1 EXECUTIVE SUMMARY

The West San Jacinto Groundwater Management Area 2019 Annual Report (Annual Report) was prepared by Eastern Municipal Water District (EMWD) in accordance with the West San Jacinto Groundwater Basin Groundwater Management Plan (EMWD, 1995 [Management Plan]). The reporting period extends from January 1, 2019 through December 31, 2019.

The West San Jacinto Groundwater Management Area (Management Area) is located in the western portion of Riverside County within the San Jacinto River Watershed and includes the cities of Moreno Valley, Menifee, and Perris, as well as the unincorporated areas of Lakeview, Nuevo, and Winchester, as presented in Chapter 7, Figure 7-1. The Management Area covers approximately 256-square miles (over 164,200 acres) and has been divided into six (6) groundwater management zones as shown in Chapter 7, Figure 7-2, encompassing water bearing sediments (aquifer materials) as well as essentially non-water bearing areas such as the Lakeview Mountains, the Bernasconi Hills and Mount Russell Range around Lake Perris, the Double Butte area near Winchester, and areas in the extreme northern and western portions of the EMWD.

1.1 Monitoring Programs Summary

EMWD oversees the Monitoring Programs within the Management Area including: groundwater quality, groundwater level, groundwater extraction, and inactive well capping and sealing programs. Other groundwater related data is also collected in support of these programs including: recycled water use, imported water use, precipitation, and additional activities affecting the entire Management Area and/or specific groundwater management zones. Participation in the Groundwater Monitoring Programs is voluntary for well owners. Detailed information about the Monitoring Programs can be found in Chapter 4.

During the 2019 Groundwater Quality Monitoring Program, water quality samples were collected from a total of 98 wells in the Management Area. Ninety-five (95) samples were analyzed for total dissolved solids (TDS). Forty-one (41) of the ninety-five (95) samples analyzed for TDS reported values below the secondary maximum contaminant level (MCL) of 1,000 milligrams per liter (mg/L). Ninety-seven (97) samples were analyzed for nitrate as nitrogen (NO_3-N). Eighty-one (81) of the ninety-seven (97) samples analyzed for nitrate as nitrogen (NO_3-N) reported values below the primary MCL of 10 mg/L for NO_3-N. The highest TDS concentration in the Management Area was 28,000 mg/L reported for well EMWD-B1, located in the Perris South groundwater management zone and the lowest was 288 mg/L reported for well NWC 12, located in the Lakeview groundwater management zone. The highest NO_3-N concentration measured in the Management Area was 40 mg/L reported for

well EMWD Perris/Iris, located in the Perris North groundwater management zone and the lowest sample concentrations were “non-detects” for wells located in the Lakeview portion of the Lakeview/Hemet North, Perris South, and San Jacinto Lower Pressure groundwater management zones.

The Groundwater Level Monitoring Program includes collecting groundwater levels in the Spring and Fall of each year. During Spring 2019, EMWD measured static depth-to-water in 136 wells in the Management Area. During the 2018-2019 calendar years, 128 wells were measured for static depth-to-water in the Spring. Nineteen (19) of the 128 wells measured during both Spring 2018 and Spring 2019showed a depth-to-water increase of more than five (5) feet (ft) from the previous year (Spring 2018). Nine (9) of the 128 wells measured during both Spring 2018 and Spring 2019 showed a depth-to-water decrease of more than 5 ft from the previous year (Spring 2018). During that same time period, an additional 361 depth to water readings from March Air Reserve Base (MARB) were reported to EMWD, providing a combined total of 497 wells for analysis in the Management Area. During fall 2019, EMWD measured static depth-to-water in 128 wells in the Management Area. During the 2018-2019 calendar years, 124 sets of wells were measured for static depth-to-water in the Fall. Thirty-four (34) of the 124 sets of wells measured during Fall 2019, showed a depth-to-water increase of more than five (5) feet (ft) from the previous year (Fall 2018). One (1) of the 128 sets of wells measured during Fall 2019 showed a depth-to-water decrease of more than 5 ft from the previous year (Fall 2018). We have not received Fall 2019 data from MARB as of the date of this report. Generally, directions of groundwater flow are similar to those of previous years.

Groundwater extraction in the Management Area totaled 19,726 acre feet (AF) in 2019. A total of 58 wells were monitored as part of the Groundwater Extraction Monitoring Program in 2019. Of the 58 wells, 44 (76%) were metered and 14 (24%) were estimated by EMWD. Of the 19,726 AF of groundwater extraction, 14,198 AF (72%) are metered and 5,528 AF (28%) were estimated by EMWD.

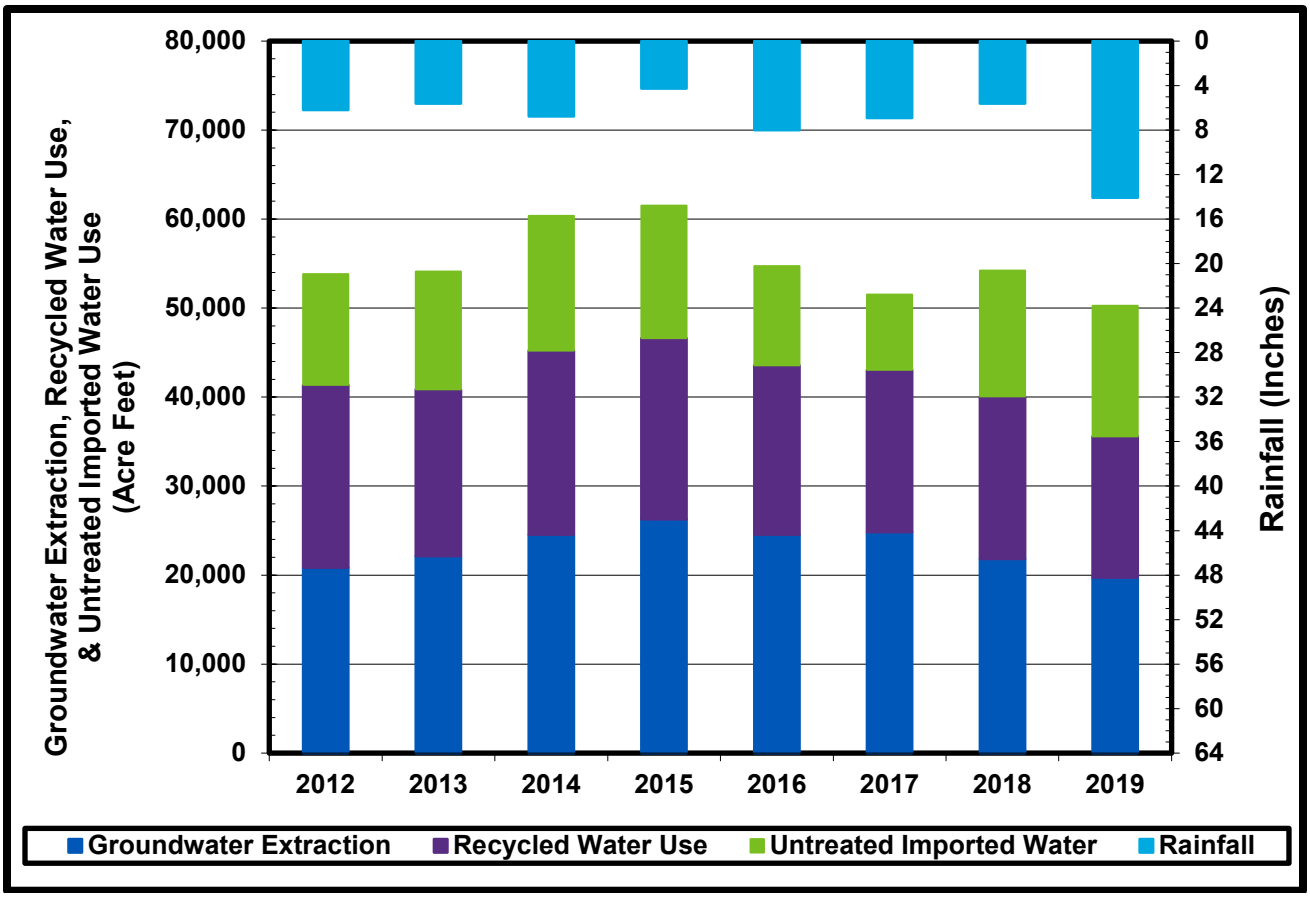
In 2019, recycled water usage accounted for 15,893 AF of demand in the Management Area. Fifty-two percent (52%) of the recycled water sold in the Management Area was used for agricultural irrigation, twenty-eight percent (28%) was utilized for municipal and industrial usage, and the remaining twenty percent (20%) was used for irrigated landscaping, golf courses, construction, and habitat creation.

In 2019, imported raw water usage accounted for 14,647 AF of demand in the Management Area. Of the total imported untreated water, approximately 14,530 AF was imported State Water Project (SWP) water and approximately 117 AF originated from the Colorado River Aqueduct for use within the Management Area.

The Riverside County Flood Control and Water Conservation District maintains rainfall data for five stations in the Management Area. Precipitation in 2019 was 14.07 inches based on measurements from the Lake Perris station (Station 151), which is above the 30-year long-term average (1989-2019) of approximately 9.43 inches per year for the area. Figure 1-1

displays a summary of groundwater extraction, recycled water use, imported water use, and rainfall in the Management Area during 2019.

Figure 1-1: Groundwater Extraction, Recycled Water Use, Imported Water Use and Rainfall in the Management Area



Inactive wells and wells with open casings create the potential for groundwater contamination and may present a hazard for small children and animals. EMWD initiated the Inactive Well Capping/Sealing Program in 2000. In this program, inactive wells and wells which are no longer equipped for pumping are capped at no charge to the well owner. If feasible, a capped well will be added to the Groundwater Quality and Groundwater Level Monitoring Programs, thereby increasing the data points available for analysis. During 2019, two wells (Nutrilite 07 and NWC 11) were capped in the Management Area as part of the Inactive Well Capping/Sealing Program. Sixty-seven (67) wells have been capped in the Management Area since this program has been in existence.

1.2 Recommendations and Budget Summary

Chapter 3 presents the recommendations and goals of the Management Plan for the next year. EMWD's estimated 2020 budget totals $274,887. More details on the budget can be found in Chapter 5. Recommendations for 2020 Management Plan included:

- Continue the Groundwater Quality and Groundwater Level Monitoring Programs
- Continue the Groundwater Extraction Monitoring Program
- Continue the Inactive Well Capping/Sealing Program
- Continue to provide annual reports to well owners participating in the Groundwater Monitoring Programs
- Continue Quarterly Reports to the Advisory Committee
- Continue to pursue potential state or federal funding sources for the benefit of the Management Area
- Continue EMWD's Groundwater Salinity Management Activities, including
  - Perris Basin Desalination Program
  - Perris II Desalter and initiation of the monitoring described in the Perris II Reverse Osmosis Treatment Facility Monitoring and Reporting Plan
  - Iron and Manganese Removal Facilities
  - Brine Concentrate Management
- Continue the Operation of the North San Jacinto Water Supply Initiative
- Continue EMWD's participation in regional activities
  - Basin Monitoring Task Force
  - Total Maximum Daily Loading Task Force
  - Western Riverside County Agricultural Coalition