RECLAMATION

Managing Water in the West

Final Environmental Assessment

Delta-Mendota Canal Groundwater Pump-in Program Revised Design Constraints

EA-18-007

U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office

May 2018

Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Finding of No Significant Impact (FONSI) and Draft Environmental Assessment (EA) between April 11, 2018 and April 19, 2018. Two comment letters were received. The comment letters and Reclamation's response to comments are included in Appendix A. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

1.1 Background

Since 1995, the San Luis & Delta-Mendota Water Authority (Authority), on behalf of eight of its member agencies[1] (Participating Districts), have requested Warren Act contracts from Reclamation for the annual cumulative introduction of up to 50,000 acre-feet (AF) of groundwater into the Delta-Mendota Canal (DMC) referred to as the DMC Groundwater Pump-in Program (Figure 1). Historically, environmental review for the DMC Groundwater Pump-in Program was prepared every two years. In 2013, in order to streamline environmental review, Reclamation completed an EA (12-061) that covered the proposed execution of two 5-year Warren Act Contracts for the continued annual cumulative introduction of up to 50,000 AF of groundwater into the DMC over a 10 year period (Reclamation 2013). EA-12-061 analyzed the direct, indirect, and cumulative impacts for the following resources: air quality, biology, cultural resources, environmental justice, geology, global climate change, Indian Sacred Sites, Indian Trust Assets, land use, socioeconomics, and water resources. Based on specific environmental commitments required for the Program, Reclamation determined that the DMC Groundwater Pump-in Program would not significantly affect the quality of the human environment and a FONSI was signed on January 10, 2013. As a condition of FONSI/EA-12-061, environmental review is required to ensure that the findings in EA-12-061 remain valid prior to issuance of the second 5-year Warren Act Contracts.

As described in Section 3.1, the majority of determinations made in FONSI/EA-12-061 still remain valid; however, based on the recent drought and increased trends in subsidence near the DMC (Farr et al. 2017, Sneed et al. 2013), Reclamation has determined that additional environmental review and design constraints are needed to address the potential contribution of the DMC Groundwater Pump-in Program to groundwater level impacts and subsidence prior to executing new Warren Act Contracts.

[1] The member agencies that participate in the DMC Groundwater Pump-in Program include the following: Banta Carbona Irrigation District, Byron-Bethany Irrigation District, Del Puerto Water District, Mercy Springs Water District, Panoche Water District, Pacheco Water District, San Luis Water District, and West Stanislaus Irrigation District.

1.2 Need for the Proposed Action

Reclamation needs to minimize potential groundwater level and subsidence impacts to the DMC that may result from implementation of the DMC Groundwater Pump-in Program. DMC water service contractors need to find alternative sources of water to fulfill existing demands when Central Valley Project (CVP) water allocations are insufficient. The purpose of the project is to provide additional water supplies for CVP contractors located along the DMC while minimizing potential contribution from the DMC Groundwater Pump-in Program to subsidence impacts and chronic lowering of groundwater levels along the DMC.

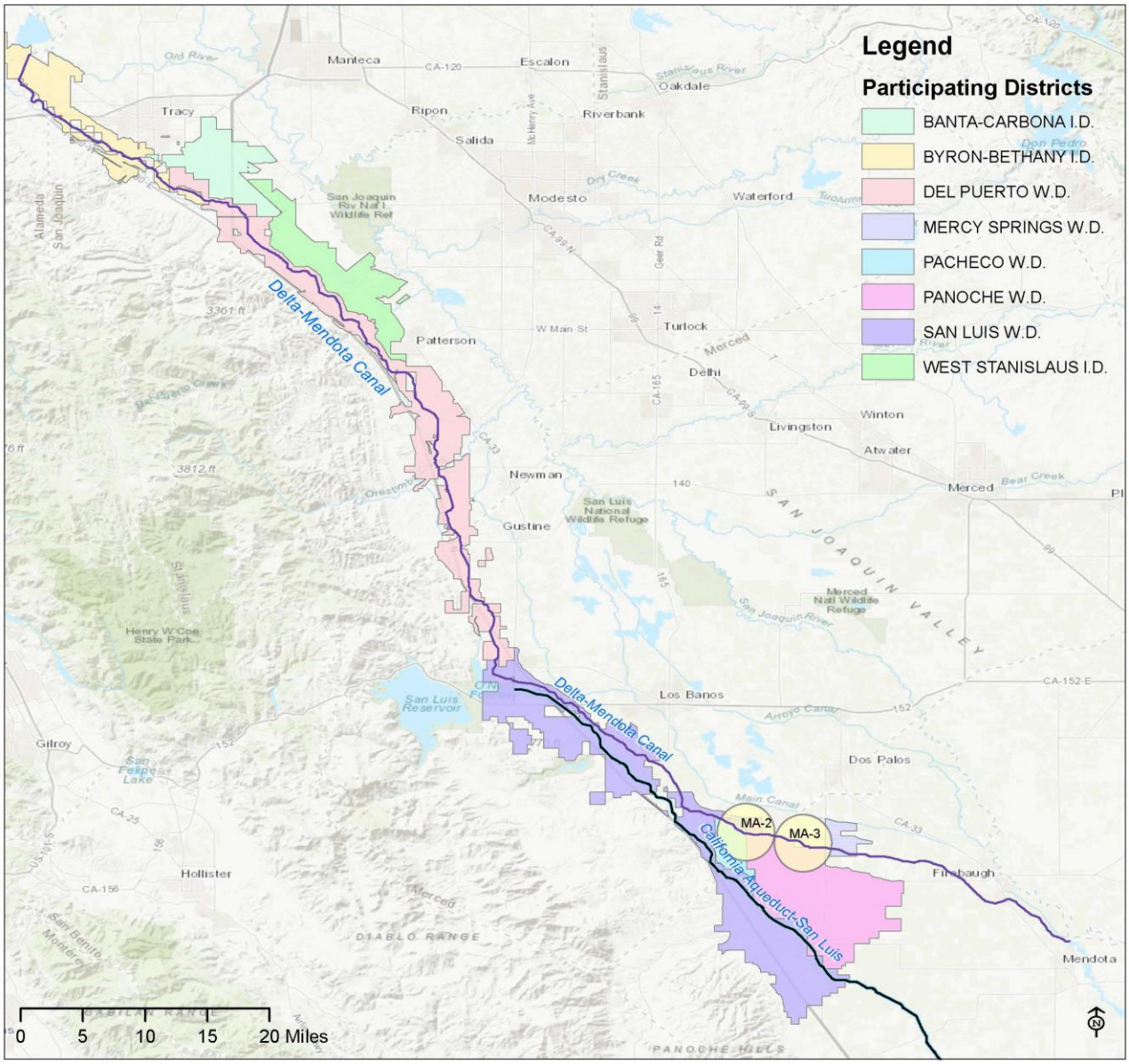

Figure 1 Participating Districts in the Proposed Action Area

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

Reclamation would not issue five year Warren Act contracts to the DMC Groundwater Pump-in Program Participating Districts. These contractors would continue to receive their CVP water supply allocations pursuant to their respective CVP contracts.

2.2 Proposed Action

Reclamation proposes to issue five year Warren Act Contracts to the DMC Groundwater Pump-in Program Participating Districts that include additional design constraints to address their potential contribution to subsidence along the DMC. Each Warren Act Contract would allow the annual introduction, conveyance, and storage of up to 10,000 AF of groundwater within federal facilities under the conditions outlined below and in Appendix A. The cumulative volume of groundwater introduced into the DMC under the DMC Groundwater Pump-in Program is limited to 50,000 AF per year. The 50,000 AF would be annually allocated by the Authority among the Participating Districts based on need. Introduction, conveyance, and storage of non-Project Water in CVP facilities would be subject to available capacity as determined by Reclamation.

San Luis Water District, Panoche Water District, and Pacheco Water District require an exchange with Reclamation in order to deliver a portion of the non-Project Water from the San Luis Canal. Exchanged water would be used by Reclamation to meet CVP demands downstream of the points of introduction and a like amount of CVP water would be delivered to the respective districts participating in the exchange.

2.2.1 Source of Non-Project Water

The source of the non-Project Water is groundwater pumped from privately owned wells within each of the Participating Districts' service areas. Groundwater introduced into the DMC would be delivered through existing facilities for existing agricultural uses.

New wells within the Participating Districts' service areas may be included in the program as long as they meet the requirements described below and in Appendix A. Any construction involving ground disturbance would require separate environmental analysis. The addition of wells does not increase the 10,000 AF contract limit or 50,000 AF cumulative total allowed to be introduced into the DMC.

In 1995, the Authority grouped wells along the Lower DMC into four groups in order to manage the Pump-in Program. Groundwater pumping in Management Areas 2 and 3 (MA-2 and MA-3) resulted in subsidence to the DMC and local facilities. As such, pumping in those two areas has been excluded since 2008. These areas will continue to be excluded from participation under the Proposed Action. In addition, pumping is limited in Los Banos aquifer subarea. A joint groundwater study between Central California Irrigation District, City of Los Banos, and Reclamation was completed for this area in April 2010 due to groundwater concerns. The study is updated annually and provides pumping recommendations for this area that are included into the DMC Groundwater Pump-in Program for a given year.

2.2.2 Proposed Design Constraints and Operating Criteria

The DMC Groundwater Pump-in Program is subject to water quality monitoring, groundwater monitoring, and reporting requirements as described in Appendix A.

All participating wells must have static maximum depth to groundwater (Max DTGW[2]) and Fall/Winter Median level[3] data established in order to participate in the DMC Groundwater Pump-in Program. Any well which is missing this data will be excluded from discharging into the DMC until a groundwater level measurement can be recorded and a Fall/Winter Median depth to groundwater level can be developed. New wells may use Fall/Winter Median and Max DTGW levels of nearby wells, upon Reclamation approval, until unique level measurements are established. This information will be used to ensure pumping does not exceed the maximum amount of groundwater pumping previously experienced in this area by incorporating the following shutoff criteria:

Shutoff Trigger = 0.75*(Max DTGW-Fall/Winter Median) + Fall/Winter Median

If an individual well is shutoff due to groundwater levels reaching the shutoff trigger (75% of Max DTGW), it will not be allowed to resume pumping until it reaches 70% of the difference between the Fall/Winter Median Groundwater Level and the Max DTGW using the following equation:

Well Resumption = 0.70*(Max DTGW-Fall/Winter Median) + Fall/Winter Median

The Authority will measure groundwater depths monthly during summer and bi-monthly during fall. Measurements will be taken during the same week and coordinated with individual districts and groundwater pumpers to ensure an adequate time period has passed between pump shutoff and depth measurements.

[2] Max Depth to Groundwater (Max DTGW) represents the maximum depth to groundwater measurement collected from an individual well.
[3] Fall/Winter Median Groundwater Levels represent the average historical recovery level for each well. Determined by using groundwater level data recorded in the Fall/Winter after the well has had time to recover from irrigation season.

Based on the severity of historic subsidence, the following zones have been established along the DMC:

- Zone 1: MP 0.0 to MP 24.43
- Zone 2: MP 24.44 to MP 70.01
- Zone 3: MP 70.02 to MP 99.82
- Zone 4: MP 99.83 to MP 116.48

Groundwater pumping within each of these zones is limited by CVP agricultural allocation as shown in Table 1.

Table 1 Amount of Pumping Allowed by Zone

DMC Zone	CVP Allocation Start Threshold	Pumping Cap if Allocation is >40%	Pumping Cap if Allocation is 40-21%	Pumping Cap if Allocation is 20% or less
1	≤50	15,000 AF	17,500 AF	20,000 AF
2	≤40	N/A	17,500 AF	20,000 AF
3	≤45	15,000 AF	17,500 AF	20,000 AF
4	≤40	N/A	17,500 AF	20,000 AF

2.2.3 Environmental Commitments

In addition to the design constraints and operating criteria described above, the Participating Districts shall implement the following environmental protection measures to avoid and/or reduce environmental consequences associated with the Proposed Action:

- No native or untilled land (fallow for three years or more) may be cultivated with the water involved with these actions.
- Groundwater selenium concentrations may not exceed 2 parts per billion when discharged into the DMC.
- Drainage water may not be introduced into the DMC under the Proposed Action.
- The water shall be used for beneficial purposes and in accordance with Federal Reclamation law and guidelines, as applicable.
- Use of the water shall comply with all federal, state, local, and tribal laws.
- The water shall be used within the permitted place of use.
- No land conversions may occur as a result of the Proposed Action.
- No construction or other ground disturbing activity may occur as part of the Proposed Action.

Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of all reports shall be submitted to Reclamation.

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Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Resources Eliminated from Further Analysis

Reclamation has reviewed the impacts analysis contained within EA-12-061, which is hereby incorporated by reference, and determined that the analysis for the following resources remains valid:

3.1.1 Air Quality

Reclamation previously determined that the emissions from groundwater pumping under the DMC Groundwater Pump-in Program were well below the *de minimis* thresholds for the San Joaquin Valley Air Pollution Control District which are unchanged. Pumping would be further curtailed under the Proposed Action based on the design constraints and operating criteria included in Section 2.2, as such, there would be even less emissions under the Proposed Action than those previously covered and Reclamation's determination is unchanged.

3.1.2 Biological Resources

Reclamation previously determined that there would be No Effect to proposed or listed species or critical habitat under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.) and No Take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.) with the implementation of specific avoidance measures (i.e., avoidance of water quality and land conversion effects). The same avoidance measures are included in Section 2.2.2 and Reclamation's determination is unchanged.

3.1.3 Cultural Resources

Reclamation previously determined that there would be no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1) as the Proposed Action would facilitate the flow of water through existing facilities to existing users and no construction or modification of facilities would be needed in order to complete the Proposed Action. These conditions are the same under the Proposed Action and Reclamation's determination is unchanged.

3.1.4 Environmental Justice

Reclamation previously determined that the DMC Groundwater Pump-in Program does not propose any features that would result in adverse human health or environmental effects, have any physical effects on minority or low-income populations, and/or alter socioeconomic conditions of populations that reside or work in the vicinity of the Proposed Action. This is the same under the Proposed Action and Reclamation's determination is unchanged.

3.1.5 Global Climate Change

Reclamation previously determined that the emissions from groundwater pumping under the DMC Groundwater Pump-in Program were below the *de minimis* thresholds for the Environmental Protection Agency which are unchanged. Global climate change is expected to have some effect on the snow pack of the Sierra Nevada and the runoff regime. It is anticipated that climate change would result in more short-duration high-rainfall events and less snowpack runoff in the winter and early spring months by 2030 compared to recent historical conditions (Reclamation 2016b, pg 16-26). However, the effects of this are long-term and are not expected to substantially impact CVP operations within the five-year window of this action. Further, CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility. In addition, pumping would be further curtailed under the Proposed Action based on the design constraints and operating criteria included in Section 2.2, as such, there would be even less emissions under the Proposed Action than those previously covered and Reclamation's determination is unchanged.

3.1.6 Indian Sacred Sites

Reclamation previously determined that the DMC Groundwater Pump-in Program would not limit access to or ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites as there are none within the Proposed Action area. This is the same under the Proposed Action and Reclamation's determination is unchanged.

3.1.7 Indian Trust Assets

Reclamation previously determined that the DMC Groundwater Pump-in Program would not impact Indian Trust Assets as there are none in the Proposed Action area. This is the same under the Proposed Action and Reclamation's determination is unchanged.

3.1.8 Land Use

Reclamation previously determined that the DMC Groundwater Pump-in Program would provide supplemental water to keep agricultural lands in production and minimize the potential for fallowing. In addition, no new lands would be cultivated or converted and the program would not increase or decrease water supplies that could affect development. This is the same under the Proposed Action and Reclamation's determination is unchanged.

3.1.9 Socioeconomics

Reclamation previously determined that the DMC Groundwater Pump-in Program would have beneficial impacts on socioeconomic resources for the Participating Districts as groundwater would be used to help sustain existing crops and maintain farming within the districts. This is the same under the Proposed Action and Reclamation's determination is unchanged.

3.2 Water Resources

3.2.1 Affected Environment

The Proposed Action area includes the CVP service areas of the Participating Districts as well south-of-Delta CVP facilities as shown in Figure 1.

Central Valley Project Water Supplies

Reclamation makes CVP water available to contractors for reasonable and beneficial uses, but CVP water supply varies widely from year to year and sometimes even within a given year due to hydrologic conditions and/or regulatory constraints, and is often insufficient to meet all of the irrigation water service contractors' water needs. As shown in Table 2, the south-of-Delta CVP agricultural allocations ranged from 0% and 100% of contract amounts and averaged 32% of contract amounts between 2009 and 2018. For 8 out of the last 10 years, the south-of-Delta CVP agricultural allocation was less than 50% due to drought conditions and regulatory requirements.

Table 2 South-of-Delta CVP Contract Allocations between 2005 and 2018

Contract Year*	Agricultural Allocations (%)
2018	20**
2017	100
2016	5
2015	0
2014	0
2013	20
2012	40
2011	80
2010	45
2009	10
Average	**32**

Source: http://www.usbr.gov/mp/cvo/vungvari/water_allocations_historical.pdf
* A Contract Year is March 1 through February 28/29 of the following year.
**Initial allocation as of March 22, 2018.

Groundwater Resources in the Action Area

The Proposed Action area overlies the Tracy and Delta-Mendota Subbasins. The California Department of Water Resources (DWR) has designated the Delta-Mendota Subbasin as critically overdrafted requiring a groundwater sustainability plan pursuant to the Sustainable Groundwater Management Act (SGMA) by January 31, 2020 (DWR 2016, 2018a). The Tracy Subbasin has been designated a medium priority subbasin, requiring a groundwater sustainability plan by January 31, 2022 (DWR 2018a).

Groundwater provides approximately 37% (~509,687 AF) of overall water supplies from 7,132 wells in the Delta-Mendota Subbasin and approximately 2% (~19,198 AF) of overall water supplies from 7,267 wells in the Tracy Subbasin (DWR 2018b).

Subsidence

Land subsidence is caused by subsurface movement of earth materials. Principal causes of subsidence within the San Joaquin Valley include: aquifer compaction due to groundwater pumping, hydrocompaction caused by application of water to dry soils, and oil mining.

Reclamation surveys a network of over 70 control points across the San Joaquin Valley in July and December of each year to monitor ongoing subsidence. Various other entities, including the U.S. Geological Survey, DWR, the Authority, and the San Joaquin River Exchange Contractors also monitor subsidence trends within the Central Valley. Total subsidence from July 2012 to December 2016 within the Action area is shown in Figure 2.

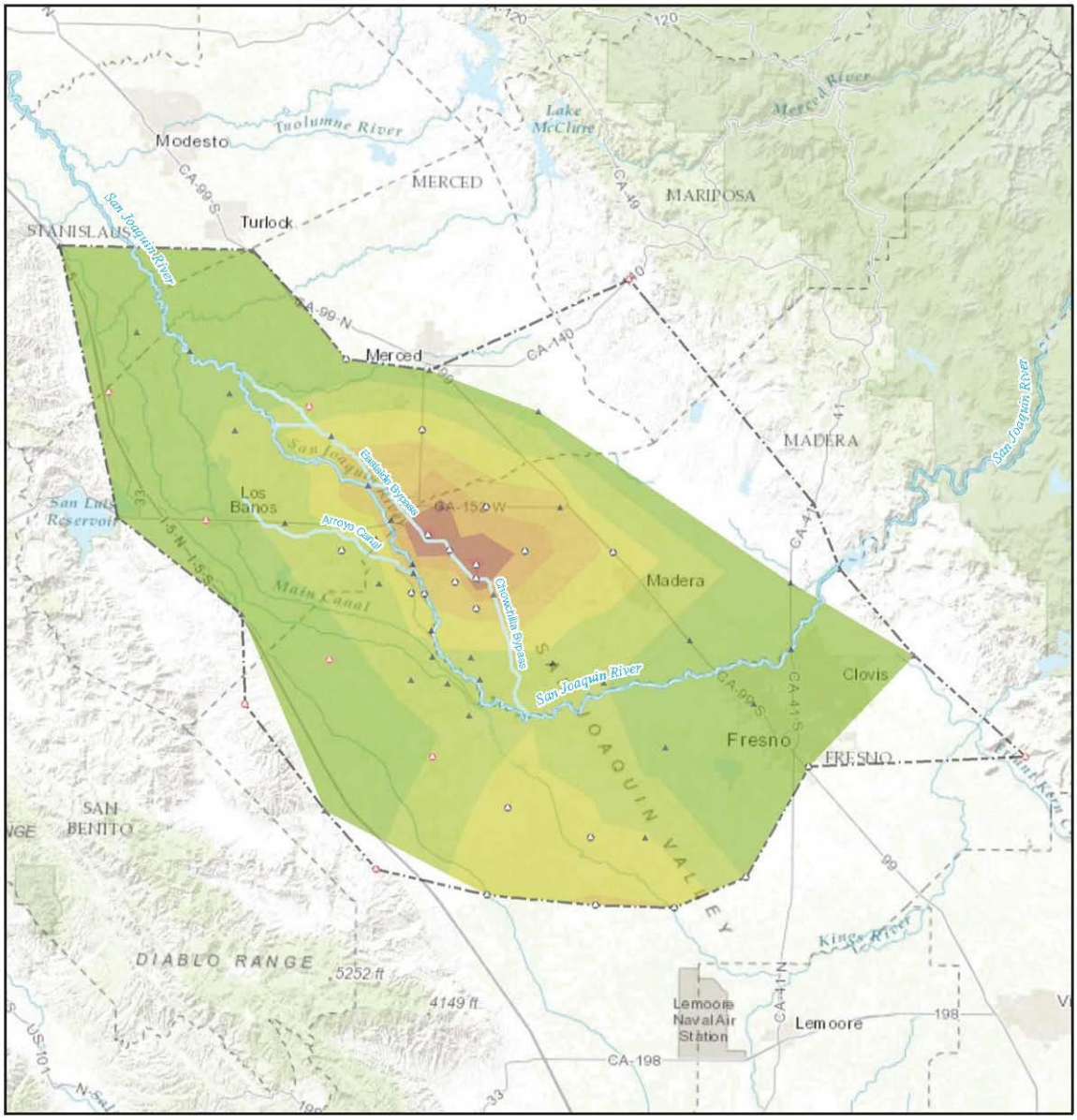

Figure 2 Central Valley Total Subsidence July 2012 to December 2016

In 2017, a National Aeronautical and Space Administration (NASA) report prepared for DWR documented that the two main subsidence bowls in the San Joaquin Valley (centered on Corcoron and El Nido) previously identified in 2015 had grown wider and deeper between March 2015 and September 2016 and that a third area, near Tranquillity in Fresno County had also intensified (Farr et al. 2017). The maximum total subsidence in these areas during that time was: 22 inches near Corcoran, 16 inches southeast of El Nido, and 20 inches in the new area near Tranquillity (Figure 3). In addition, the report found localized high subsidence along the DMC at 36°53'N, 120°38'W (Figure 4).

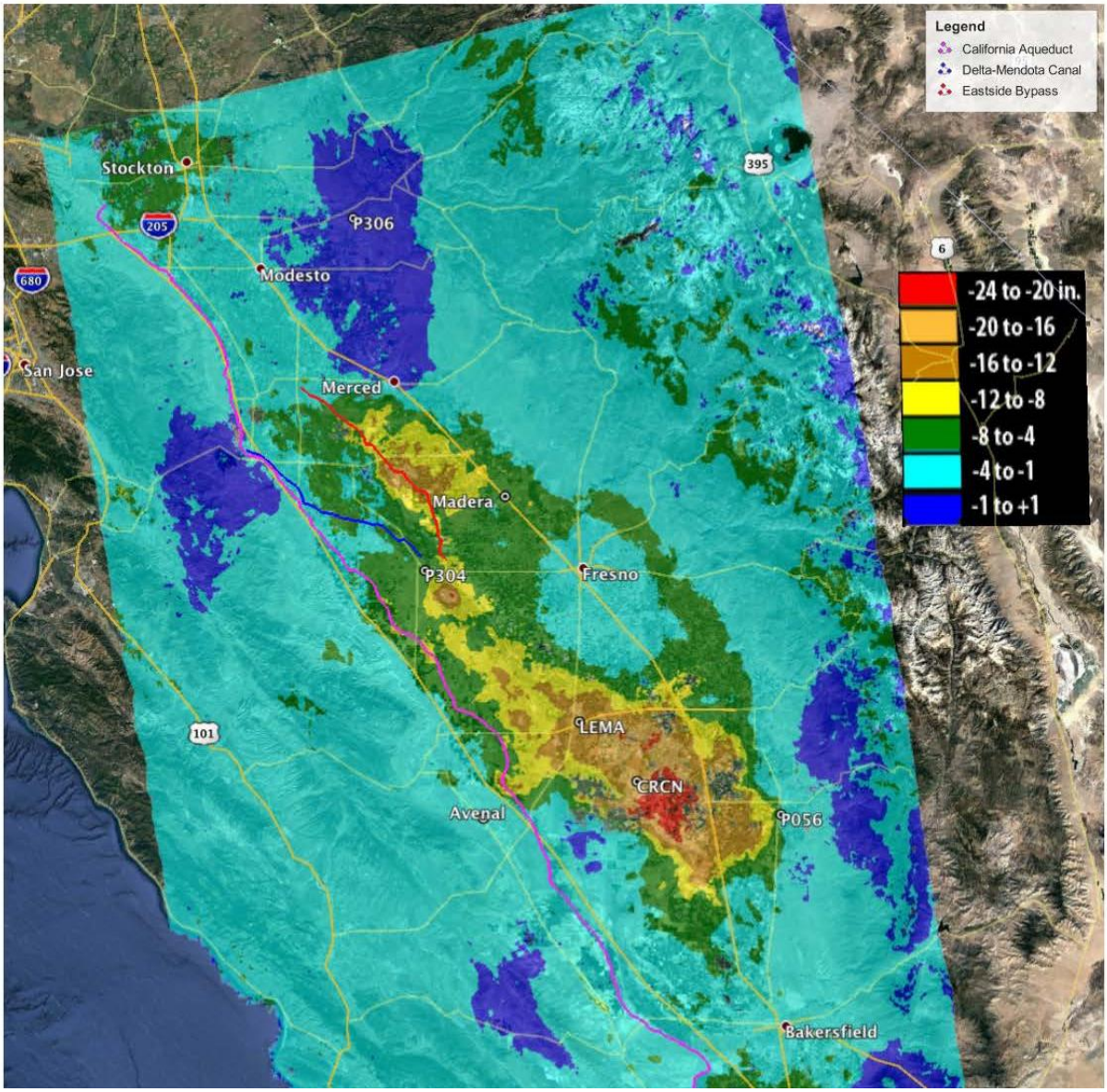

Figure 3 Total Subsidence in the San Joaquin Valley 2015-2016
(Source: Farr et al. 2017)

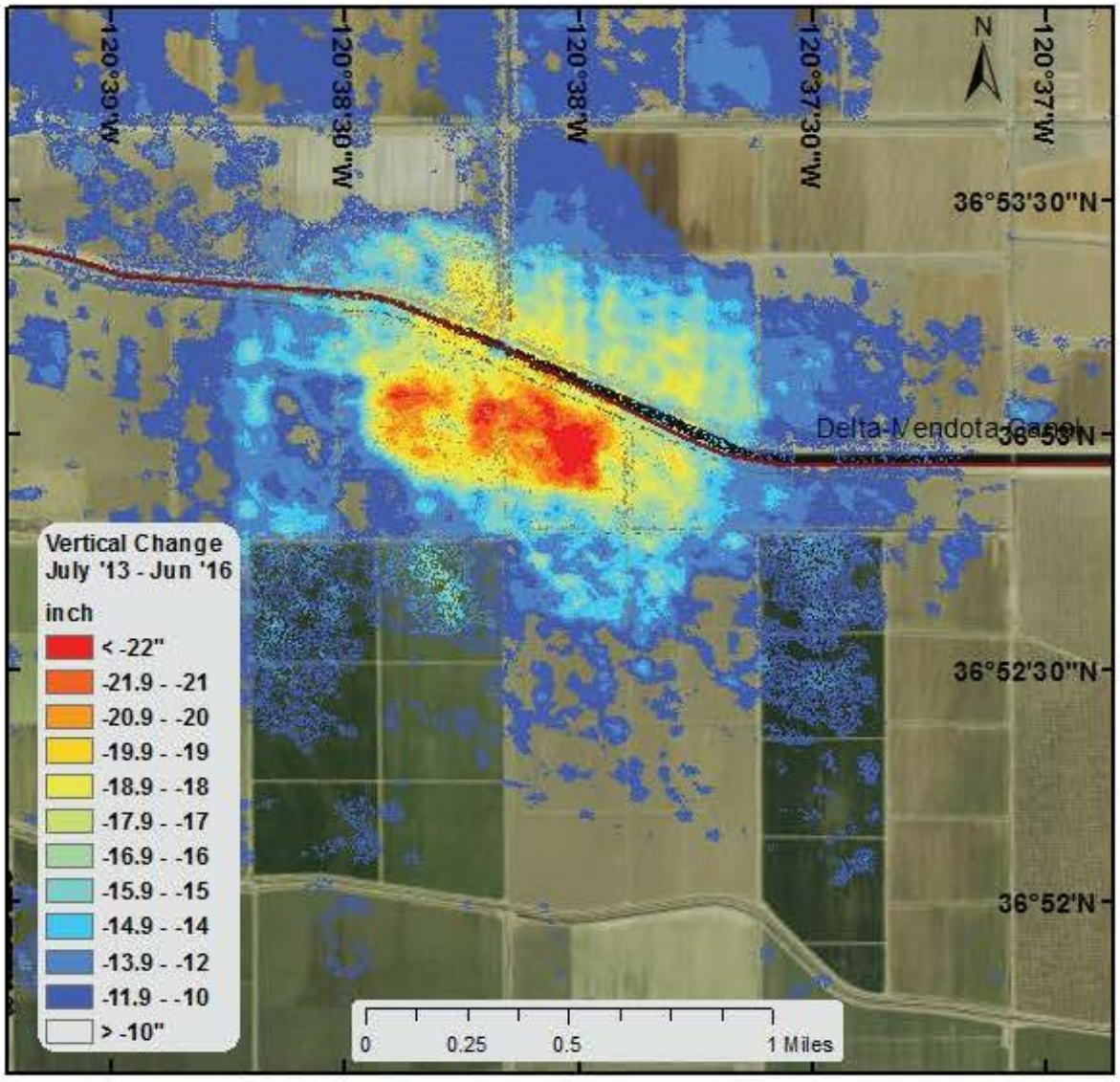

Figure 4 Subsiding Section of the DMC near 36°53'N, 120°38'W
(Source: Farr et al. 2017)

DMC Groundwater Pump-in Program

There are 47 Program wells and 41 discharge points that are currently operated under the DMC Groundwater Pump-in Program. The difference in wells and discharge points is that multiple wells may supply one discharge point. Program wells are listed in Table 1 and discharge points are listed in Table 2 of Appendix B. As shown in Appendix B, location data is available for 43 wells, perforation or total depths for 24 wells, water level measurements for 43 wells, water quality results for all 41 discharge points, and annual discharge quantities for all 41 discharge points. The most recent (2016-2017) water quality information for Program wells is included in Table 3. Total groundwater introduced into the DMC over the last five years is included in Table 4.

Table 3 Most Recent Water Quality Data for DMC Groundwater Pump-in Program Wells (2016-2017)

Discharge MP	Arsenic (µg/L)	Boron (mg/L)	Mercury (µg/L)	Nitrate as NO3 (mg/L)	Selenium (µg/L)	Specific Conductance (µS/cm)	TDS (mg/L)
Threshold	**10**	**2**	**2**	**45**	**2**	**1,600**	**1,000**
13.31 L	<2	1.9	<0.02	19.4	<2	1,230	740
14.26 R	<2	2.5	<0.02	19	<2	1,200	740
14.41 R	<1	2.3	<0.2	21	<2	1,200	780
15.11 R	<1	2.1	<0.2	18	<2	1,031	670
21.12 L	<1	0.93	<2	17	3	1,077	700
21.86 L	<1	0.5	<0.2	16	3	785	510
23.41 L	<1	0.9	<0.2	92	2.5	769	500
24.38 L	<1	0.53	<0.2	18	<2	769	500
29.95 R	<1	3.4	<0.2	22	3	1,354	880
30.43 L	2.8	1.8	<0.2	35	5.5	785	510
30.43 R	<1	2.7	<0.2	29	<2	938	610
30.95 L	<1	1.6	<0.2	26	<2	954	620
31.31 L	ND	ND	ND	ND	ND	1,035	673
31.6 L	1	1.2	<0.2	40	3.6	1,231	800
32.35 L	1.5	1.6	<0.2	34	4.9	1,123	730
33.71 L	2.4	0.44	<0.2	9.9	2.2	708	460
36.8 L	<1	0.67	<0.2	22	<2	1,031	670
37.1 L	<1	0.72	<0.2	24	<2	1,015	660
37.32 L	<1	0.76	<0.2	5.6	2.3	1,077	700
42.5 R	1.2	1.6	<0.2	10	7.3	3,077	2,000
43.22 L	1.5	0.53	<0.2	25	2.5	923	600
48.97 L	2.5	1.6	<0.2	<10	7.4	2,100	1,200
50.46 L	<1	0.34	<0.2	21	<2	877	570
51 R	<1	0.42	<0.2	17	<2	1,077	700
51.66 L	<1	0.34	<0.2	33	<2	1,046	680
52.4 L	<1	0.36	<0.2	20	<2	985	640
58.28 L	8.9	0.32	<0.2	ND	<1	783	536
58.6 L	<1	0.27	<0.2	38	<2	923	600
58.73 R	1.1	0.25	<0.2	21	<2	754	490
64.85 L	4.3	0.9	<0.2	50	2	1,062	690
78.31 L	ND	0.9	<0.40	8.5	1	1,387	902
79.12 R	ND	0.91	<0.2	2.3	1.1	1,001	651
79.13 L	ND	0.68	<0.2	9.6	<1	1,560	780
79.13 R	ND	0.91	<0.2	4.1	1.1	1,001	651
79.6 L	ND	0.64	<0.2	4.1	0.4	1,175	764
80.03 L	5.7	0.98	<0.2	16	<2	1,580	1,030
80.03 R	5.6	0.8	<0.2	3.1	<2	948	599

Discharge MP	Arsenic (µg/L)	Boron (mg/L)	Mercury (µg/L)	Nitrate as NO3 (mg/L)	Selenium (µg/L)	Specific Conductance (µS/cm)	TDS (mg/L)
Threshold	**10**	**2**	**2**	**45**	**2**	**1,600**	**1,000**
98.6 R	ND	2.1	<0.2	ND	<1	1,690	1099
98.74 L	ND	2.2	<0.2	ND	<1	1,650	1,073
99.24 L	ND	1.7	<0.2	ND	<1	1,640	1,066

Note: ND = No Data Available

Table 4 Total Amount of Groundwater Introduced into the DMC over the last 5 Years

District	2013	2014	2015	2016	2017
Banta Carbona ID	1,241	2,179	2,307	2,067	0
Byron-Bethany ID	2,741	2,277	2,348	1,675	2
Del Puerto WD	12,081	15,100	14,781	6,537	0
Mercy Springs WD	2,031	0	307	0	0
Pacheco WD	1,420	0	56	0	0
San Luis WD	11,981	12,264	13,513	11,040	18
West Stanislaus ID	5,000	5,402	5,402	7,510	0
Total (AF)	**39,663**	**49,996**	**49,738**	**34,898**	**20**

3.2.2 Environmental Consequences

No Action

Reclamation would not issue five-year Warren Act Contracts and the DMC Groundwater Pump-in Program would not be allowed to continue. Participating Districts would continue to receive CVP allocations pursuant to their respective contracts; however, the additional water supplies previously managed under the Program would no longer be available to address reduced contract water supplies during water short years.

Trends in groundwater pumping in the Action area are anticipated to continue in a similar manner as it has in the past with pumping increasing during drought years and decreasing during wet years at least in the short-term. Groundwater pumping sustainability will be addressed through development of groundwater sustainability plans pursuant to SGMA by 2020 for the Delta-Mendota Subbasin and 2022 for the Tracy Subbasin. It anticipated that rates of groundwater pumping would be reduced compared to historic practices in compliance with SGMA. The reduction in available water supplies will likely require changes in agricultural practices leading to increased fallowing or loss of permanent crops if additional water supplies cannot be acquired.

Proposed Action

The design constraints and operating criteria described in Section 2.2 requires water quality monitoring, groundwater monitoring, and reporting in order to avoid and/or minimize potential impacts from the Pump-in Program to downstream water users, groundwater levels, and subsidence. Reclamation has previously received water quality data annually prior to introductions. Any wells that do not meet water quality requirements are not allowed to introduce groundwater into the DMC. As shown in Table 3, only a portion of wells that currently participate in the project meet Reclamation's water quality criteria and were allowed to

introduce groundwater into the DMC. This would continue through the term of the new Warren Act Contracts as described in Appendix A.

In addition, shutoff triggers and resumption triggers have been developed to avoid contribution of the participating wells on overdrafting groundwater levels and increasing rates of subsidence in the Action area. Figure 5 illustrates the varying water levels within a specific well (i.e. blue line represents individual depth to groundwater measurements taken at this particular well). As shown in Figure 5, Max DTGW (also referred to as Critical Head) is the greatest amount of drawdown (lowest depth to water) that has occurred within this well.

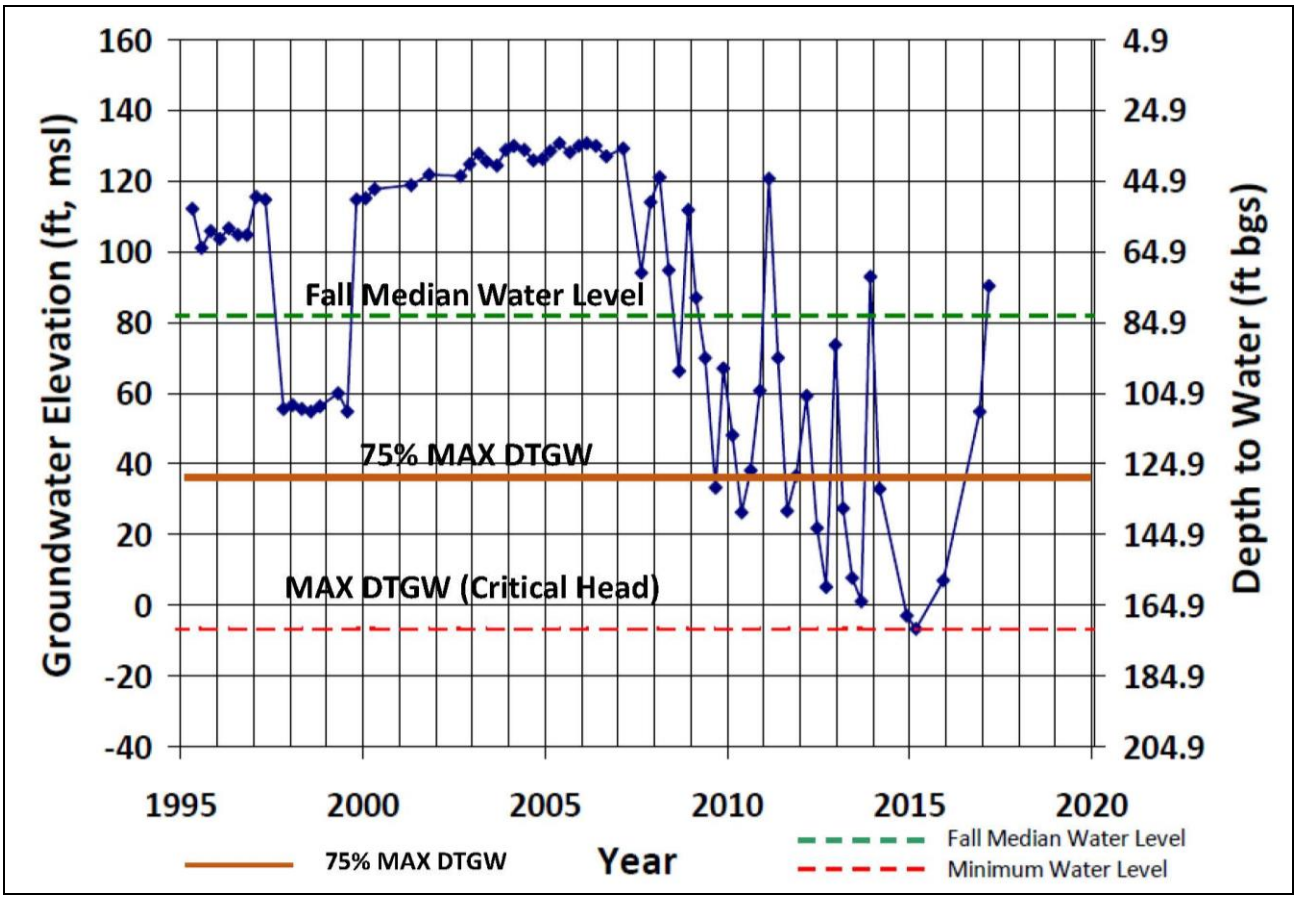

Figure 5 Example of Operation of the Shutoff Trigger

The shutoff trigger included in Section 2.2.2 requires pumping to stop at 25% above the maximum drawdown experienced by any of the wells participating in the Program, i.e., 75% Max DTGW. This prevents further lowering of water levels beyond what has historically occurred in a given well as illustrated in Figure 5. The resumption trigger also ensures that wells recover prior to restarting pumping.

Cumulative Impacts

Overdraft and increased rates of subsidence are ongoing cumulative issues within the San Joaquin Valley (Figure 2). Due to ongoing hydrologic conditions and/or regulatory constraints that reduce the availability of surface water supplies, it is likely that groundwater levels would continue to decline resulting in increased rates of subsidence until SGMA is fully implemented.

As described in Section 3.2.1, groundwater supplies approximately 38% of overall water supplies in the Delta-Mendota Subbasin and approximately 2% in the Tracy Subbasin. The majority of participating wells (as shown in Appendix B) are from the Delta-Mendota Subbasin. The 47 wells (40 in Delta-Mendota and 7 in Tracy) are a very small portion of the total wells (0.6% and 0.1%, respectively) within the basins that pump groundwater. In addition, Reclamation has included operating criteria (design constraints), in order to avoid the contribution of the DMC Groundwater Pump-in Program to these cumulative adverse impacts in the Action area.

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Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation provided the public with an opportunity to comment on EA-12-061 between November 13, 2012 and December 13, 2012. No comments were received. Reclamation also provided the public with an opportunity to comment on this Draft FONSI and Draft EA between April 11, 2018 and April 19, 2018. Two comment letters were received. The comment letters and Reclamation's response to comments are included in Appendix A.

4.2 List of Agencies and Persons Consulted

Reclamation has consulted with the following regarding the Proposed Action:

- Banta Carbona Irrigation District
- Byron-Bethany Irrigation Distric
- Del Puerto Water District
- Mercy Springs Water District
- Panoche Water District
- Pacheco Water District
- San Luis & Delta-Mendota Water Authority
- San Luis Water District
- West Stanislaus Irrigation District

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Section 5 References

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