDL for LECL. The group continued with the monitoring program in the lakes and conducted studies of the in-lake processes, watershed, and conducted compliance monitoring. Nutrient reduction actions were taken to include lake stabilization efforts, fish management strategies, and the addition of alum to bind nutrients in Canyon Lake. Efforts have been initiated to evaluate the current status and historic trends leading towards achievement of nutrient TMDL targets in the lakes, determine the degree of influence of natural background sources, and distinguish and quantify external pollutant loading from upstream watersheds including agricultural, urban, and open space sources.

3.9.c Western Riverside County Agricultural Coalition

The Western Riverside County Agricultural Coalition (WRCAC) is a 501(c) 3 non-profit organization comprised of dairy and agricultural operators interested in environmental issues affecting the agricultural community in the San Jacinto Watershed. WRCAC is currently the representative for agricultural and dairy interests on the Lake Elsinore and Canyon Lake Total Maximum Daily Loading (LECL TMDL) Task Force and has participated in this capacity since 2005.

WRCAC has recently completed an additional Total Maximum Daily Load (TMDL) cycle for both dairy operators and agricultural operators; continues work on a USDA Conservation Innovation grant; and is actively participating in the revision to the TMDL process for dairy and agricultural operators on the Lake Elsinore/Canyon Lake TMDL Task Force.

Areas of emphasis for 2017 include, but are not limited to, the following:

- Continued work on the Conservation Innovation Grant (CIG) titled: “Developing a Piloting a Water Quality Trading (WQT) Program for Agricultural Operators in the San Jacinto Watershed.” Included in this grant is the development of Water Quality Index Tools for nutrients and groundwater, a soil health survey, and trading scenarios. A one year extension will be requested to complete the project due to CWAD delays and required schedule changes. Finalization of the CIG is expected in 2018.
- Continued assistance to all dairy and stakeholders
- Continued implementation of the Salt Creek Nutrient Assessment Source Sampling as weather allows
- Completed 2014 AIS Land-use mapping. This data was used on the 2016 Ag operator TMDL cycle.
- A new 2016 AIS ag only land-use dataset is underway and expected completion in early 2018.
- TMDL ag specific work with K&A identifying ag nutrient targets.
- Continuing the partnership on implementation projects with the TMDL Task Force such as alum treatment in Canyon Lake
- We anticipate participation in the upcoming dairy CAFO renewal process in 2018.
- Revisions and implementation of the AgNMP once the CWAD has been developed and the TMDL revisions are complete.

- New edition of the Agrarian should be available by fall of 2018.
- The new dairy operator cycle will begin in late 2017. This is now done annually for dairies.
- A new TMDL cycle is expected in 2018 after new land-use data becomes available.

3.9.d San Jacinto River Watershed Council

The San Jacinto River Watershed Council has been closed permanently.

3.9.e March Air Reserve Base Groundwater Modeling Effort

March Air Reserve Base (MARB) hired a consulting firm to develop a groundwater numerical model for MARB and adjacent areas. During 2017, EMWD and MARB continued to voluntarily participate in a data exchange program to fully support the goals of each agency. Data exchange will continue in 2018.

3.10 Continue the Implementation of EMWD's Key Well Program

EMWD initiated the implementation of a Key Well Program to increase the precision and efficiency of the groundwater monitoring effort. Areas of Key Well deficiencies were identified and efforts to locate parcels for new monitoring wells in these areas continued. In addition, potential sources of funding for the installation of automated data-logging transducers in existing Key Monitoring Wells are being identified.

It is anticipated that during 2018, the newly calibrated San Jacinto Watershed Groundwater Model will be utilized to confirm and/or identify areas of Key Well deficiencies.

3.11 Utilization of the San Jacinto Watershed Groundwater Model

EMWD completed efforts to update the existing San Jacinto Watershed Groundwater Model. Significant revisions were made to the geometry of the conceptual model. Calibration of the model by a consultant was completed in 2015. During 2017, predictive scenarios were developed for the March Air Reserve Base Groundwater Recovery Program. The groundwater model was also used by the Department of Water Resources to simulate underflow below the Perris Dam.

3.12 Reconfiguration of West San Jacinto Advisory Committee to the Executive Advisory Committee

In 2017, EMWD became the GSA for the western portion of the San Jacinto Groundwater Basin. The area encompasses the cities of Moreno Valley, Perris and Menifee, and the surrounding unincorporated communities. The West San Jacinto Groundwater Sustainability Agency replaces the AB3030 groundwater management plan. Therefore, the West San Jacinto Advisory Committee was reconfigured to form an Executive Advisory Committee consisting of members of the West San Jacinto Advisory Committee as well as additional Basin Stakeholders. A kick-off meeting is planned for Fall 2018.