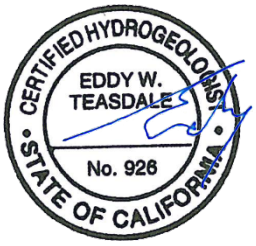
LOS MOLINOS SUBBASIN GROUNDWATER SUSTAINABILITY PLAN ANNUAL REPORT - 2021

PREPARED FOR

TEHAMA COUNTY FLOOD CONTROL AND WATER CONSERVATION GSA

TEHAMA COUNTY GSA-LOS MOLINOS

PREPARED BY





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Appendix A Water Level Hydrographs of Representative Monitoring Wells for Groundwater Level

Appendix B Annual Report Water Level Data

LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
af	Acre-Feet
amsl	Above mean sea level
CASGEM	California Statewide Groundwater Elevation Monitoring Online System
CVP	Central Valley Project
District	Tehama County Flood Control and Water Conservation District
DMS	Data Management System
DWR	Department of Water Resources
ft	feet
GAMA	Groundwater Ambient Monitoring and Assessment Program
GSP	Groundwater Sustainability Plan
GSA	Groundwater Sustainability Agency
MO	Measurable Objective
MT	Minimum Threshold
NAVD 88	North American Vertical Datum of 1988
PMAs	Projects and Management Actions
RMS	Representative Monitoring Sites
SGMA	Sustainable Groundwater Management Act
SMC	Sustainable Management Criteria
Subbasin	Los Molinos Groundwater Subbasin
SVSim	Sacramento Valley Groundwater-Surface Water Simulation Model
TNC	The Nature Conservancy
TSS	Technical Support Services
USGS	United States Geological Survey

EXECUTIVE SUMMARY

ES 1. Introduction

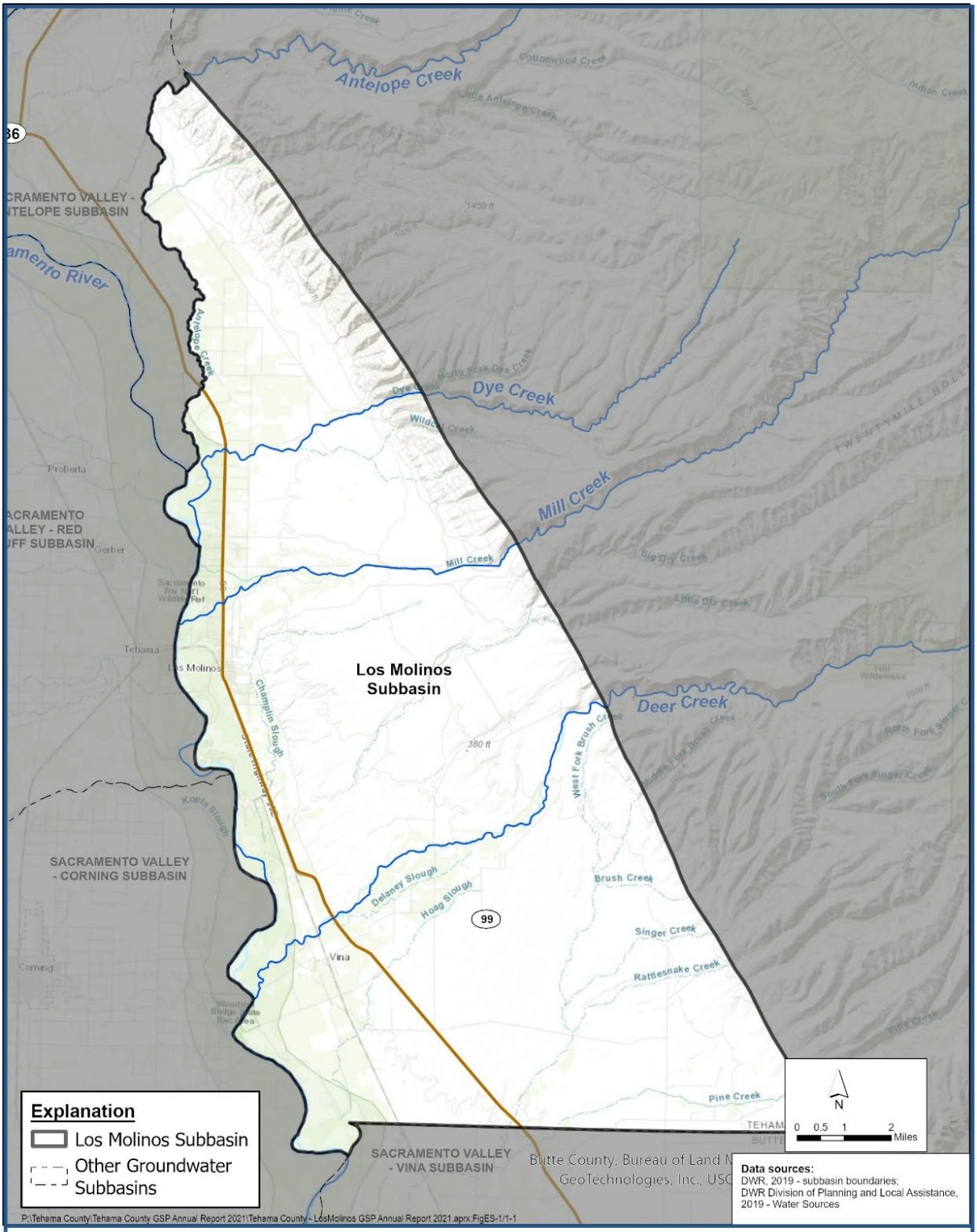
The annual report for the Los Molinos Subbasin (Subbasin) (5-021.56) was prepared on behalf of the Tehama County Flood Control and Water Conservation District (Tehama County FCWCD) Groundwater Sustainability Agency (GSA or District) to fulfill the statutory requirements of the Sustainable Groundwater Management Act (SGMA) legislation (Section 10728) and regulatory requirements developed by the California Department of Water Resources (DWR) included in the Groundwater Sustainability Plan (GSP) Regulations (Section 354.40 and Section 356.2). The Regulations require the GSA to submit an Annual Report to DWR by April 1st following the reporting year (October through September).

The Los Molinos Subbasin covers 99,400 acres and is in the Northern Sacramento Valley Groundwater Basin (**Figure ES-1**). Los Molinos is one of seven (7) groundwater subbasins within Tehama County. The Tehama County FCWCD is the exclusive GSA for six (6) of those subbasins: Antelope, Bend, Bowman, Los Molinos, Red Bluff, and South Battle Creek. The seventh, the Corning Subbasin, extends into Glenn County, and the GSP for that subbasin is being developed in a coordinated effort between the Tehama County FCWCD and the Corning Sub-basin GSA.

This report is the first Annual Report prepared to support the adopted Los Molinos Subbasin GSP submitted in January 2022. This Annual Report includes data elements for the current and previous reporting water years (2020-2021). Pursuant to GSP Regulations, the Annual Report includes:

1. Groundwater Elevation Data
2. Water Supply and Use
3. Change in Groundwater Storage
4. GSP Implementation Progress

All data and information in the annual report are for the Los Molinos Subbasin. This Annual Report coincides with one of the most severe and extensive droughts that has ever gripped the western United States. In December 2021, as the final GSP was being assembled, drought conditions throughout most of California, including in this subbasin were classified as “exceptional,” the most extreme classification defined by the U.S. Drought Monitor. Historically, observed impacts during exceptional drought generally include: widespread water supply shortages, depleted surface water supplies, extremely low federal and state surface water deliveries, curtailment of water rights, extremely high surface water prices, increased groundwater pumping to satisfy water demands, dry groundwater wells, increased well drilling and deepening, increased pumping costs, wildfire, decreased recreational opportunities, and poor water quality, among other potential impacts reported by the U.S. Drought Monitor. All of these conditions were experienced to some degree across California in 2021 and, at least in part, within the Subbasin.



TEHAMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

LSCE Team

Subbasin Area Map

Figure ES-1

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

ES 2. Groundwater Elevations

Groundwater elevation data in the Upper and Lower Aquifers for the 2020-2021 water years were analyzed. The water year is defined as October through September. Groundwater elevation contour maps for seasonal low and seasonal high-water levels were prepared for the 2020-2021 water years. Six Representative Monitoring Site (RMS) wells exist that monitor groundwater levels in the Upper Aquifer while only three RMS wells are screened in the Lower Aquifer. Through the TSS program an additional monitoring well is planned to be installed. This nested monitoring well will provide an added well to both the Upper and Lower Aquifers. Seasonal high groundwater elevations were all above the measurable objective during the 2020-2021 water years.

ES 3. Water Supply and Use

Table ES-1 includes groundwater use data by sector for the 2020 and 2021 water years. The agricultural sector had the greatest increase in use going from 33,000 af in 2020 to 40,000 af in 2021 whereas native vegetation decreased significantly from 4,400 to 2,500 af. Urban water use remained largely unchanged increasing slightly from 930 to 990 af.

Table ES-1. Groundwater Use in Each Water Year by Water Use Sector

Sector	2020 (D) (af)	2021 (C) (af)
Agricultural	33,000	40,000
Urban	930	990
Native Vegetation	4,400	2,500
Total	**38,330**	**43,490**

D: Dry Sacramento Valley Water Year as defined by DWR.

C: Critical Sacramento Valley Water Year as defined by DWR.

Surface water use by sector and source for the 2020 and 2021 water years are presented in **Table ES-2**. Both urban and native vegetation sectors contributed to no surface water use in either 2020 or 2021. Agricultural surface water use declined slightly between years going from 34,000 to 33,000 af.

Table ES-2. Surface Water Use in Each Water Year by Water Use Sector and Source

Sector	2020 (D) (af)		2021 (C) (af)	
	Supply Source			
	CVP	Local	CVP	Local
Agricultural	0	34,000	0	33,000
Urban	0	0	0	0
Native Vegetation	0	0	0	0
Total	**0**	**34,000**	**0**	**33,000**

D: Dry Sacramento Valley Water Year as defined by DWR.
C: Critical Sacramento Valley Water Year as defined by DWR.

ES 4. Groundwater Storage

Changes in groundwater storage values were calculated based on water years for the Upper and Lower Aquifers. Groundwater storage change was estimated for the 2020 water year based on the change in seasonal high groundwater levels between the 2019 and 2020 water years. Likewise, 2021 storage change was calculated based on the change in seasonal high groundwater levels between 2020 and 2021 water years. Change in storage calculations are described further in Sections 2.1. **Table ES-3** presents the annual storage change values for each principal aquifer.

Table ES-3. Change in Groundwater Storage Based on Seasonal High Groundwater Levels

Aquifer	2020 (D) (af)	2021 (C) (af)
Upper Aquifer	-35,000	-19,000
Lower Aquifer	-6,000	-47,000
Total	**-41,000**	**-66,000**

D: Dry Sacramento Valley Water Year as defined by DWR.

C: Critical Sacramento Valley Water Year as defined by DWR.

ES 5. GSP Implementation Progress

Implementation of the GSP focused primarily on enactment of projects and management actions (PMAs). PMAs were developed to manage groundwater conditions in the Subbasin and achieve groundwater sustainability objectives described in the GSP. Due to the recent adoption of the GSP, no progress towards the implementation of PMAs has occurred. In coordination with DWR the subbasin is scheduled for an Airborne Electromagnetic (AEM) Survey in Spring 2022. Additionally, DWR is scheduled to install a nested monitoring well for monitoring of both the Upper and Lower Aquifers. The GSA has also scheduled a well survey to better establish the vertical datum of one RMS well.

1 GENERAL INFORMATION

The annual report for the Los Molinos Subbasin (Subbasin) (5-021.56) was prepared on behalf of the Tehama County Flood Control and Water Conservation District (Tehama County FCWCD), Groundwater Sustainability Agency (GSA) to fulfill the statutory requirements of the Sustainable Groundwater Management Act (SGMA) legislation (Section 10728) and regulatory requirements developed by the California Department of Water Resources (DWR) included in the Groundwater Sustainability Plan (GSP) Regulations (Section 354.40 and Section 356.2). The Regulations require the GSA to submit an Annual Report to DWR by April 1st following the reporting year (October through September).

1.1 Subbasin Setting

The Los Molinos Subbasin (DWR Subbasin No. 5-021.50) covers 99,400 acres located in the Northern Sacramento Valley Groundwater Basin. The lateral extent of the Subbasin is defined by the Subbasin boundaries provided in Bulletin 118 (DWR, 2018). It is bounded on the west by the Antelope Subbasin (DWR Subbasin No. 5-021.54), the Red Bluff Subbasin (5-021.50), and the Corning Subbasin (DWR Subbasin 5-021.51). It is bounded on the south by the Vina Subbasin (5-021.57), on the north by the Antelope Subbasin (DWR Subbasin No. 5-021.54), and on the east by the Cascade Mountain Range. The western boundary of the Subbasin generally follows the Sacramento River after its confluence with Antelope Creek to the Tehama/Butte County line. The entire eastern portion of the Subbasin does not border another groundwater subbasin. (**Figure 1-1**).

Native and riparian vegetation (80%) is the leading source of land use within the Subbasin with approximately 18% dedicated to agriculture, 1% dedicated to urban use, and 0.2% dedicated to refuge areas. The Subbasin's agricultural water users rely on both surface water and groundwater to irrigate their crops. The Subbasin receives local surface water supplies that include runoff from upgradient small watersheds adjacent to the Subbasin and surface inflows along Sacramento River, Antelope Creek, little Antelope Creek, Dye Creek, Mill Creek and Deer Creek. A portion of these local supplies are diverted by local water rights users for beneficial use within the Subbasin.

Fresh groundwater bearing geologic deposits in the Subbasin are subdivided from previous studies into two units: The Upper Aquifer and the Lower Aquifer (DWR, 2003; DWR, 2004). The two-aquifer designation is based on an examination of time-series groundwater elevation hydrographs, electric resistivity data from geophysical logs, lithologic logs, well construction details, and review of previous studies in the Subbasin. Generally, semi-confined, and confined aquifer conditions are encountered at depth and unconfined conditions are seen in the shallower porous media. The complexity of the geologic materials and the formations makes it difficult to define a singular widespread aquitard or distinctive change in geologic materials separating an Upper and Lower Aquifer. To delineate between areas with a higher likelihood of confined

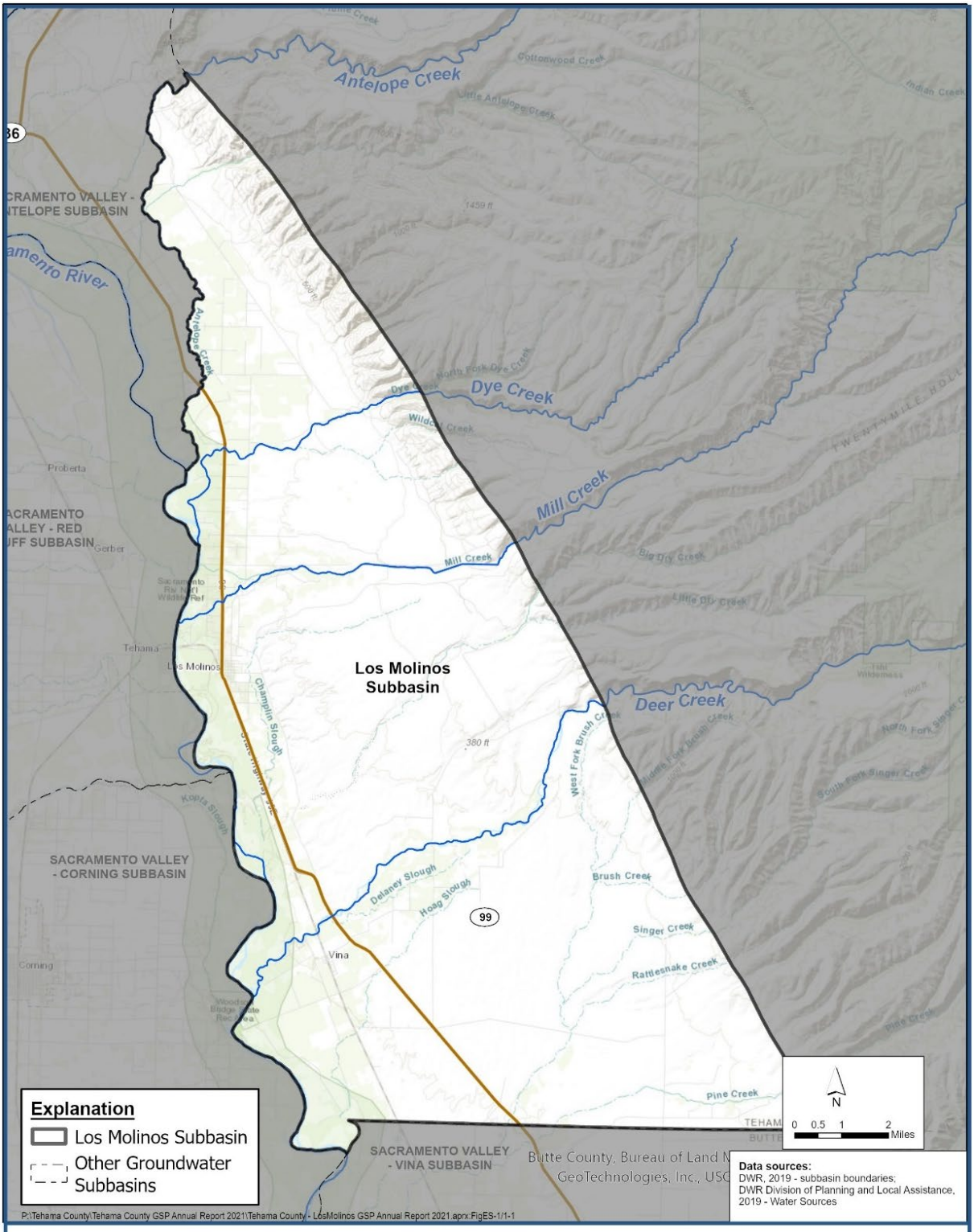
conditions, well construction data throughout the Subbasin were examined. Water bearing geologic units in the Upper Aquifer include the Quaternary formations and the upper portions of the Tehama and Tuscan Formations. Wells screened in the Upper Aquifer are largely for domestic purposes. The depth to the bottom of the Upper Aquifer is approximately 350-450 ft bgs.

The Lower Aquifer is defined as the freshwater bearing geologic units throughout the Subbasin from the bottom of model layer 5 at approximately 350-450 ft bgs, to the bottom of the Subbasin. The aquifer has confined to semi-confined conditions. Water bearing geologic units include the lower portions of the Tehama and Tuscan Formations. Wells screened in the Lower Aquifer are largely for non-domestic purposes.

1.2 Report Contents

This report is the first Annual Report prepared to support the adopted Los Molinos Subbasin GSP submitted in January 2022. As a result, the Annual Report includes data elements for the current reporting water year (WY), 2021, as well as a "bridge year", 2020. The historical water budget period of the GSP was 1990-2018, and 2019 was considered as a current water budget period. The bridge year closes the gap between the water budget period presented in the GSP and current reporting water year. Data elements presented in this report refer to water years (12-month periods of October through September) unless otherwise noted. Pursuant to of the GSP Regulations, the Annual Report includes:

1. Groundwater Elevation Data
2. Water Supply and Use
3. Change in Groundwater Storage
4. GSP Implementation Progress



TEHAMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

LSCE Team

Subbasin Area Map

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 1-1

2 GROUNDWATER ELEVATIONS SECTION 356.2(B)(1)

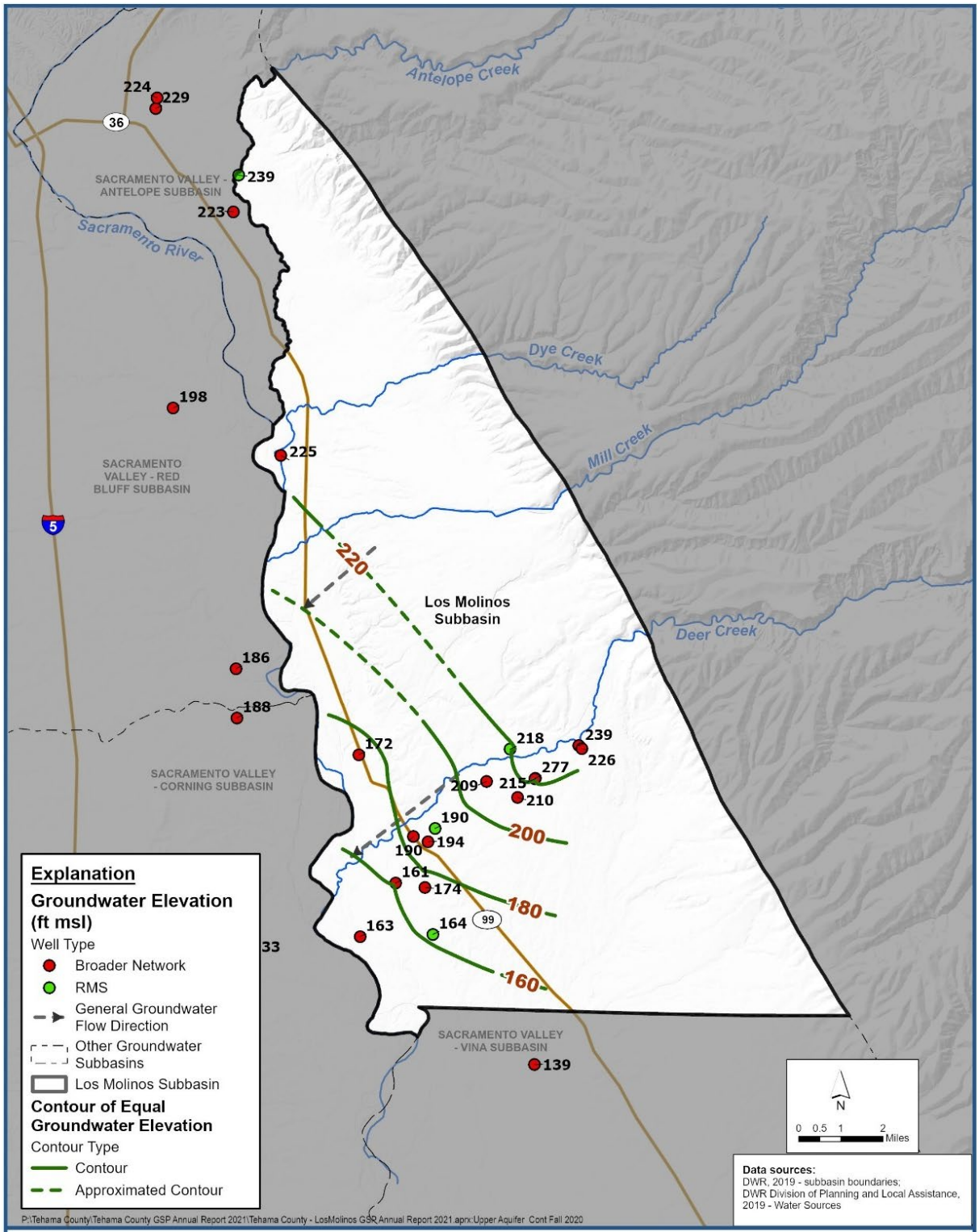
Currently 54 wells are monitored as part of a broad network for groundwater levels and nine are RMS wells assigned Sustainability Management Criteria. The wells are measured at least in the spring and fall each year. Groundwater elevation data in each of the principal aquifers for the 2020 and 2021 water years were analyzed. Hydrographs for these wells are included in Appendix A. Appendix B includes a copy of the monitoring data used to generate this Annual Report pursuant to GSP regulations (Section 354.40). Groundwater elevation contour maps for seasonal low and seasonal highwater levels were prepared for the 2020 and 2021 water years. Groundwater level data collected at RMS and other wells used to develop groundwater contours and RMS well hydrographs are collected by DWR, USGS, TNC and the District and records are maintained by GAMA and CASGEM. Records of groundwater elevations are also maintained in the GSA's DMS.

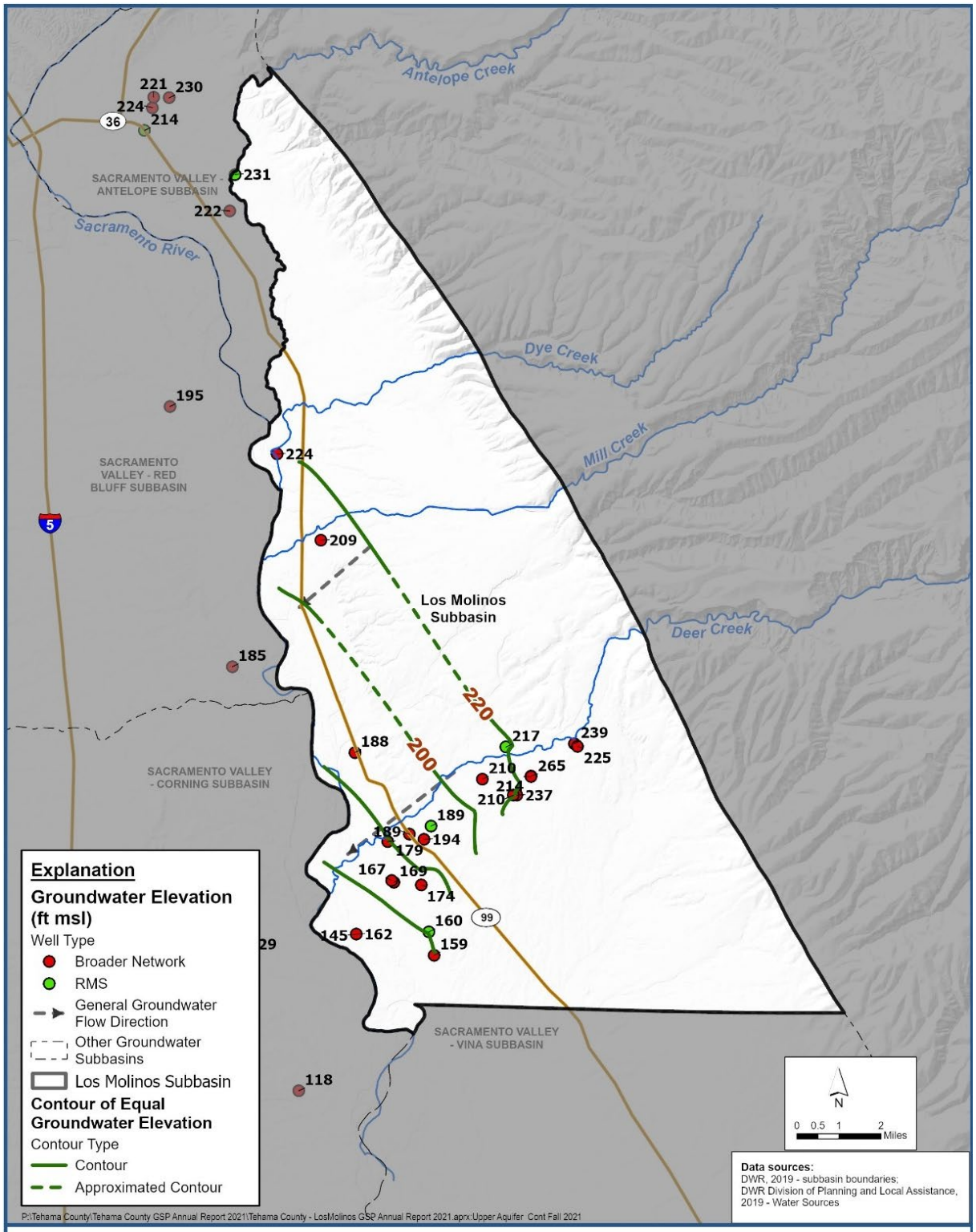
2.1 Groundwater Elevation Contours - Section 356.2(b)(1)(A)

Seasonal high and seasonal low groundwater elevation contour maps for the 2020-2021 water years are presented for the Upper Aquifer on **Figures 2-1** through **2-4** and in the Lower Aquifer in **Figures 2-5** through **2-8**. The seasonal high contours were prepared based on observed maximum springtime (February-May) water levels, while the seasonal low contours were prepared based on minimum water levels measured in July-October. Due to the limited number of wells in the subbasin and to resolve data gaps near the edge of the subbasin wells neighboring the Los Molinos subbasin were included in the contouring process. Wells were not displayed in contour maps if data did not exist at that well during the mapping period. Contours are shown solid if there is good confidence in the contour placement whereas contours are shown dashed if their position is inferred from data yet generally representative of the contour's true location. Contours are not drawn if confidence in contours is poor. Most notably this occurs on the northern side of the subbasin near RMS wells LM-1U, LM-2U, LM-6U and LM-9L. Contours were not extended to these wells for several reasons. LM-1U and LM-2U were both too shallow to provide representative water level measurements for the Upper Aquifer and are limited to establishing SMC. LM-6U and LM-9L are newly constructed by TNC and water level elevation data from these wells is not yet available. All four above mentioned wells were previously excluded when creating contours for the GSP and were excluded from contours in this Annual Report as well. As water level measurements at LM-6U and LM-9L become available these wells will become more useful for contouring. Groundwater elevations on the contour maps are shown as feet above mean sea level (ft amsl) based on the North American Vertical Datum of 1988 (NAVD 88).

The contour maps illustrate several general features of the groundwater flow system in the Los Molinos Subbasin, including:

- General groundwater flow moving from the northeast to southeast in both aquifers.
- More gradual springtime groundwater gradients in the lower aquifer than during the fall.
- Stable groundwater levels in the Upper Aquifer during both years.


Antelope Creek
Dye Creek
Mill Creek
Deer Creek
Sacramento River
SACRAMENTO VALLEY - ANTELOPE SUBBASIN
SACRAMENTO VALLEY - RED BLUFF SUBBASIN
SACRAMENTO VALLEY - CORNING SUBBASIN
SACRAMENTO VALLEY - VINA SUBBASIN
Los Molinos Subbasin
224
229
239
223
198
225
186
188
172
218
239
226
277
209
215
210
190
194
190
161
174
163
164
139
220
200
180
160
36
5
99
33
Explanation
Groundwater Elevation (ft msl)
Well Type
Broader Network
RMS
General Groundwater Flow Direction
Other Groundwater Subbasins
Los Molinos Subbasin
Contour of Equal Groundwater Elevation
Contour Type
Contour
Approximated Contour
N
0 0.5 1 2
Miles
Data sources:
DWR, 2019 - subbasin boundaries;
DWR Division of Planning and Local Assistance, 2019 - Water Sources
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TEHAMA COUNTY
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Contours of Equal Groundwater Elevation
Upper Aquifer – Fall 2020
Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin
Figure 2-1



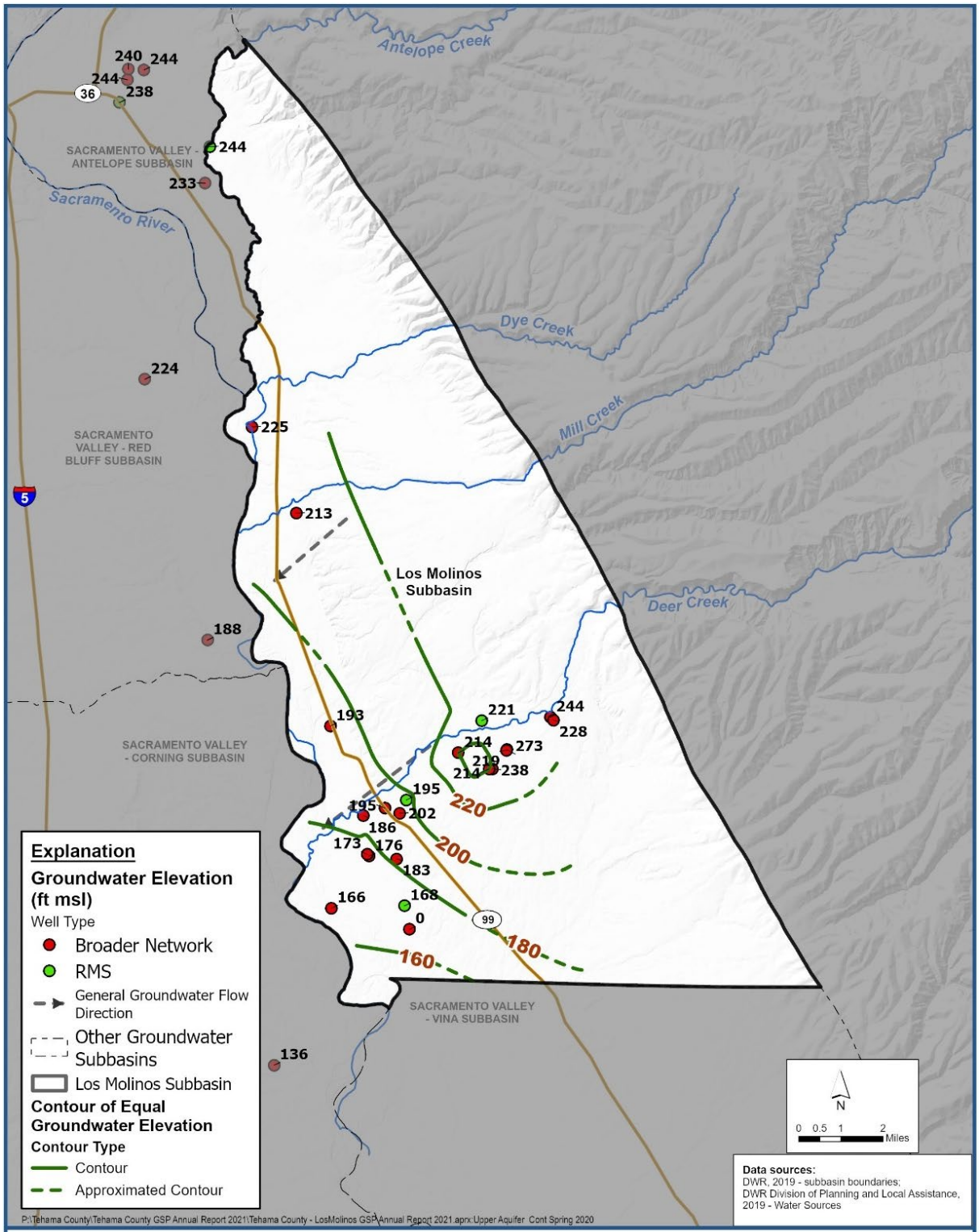
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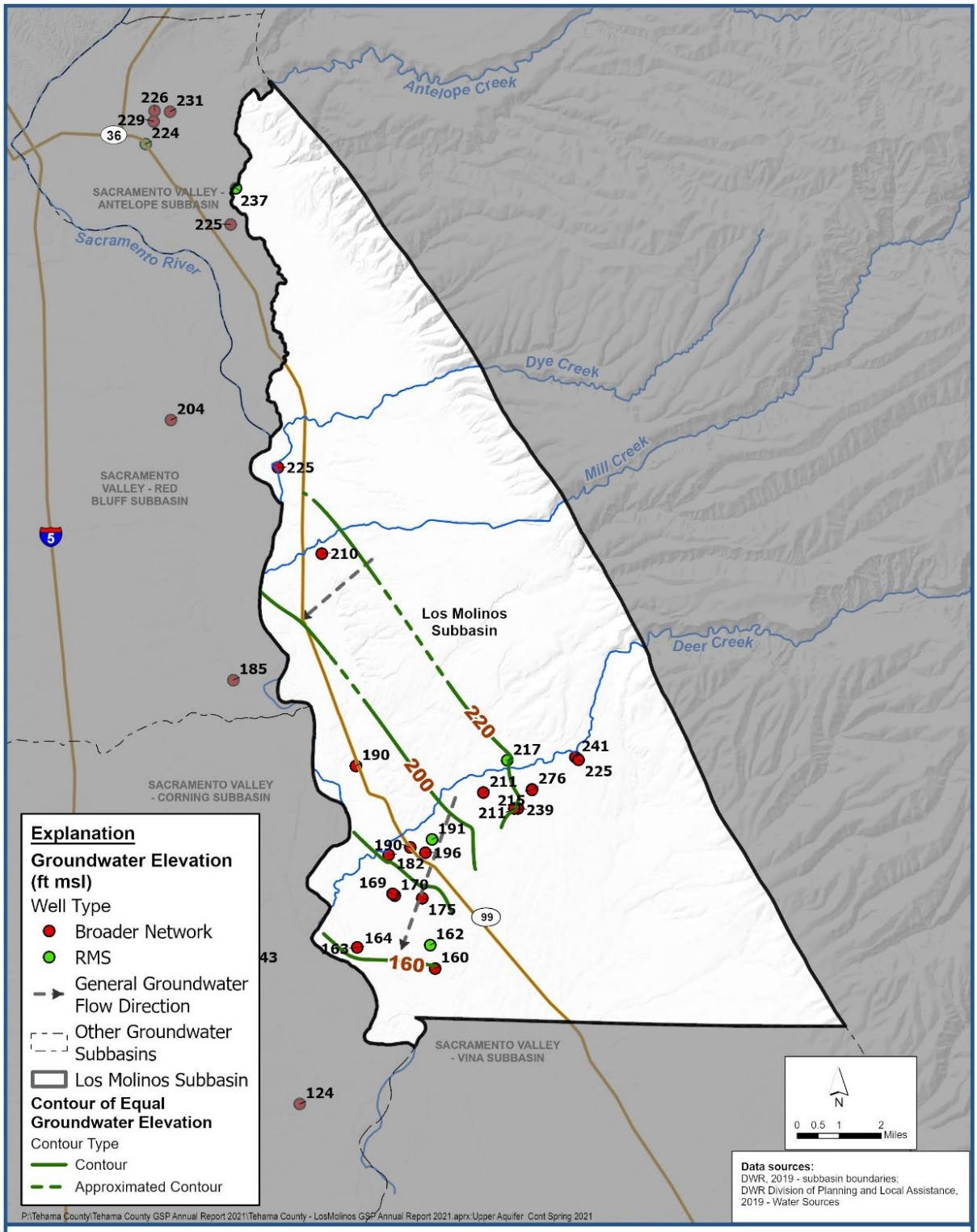
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Contours of Equal Groundwater Elevation
Upper Aquifer – Fall 2021

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 2-2


Antelope Creek
Dye Creek
Mill Creek
Deer Creek
Sacramento River
SACRAMENTO VALLEY - ANTELOPE SUBBASIN
SACRAMENTO VALLEY - RED BLUFF SUBBASIN
SACRAMENTO VALLEY - CORNING SUBBASIN
SACRAMENTO VALLEY - VINA SUBBASIN
Los Molinos Subbasin
240
244
244
238
36
244
233
224
225
213
188
193
221
244
228
214
273
219
238
195
195
202
186
173
176
183
166
168
0
99
136
220
200
180
160
5
Explanation
Groundwater Elevation (ft msl)
Well Type
Broader Network
RMS
General Groundwater Flow Direction
Other Groundwater Subbasins
Los Molinos Subbasin
Contour of Equal Groundwater Elevation
Contour Type
Contour
Approximated Contour
N
0 0.5 1 2
Miles
Data sources:
DWR, 2019 - subbasin boundaries;
DWR Division of Planning and Local Assistance, 2019 - Water Sources
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TEHAMA COUNTY
LSCE Team
Contours of Equal Groundwater Elevation
Upper Aquifer – Spring 2020
Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin
Figure 2-3



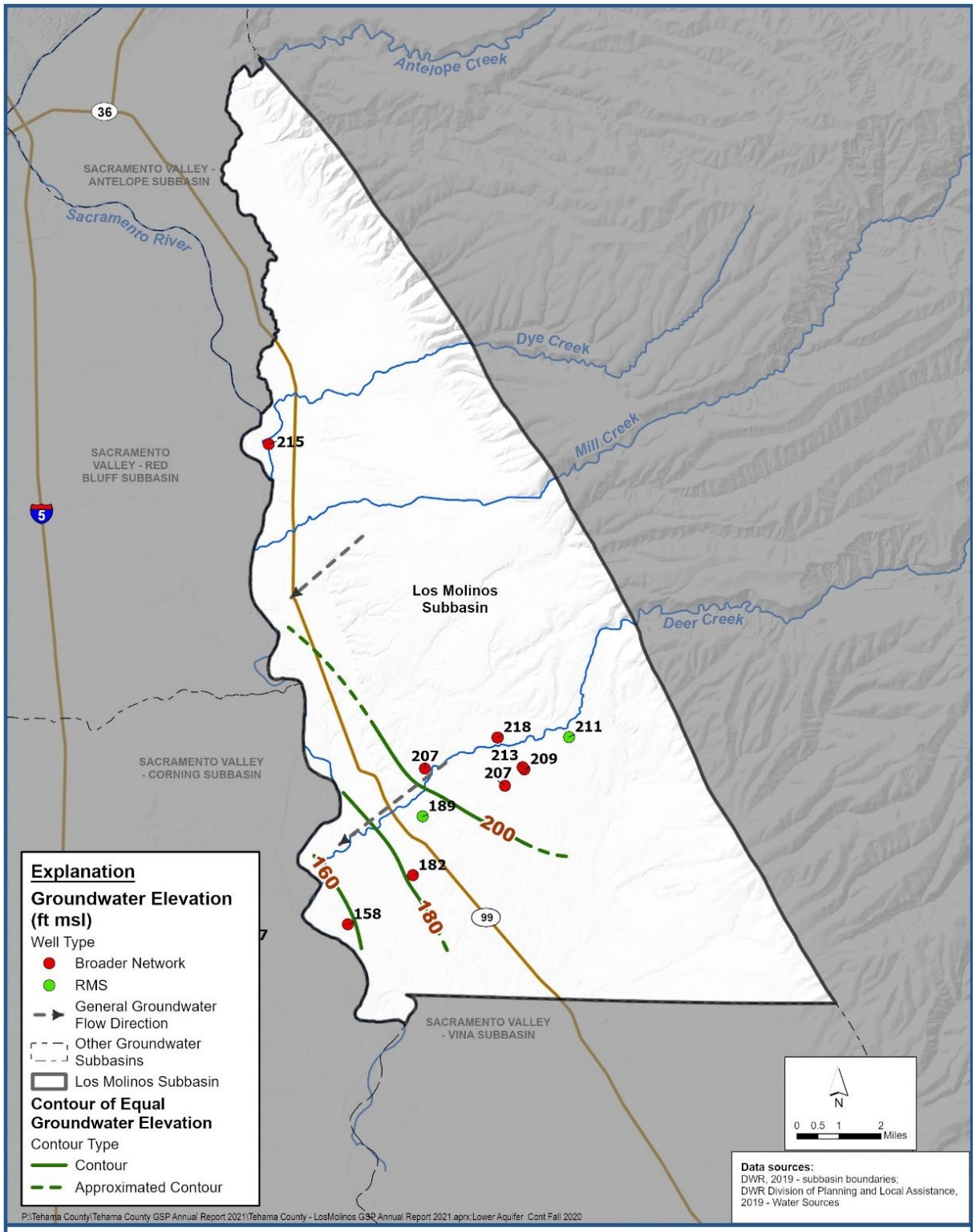
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Contours of Equal Groundwater Elevation
Upper Aquifer – Spring 2021

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 2-4



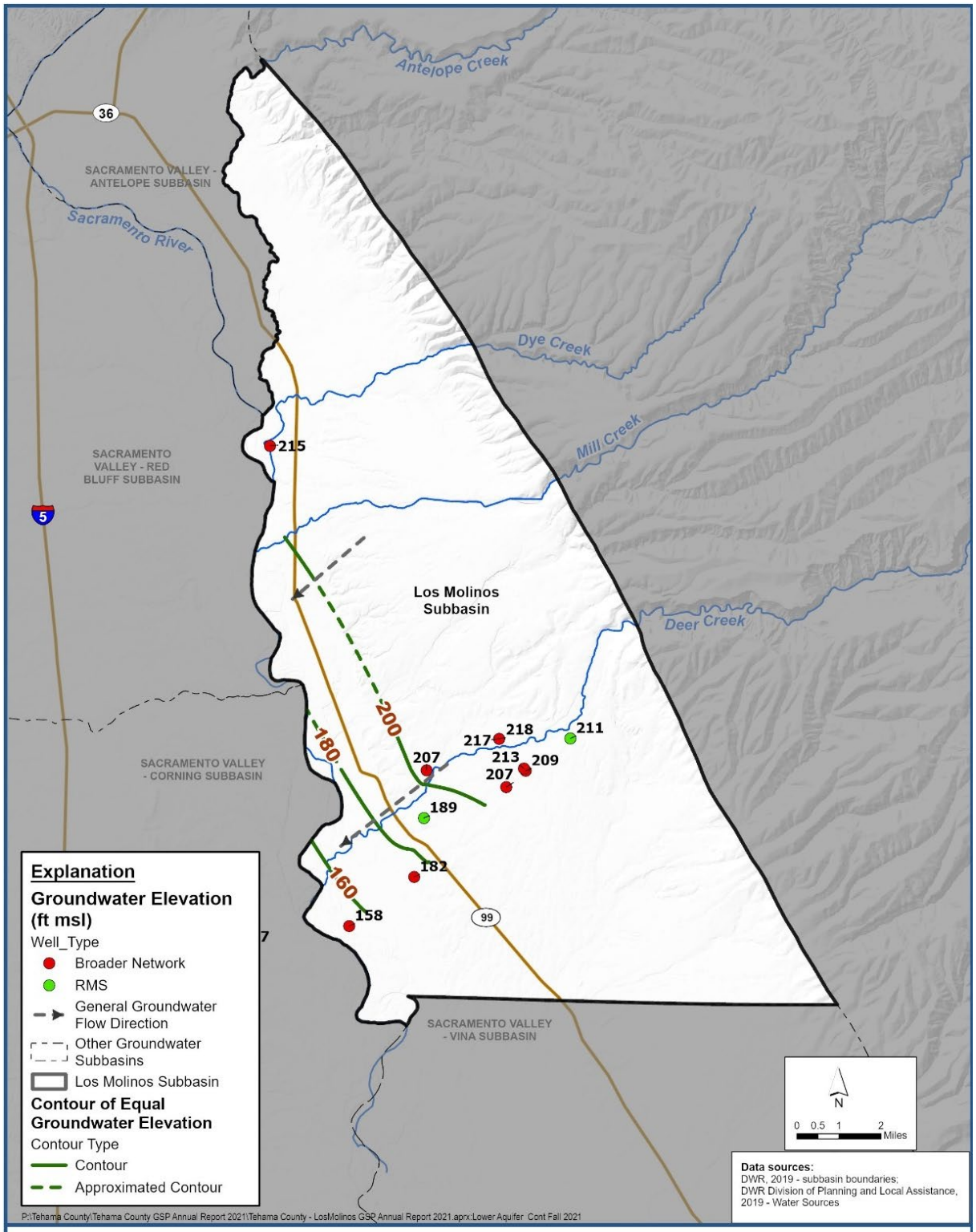
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Contours of Equal Groundwater Elevation
Lower Aquifer – Fall 2020

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 2-5



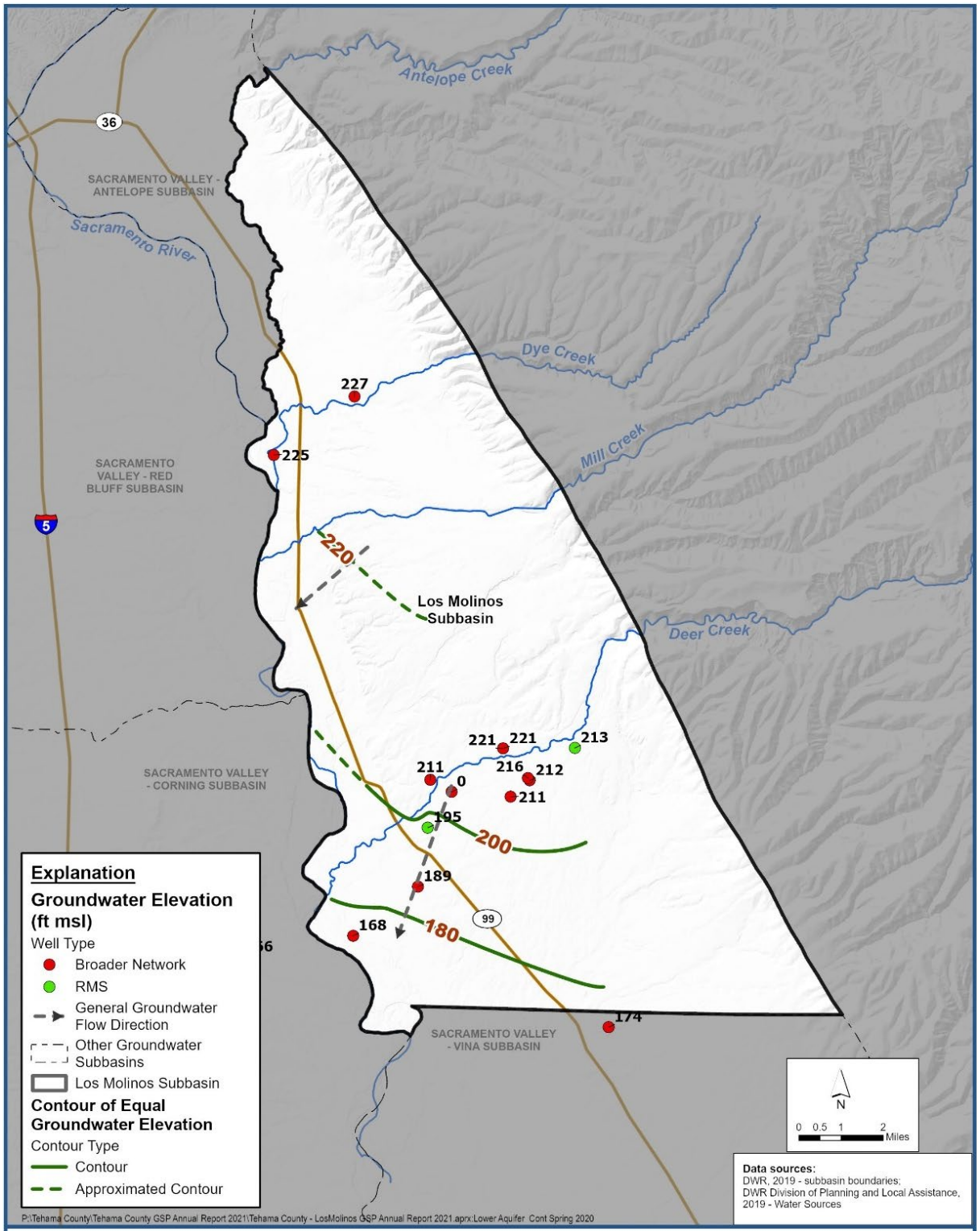
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Contours of Equal Groundwater Elevation
Lower Aquifer – Fall 2021

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 2-6



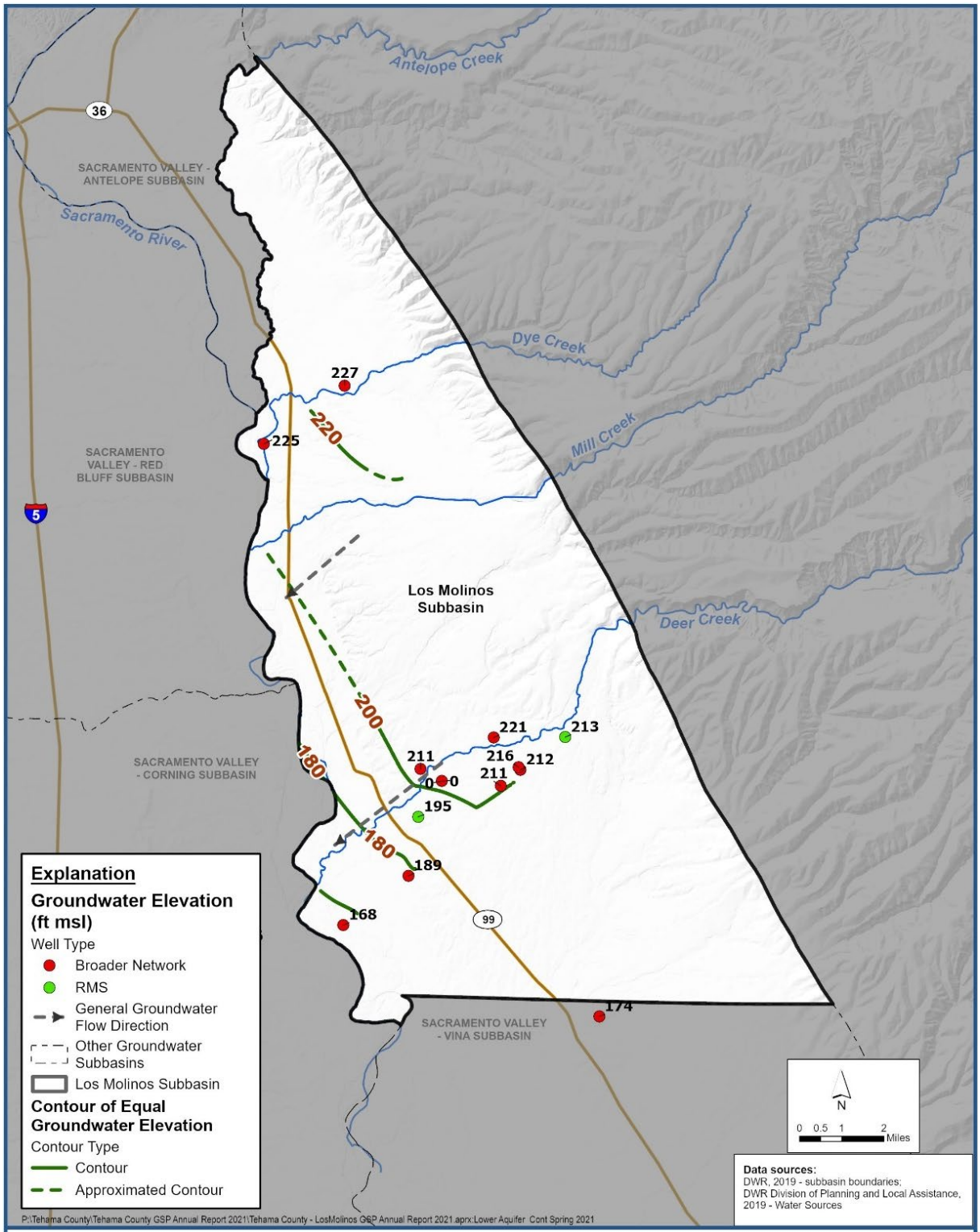
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Contours of Equal Groundwater Elevation
Lower Aquifer – Spring 2020

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

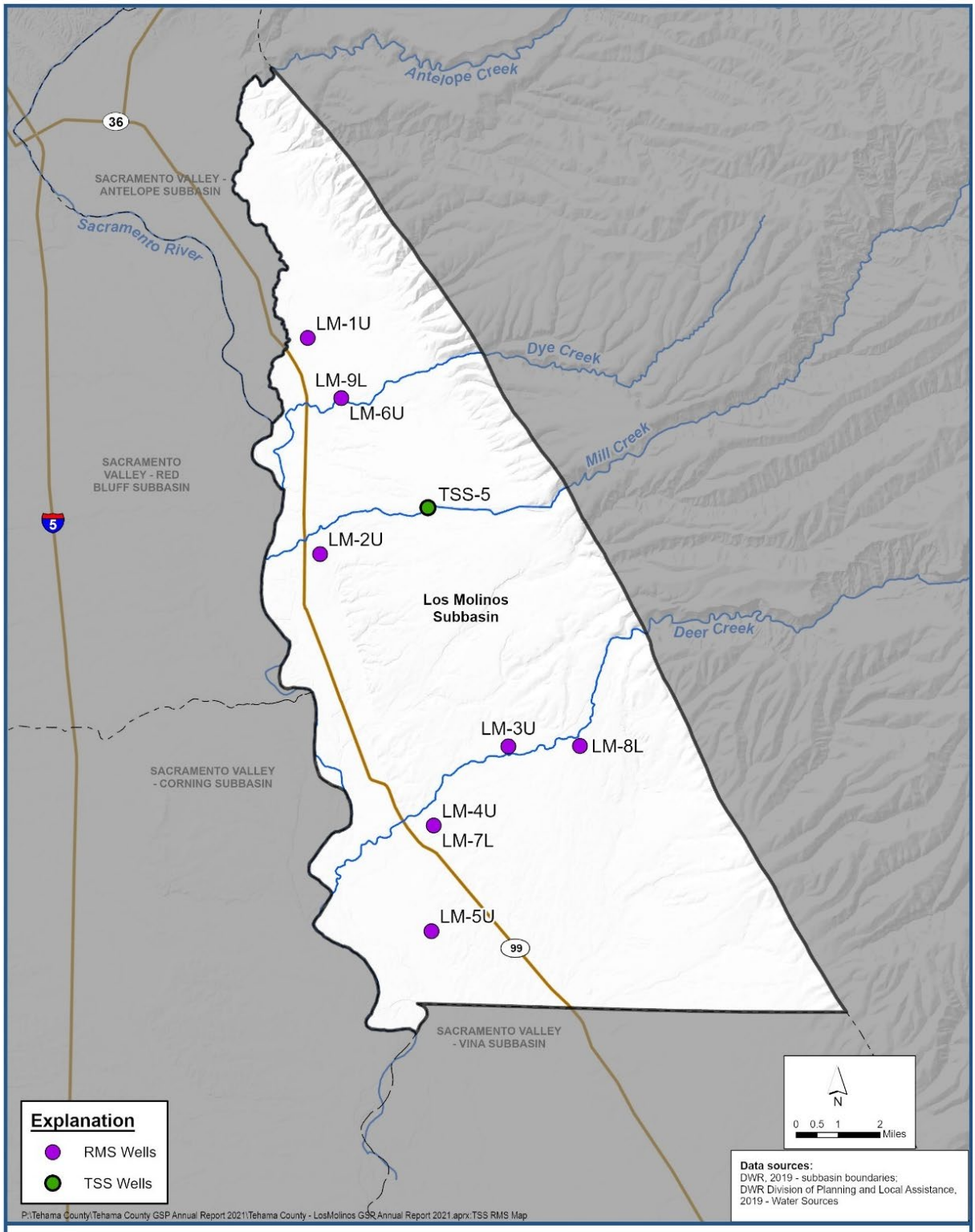
Figure 2-7


Antelope Creek
36
SACRAMENTO VALLEY - ANTELOPE SUBBASIN
Sacramento River
Dye Creek
Mill Creek
Deer Creek
227
225
220
SACRAMENTO VALLEY - RED BLUFF SUBBASIN
5
Los Molinos Subbasin
200
180
221
213
211
216
212
211
0
0
195
180
189
168
99
174
SACRAMENTO VALLEY - CORNING SUBBASIN
SACRAMENTO VALLEY - VINA SUBBASIN
Explanation
Groundwater Elevation (ft msl)
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TEHAMA COUNTY
LSCE Team
Contours of Equal Groundwater Elevation
Lower Aquifer – Spring 2021
Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin
Figure 2-8

2.2 Groundwater Elevation Hydrographs - Section 356.2(b)(1)(B)

Hydrographs of groundwater elevations were prepared for seven of nine RMS wells in the Upper and Lower Aquifers. Hydrographs for LM-6U and LM-9L were not prepared because these wells are newly constructed and water level elevations have not been collected. RMS wells are distributed throughout the Subbasin to provide broad spatial coverage of the Subbasin. **Figure 2-9** shows the distribution of the current RMS wells and the location of the approved TSS well. The process for selecting these sites is documented in the Los Molinos Subbasin GSP. Long-term fluctuations in groundwater levels (and groundwater in storage) occur when there is an imbalance between the volume of water recharged into the aquifer and the volume of water removed from the aquifer, either by extraction or natural discharge to surface water bodies. If, over a period of years, the amount of water recharged to the aquifer exceeds the amount of water removed from the aquifer, then groundwater levels will increase and groundwater storage increases (i.e., positive change in storage). Conversely, if, over time, the amount of water removed from the aquifer exceeds the amount of water recharged then groundwater levels decline. These long-term changes can be linked to various factors including increased or decreased groundwater extraction or variations in recharge associated with wet or dry hydrologic cycles.

The seven RMS wells in the Upper and Lower Aquifers with water level data, all had seasonal high groundwater elevations above the minimum thresholds (MT) during the 2020 and 2021 water year. Wells rarely show seasonal low water levels that fall below the measurable objectives (MO) and have always maintained seasonal highs above this level.



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RMS TSS Network

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 2-9

3 WATER SUPPLY AND USE

Water supply and use information are presented below. Water use data by sector (required per Section 356.2) is summarized in Section 3 and categorized by groundwater extraction, surface water supply and total supply using the best data available. Water use sectors are broadly identified as agricultural, urban and native vegetation land uses.

3.1 Groundwater Extraction - Section 356.2(b)(2)

Groundwater extraction by water use sector is reported for the 2020 and 2021 water years. Groundwater extraction data was estimated from modeled results using the Tehama IHM model. The model estimates groundwater extraction based on available land use information, climate data and access to surface water. The Tehama IHM model was developed to support GSP development through adaptation of the Sacramento Valley Groundwater-Surface Water Simulation Model (SVSim, version BETA 3-19-2020). Direct measurements of groundwater extraction data could not be used in the model calibration to determine accuracy due to the limited number of observations. Instead, water levels and stream flows were used to calibrate the model resulting in a normalized root mean of squared residual error of 5%. Additional information about the Tehama IHM development process is described in the GSP (Appendix 2-J). Groundwater extraction in the Los Molinos Subbasin for water years 2020 and 2021 in both the Upper and Lower Aquifers was estimated on an element-basis by simulating groundwater pumping. The general location and volume of groundwater extractions are presented in **Figures 3-1** through **3-4**. **Table 3-1** includes groundwater use data by sector for each year. In all annual report tables numbers are rounded to two significant digits consistent with the uncertainty associated with the methods and sources used in the analysis. The exception to this rule applies to totals of other numbers presented in the tables. The 2020 water year is denoted as “D” (Dry) and the 2021 year as “C” (Critical). The agricultural sector had the greatest increase in use from 33,000 af to 40,000 af whereas native vegetation decreased significantly from 4,400 to 2,500 af. Urban groundwater use remained largely unchanged increasing slightly from 930 to 990 af. The large increase in agricultural sector use is likely due to the increased water demand of crops during dryer conditions as well as the need for growers to offset decreased surface water delivers during droughts.

Table 3-1. Groundwater Use in Each Water Year by Water Use Sector

Sector	2020 (D) (af)	2021 (C) (af)
Agricultural	33,000	40,000
Urban	930	990
Native Vegetation	4,400	2,500
Total	**38,330**	**43,490**

D: Dry Sacramento Valley Water Year as defined by DWR.

C: Critical Sacramento Valley Water Year as defined by DWR.

3.2 Surface Water Supply - Section 356.2(b)(3)

Surface water use by sector and source for the 2020 and 2021 water years is presented in **Table 3-2**. Surface water data was obtained from real world observations when available and was otherwise estimated from model results. Both urban and native vegetation sectors utilized no surface water in either 2020 or 2021. Agricultural surface water use declined slightly going from 34,000 in 2020 to 33,000 af in 2021. This slight decline can likely be attributed the decrease access to or increased cost of surface water. Local supplies accounted for all surface water use in both years.

Table 3-2. Surface Water Use in Each Water Year by Water Use Sector and Source

Sector	2020 (D) (af)		2021 (C) (af)	
	Supply Source			
	CVP	Local	CVP	Local
Agricultural	0	34,000	0	33,000
Urban	0	0	0	0
Native Vegetation	0	0	0	0
Total	**0**	**34,000**	**0**	**33,000**

D: Dry Sacramento Valley Water Year as defined by DWR.

C: Critical Sacramento Valley Water Year as defined by DWR.

3.3 Total Water Use by Sector - Section 356.2(b)(4)

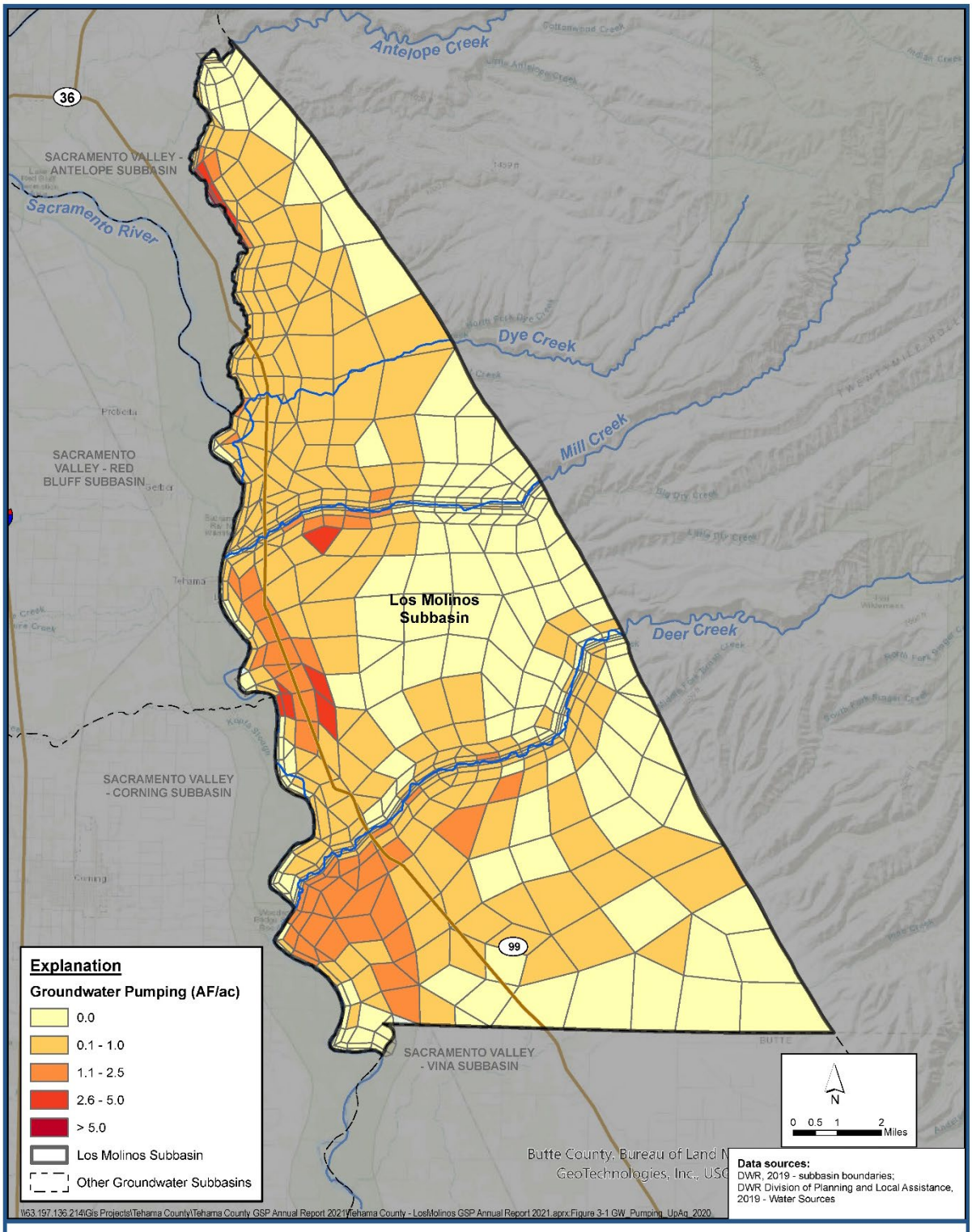
Total water use by sector for the 2020 and 2021 water years is included in **Table 3-3**. Total water use is summarized from results presented in Section 3.1 and 3.2. Total agricultural water use increased from 67,000 to 74,000 af from the 2020 to 2021 water years. By comparison urban water use remained nearly unchanged going from 900 af in 2020 to 1,000 af in 2021 and native vegetation water use declined significantly from 4,400 af to 2,500 af. Overall water use increased slightly from 72,300 af in 2020 to 77,490 in 2021.

Table 3-3. Total Water Use in the 2021 Water Year by Water Use Sector

Sector	2020 (D) (af)	2021 (C) (af)
Agricultural	67,000	73,000
Urban	900	990
Native Vegetation	4,400	2,500
Total	**72,300**	**76,490**

D: Dry Sacramento Valley Water Year as defined by DWR.

C: Critical Sacramento Valley Water Year as defined by DWR.



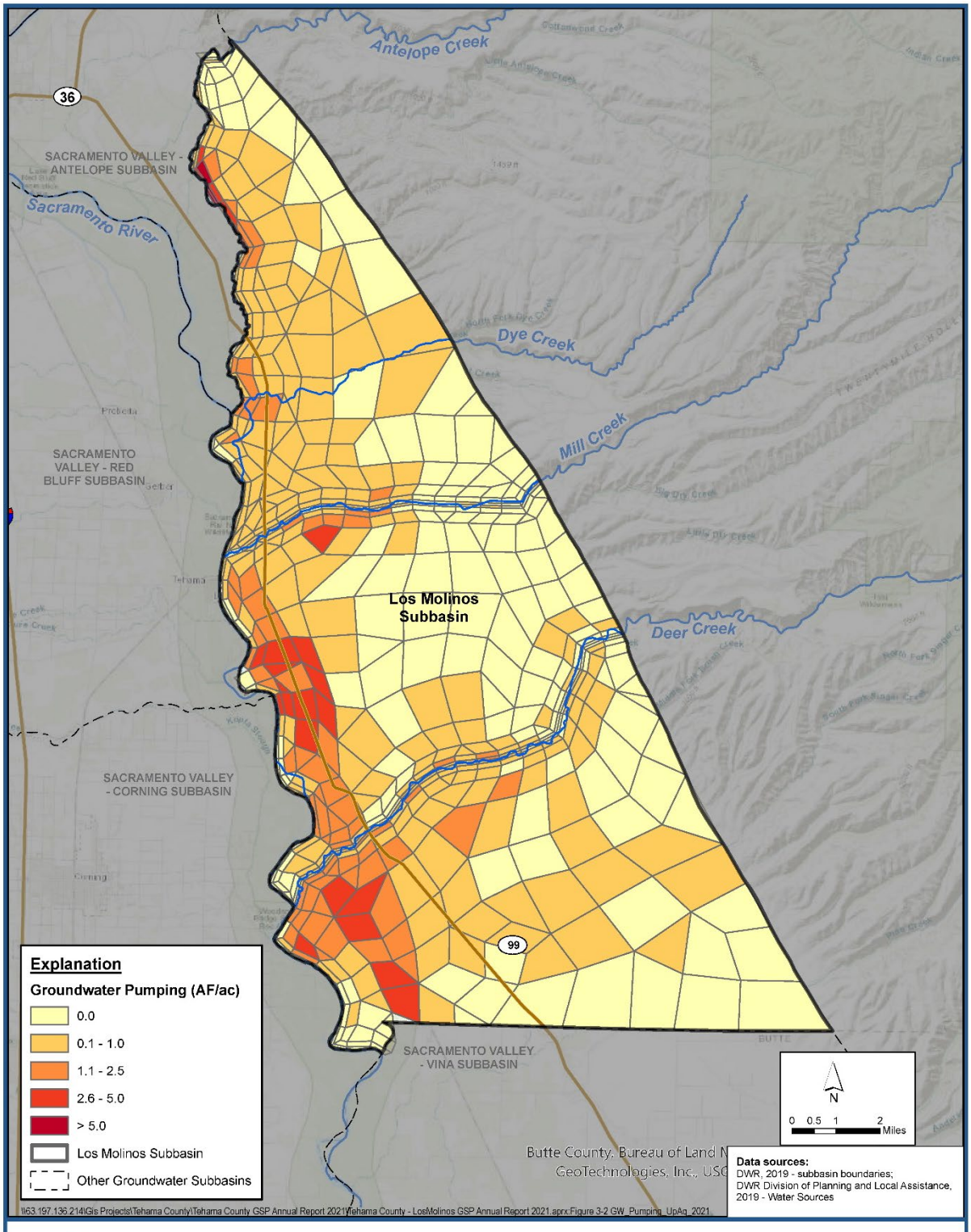
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FLOOD CONTROL AND WATER CONSERVATION DISTRICT

LSCE Team

Groundwater Extraction in the Upper Aquifer - Water Year 2020

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 3-1



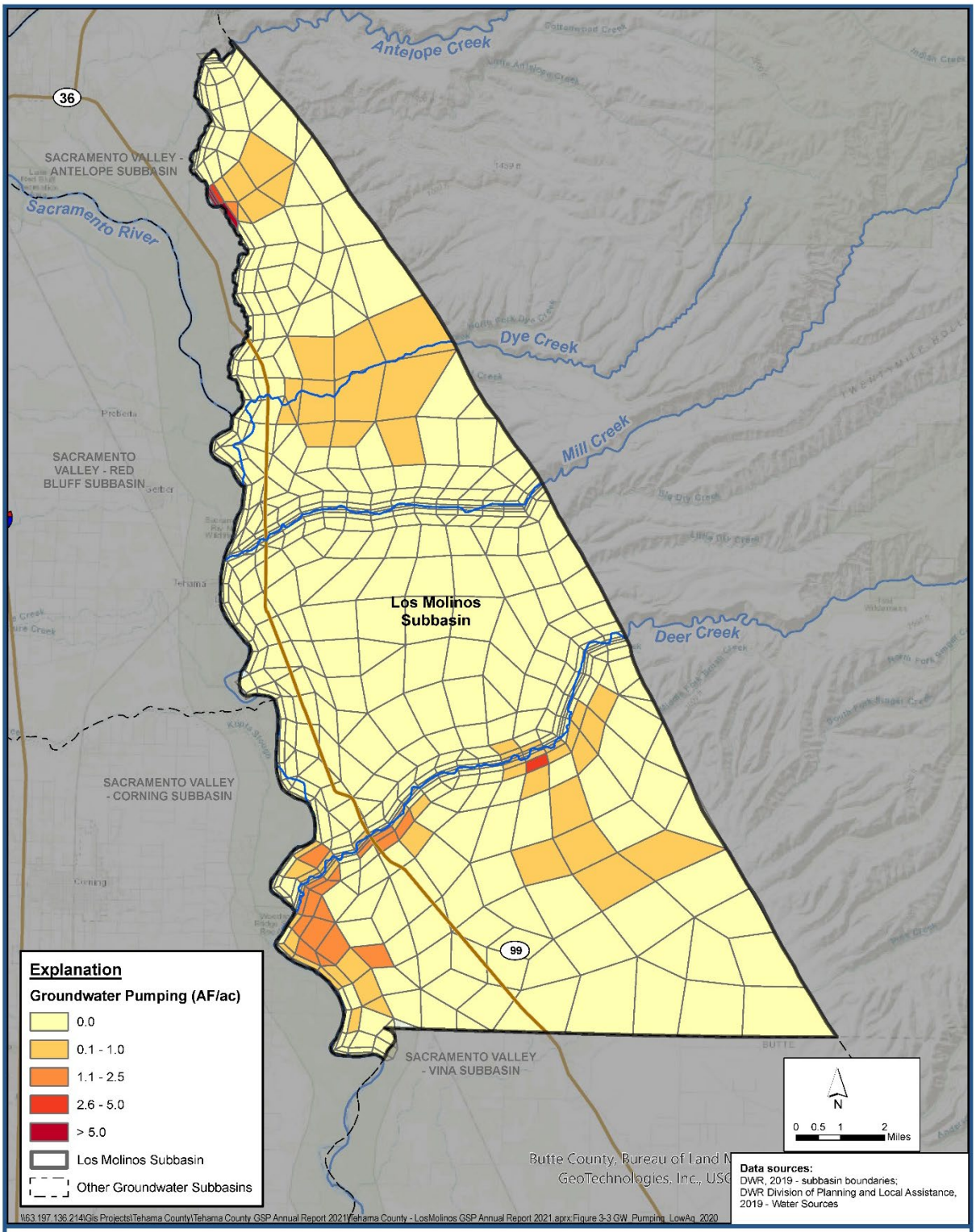
TEHAMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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Groundwater Extraction in the Upper Aquifer - Water Year 2021

Figure 3-2

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin



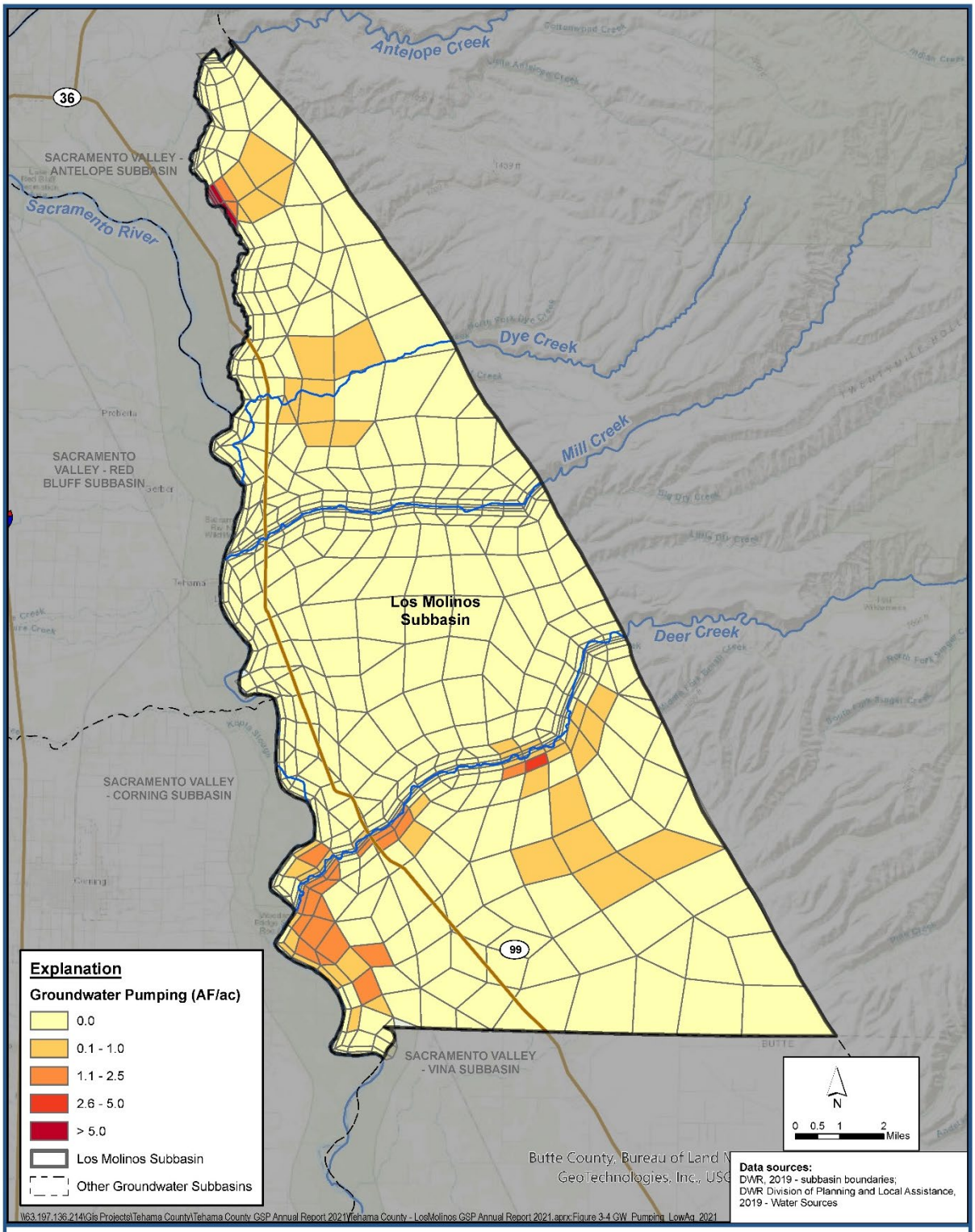
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Groundwater Extraction in the Lower Aquifer - Water Year 2020

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

Figure 3-3



TEHAMA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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Groundwater Extraction in the Lower Aquifer - Water Year 2021

Figure 3-4

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

4 GROUNDWATER STORAGE

Changes in groundwater storage values were calculated for the 2020 and 2021 water years for the Upper and Lower Aquifers. Groundwater storage change was estimated based on the change in seasonal high groundwater levels (spring to spring). Seasonal high measurements made in the winter and spring provide a more reliable method to calculate change in groundwater storage than measurements made from seasonal low measurements that may be influenced by residual groundwater pumping. Storage change in the 2020 water year was estimated based on the change in seasonal high groundwater levels between the 2019 and 2020 water years. Likewise, 2021 storage change was calculated based on the change in seasonal high groundwater levels between 2020 and 2021 water years. While contour maps show wells over a large area of the subbasin water level change was calculated within a smaller monitoring area to exclude areas of poor data density. As the groundwater level monitoring network improves this area will expand to include more of the subbasin. A groundwater elevation surface was generated using either natural neighbor or kriging interpolation methods. The average groundwater level change over the monitored area was applied to the subbasin extent. Lastly, groundwater model aquifer properties, storage coefficients, were used to calculate change in storage. This represents a departure from change in storage calculations made in the GSP where the groundwater model was utilized to calculate groundwater storage changes. **Table 4-1** presents the annual storage change values for both the Upper and Lower Aquifers.

It should be noted that although fundamentally the approach is similar to that used to estimate groundwater storage change in the GSP, the groundwater model was not used to estimate storage changes for 2020 and 2021. Therefore, future updates to the model may result in different estimates for 2020 and 2021 groundwater storage changes. The approach of using spring groundwater elevation contours is considered reasonable and cost effective for the purposes of the annual report. **Table 4-2** includes estimates of annual groundwater pumping, groundwater uptake, storage change and cumulative storage change for water years 1990-2021. Change in storage and cumulative change in storage for water years 2020-2021 was estimated based on the above method. The Tehama IHM Model was used to estimate groundwater pumping and groundwater uptake for all water years. Change in storage and cumulative change in storage were Model estimated for water years 1990-2019.

Table 4-1. Change in Groundwater Storage Based on Seasonal High Groundwater Levels

Aquifer	2020 (D) (af)	2021 (C) (af)
Upper Aquifer	-35,000	-19,000
Lower Aquifer	-6,000	-47,000
Total	**-41,000**	**-66,000**

D: Dry Sacramento Valley Water Year as defined by DWR.

C: Critical Sacramento Valley Water Year as defined by DWR.

Table 4-2. Change in Groundwater Storage Based on Tehama IHM Model				
Water Year & Type[1]	Groundwater Pumping (af)	Groundwater Uptake (af)	Annual Groundwater Storage Change (af)	Cumulative Groundwater Storage Change (af)
1990 (C)	-19,000	-20,000	-40,000	-40,000
1991 (C)	-22,000	-13,000	-31,000	-71,000
1992 (C)	-24,000	-10,000	-15,000	-86,000
1993 (AN)	-16,000	-13,000	54,000	-32,000
1994 (C)	-21,000	-14,000	-33,000	-65,000
1995 (W)	-13,000	-17,000	80,000	15,000
1996 (W)	-14,000	-23,000	19,000	34,000
1997 (W)	-14,000	-24,000	-2,000	32,000
1998 (W)	-8,000	-24,000	67,000	99,000
1999 (W)	-9,400	-27,000	-15,000	84,000
2000 (AN)	-9,100	-25,000	-21,000	63,000
2001 (D)	-14,000	-23,000	-46,000	17,000
2002 (D)	-16,000	-21,000	-17,000	0
2003 (AN)	-9,900	-21,000	33,000	33,000
2004 (BN)	-13,000	-23,000	-4,700	28,000
2005 (AN)	-8,600	-21,000	8,100	36,000
2006 (W)	-9,000	-25,000	44,000	80,000
2007 (D)	-13,000	-23,000	-62,000	18,000
2008 (C)	-17,000	-18,000	-38,000	-20,000
2009 (D)	-16,000	-13,000	-24,000	-44,000
2010 (BN)	-13,000	-13,000	22,000	-22,000
2011 (W)	-9,500	-17,000	41,000	19,000
2012 (BN)	-15,000	-17,000	-41,000	-22,000
2013 (D)	-21,000	-12,000	-28,000	-50,000
2014 (C)	-28,000	-6,400	-51,000	-100,000
2015 (C)	-35,000	-4,200	-30,000	-130,000
2016 (BN)	-23,000	-4,100	23,000	-110,000
2017 (W)	-17,000	-8,700	73,000	-35,000
2018 (BN)	-24,000	-7,800	-38,000	-73,000
2019 (W)	-16,000	-9,300	47,000	-26,000
2020 (D)	-16,000	-17,000	-2,500	-28,000
2021 (C)	-41,000	-2,500	-66,000	-94,000
Average	**-17,000**	**-16,000**	**-2,900**	

All volumes are rounded to two significant figures

1. Sacramento Valley Water Year Type is provided by DWR for years 1990-2020. Water year 2021 meets the criteria to be considered a critical water, as shown in CDEC resources, but has not officially been assigned that designation by DWR. Wet (W), Above Normal (AN, Below Normal (BN), Dry (D), Critical (C)

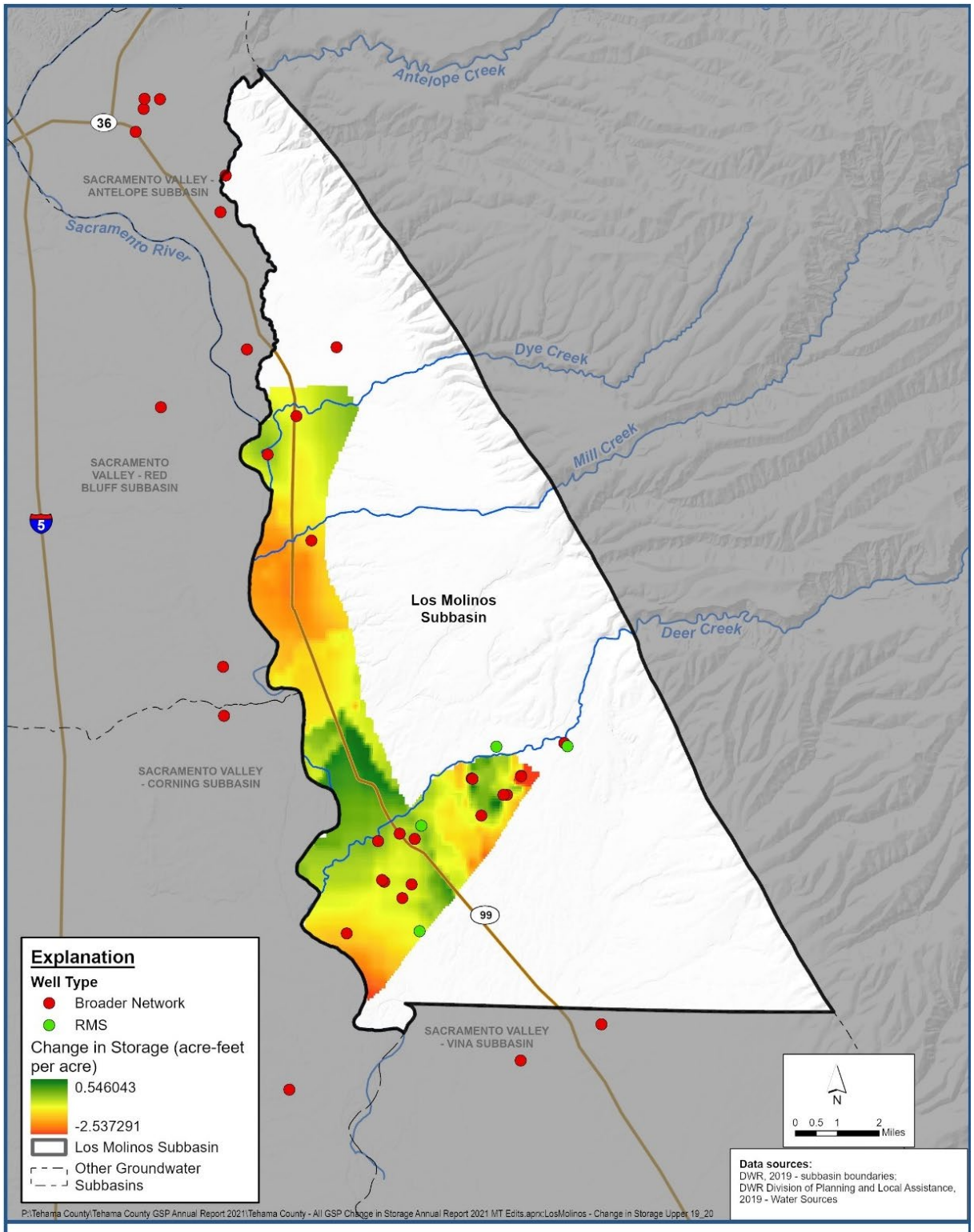
2. Storage change in water years 2020-2021 was estimated using seasonal high spring to spring water levels and in all other years was estimated using the Tehama IHM Model.

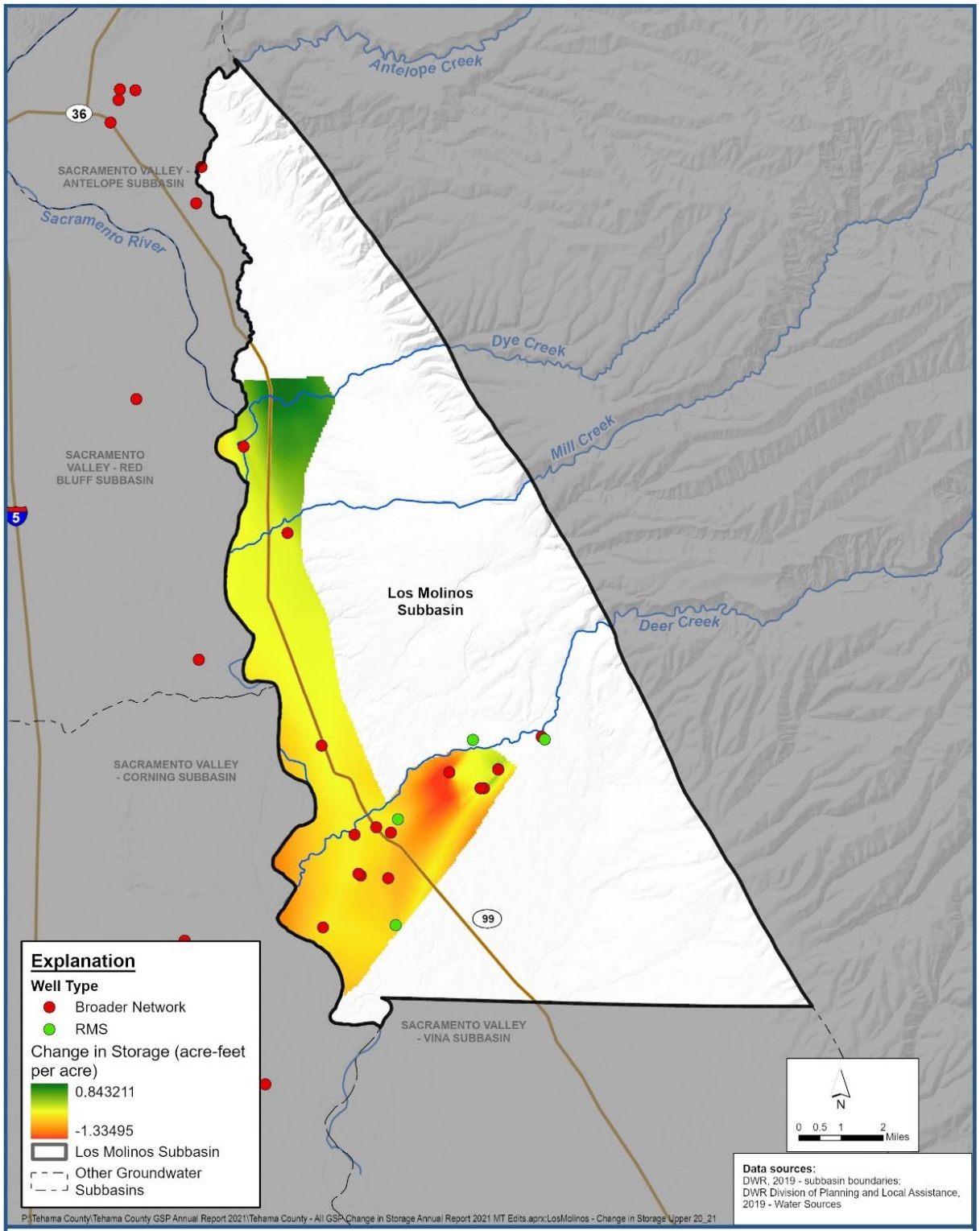
4.1 Groundwater Storage Maps - Section 356.2(b)(5)(A)

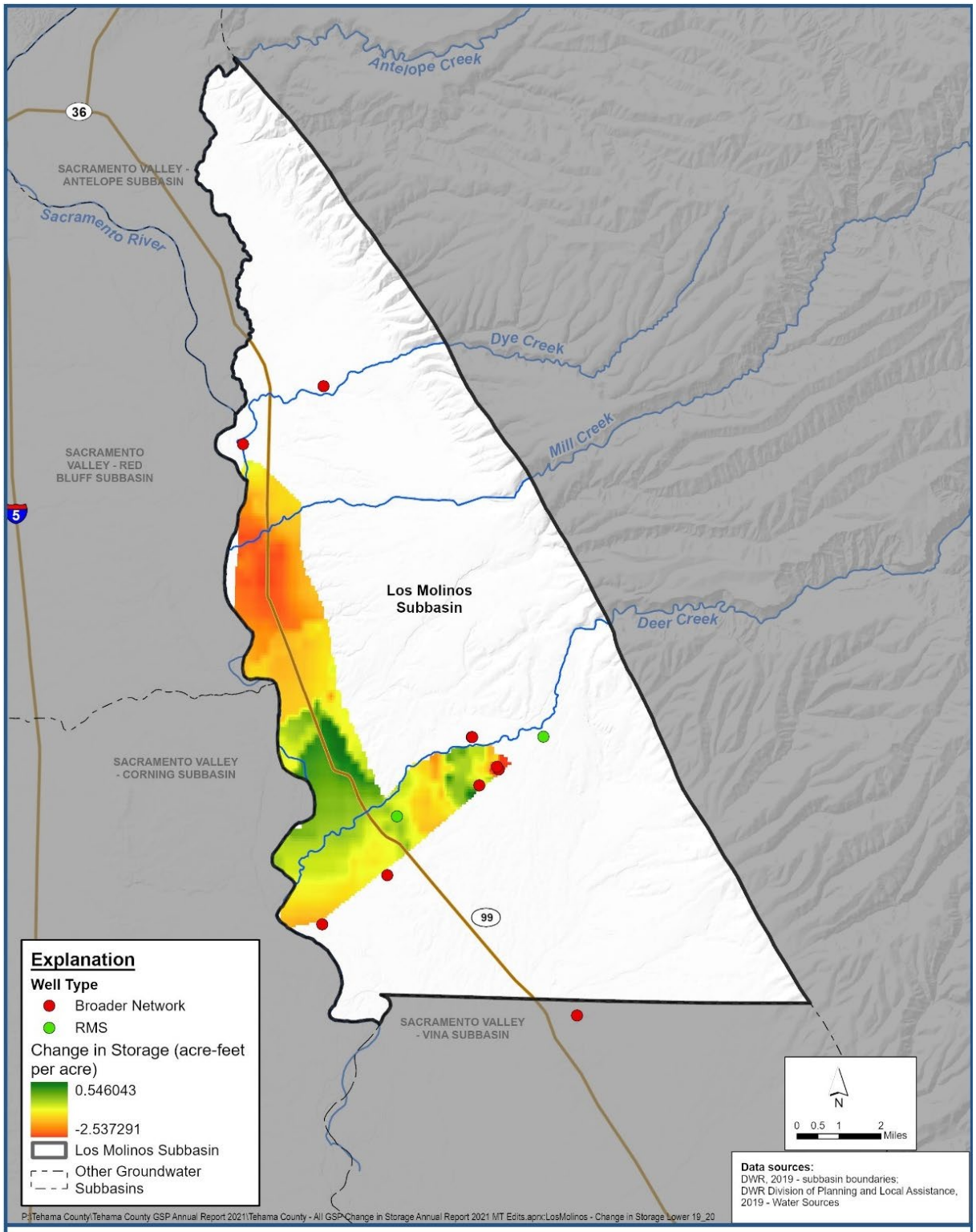
Figures 4-1 and **4-2** present the distribution of storage change in the Upper Aquifer for the 2020 and 2021 water years, respectively. **Figures 4-3** and **4-4** display maps for the Lower Aquifer for the same periods. Maps include the groundwater wells used to calculate change in storage. Groundwater storage change is not shown on **Figures 4-1** through **4-4** outside the established monitoring area to avoid extrapolating beyond the control points (i.e., reliable monitoring well data).

4.2 Subbasin Water Budget - Section 356.2(b)(5)(B)

A graph depicting water year type, groundwater pumping, groundwater uptake, the annual change in groundwater storage, and the cumulative change in groundwater storage is presented on **Figure 4-5**.


Antelope Creek
36
SACRAMENTO VALLEY - ANTELOPE SUBBASIN
Sacramento River
Dye Creek
Mill Creek
SACRAMENTO VALLEY - RED BLUFF SUBBASIN
5
Los Molinos Subbasin
Deer Creek
SACRAMENTO VALLEY - CORNING SUBBASIN
99
SACRAMENTO VALLEY - VINA SUBBASIN
Explanation
Well Type
Broader Network
RMS
Change in Storage (acre-feet per acre)
0.546043
-2.537291
Los Molinos Subbasin
Other Groundwater Subbasins
N
0 0.5 1 2 Miles
Data sources:
DWR, 2019 - subbasin boundaries;
DWR Division of Planning and Local Assistance, 2019 - Water Sources
P:\Tehama County\Tehama County GSP Annual Report 2021\Tehama County - All GSP Change in Storage Annual Report 2021 MT Edits.aprx:LosMolinos - Change in Storage Upper 19_20
TEHAMA COUNTY
LSCE Team
Groundwater Change in Storage, Upper Aquifer – 2019-2020
Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin
Figure 4-1

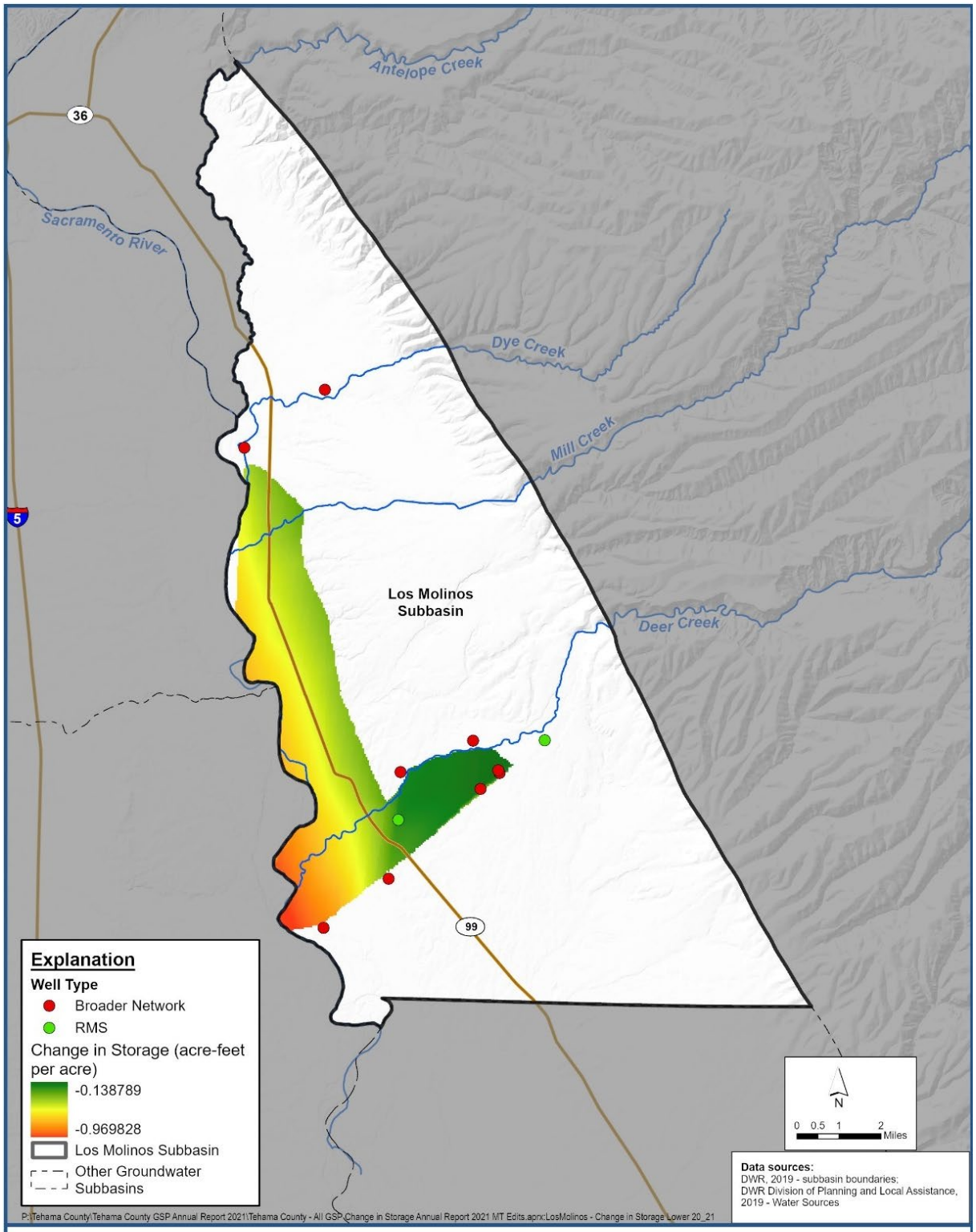

Antelope Creek
36
SACRAMENTO VALLEY - ANTELOPE SUBBASIN
Sacramento River
Dye Creek
Mill Creek
SACRAMENTO VALLEY - RED BLUFF SUBBASIN
5
Los Molinos Subbasin
Deer Creek
SACRAMENTO VALLEY - CORNING SUBBASIN
99
SACRAMENTO VALLEY - VINA SUBBASIN
Explanation
Well Type
Broader Network
RMS
Change in Storage (acre-feet per acre)
0.843211
-1.33495
Los Molinos Subbasin
Other Groundwater Subbasins
N
0 0.5 1 2
Miles
Data sources:
DWR, 2019 - subbasin boundaries;
DWR Division of Planning and Local Assistance, 2019 - Water Sources
P:\Tehama County\Tehama County GSP Annual Report 2021\Tehama County - All GSP Change in Storage Annual Report 2021 MT Edits.aprx:LosMolinos - Change in Storage Upper 20_21
TEHAMA COUNTY
LSCE Team
Groundwater Change in Storage, Upper Aquifer – 2020-2021
Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin
Figure 4-2



Groundwater Change in Storage, Lower Aquifer – 2019-2020

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin

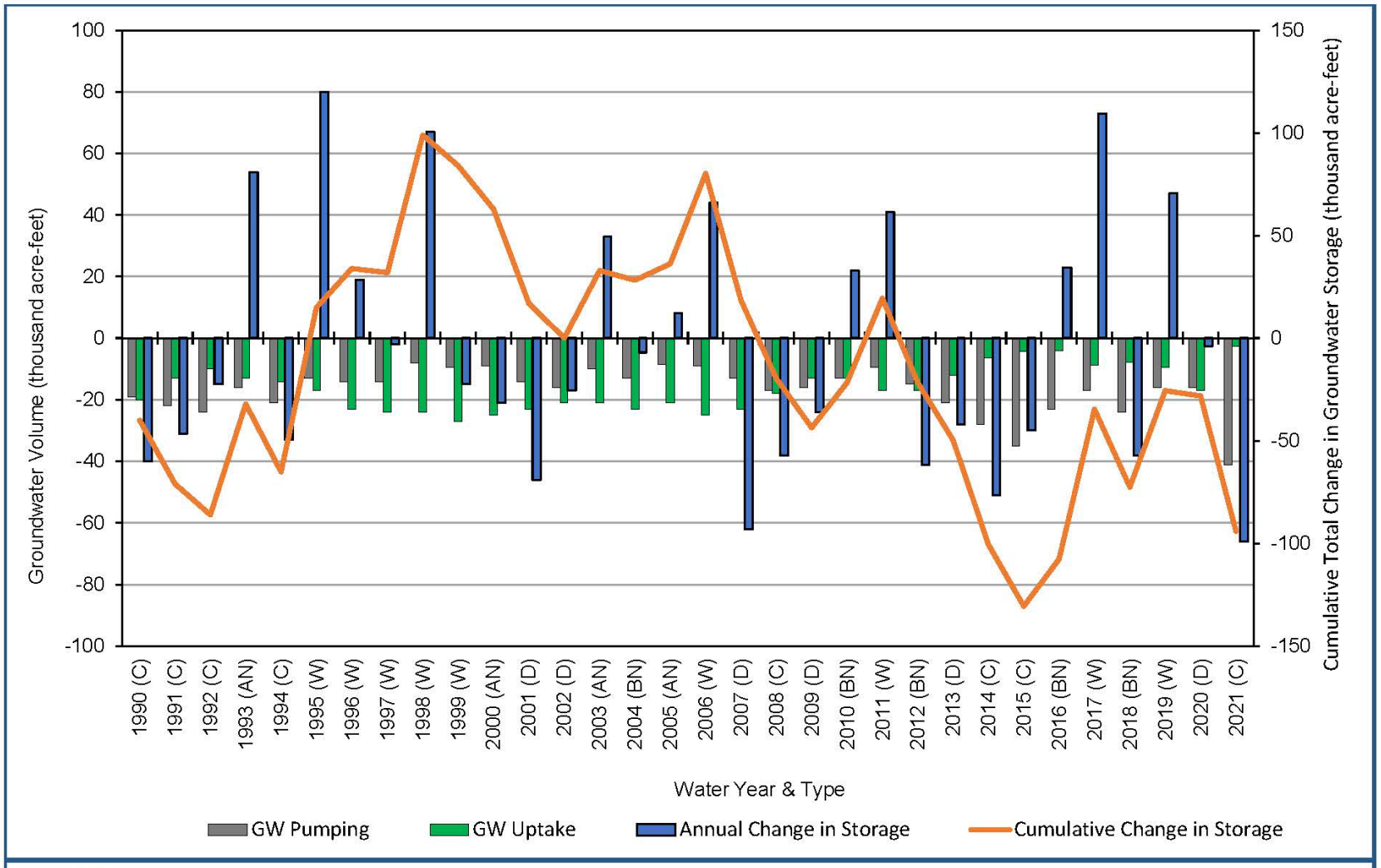
Figure 4-3



Groundwater Change in Storage, Lower Aquifer – 2020-2021

Figure 4-4

Groundwater Sustainability Plan – Annual Report WY 2020-2021
Los Molinos Subbasin



TEHAMA COUNTY
FLOOD CONTROL AND WATER CONSERVATION DISTRICT

LSCE Team

Groundwater Extraction and Change in Groundwater Storage

2021 Groundwater Sustainability Plan Annual Report
Tehama County Flood Control and Water Conservation District

Figure 4-5

5 GSP IMPLEMENTATION PROGRESS - SECTION 356.2(B)

The GSP for the Los Molinos Subbasin was adopted by the GSA in December 2021 and submitted to DWR in January 2022. This is the first annual report to be prepared since the GSP was submitted. The GSP implementation progress reported in this report covers ongoing work during GSP development since late 2021.

Projects and management actions (PMAs) were developed to manage groundwater conditions in the Subbasin and achieve groundwater sustainability objectives described in the GSP. Due to the recent adoption of the GSP, progress towards the implementation of PMAs has not progressed since GSP adoption. The Los Molinos Subbasin GSA is preparing to continue to engage stakeholders in the subbasin as they coordinate to develop a workplan for 2022 and discuss implementation priorities.

Finally, ongoing activities include monitoring and reporting, updating, and maintaining the subbasin's Data Management System, outreach to stakeholders, inter-basin coordination, and coordination with outside efforts to improve characterization of the subbasin (such as DWR's Airborne Electromagnetic Survey Program expected to collect data in the subbasin in May 2022).

As part of the GSA's efforts to address data gaps in the subbasin, An Airborne Electromagnetic (AEM) Survey is scheduled by DWR in May of 2022. The data collected will provide a better understanding of aquifer characteristics and will help refine current hydrogeologic conceptual models. Additionally, the GSA is coordinating with DWR to install a nested monitoring well (TSS-5) pending the completion of similar wells in neighboring subbasins. This new monitoring well will be screened in the Upper and Lower Aquifers and will be incorporated in the RMS well network. Lastly, the GSA is scheduled to survey the LM-2U RMS well to establish a more accurate vertical datum. This surveying will take place before the end of the year.

6 CONCLUSIONS

Recent progress made on all of the, above mentioned, activities applicable to the GSA since late 2021 demonstrates the commitment of the GSA to implement the GSP by allocating the necessary time and resources to achieve long-term sustainable management of the groundwater resources in the subbasin.

7 REFERENCES

California Department of Water Resources. 2004. Sacramento Valley Groundwater Basin, Los Molinos Subbasin, California's Groundwater, Bulletin 118. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_021_56_LosMolinosSubbasin.pdf.

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Tehama County Flood Control and Water Conservation District. 2022. Los Molinos Groundwater Sustainability Plan. https://tehamacountywater.org/gsa/groundwater-sustainability-plans-public-draft/#los-molinos-subbasin-final-gsp.

APPENDIX A

Water Level Hydrographs of Representative Monitoring Wells for Groundwater Level

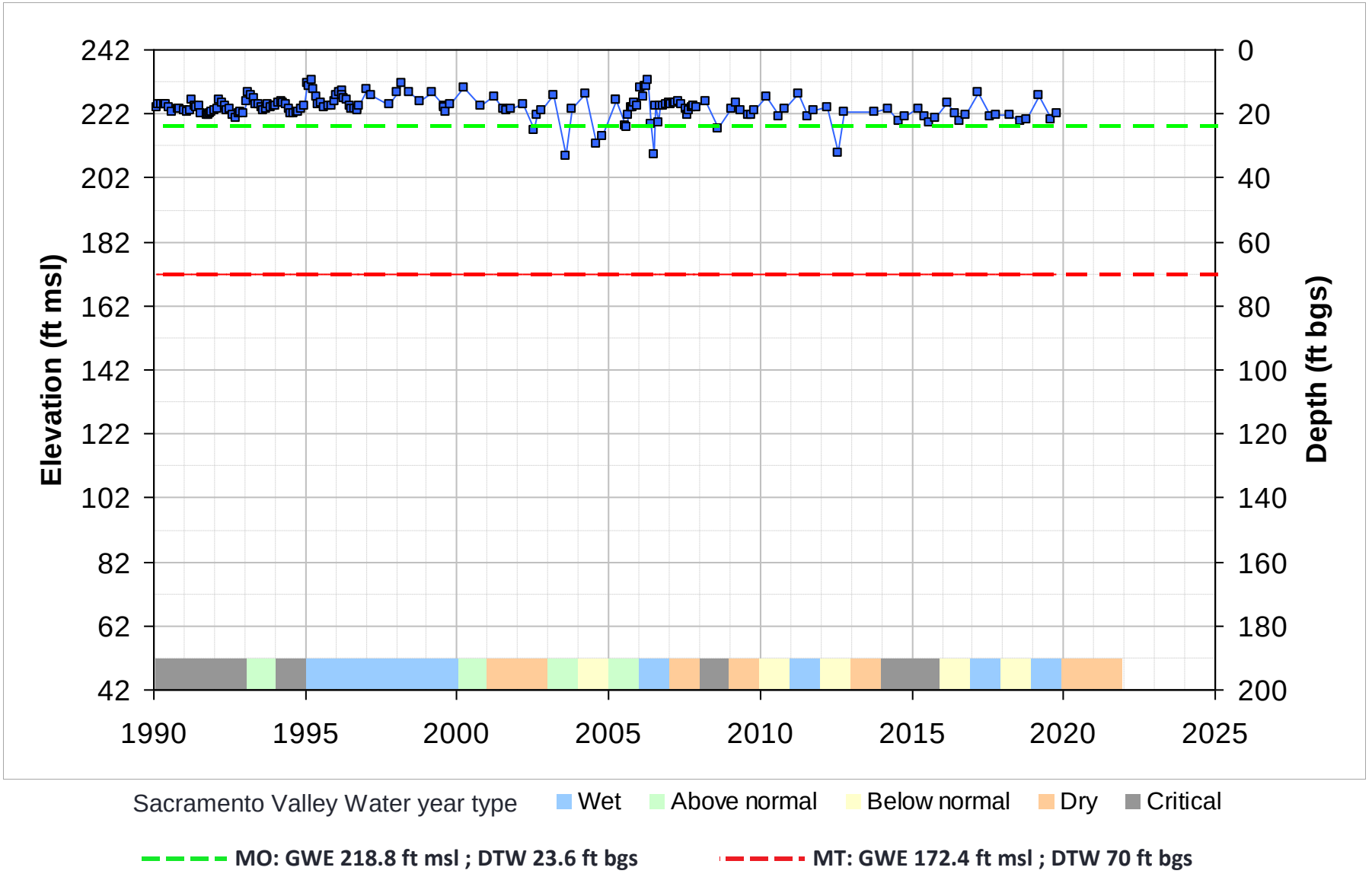
See Figure 2-5 to see the location of wells.

LM-1U (Los Molinos Subbasin - Upper Aquifer)

SWN: 26N02W16C001M

Well Depth (ft): 50; Screens (ft bgs): N/A

Well Type: Domestic

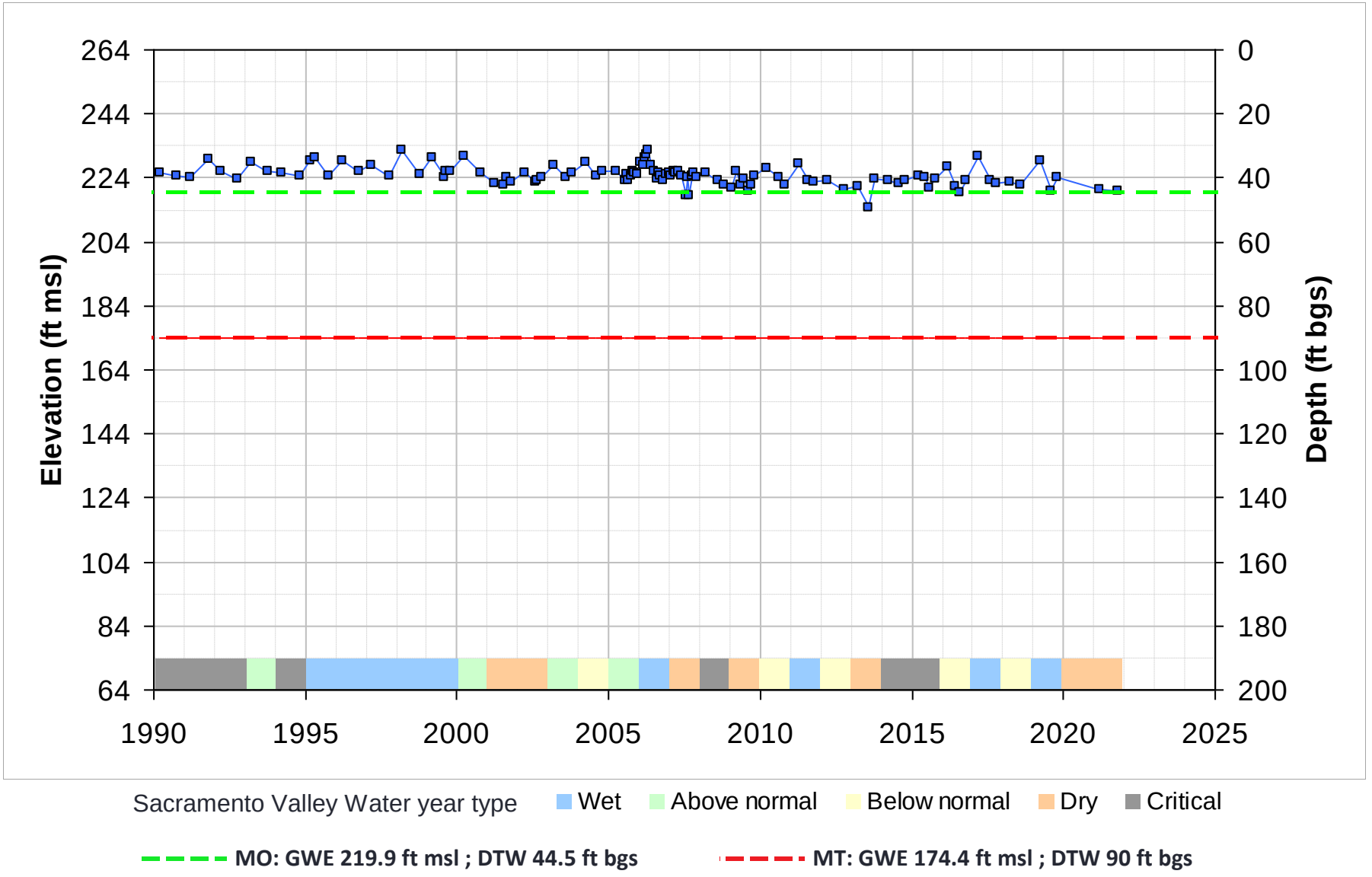


LM-2U (Los Molinos Subbasin - Upper Aquifer)

SWN: 25N02W09G001M

Well Depth (ft): 60; Screens (ft bgs): 40 - 60

Well Type: Domestic



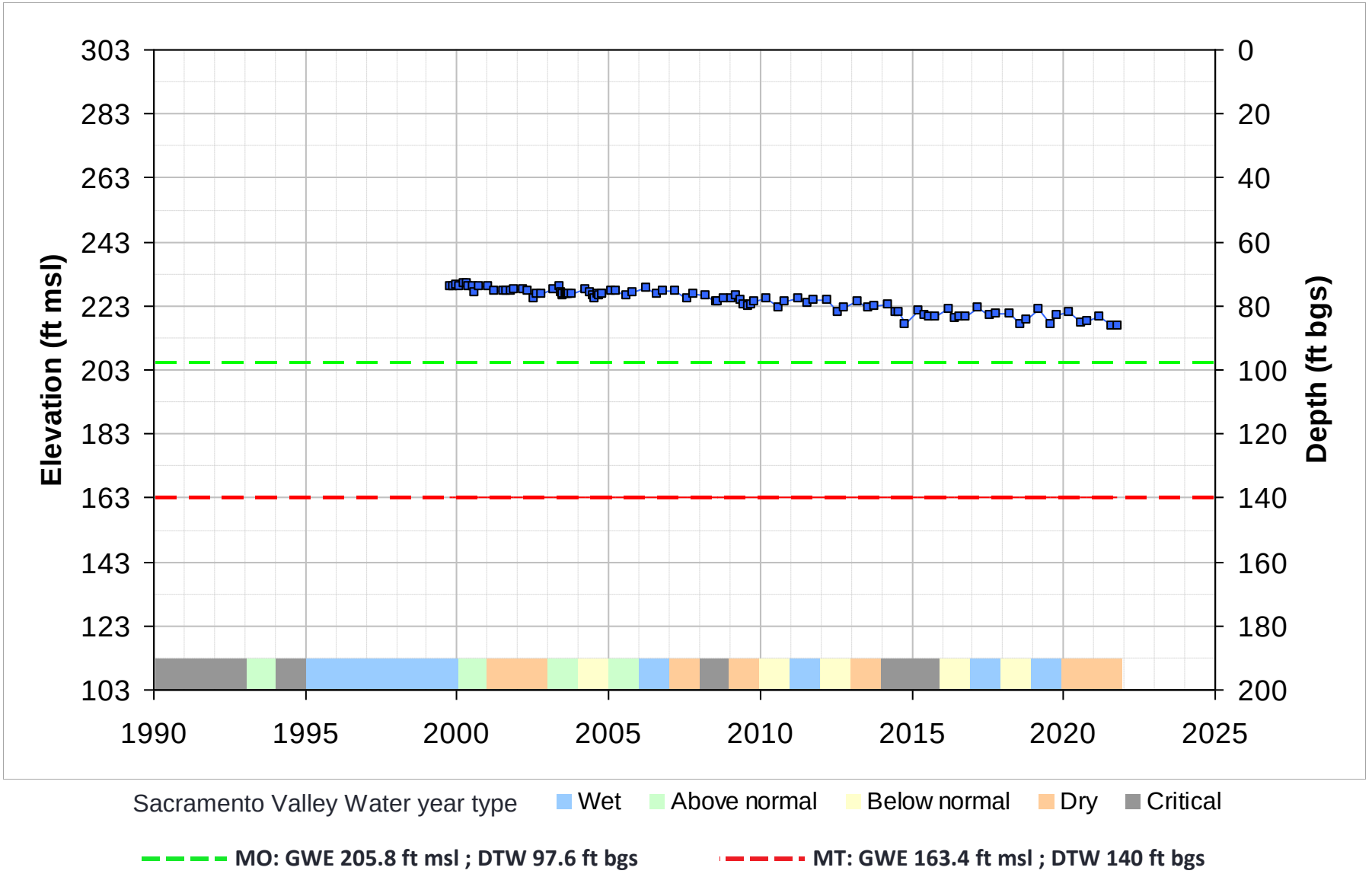
LSCE

LM-3U (Los Molinos Subbasin - Upper Aquifer)

SWN: 25N01W32P001M

Well Depth (ft): 330; Screens (ft bgs): 209 - 256

Well Type: Monitoring



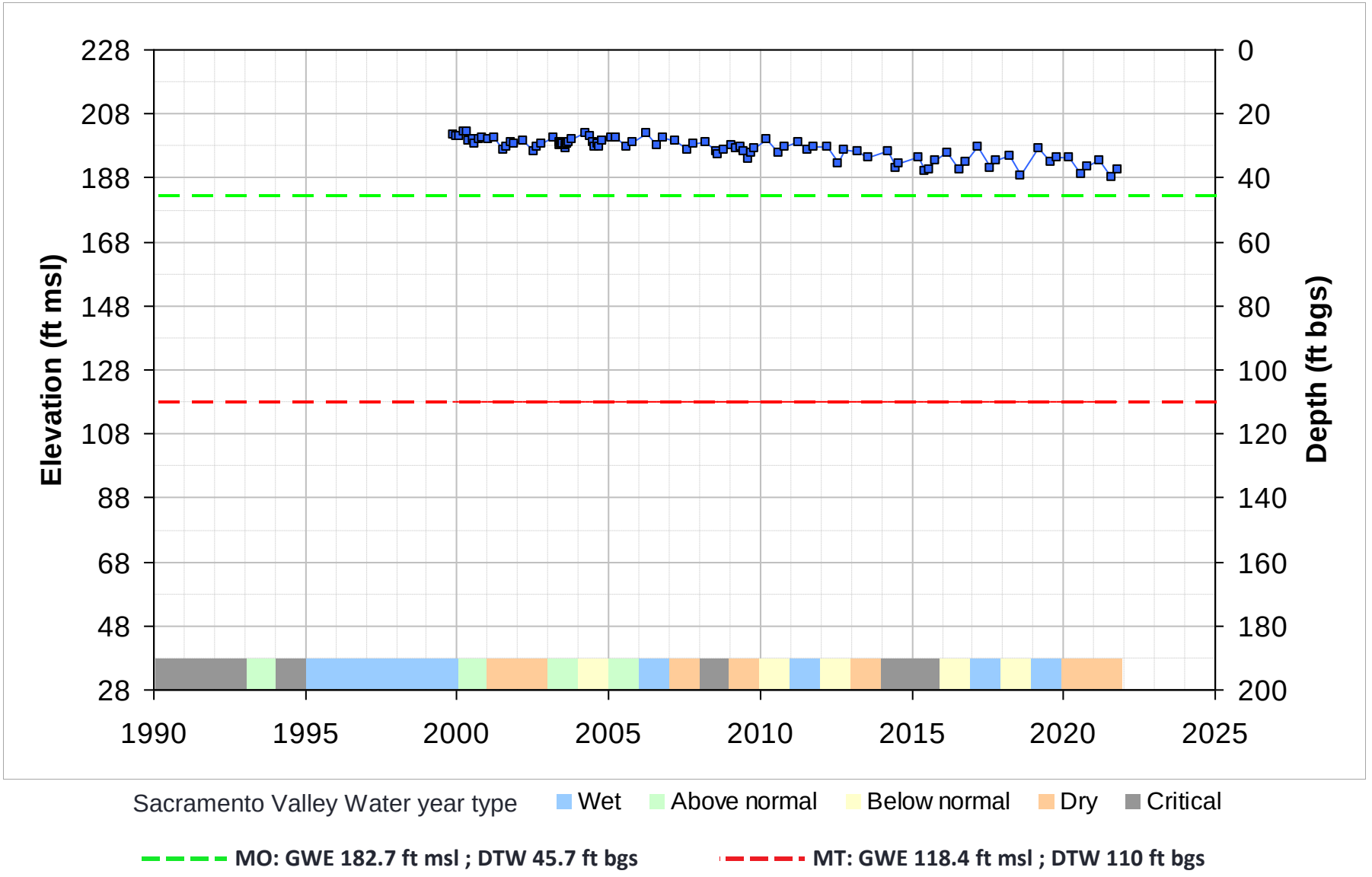
LSCE

LM-4U (Los Molinos Subbasin - Upper Aquifer)

SWN: 24N02W12P001M

Well Depth (ft): 370; Screens (ft bgs): 165 - 360

Well Type: Monitoring



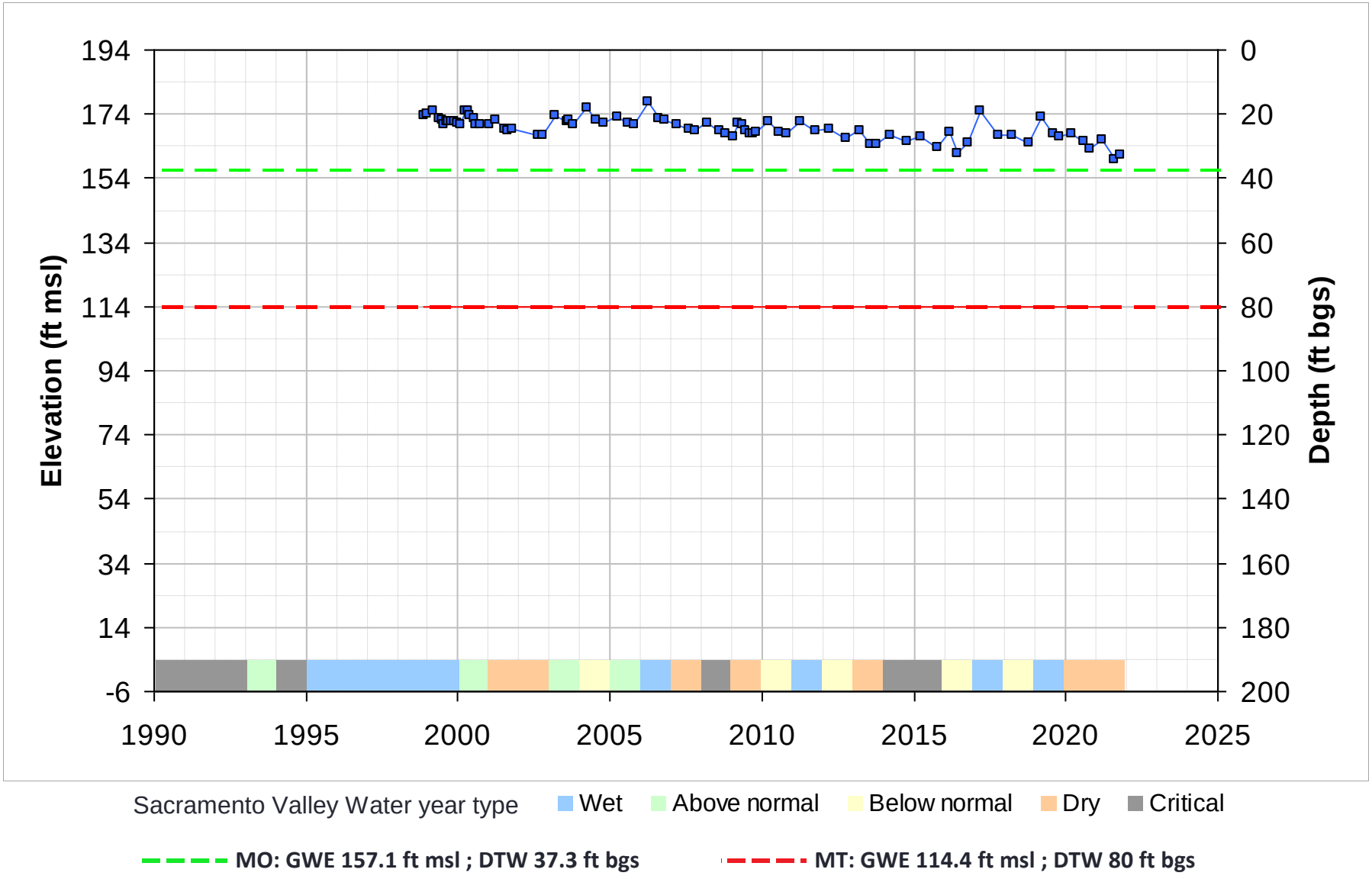
LSCE

LM-5U (Los Molinos Subbasin - Upper Aquifer)

SWN: 24N02W25G001M

Well Depth (ft): 256; Screens (ft bgs): 108 - 256

Well Type: Irrigation



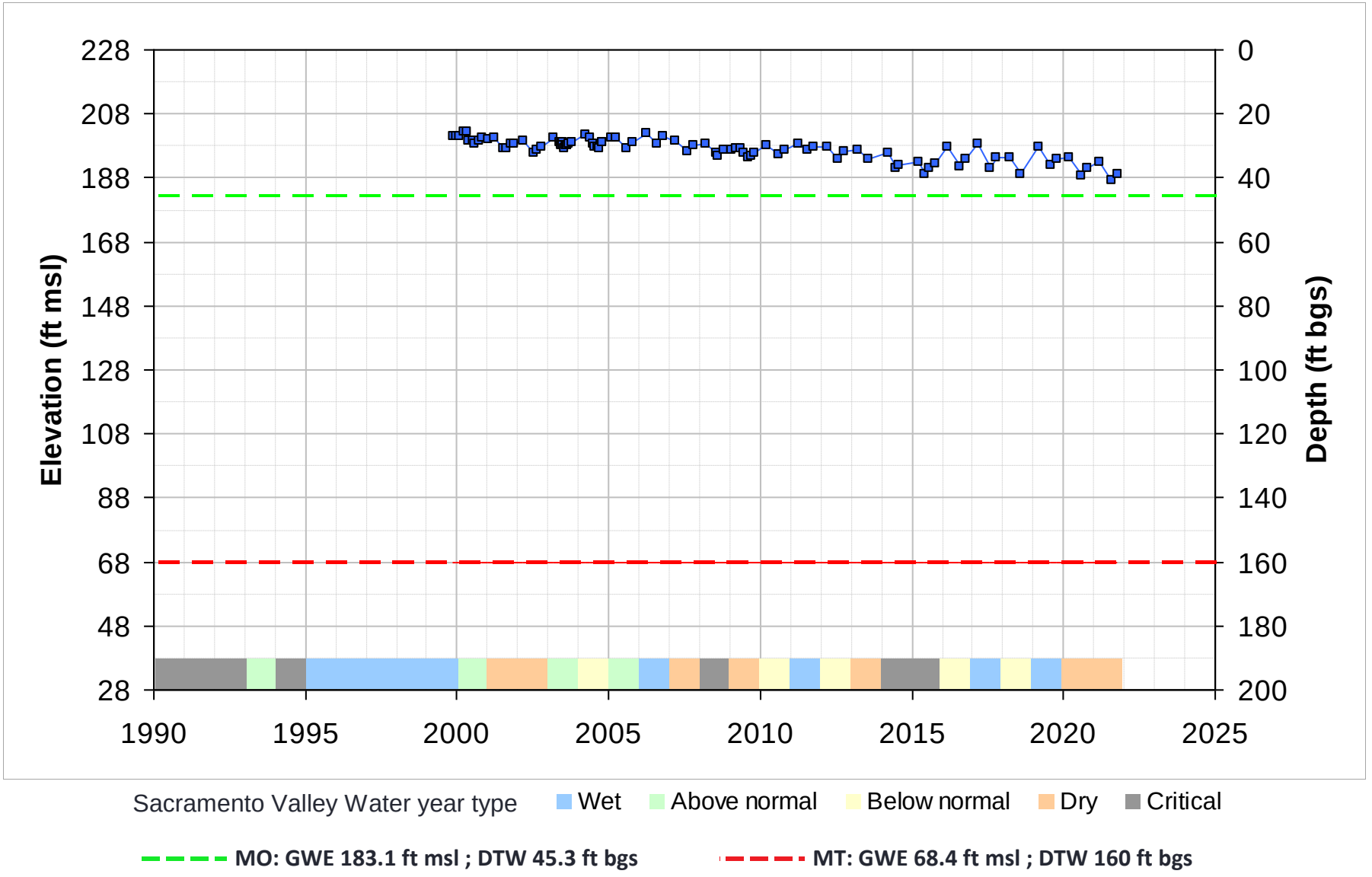
LSCE

LM-7L (Los Molinos Subbasin - Lower Aquifer)

SWN: 24N02W12P002M

Well Depth (ft): 870; Screens (ft bgs): 760 - 850

Well Type: Monitoring



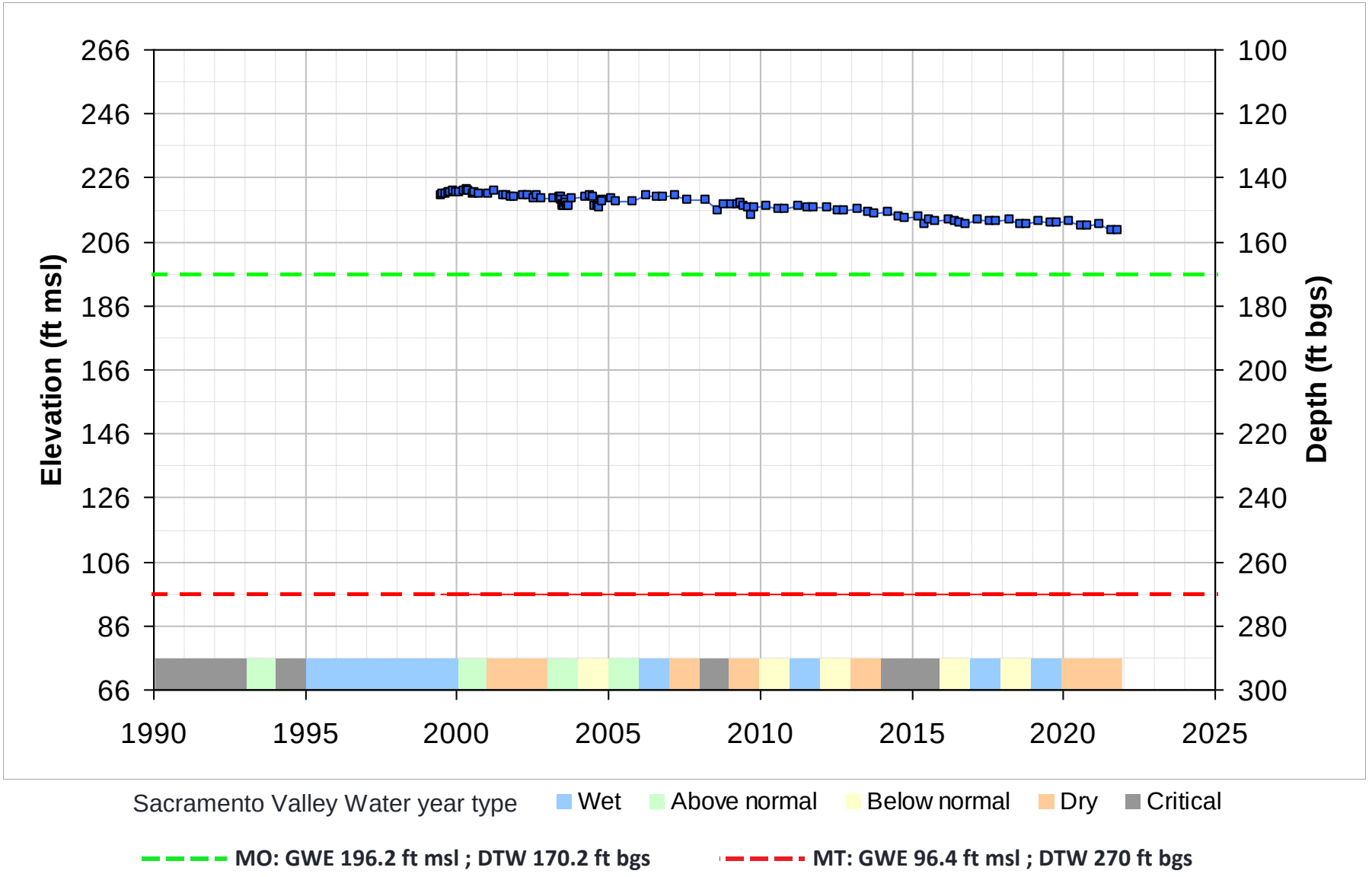
LSCE

LM-8L (Los Molinos Subbasin - Lower Aquifer)

SWN: 25N01W34N003M

Well Depth (ft): 743; Screens (ft bgs): 625 - 680

Well Type: Monitoring



LSCE

APPENDIX B

Annual Report Water Level Data

Data sources:

CA Department of Water Resources

Tehama County Flood Control and Water Conservation District

United States Geological Survey

The Nature Conservancy

LSCE

Table B-1 Water Level Data for Upper Aquifer										
Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
23N01W03H003M	3/13/2020	219.01	216.88	42.53	44.66	174.35				ES
23N01W03H004M	3/13/2020	219.32	216.88	39.03	41.47	177.85				ES
23N01W09E001M	3/13/2020	183.89	183.39	35.10	35.60	148.29				ST
23N01W09E001M	7/3/2020	183.89	183.39	44.20	44.70	139.19				ST
23N02W16B001M	3/10/2020	186.53	184.93	48.50	50.10	136.43				ST
23N02W16B001M	3/17/2021	186.53	184.93	46.90	48.50	138.03				ST
23N02W16B001M	8/2/2021	186.53	184.93	66.60	68.20	118.33	4			ST
23N02W16B001M	10/14/2021	186.53	184.93	60.80	62.40	124.13				ST
24N01W05J001M	3/11/2020	313.41	312.41	39.85	40.85	272.56				ES
24N01W05J001M	8/4/2020	313.41	312.41	35.55	36.55	276.86				ES
24N01W05J001M	10/14/2020	313.41	312.41	34.70	35.70	277.71				ES
24N01W05J001M	3/19/2021	313.41	312.41	42.50	43.50	269.91				ES
24N01W05J001M	8/5/2021	313.41	312.41	47.54	48.54	264.87	1			ES
24N01W05J001M	10/13/2021	313.41	312.41	36.90	37.90	275.51				ES
24N01W05J003M	3/11/2020	314.51	312.41	93.46	95.56	218.95				ES
24N01W05J003M	8/4/2020	314.51	312.41	97.15	99.25	215.26				ES
24N01W05J003M	10/15/2020	314.51	312.41	96.05	98.15	216.36				ES
24N01W05J003M	3/19/2021	314.51	312.41	94.40	96.50	218.01				ES
24N01W05J003M	8/5/2021	314.51	312.41	98.45	100.55	213.96	2			ES
24N01W05J003M	10/13/2021	314.51	312.41	97.41	99.51	215.00				ES
24N01W05Q002M	3/11/2020	290.11	289.41	51.40	52.10	238.01				ST
24N01W05Q002M	3/19/2021	290.11	289.41	53.30	54.00	236.11				ST
24N01W05Q002M	8/5/2021	290.11	289.41	52.20	52.90	237.21				ST
24N01W05Q002M	10/12/2021	290.11	289.41	50.40	51.10	239.01				ST
24N01W05Q003M	3/11/2020	291.41	289.41	75.20	77.20	214.21				ES

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
24N01W05Q003M	8/4/2020	291.41	289.41	79.20	81.20	210.21				ES
24N01W05Q003M	10/15/2020	291.41	289.41	77.40	79.40	212.01				ES
24N01W05Q003M	3/19/2021	291.41	289.41	75.60	77.60	213.81				ES
24N01W05Q003M	8/5/2021	291.41	289.41	79.13	81.13	210.28				ES
24N01W05Q003M	10/12/2021	291.41	289.41	78.41	80.41	211.00				ES
24N01W06J001M	3/11/2020	273.81	272.41	36.00	37.40	236.41				ES
24N01W06J001M	10/15/2020	273.81	272.41	33.80	35.20	238.61				ES
24N01W06J001M	3/19/2021	273.81	272.41	37.45	38.85	234.96				ES
24N01W06J001M	10/13/2021	273.81	272.41	34.68	36.08	237.73				ES
24N01W06J002M	3/11/2020	274.81	272.41	58.50	60.90	213.91				ES
24N01W06J002M	8/4/2020	274.81	272.41	63.55	65.95	208.86				ES
24N01W06J002M	10/15/2020	274.81	272.41	61.05	63.45	211.36				ES
24N01W06J002M	3/19/2021	274.81	272.41	59.30	61.70	213.11				ES
24N01W06J002M	8/5/2021	274.81	272.41	62.90	65.30	209.51				ES
24N01W06J002M	10/13/2021	274.81	272.41	61.48	63.88	210.93				ES
24N01W08M001M	3/11/2020	265.71	265.41	39.40	39.70	226.01				ST
24N01W08M001M	3/19/2021	265.71	265.41	43.60	43.90	221.81				ST
24N01W08M001M	8/5/2021	265.71	265.41	39.40	39.70	226.01				ST
24N02W03B001M	3/12/2020	208.22	204.42	11.90	15.70	192.52				ES
24N02W03B001M	8/4/2020	208.22	204.42	32.70	36.50	171.72				ES
24N02W03B001M	10/15/2020	208.22	204.42	13.90	17.70	190.52				ES
24N02W03B001M	3/19/2021	208.22	204.42	11.90	15.70	192.52				ES
24N02W03B001M	8/3/2021	208.22	204.42	16.62	20.42	187.80				ES
24N02W03B001M	10/13/2021	208.22	204.42	14.05	17.85	190.37				ES
24N02W11R001M	3/12/2020	221.01	219.41	24.50	26.10	194.91				ST

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
24N02W11R001M	8/7/2020	221.01	219.41	28.10	29.70	191.31				ST
24N02W11R001M	10/15/2020	221.01	219.41	29.00	30.60	190.41				ST
24N02W11R001M	3/19/2021	221.01	219.41	26.20	27.80	193.21				ST
24N02W11R001M	8/3/2021	221.01	219.41	30.00	31.60	189.41				ST
24N02W11R001M	10/13/2021	221.01	219.41	29.60	31.20	189.81				ST
24N02W12P001M	3/11/2020	230.81	228.41	33.55	35.95	194.86				ES
24N02W12P001M	8/4/2020	230.81	228.41	38.65	41.05	189.76				ES
24N02W12P001M	10/14/2020	230.81	228.41	36.35	38.75	192.06				ES
24N02W12P001M	3/19/2021	230.81	228.41	34.50	36.90	193.91				ES
24N02W12P001M	8/6/2021	230.81	228.41	39.84	42.24	188.57				ES
24N02W12P001M	10/12/2021	230.81	228.41	37.40	39.80	191.01				ES
24N02W13C001M	3/11/2020	226.21	225.41	23.60	24.40	201.81				ST
24N02W13C001M	8/4/2020	226.21	225.41	31.10	31.90	194.31	2			ST
24N02W13C001M	10/14/2020	226.21	225.41	27.40	28.20	198.01				ST
24N02W13C001M	3/19/2021	226.21	225.41	26.20	27.00	199.21				ST
24N02W13C001M	8/3/2021	226.21	225.41	31.30	32.10	194.11	2			ST
24N02W13C001M	10/12/2021	226.21	225.41	29.20	30.00	196.21				ST
24N02W14C001M	3/11/2020	207.22	206.42	20.40	21.20	186.02				ST
24N02W14C001M	10/14/2020	207.22	206.42	31.20	32.00	175.22				ST
24N02W14C001M	3/18/2021	207.22	206.42	22.20	23.00	184.22				ST
24N02W14C001M	8/3/2021	207.22	206.42	27.30	28.10	179.12				ST
24N02W14C001M	10/12/2021	207.22	206.42	24.20	25.00	182.22				ST
24N02W23B001M	3/11/2020	200.12	199.42	26.90	27.60	172.52				ST
24N02W23B001M	8/4/2020	200.12	199.42	31.00	31.70	168.42	2			ST
24N02W23B001M	10/14/2020	200.12	199.42	38.80	39.50	160.62	4			ST

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
24N02W23B001M	3/17/2021	200.12	199.42	26.30	27.00	173.12				ST
24N02W23B001M	8/3/2021	200.12	199.42	32.30	33.00	167.12				ST
24N02W23B001M	10/12/2021	200.12	199.42	30.90	31.60	168.52				ST
24N02W23B002M	3/11/2020	201.02	200.42	24.60	25.20	175.82				ST
24N02W23B002M	3/17/2021	201.02	200.42	26.20	26.80	174.22				ST
24N02W23B002M	8/3/2021	201.02	200.42	31.50	32.10	168.92				ST
24N02W23B002M	10/12/2021	201.02	200.42	30.80	31.40	169.62				ST
24N02W24D004M	3/11/2020	213.41	212.41	29.65	30.65	182.76				ES
24N02W24D004M	8/4/2020	213.41	212.41	38.40	39.40	174.01				ES
24N02W24D004M	10/14/2020	213.41	212.41	34.45	35.45	177.96				ES
24N02W24D004M	3/17/2021	213.41	212.41	31.35	32.35	181.06				ES
24N02W24D004M	8/3/2021	213.41	212.41	38.27	39.27	174.14				ES
24N02W24D004M	10/12/2021	213.41	212.41	37.13	38.13	175.28				ES
24N02W24E001M	3/11/2020	202.11	201.41	26.30	27.00	175.11				ST
24N02W24E001M	3/17/2021	202.11	201.41	28.50	29.20	172.91				ST
24N02W24E001M	8/3/2021	202.11	201.41	34.60	35.30	166.81				ST
24N02W25G001M	3/11/2020	196.41	194.41	26.00	28.00	168.41				ST
24N02W25G001M	8/4/2020	196.41	194.41	28.40	30.40	166.01				ST
24N02W25G001M	10/14/2020	196.41	194.41	30.60	32.60	163.81				ST
24N02W25G001M	3/17/2021	196.41	194.41	28.00	30.00	166.41				ST
24N02W25G001M	8/3/2021	196.41	194.41	34.20	36.20	160.21				ST
24N02W25G001M	10/12/2021	196.41	194.41	32.70	34.70	161.71				ST
24N02W25Q001M	8/4/2020	188.61	187.41	26.80	28.00	160.61				ST
24N02W25Q001M	3/17/2021	188.61	187.41	24.80	26.00	162.61				ST
24N02W25Q001M	8/3/2021	188.61	187.41	28.10	29.30	159.31				ST

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
24N02W25Q001M	10/12/2021	188.61	187.41	27.70	28.90	159.71				ST
24N02W27G003M	3/11/2020	183.17	182.42	16.45	17.20	165.97				ES
24N02W27G003M	8/4/2020	183.17	182.42	18.95	19.70	163.47				ES
24N02W27G003M	10/14/2020	183.17	182.42	35.45	36.20	146.97	2			ES
24N02W27G003M	3/17/2021	183.17	182.42	17.15	17.90	165.27				ES
24N02W27G003M	8/3/2021	183.17	182.42	37.48	38.23	144.94	2			ES
24N02W27G003M	10/12/2021	183.17	182.42	19.65	20.40	162.77				ES
24N02W27G004M	3/11/2020	183.42	182.42	16.65	17.65	165.77				ES
24N02W27G004M	8/4/2020	183.42	182.42	17.50	18.50	164.92				ES
24N02W27G004M	10/14/2020	183.42	182.42	19.40	20.40	163.02	2			ES
24N02W27G004M	3/17/2021	183.42	182.42	17.40	18.40	165.02				ES
24N02W27G004M	8/3/2021	183.42	182.42	20.63	21.63	161.79	2			ES
24N02W27G004M	10/12/2021	183.42	182.42	18.85	19.85	163.57				ES
24N02W29N003M	2/27/2020	213.76	212.46	55.50	56.80	156.96		NB		ES
24N02W29N003M	3/11/2020	213.76	212.46	47.90	49.20	164.56		NB		ES
24N02W29N003M	5/5/2020	213.76	212.46	60.47	61.77	151.99				ES
24N02W29N003M	8/3/2020	213.76	212.46	79.62	80.92	132.84				ES
24N02W29N003M	10/15/2020	213.76	212.46	72.37	73.67	140.09				ES
24N02W29N003M	3/17/2021	213.76	212.46	50.47	51.77	161.99				ES
24N02W29N003M	8/2/2021	213.76	212.46	83.04	84.34	129.42				ES
24N02W29N003M	10/22/2021	213.76	212.46	69.25	70.55	143.21				ES
24N02W30P002M	3/9/2020	228.24	227.44	59.40	60.20	168.04				ST
24N02W30P002M	8/5/2020	228.24	227.44	92.50	93.30	134.94				ST
24N02W30P002M	10/14/2020	228.24	227.44	88.20	89.00	139.24				ST
24N02W30P002M	3/19/2021	228.24	227.44	62.80	63.60	164.64				ST

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer										
Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
24N02W30P002M	8/2/2021	228.24	227.44	98.70	99.50	128.74				ST
24N02W30P002M	10/13/2021	228.24	227.44	92.70	93.50	134.74				ST
25N01W32P001M	3/13/2020	305.71	303.41	82.00	84.30	221.41				ES
25N01W32P001M	8/4/2020	305.71	303.41	85.52	87.82	217.89				ES
25N01W32P001M	10/15/2020	305.71	303.41	84.60	86.90	218.81				ES
25N01W32P001M	3/19/2021	305.71	303.41	83.20	85.50	220.21				ES
25N01W32P001M	8/5/2021	305.71	303.41	86.45	88.75	216.96				ES
25N01W32P001M	10/13/2021	305.71	303.41	86.02	88.32	217.39				ES
25N01W33J001M	3/11/2020	364.43	363.43	119.50	120.50	243.93				ST
25N01W33J001M	8/4/2020	364.43	363.43	124.00	125.00	239.43				ST
25N01W33J001M	10/14/2020	364.43	363.43	121.00	122.00	242.43				ST
25N01W33J001M	3/19/2021	364.43	363.43	120.90	121.90	242.53				ST
25N01W33J001M	8/3/2021	364.43	363.43	124.30	125.30	239.13				ST
25N01W33J001M	10/12/2021	364.43	363.43	122.00	123.00	241.43				ST
25N01W34N002M	3/11/2020	368.53	366.43	138.55	140.65	227.88				ES
25N01W34N002M	8/4/2020	368.53	366.43	140.20	142.30	226.23	2			ES
25N01W34N002M	10/14/2020	368.53	366.43	140.45	142.55	225.98				ES
25N01W34N002M	3/19/2021	368.53	366.43	139.70	141.80	226.73				ES
25N01W34N002M	8/3/2021	368.53	366.43	141.70	143.80	224.73				ES
25N01W34N002M	10/12/2021	368.53	366.43	141.80	143.90	224.63	2			ES
25N02W04Q001M	3/10/2020	262.09	260.39	47.70	49.40	212.69				ES
25N02W04Q001M	8/3/2021	262.09	260.39	51.07	52.77	209.32				ES
25N02W04Q001M	10/11/2021	262.09	260.39	50.05	51.75	210.34				ES
25N02W09G001M	3/15/2021	265.40	264.40	43.60	44.60	220.80				ST
25N02W09G001M	10/11/2021	265.40	264.40	44.00	45.00	220.40				ST

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
25N02W30G001M	3/9/2020	228.73	228.43	40.80	41.10	187.63				ES
25N02W30G001M	8/4/2020	228.73	228.43	42.55	42.85	185.88				ES
25N02W30G001M	10/12/2020	228.73	228.43	42.90	43.20	185.53				ES
25N02W30G001M	3/16/2021	228.73	228.43	41.55	41.85	186.88				ES
25N02W30G001M	8/3/2021	228.73	228.43	43.60	43.90	184.83				ES
25N02W30G001M	10/12/2021	228.73	228.43	43.45	43.75	184.98				ES
25N02W31G002M	3/9/2020	224.00	223.00	27.60	28.60	195.40				ST
25N02W31G002M	8/5/2020	224.00	223.00	35.20	36.20	187.80				ST
25N02W31G002M	10/13/2020	224.00	223.00	32.90	33.90	190.10				ST
25N02W31G002M	3/19/2021	224.00	223.00	29.10	30.10	193.90				ST
25N02W31G002M	8/4/2021	224.00	223.00	37.40	38.40	185.60	8			ST
26N02W15C001M	3/10/2020	262.42	260.42	37.20	39.20	223.22		Locked		ST
26N02W15C001M	9/4/2020	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	9/11/2020	262.42	260.42	40.80	42.80	219.62				ST
26N02W15C001M	9/18/2020	262.42	260.42	42.10	44.10	218.32				ST
26N02W15C001M	9/23/2020	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	10/2/2020	262.42	260.42	40.70	42.70	219.72				ST
26N02W15C001M	10/9/2020	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	10/16/2020	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	10/23/2020	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	10/30/2020	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	11/6/2020	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	3/15/2021	262.42	260.42	39.00	41.00	221.42				ST
26N02W15C001M	7/8/2021	262.42	260.42	48.30	50.30	212.12				ST
26N02W15C001M	7/12/2021	262.42	260.42	31.80	33.80	228.62				ST

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
26N02W15C001M	7/16/2021	262.42	260.42	32.30	34.30	228.12				ST
26N02W15C001M	7/20/2021	262.42	260.42	35.90	37.90	224.52				ST
26N02W15C001M	7/26/2021	262.42	260.42	36.40	38.40	224.02				ST
26N02W15C001M	8/4/2021	262.42	260.42	42.70	44.70	217.72	4			ST
26N02W15C001M	8/5/2021	262.42	260.42	40.50	42.50	219.92				ST
26N02W15C001M	8/11/2021	260.00	158.00	-57.30	44.70	215.30				ST
26N02W15C001M	9/2/2021	262.42	260.42	43.10	45.10	217.32				ST
26N02W15C001M	9/10/2021	262.42	260.42	43.20	45.20	217.22				ST
26N02W15C001M	9/14/2021	262.42	260.42	43.10	45.10	217.32				ST
26N02W15C001M	9/17/2021	262.42	260.42	42.90	44.90	217.52				ST
26N02W15C001M	9/30/2021	262.42	260.42	42.60	44.60	217.82				ST
26N02W15C001M	10/7/2021	262.42	260.42	42.30	44.30	218.12				ST
26N02W15C001M	10/15/2021	262.42	260.42	42.00	44.00	218.42				ST
26N02W17E001M	3/10/2020	241.41	240.41	18.30	19.30	222.11				ST
26N02W17E001M	10/14/2020	241.41	240.41	19.70	20.70	220.71				ST
26N02W17E001M	3/15/2021	241.41	240.41	19.20	20.20	221.21				ST
26N02W17E001M	10/11/2021	241.41	240.41	20.70	21.70	219.71				ST
26N02W21Q001M	3/10/2020	238.90	237.40	20.60	22.10	216.80				ST
26N02W29R001M	3/10/2020	234.00	230.40	5.00	8.60	225.40				ES
26N02W29R001M	8/4/2020	234.00	230.40	5.00	8.60	225.40				ES
26N02W29R001M	9/4/2020	234.00	230.40	4.97	8.57	225.43				ES
26N02W29R001M	9/11/2020	234.00	230.40	5.20	8.80	225.20				ES
26N02W29R001M	9/18/2020	234.00	230.40	5.10	8.70	225.30				ES
26N02W29R001M	9/23/2020	234.00	230.40	5.20	8.80	225.20				ES
26N02W29R001M	10/2/2020	234.00	230.40	5.10	8.70	225.30				ES

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
26N02W29R001M	10/9/2020	234.00	230.40	5.10	8.70	225.30				ES
26N02W29R001M	10/16/2020	234.00	230.40	5.10	8.70	225.30				ES
26N02W29R001M	10/23/2020	234.00	230.40	5.10	8.70	225.30				ES
26N02W29R001M	10/30/2020	234.00	230.40	5.10	8.70	225.30				ES
26N02W29R001M	11/6/2020	234.00	230.40	5.15	8.75	225.25				ES
26N02W29R001M	1/13/2021	234.00	230.40	5.15	8.75	225.25				ES
26N02W29R001M	3/15/2021	234.00	230.40	5.20	8.80	225.20				ES
26N02W29R001M	7/8/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	7/12/2021	234.00	230.40	6.00	9.60	224.40				ES
26N02W29R001M	7/16/2021	234.00	230.40	6.30	9.90	224.10				ES
26N02W29R001M	7/20/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	7/23/2021	234.00	230.40	5.40	9.00	225.00				ES
26N02W29R001M	7/26/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	7/30/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	8/3/2021	234.00	230.40	5.40	9.00	225.00				ES
26N02W29R001M	8/5/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	8/11/2021	234.00	230.40	5.10	8.70	225.30				ES
26N02W29R001M	8/20/2021	234.00	230.40	5.40	9.00	225.00				ES
26N02W29R001M	8/27/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	9/3/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	9/10/2021	234.00	230.40	5.40	9.00	225.00				ES
26N02W29R001M	9/14/2021	234.00	230.40	5.40	9.00	225.00				ES
26N02W29R001M	9/17/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	9/24/2021	234.00	230.40	5.40	9.00	225.00				ES
26N02W29R001M	9/28/2021	234.00	230.40	5.50	9.10	224.90				ES

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
26N02W29R001M	9/30/2021	234.00	230.40	5.40	9.00	225.00				ES
26N02W29R001M	10/7/2021	234.00	230.40	5.30	8.90	225.10				ES
26N02W29R001M	10/15/2021	234.00	230.40	5.30	8.90	225.10				ES
26N03W24M001M	3/11/2020	246.91	246.41	22.50	23.00	223.91				ES
26N03W24M001M	8/5/2020	246.91	246.41	48.24	48.74	198.17				ES
26N03W24M001M	10/13/2020	246.91	246.41	38.35	38.85	208.06				ES
26N03W24M001M	3/16/2021	246.91	246.41	28.30	28.80	218.11				ES
26N03W24M001M	8/5/2021	246.91	246.41	51.52	52.02	194.89				ES
26N03W24M001M	10/13/2021	246.91	246.41	42.74	43.24	203.67				ES
27N02W30C003M	3/10/2020	287.00	283.00	38.60	42.60	244.40				ST
27N02W30C003M	8/5/2020	287.00	283.00	44.30	48.30	238.70				ST
27N02W30C003M	10/14/2020	287.00	283.00	41.30	45.30	241.70				ST
27N02W30C003M	3/15/2021	287.00	283.00	39.80	43.80	243.20				ST
27N02W30C003M	8/4/2021	287.00	283.00	52.16	56.16	230.84				ES
27N02W30C003M	10/11/2021	287.00	283.00	45.80	49.80	237.20				ST
27N02W31C001M	3/10/2020	263.43	263.43	30.90	30.90	232.53				ST
27N02W31C001M	8/4/2020	263.43	263.43	40.00	40.00	223.43				ST
27N02W31C001M	10/14/2020	263.43	263.43	32.10	32.10	231.33				ST
27N02W31C001M	3/15/2021	263.43	263.43	31.40	31.40	232.03				ST
27N02W31C001M	8/4/2021	263.43	263.43	41.80	41.80	221.63				ST
27N02W31C001M	10/11/2021	263.43	263.43	38.80	38.80	224.63				ST
27N03W14F001M	3/12/2020	277.93	277.43	37.20	37.70	240.23				ES
27N03W14F001M	8/5/2020	277.93	277.43	52.95	53.45	224.48				ES
27N03W14F001M	10/14/2020	277.93	277.43	46.68	47.18	230.75				ES
27N03W14F001M	8/4/2021	277.93	277.43	56.67	57.17	220.76				ES

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-1 Water Level Data for Upper Aquifer

Well ID	Measure Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD[1]	Comments	QA_CD	Method
27N03W14F001M	10/11/2021	277.93	277.43	51.27	51.77	226.16				ES
27N03W14H001M	3/12/2020	281.30	280.00	36.10	37.40	243.90				ST
27N03W14H001M	3/26/2021	281.30	280.00	39.70	41.00	240.30				ST
27N03W14H001M	8/4/2021	281.30	280.00	50.50	51.80	229.50				ST
27N03W14H001M	10/11/2021	281.30	280.00	49.50	50.80	230.50				ST
27N03W14L001M	3/12/2020	279.93	277.43	33.05	35.55	244.38				ES
27N03W14L001M	8/5/2020	279.93	277.43	48.82	51.32	228.61				ES
27N03W14L001M	10/14/2020	279.93	277.43	43.60	46.10	233.83				ES
27N03W14L001M	3/26/2021	279.93	277.43	36.20	38.70	241.23				ES
27N03W14L001M	8/4/2021	279.93	277.43	53.73	56.23	223.70				ES
27N03W14L001M	10/11/2021	279.93	277.43	48.74	51.24	228.69				ES
27N03W23D001M	3/10/2020	272.43	271.43	33.30	34.30	238.13				ST
27N03W23D001M	8/5/2020	272.43	271.43	52.30	53.30	219.13	4			ST
27N03W23D001M	3/15/2021	272.43	271.43	33.80	34.80	237.63				ST
27N03W23D001M	7/28/2021	272.43	271.43	50.00	51.00	221.43	4			ST
27N03W23D001M	8/4/2021	272.43	271.43	57.00	58.00	214.43				ST
27N03W23D001M	10/11/2021	272.43	271.43	47.50	48.50	223.93				ST
27N03W36C002M	3/15/2021	261.60	261.00	26.50	27.10	234.50				ES
27N03W36C002M	8/4/2021	261.60	261.00	33.01	33.61	227.99				ES

[1]WL QM CD: 1-Pumping, 2-Nearby pump operating, 4-Pumped recently, 8-Oil or foreign substance in casing

Table B-2 Water Level Data for Lower Aquifer										
State Well Number	Measure. Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD	Comments	QA_CD	Method
23N01W03H002M	3/13/2020	218.84	216.88	42.44	44.40	174.44				ES
24N01W04M001M	3/13/2020	312.91	312.41	100.25	100.75	212.16				ES
24N01W04M001M	8/4/2020	312.91	312.41	103.30	103.80	209.11				ES
24N01W04M001M	10/15/2020	312.91	312.41	102.85	103.35	209.56				ES
24N01W04M001M	3/19/2021	312.91	312.41	101.70	102.20	210.71				ES
24N01W04M001M	8/5/2021	312.91	312.41	104.55	105.05	207.86				ES
24N01W04M001M	10/13/2021	312.91	312.41	104.27	104.77	208.14				ES
24N01W05J004M	3/11/2020	314.21	312.41	96.45	98.25	215.96				ES
24N01W05J004M	8/4/2020	314.21	312.41	99.65	101.45	212.76				ES
24N01W05J004M	10/15/2020	314.21	312.41	98.80	100.60	213.61				ES
24N01W05J004M	3/19/2021	314.21	312.41	97.40	99.20	215.01				ES
24N01W05J004M	8/5/2021	314.21	312.41	100.69	102.49	211.72	2			ES
24N01W05J004M	10/13/2021	314.21	312.41	100.05	101.85	212.36				ES
24N01W05Q004M	3/11/2020	291.01	289.41	78.35	79.95	211.06				ES
24N01W05Q004M	8/4/2020	291.01	289.41	82.80	84.40	206.61				ES
24N01W05Q004M	10/15/2020	291.01	289.41	81.00	82.60	208.41				ES
24N01W05Q004M	3/19/2021	291.01	289.41	79.10	80.70	210.31				ES
24N01W05Q004M	8/5/2021	291.01	289.41	82.62	84.22	206.79				ES
24N01W05Q004M	10/12/2021	291.01	289.41	82.06	83.66	207.35				ES
24N02W01L002M	3/11/2020	255.82	253.42	42.25	44.65	211.17				ES
24N02W01L002M	10/15/2020	255.82	253.42	46.02	48.42	207.40				ES
24N02W01L002M	8/6/2021	255.82	253.42	48.32	50.72	205.10				ES
24N02W01L002M	10/13/2021	255.82	253.42	47.70	50.10	205.72				ES
24N02W12P002M	3/11/2020	230.81	228.41	33.70	36.10	194.71				ES
24N02W12P002M	8/4/2020	230.81	228.41	39.25	41.65	189.16				ES
24N02W12P002M	10/14/2020	230.81	228.41	37.15	39.55	191.26				ES

Table B-2 Water Level Data for Lower Aquifer										
State Well Number	Measure. Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD	Comments	QA_CD	Method
24N02W12P002M	3/19/2021	230.81	228.41	34.86	37.26	193.55				ES
24N02W12P002M	8/6/2021	230.81	228.41	40.75	43.15	187.66				ES
24N02W12P002M	10/12/2021	230.81	228.41	38.76	41.16	189.65				ES
24N02W24D002M	3/11/2020	212.91	212.41	23.75	24.25	188.66				ES
24N02W24D002M	8/4/2020	212.91	212.41	30.20	30.70	182.21				ES
24N02W24D002M	10/14/2020	212.91	212.41	28.85	29.35	183.56				ES
24N02W24D002M	3/17/2021	212.91	212.41	25.60	26.10	186.81				ES
24N02W24D002M	8/3/2021	212.91	212.41	33.65	34.15	178.76				ES
24N02W24D002M	10/12/2021	212.91	212.41	31.65	32.15	180.76				ES
24N02W24D003M	3/11/2020	213.16	212.41	27.20	27.95	185.21				ES
24N02W24D003M	8/4/2020	213.16	212.41	33.50	34.25	178.91				ES
24N02W24D003M	10/14/2020	213.16	212.41	31.85	32.60	180.56				ES
24N02W24D003M	3/17/2021	213.16	212.41	28.85	29.60	183.56				ES
24N02W24D003M	8/3/2021	213.16	212.41	37.10	37.85	175.31				ES
24N02W24D003M	10/12/2021	213.16	212.41	34.36	35.11	178.05				ES
24N02W27G001M	3/11/2020	182.67	182.42	8.60	8.85	173.82				ES
24N02W27G001M	8/4/2020	182.67	182.42	23.65	23.90	158.77				ES
24N02W27G001M	10/14/2020	182.67	182.42	21.62	21.87	160.80	2			ES
24N02W27G001M	3/17/2021	182.67	182.42	11.60	11.85	170.82				ES
24N02W27G001M	8/3/2021	182.67	182.42	28.10	28.35	154.32	2			ES
24N02W27G001M	10/12/2021	182.67	182.42	27.55	27.80	154.87				ES
24N02W27G002M	3/11/2020	182.92	182.42	14.60	15.10	167.82				ES
24N02W27G002M	8/4/2020	182.92	182.42	24.80	25.30	157.62				ES
24N02W27G002M	10/14/2020	182.92	182.42	24.27	24.77	158.15	2			ES
24N02W27G002M	3/17/2021	182.92	182.42	16.10	16.60	166.32				ES
24N02W27G002M	8/3/2021	182.92	182.42	29.22	29.72	153.20	2			ES

Table B-2 Water Level Data for Lower Aquifer										
State Well Number	Measure. Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD	Comments	QA_CD	Method
24N02W27G002M	10/12/2021	182.92	182.42	23.60	24.10	158.82				ES
24N02W29N004M	2/27/2020	213.45	212.45	46.70	47.70	165.75		NB		ES
24N02W29N004M	3/11/2020	213.45	212.45	48.15	49.15	164.30		NB		ES
24N02W29N004M	5/5/2020	213.45	212.45	60.30	61.30	152.15				ES
24N02W29N004M	8/3/2020	213.45	212.45	85.45	86.45	127.00				ES
24N02W29N004M	10/15/2020	213.45	212.45	74.03	75.03	138.42				ES
24N02W29N004M	3/17/2021	213.45	212.45	52.30	53.30	160.15				ES
24N02W29N004M	8/2/2021	213.45	212.45	89.74	90.74	122.71				ES
24N02W29N004M	10/22/2021	213.45	212.45	77.05	78.05	135.40				ES
25N01W32P002M	3/13/2020	305.71	303.41	82.15	84.45	221.26				ES
25N01W32P002M	8/4/2020	305.71	303.41	85.75	88.05	217.66				ES
25N01W32P002M	10/15/2020	305.71	303.41	84.80	87.10	218.61				ES
25N01W32P002M	3/19/2021	305.71	303.41	83.35	85.65	220.06				ES
25N01W32P002M	8/5/2021	305.71	303.41	86.60	88.90	216.81				ES
25N01W32P002M	10/13/2021	305.71	303.41	86.06	88.36	217.35				ES
25N01W32P003M	3/11/2020	305.71	303.41	82.40	84.70	221.01				ES
25N01W32P003M	8/4/2020	305.71	303.41	86.10	88.40	217.31				ES
25N01W32P003M	10/15/2020	305.71	303.41	85.05	87.35	218.36				ES
25N01W32P003M	3/19/2021	305.71	303.41	83.53	85.83	219.88				ES
25N01W32P003M	8/5/2021	305.71	303.41	86.78	89.08	216.63				ES
25N01W32P003M	10/13/2021	305.71	303.41	86.22	88.52	217.19				ES
25N01W34N003M	3/11/2020	368.53	366.43	153.40	155.50	213.03				ES
25N01W34N003M	8/4/2020	368.53	366.43	154.95	157.05	211.48	2			ES
25N01W34N003M	10/14/2020	368.53	366.43	155.10	157.20	211.33				ES
25N01W34N003M	3/19/2021	368.53	366.43	154.60	156.70	211.83				ES
25N01W34N003M	8/3/2021	368.53	366.43	156.53	158.63	209.90				ES

Table B-2 Water Level Data for Lower Aquifer										
State Well Number	Measure. Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD	Comments	QA_CD	Method
25N01W34N003M	10/12/2021	368.53	366.43	156.58	158.68	209.85	2			ES
26N02W22G001M	3/10/2020	271.62	269.42	42.10	44.30	227.32				ST
26N02W22G001M	8/11/2020	271.62	269.42	45.10	47.30	224.32				ST
26N02W22G001M	3/15/2021	271.62	269.42	44.00	46.20	225.42				ST
26N02W22G001M	5/11/2021	271.62	269.42	44.70	46.90	224.72				ES
26N02W22G001M	5/17/2021	271.62	269.42	44.70	46.90	224.72				ES
26N02W22G001M	5/23/2021	271.62	269.42	44.90	47.10	224.52				ES
26N02W22G001M	5/30/2021	271.62	269.42	44.80	47.00	224.62				ES
26N02W22G001M	6/6/2021	271.62	269.42	45.30	47.50	224.12				ES
26N02W22G001M	6/13/2021	271.62	269.42	46.80	49.00	222.62				ES
26N02W22G001M	6/20/2021	271.62	269.42	46.00	48.20	223.42				ES
26N02W22G001M	7/5/2021	271.62	269.42	45.80	48.00	223.62				ES
26N02W22G001M	7/6/2021	271.62	269.42	46.45	48.65	222.97				ES
26N02W22G001M	10/15/2021	271.62	269.42	53.74	55.94	215.68				ES
26N02W22G001M	10/21/2021	271.62	269.42	49.73	51.93	219.69				ES
26N02W29R002M	3/10/2020	234.20	230.40	5.65	9.45	224.75				ES
26N02W29R002M	8/4/2020	234.20	230.40	13.30	17.10	217.10				ES
26N02W29R002M	9/4/2020	234.20	230.40	14.82	18.62	215.58				ES
26N02W29R002M	9/11/2020	234.20	230.40	15.10	18.90	215.30				ES
26N02W29R002M	9/18/2020	234.20	230.40	15.00	18.80	215.40				ES
26N02W29R002M	9/23/2020	234.20	230.40	14.90	18.70	215.50				ES
26N02W29R002M	10/2/2020	234.20	230.40	14.75	18.55	215.65				ES
26N02W29R002M	10/9/2020	234.20	230.40	14.45	18.25	215.95				ES
26N02W29R002M	10/16/2020	234.20	230.40	14.20	18.00	216.20				ES
26N02W29R002M	10/23/2020	234.20	230.40	14.10	17.90	216.30				ES
26N02W29R002M	10/30/2020	234.20	230.40	14.05	17.85	216.35				ES

Table B-2 Water Level Data for Lower Aquifer										
State Well Number	Measure. Date	RPE (ft amsl)	GSE (ft amsl)	DTW (ft bgs)	DTW (ft brp)	WSE (ft amsl)	WL QM CD	Comments	QA_CD	Method
26N02W29R002M	11/6/2020	234.20	230.40	13.20	17.00	217.20				ES
26N02W29R002M	1/13/2021	234.20	230.40	9.70	13.50	220.70				ES
26N02W29R002M	3/15/2021	234.20	230.40	7.45	11.25	222.95				ES
26N02W29R002M	7/8/2021	234.20	230.40	15.30	19.10	215.10				ES
26N02W29R002M	7/12/2021	234.20	230.40	17.40	21.20	213.00				ES
26N02W29R002M	7/16/2021	234.20	230.40	17.80	21.60	212.60				ES
26N02W29R002M	7/20/2021	234.20	230.40	17.40	21.20	213.00				ES
26N02W29R002M	7/23/2021	234.20	230.40	17.50	21.30	212.90				ES
26N02W29R002M	7/26/2021	234.20	230.40	18.00	21.80	212.40				ES
26N02W29R002M	7/30/2021	234.20	230.40	18.90	22.70	211.50				ES
26N02W29R002M	8/3/2021	234.20	230.40	18.30	22.10	212.10				ES
26N02W29R002M	8/5/2021	234.20	230.40	18.30	22.10	212.10				ES
26N02W29R002M	8/11/2021	234.20	230.40	18.60	22.40	211.80				ES
26N02W29R002M	8/20/2021	234.20	230.40	18.80	22.60	211.60				ES
26N02W29R002M	8/27/2021	234.20	230.40	18.70	22.50	211.70				ES
26N02W29R002M	9/3/2021	234.20	230.40	18.60	22.40	211.80				ES
26N02W29R002M	9/10/2021	234.20	230.40	18.30	22.10	212.10				ES
26N02W29R002M	9/14/2021	234.20	230.40	18.00	21.80	212.40				ES
26N02W29R002M	9/17/2021	234.20	230.40	17.90	21.70	212.50				ES
26N02W29R002M	9/24/2021	234.20	230.40	17.70	21.50	212.70				ES
26N02W29R002M	9/28/2021	234.20	230.40	17.40	21.20	213.00				ES
26N02W29R002M	9/30/2021	234.20	230.40	17.10	20.90	213.30				ES
26N02W29R002M	10/7/2021	234.20	230.40	17.20	21.00	213.20				ES
26N02W29R002M	10/15/2021	234.20	230.40	17.00	20.80	213.40				ES