Appendix M

Memorandum Regarding GWR Project EIR - Cumulative Projects Modeling Results for Seaside Groundwater Basin

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Hydro Metrics WRI

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TECHNICAL MEMORANDUM

To: Bob Holden/MRWPCA

From: Stephen Hundt and
Derrik Williams

Date: March 17, 2015

Subject: GWR Project EIR: Cumulative Projects Modeling Results

Executive Summary

The Monterey Regional Water Pollution Control Agency (MRWPCA) is developing the Pure Water Monterey Groundwater Replenishment Project (GWR Project). This project will recharge the Seaside groundwater basin with high-quality purified recycled water. This water will be subsequently extracted from the Seaside Basin for urban potable use. The GWR Project is being developed in partnership with the Monterey Peninsula Water Management District with a goal of supplying water to users within California-American Water Company's (Cal-Am) Monterey Service area. Cal-Am is simultaneously developing a seawater desalination project that will provide water supplies to the Seaside Basin and Monterey Peninsula as part of its Monterey Peninsula Water Supply Project (MPWSP). These two projects can be operated independently, or jointly; however, if the GWR Project is implemented, the desalination plant proposed by Cal-Am would be reduced in size from 9.6-mgd to 6.4 mgd. The cumulative analysis in the GWR Project's Environmental Impact Report (EIR) assesses the environmental impacts of operating the smaller desalination plant and the GWR Project jointly. The GWR Project EIR refers to the joint operation of the two projects as the Cumulative Projects. The MPWSP EIR refers to the joint operation of the two projects as the Variant Project. Because this analysis considers and incorporates the impacts of past, present, and reasonably foreseeable future projects that involve the Seaside Groundwater Basin, this analysis can also be used as the basis for analysis of future cumulative conditions with and without implementation of the two projects analyses in the two EIRs.

The calibrated groundwater model of the Seaside Groundwater Basin (HydroMetrics WRI, 2009) was used to estimate impacts from the Cumulative Projects. A predictive model incorporating reasonable future hydrologic conditions was developed for this impact analysis. The groundwater model was calibrated through 2008; therefore the predictive model begins in 2009. The predictive model simulates a 33 year period: from 2009 through 2041.

Simulated future Carmel River flows were based on historical flow records. The amount of Carmel River water available for winter injection into the Seaside Basin was estimated by Monterey Peninsula Water Management District (MPWMD) staff. They compared historical daily streamflows with minimum streamflow requirements for each day, and then identified how much water could be extracted from the Carmel River for injection each month.

Cal-Am provided average monthly projections of both the groundwater injection and groundwater pumping needed to meet their anticipated future demands for their Variant Project. These projections were incorporated into the predictive model to the degree possible. Some modifications to Cal-Am's projections were needed to compensate for anticipated pumping capacity shortfalls in specific future years.

One additional modification to Cal-Am's projected groundwater pumping schedule was necessary to ensure adequate water was available during a potential five-year drought. Cal-Am may need to suspend its planned groundwater repayment plan during three years of the five-year drought. This is a reasonable assumption, because all water purveyors are expected to fully use any available water supplies during a drought.

Model results show that the Cumulative Projects Scenario is generally neutral or beneficial compared to the No Project conditions. Groundwater elevations are generally higher under the Cumulative Projects conditions than under the No Project conditions. These higher groundwater levels will tend to slow or stop seawater intrusion.

Particle tracking was used to estimate the travel time of GWR water from the point of recharge to the closest point of extraction. Particle tracking showed that the shortest travel time for any recharged GWR water is 334 days. Travel times of less than 12 months occur for 10 years of the 25-year simulation period when the GWR Project is in operation.

Project Description

The Monterey Regional Water Pollution Control Agency (MRWPCA) is developing a Groundwater Replenishment (GWR) project. This project will recharge the Seaside groundwater basin with high-quality purified recycled water. The GWR Project is being developed in partnership with the Monterey Peninsula Water Management District with a goal of supplying water to users within California-American Water Company's (Cal-Am) Monterey Service area. Cal-Am is simultaneously developing a seawater desalination project that will provide water supplies to the Seaside Basin in Monterey Peninsula as part of its Monterey Peninsula Water Supply Project (MPWSP). The locations of the two projects' facilities, along with other operating production wells, are shown on Figure 1.

These two projects can be operated independently, or jointly; however, if the GWR Project is implemented, the desalination plant proposed by Cal-Am would be reduced in size from 9.6-mgd to 6.4 mgd. The cumulative analysis in the GWR Project's Environmental Impact Report (EIR) assesses the environmental impacts of operating the smaller desalination plant and the GWR Project jointly. The GWR Project EIR refers to the joint operation of the two projects as the Cumulative Projects. The MPWSP EIR refers to the joint operation of the two projects as the Variant Project. Because this analysis considers and incorporates the impacts of past, present, and reasonably foreseeable future projects that involve the Seaside Groundwater Basin, this analysis can also be used as the basis for analysis of future cumulative conditions with and without implementation of the two projects analyses in the two EIRs.

HydroMetrics Water Resources Inc. (WRI) has completed groundwater flow and particle tracking simulations of the proposed joint operation of the GWR and desalination plant projects. These simulations were undertaken to predict impacts on groundwater levels and the fate and travel time of injected GWR water under the joint operation of these two projects. This modeling was completed in support of the GWR project's environmental impact report (EIR). The GWR Project's EIR is being developed in concurrence with the EIR for Cal-Am's desalination project. The simulations described below predict the impacts of the combined implementation of both the 6.4-mgd desalination plant and the proposed GWR Project. This modeling effort is generally consistent with the required cumulative analysis for both EIRs, based on a review of all past, present, and reasonably foreseeable future projects that may change the groundwater conditions in the Seaside Basin during the modeling period. For the remainder of this memorandum this joint project will be referred to as the Cumulative Projects.

Figure 1: Production and GWR Injection Well Locations

Model Background and Assumptions

The calibrated groundwater model of the Seaside Groundwater Basin (HydroMetrics WRI, 2009) was used to estimate the impacts from the Cumulative Projects. A predictive model incorporating reasonable future hydrologic conditions was developed for this impact analysis. The groundwater model was calibrated through 2008; therefore the predictive model begins in 2009. The predictive model simulates a 33 year period: from 2009 through 2041.

Predicted Hydrology Assumptions

The hydrology (rainfall and recharge) used to calibrate the groundwater model was applied to the predictive model. To extend the hydrology through the predictive period, the 1987 through 2008 hydrology data were used to simulate model years 2009 through 2030, and the 1987 through 1997 hydrology data were then repeated for 2031 through 2041 (Figure 2). This is the approach that has been adopted for all predictive models of the Seaside Basin since 2009. By using this hydrology, even during the period January 2009 to present when actual hydrology is known, the model runs can be used to compare relative groundwater levels, but not to assess absolute Basin conditions.

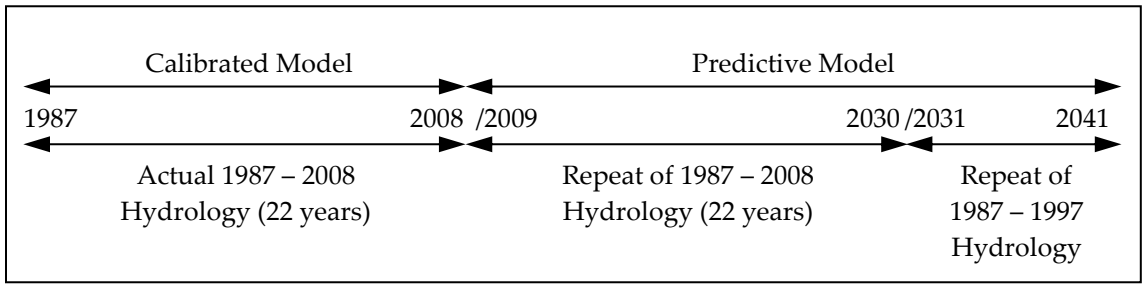

Figure 2: Repetition of Hydrology for Predictive Model

Predicted Carmel River Flow and Injection Assumptions

Monterey Peninsula Water Management District (MPWMD) estimated the amount of Carmel River water available for ASR injection for the predictive simulation based on historical streamflow records. Because the future simulated hydrology is based on the historical hydrology between 1987 and 2008, the future streamflows are expected to be the same as the historical streamflows. MPWMD staff compared historical daily streamflows between water year 1987 and water year 2008 with minimum streamflow requirements for each day. This allowed MPWMD to identify how many days in each

month ASR water could be extracted from the Carmel River. Using a daily diversion rate of 20 acre-feet per day, MPWMD calculated how many acre-feet water from the Carmel River could be injected into the ASR system each month. Figure 3 shows the estimated available monthly ASR injection volumes for the predictive simulation. Appendix A includes the historic and projected ASR Wells Site injection schedule that was developed by MPWMD. The Carmel River water available for injection shown on Figure 3 was divided between the ASR 1&2 Well Site and the ASR 3&4 Well Site.

PREDICTED GWR RECHARGE ASSUMPTIONS

The simulated GWR Project recharges varying volumes of water each year, with an average of 3500 acre-feet recharged per year. The amount of water recharged each year depends upon whether the predicted hydrology is in a drought or non-drought year, and upon a reasonable assumption of the rules for banking and delivering drought reserve water to the Castroville Seawater Intrusion Project (CSIP). In non-drought years, GWR Project deliveries to the Seaside Basin are 3700 acre-feet. This provides 3500 acre-feet for extraction by Cal-Am, and provides 200 acre feet groundwater storage for a Drought Reserve. The Drought Reserve is capped at 1000 acre feet. When the Drought Reserve is full and drought conditions do not exist, the GWR Project delivers 3500 acre feet to the Seaside Basin for extraction by Cal-Am. In drought years when Drought Reserve water is available, the GWR Project delivers less than 3500 acre-feet to the Seaside Basin, and Cal-Am draws from the Drought Reserve.

GWR Project water is recharged through four deep wells and four vadose zone wells in the predictive model. Of the GWR water delivered to the Seaside Basin, 90% of the water is injected into the Santa Margarita aquifer through four deep injection wells, and the remaining 10% is recharged into the Paso Robles aquifer through four vadose zone wells.

Figure 4 shows the volume of water recharged by the GWR Project for each water year in this modeling analysis. While the annual recharge of GWR water varies from year to year, the recovery of water through Cal-Am's pumping wells is maintained at a constant 3500 acre-feet every year in accordance with the GWR Project objectives. The monthly recharge schedule used for the model that includes an accounting and description of the CSIP Drought Reserve program is shown on the 11 x 17 sized table at the end of this technical memorandum.

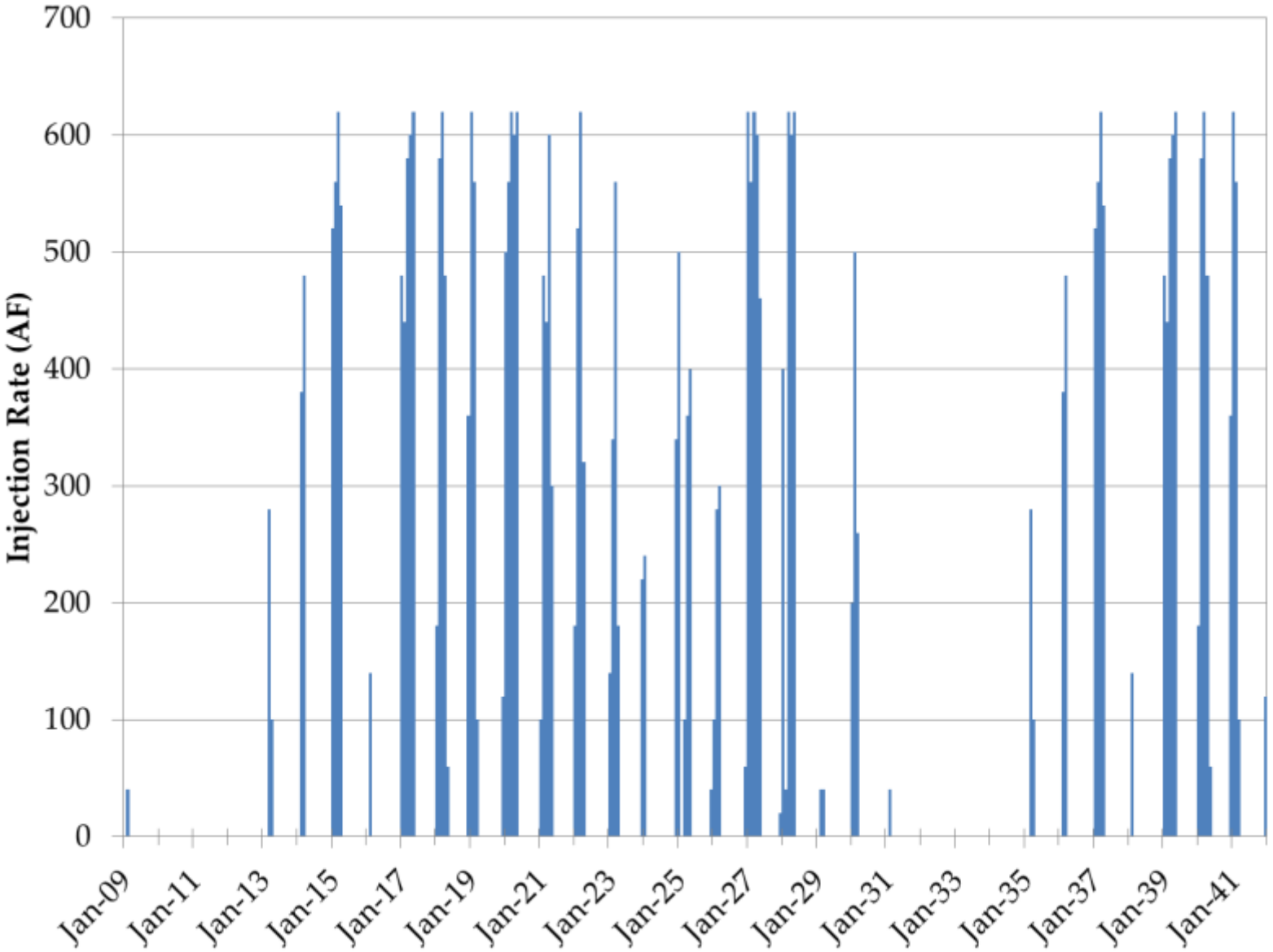

Figure 3: Estimated Monthly Carmel River ASR Injection Volumes

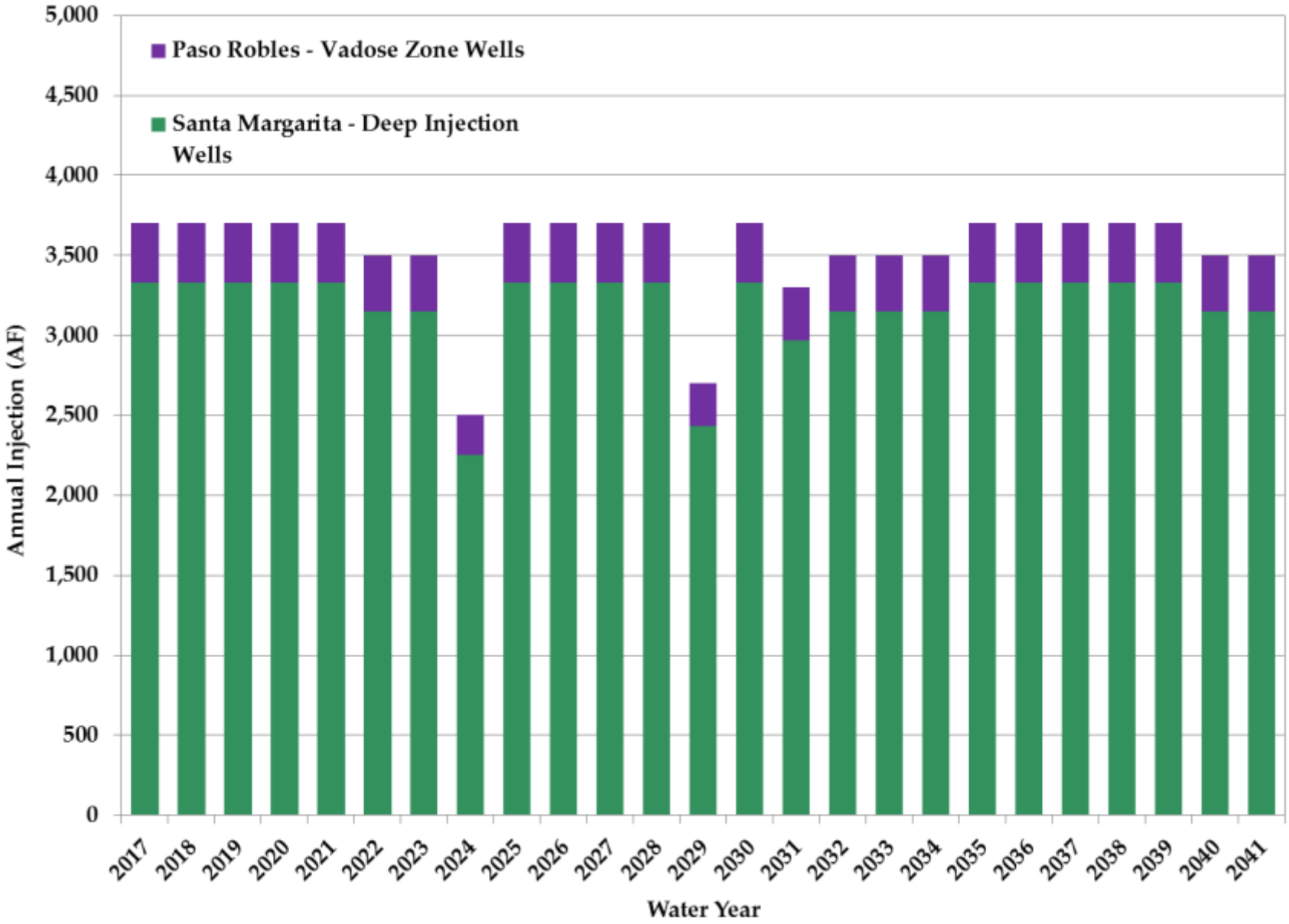

Figure 4: Annual GWR Recharge

PREDICTED MPWSP DESALINATED WATER INJECTION ASSUMPTIONS

The MPSWP small desalination plant that is part of the MPSWP Variant Project will provide 590 acre-feet per year of desalinated water for injection through the ASR wells. This desalinated water injection will occur on a regular schedule between October and April of each year. For the predictive simulation, this desalinated water is injected entirely at the ASR 5&6 Well Site between October and February. Injection of desalinated water in March and April is allocated to either the ASR 1&2 Well Site or to the ASR 3&4 Well Site, depending on well availability. Moving the desalinated water injection away from the ASR 5&6 well site allows any disinfection byproducts in the groundwater around these wells to dissipate, as required by permit, prior to using them for extraction. ASR 5&6 wells are therefore available for pumping in May. Figure 5 shows the predicted injection rates of Carmel River and desalinated water for the three pairs of ASR wells over the simulation period.

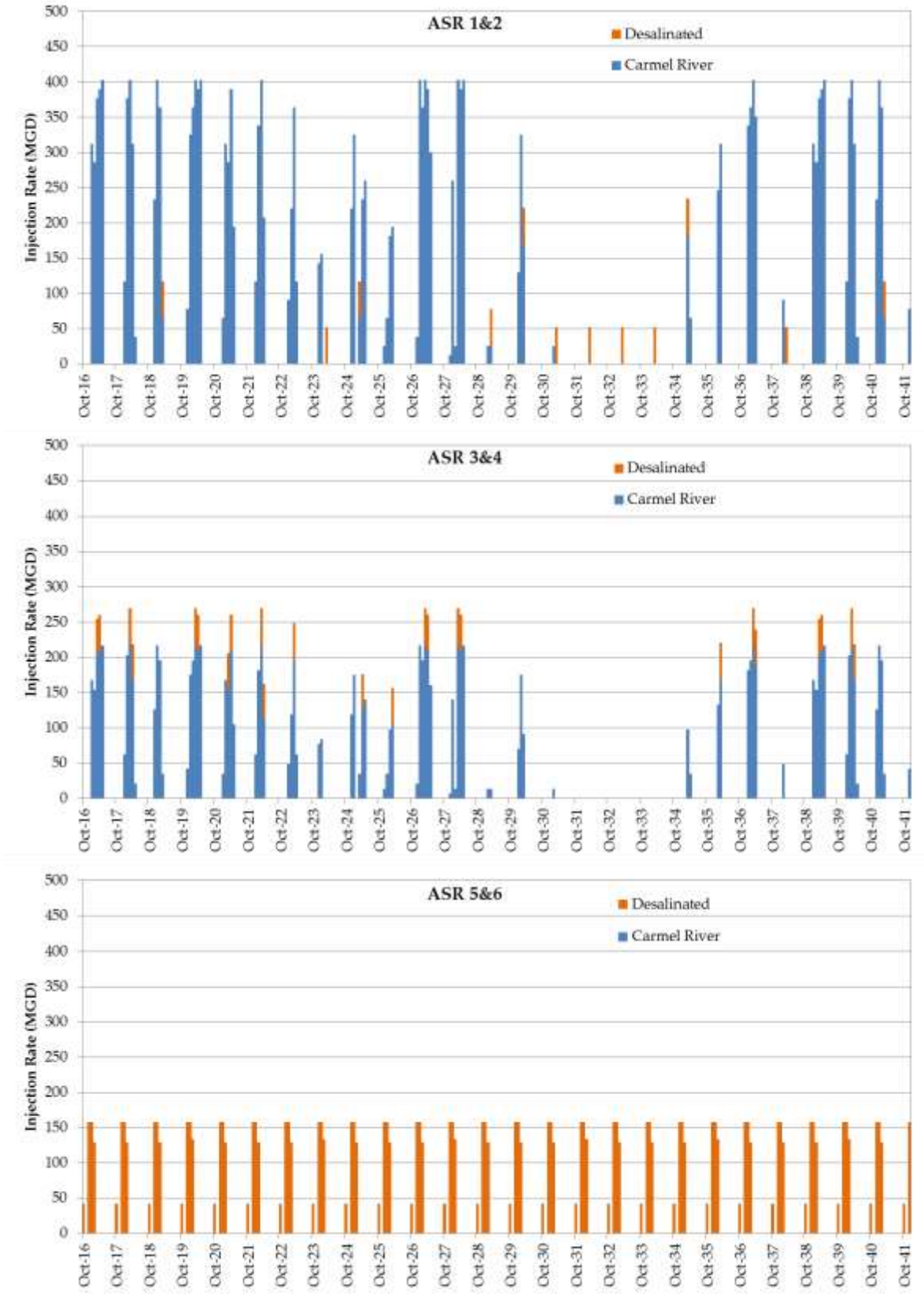

Figure 5: Monthly ASR Injection of Carmel River and Desalinated Water

PREDICTED CAL-AM MONTHLY SUPPLY AND DEMAND ASSUMPTIONS

Table 1 shows the average monthly supply and demand estimates provided by Cal-Am for the Cumulative Projects. This table was produced by Cal-Am as a part of their effort to analyze the groundwater impacts of the MPWSP Variant Project, and MPWMD and MRWPCA agreed to use it as the basis for the Cumulative Projects pumping and injection projections. Cal-Am's monthly supply and demand in the Cumulative Projects simulations was held as consistent as possible with Table 1. However, because the values on Table 1 represent average monthly supply and demand, adjustments were required to accommodate known constraints on well operations and water supply variability in the Seaside Basin.

Future Cal-Am pumping will come from five existing Cal–Am wells, two existing ASR sites, and one planned ASR site. These wells and ASR sites include:

- Luzern #2 Well
- Ord Grove #2 Well
- Paralta Well
- Playa #3 Well
- Plumas #4 Well
- ASR Wells 1&2 Site
- ASR Wells 3&4 Site
- ASR Wells 5&6 Site

Data supplied by Cal-Am show that the pumping capacity of their five existing wells is 5.26 million gallons per day (MGD), or approximately 16 acre-feet per day. Based on conversations with MPWMD, we assumed that each ASR well site could either produce 4.32 million gallons per day or inject 4.32 million gallons per day. The total pumping capacity of the five existing wells and three ASR well sites is therefore 18.22 million gallons per day, or approximately 55.8 acre-feet per day.

Table 1: Average Monthly CAW Supply and Demand

TYPICAL OPERATIONS BASED ON AVERAGE MONTHLY FLOWS – MPWSP VARIANT													
	Average Monthly Flow (mgd)												TOTAL (AFY)
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
Demand													
Average Demand	10.3	10.5	11.4	12.8	15.5	16.6	17.3	17.1	16.8	13.3	11.8	10.3	15,300
Water Returned to Salinas Valley	0.0	0.0	0.0	0.0	0.9	1.2	1.1	1.1	1.1	0.4	0.0	0.0	549
System Supplies													
Carmel River to Distribution System	5.7	5.7	5.7	5.2	2.2	1.0	1.0	1.0	1.0	1.0	1.0	5.7	3,376
Seaside GW Production Wells to Distribution System	0.0	0.0	0.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	0.5	0.0	770
Sand City Desalinated Supplies to Distribution System	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	94
Supplies Extracted from Seaside Groundwater Basin ASR System	0.0	0.0	0.0	0.9	6.8	9.6	10.4	10.2	9.5	5.9	4.1	0.0	5,390
MPWSP Desalinated Supplies to Distribution System	4.5	4.7	5.6	5.6	5.3	4.8	4.6	4.7	5.1	5.3	6.2	4.5	5,671
Total Supplies to Distribution System	**10.3**	**10.5**	**11.4**	**12.8**	**15.5**	**16.6**	**17.3**	**17.1**	**16.8**	**13.3**	**11.8**	**10.3**	**15,300**
MPWSP Desalination Plant Operations													
Desalinated Supplies for Distribution System	4.5	4.7	5.6	5.6	5.3	4.8	4.6	4.7	5.1	5.3	6.2	4.5	5,671
Desalinated Supplies for ASR Injection	1.7	1.5	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.7	590
Desalinated Supplies for Salinas Valley	0.0	0.0	0.0	0.0	0.9	1.2	1.1	1.1	1.1	0.4	0.0	0.0	549
Total Desalinated Supplies	**6.14**	**6.18**	**6.16**	**6.15**	**6.22**	**5.92**	**5.78**	**5.78**	**6.18**	**6.15**	**6.18**	**6.16**	**6,809**
Supplies Extracted from Seaside Groundwater Basin ASR System													
Highly Treated Wastewater from MRWPCA Regional WWTP	0.0	0.0	0.0	0.6	4.4	6.2	6.8	6.6	6.2	3.8	2.6	0.0	3,500
Carmel River	0.0	0.0	0.0	0.2	1.6	2.3	2.5	2.5	2.3	1.4	1.0	0.0	1,300
Desalinated Supplies	0.0	0.0	0.0	0.1	0.7	1.1	1.1	1.1	1.0	0.6	0.4	0.0	590
Total Extraction	**0.0**	**0.0**	**0.0**	**0.9**	**6.8**	**9.6**	**10.4**	**10.2**	**9.5**	**5.9**	**4.1**	**0.0**	**5,390**

This total pumping capacity is reduced when one or more ASR sites are unavailable for extraction. One reason an ASR site may be unavailable for extraction is that it may be used for injection, and an ASR site cannot simultaneously inject and extract water. Furthermore, MPWMD's previous experience has shown that ASR wells are required to rest for up to 60 days after injection to reduce the occurrence of disinfection byproducts and meet permit requirements. As a result, we conservatively estimated that an ASR well site is unavailable for extraction during any month that it has injected water, and for two additional months following injection. Information from MPWMD helped determine when ASR wells are unavailable for extraction. MPWMD developed a likely future ASR Well Site injection and extraction schedule based on the hydrology incorporated into the predictive simulation. Appendix A includes the historic and projected ASR Wells Site injection schedule that was developed by MPWMD. The MPWMD injection and extraction schedule identifies months when ASR wells are not available to pump groundwater, either because they are being used for injection or they are resting. For simulated months when the ASR wells were not available for extraction, Cal-Am's pumping capacity was reduced by 4.32 MGD for each unavailable site. The possible pumping capacities are shown in Table 2.

Table 2: Total Extraction Capacity

Number of ASR Sites Available for Extraction	Total Capacity (MGD)	Total Capacity (GPM)	Total Capacity (AF/day)
3	18.2	12,653	55.8
2	13.9	9,653	42.6
1	9.6	6,653	29.4
0	5.3	3,653	16.1

For some years in MPWMD's predicted future pumping schedule, ASR wells must inject Carmel River Water in the spring months, leaving them unavailable for extraction in early summer while they rest. This can result in inadequate extraction capacity to meet the pumping demand specified in Table 1. Due to this capacity constraint, HydroMetrics WRI has identified and accommodated three types of years in setting up the predictive model:

1. Years in which there are no constraints, and the average extraction numbers from Table 1 are used in the model (i.e., no modification)

2. Years in which Carmel River water injection continues into April, and the extraction capacity from existing wells is inadequate to meet Cal-Am's expected demands in June. We refer to this as Modification 1.
3. Years in which Carmel River water injection continues into May and the extraction capacity from existing wells is inadequate to meet Cal-Am's expected demands in June and July. We refer to this as Modification 2.

The pumping constraints identified above are resolved by increasing the amount of water that is assumed to be delivered directly from the Carmel River to the distribution system during June and/or July. The delivery of Carmel River water to the distribution system is then reduced in December to ensure that the annual total use of Carmel River water remains at Cal-Am's right of 3,376 acre-feet per year. This approach to resolving the pumping constraints has the advantages of being easily implemented, not requiring any new wells, and meeting Cal-Am's and MPWMD's water rights and permit restrictions on the Carmel River. Carmel River extractions under the proposed changes would still comply with the impending SWRCB Cease and Desist Order.

Table 3 shows the modifications made to the average monthly supply sources for years when capacity is constrained in June. **Error! Reference source not found.** shows the modifications made to the average monthly supply sources for years when pumping capacity is constrained in both June and July. The cells highlighted in red show the changes from Cal-Am's original supply schedule.

Table 3: Average Monthly CAW Supply and Demand – Modification 1

Modifcation 1 - Carmel Injection through April; Capacity Deficit in June													
TYPICAL OPERATIONS BASED ON AVERAGE MONTHLY FLOWS – MPWSP VARIANT													
	Average Monthly Flow (mgd)												TOTAL (AFY)
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
Demand													
Average Demand	10.3	10.5	11.4	12.8	15.5	16.6	17.3	17.1	16.8	13.3	11.8	10.3	15,300
Water Returned to Salinas Valley	0.0	0.0	0.0	0.0	0.9	1.2	1.1	1.1	1.1	0.4	0.0	0.0	549
System Supplies													
Carmel River to Distribution System	5.7	5.7	5.7	5.2	2.2	2.1	1.0	1.0	1.0	1.0	1.0	4.6	3,376
Seaside GW Production Wells to Distribution System	0.0	0.0	0.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	0.5	0.0	770
Sand City Desalinated Supplies to Distribution System	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	94
Supplies Extracted from Seaside Groundwater Basin ASR System	0.0	0.0	0.0	0.9	6.8	8.5	10.4	10.2	9.5	5.9	4.1	1.1	5,390
MPWSP Desalinated Supplies to Distribution System	4.5	4.7	5.6	5.6	5.3	4.8	4.6	4.7	5.1	5.3	6.2	4.5	5,671
Total Supplies to Distribution System	**10.3**	**10.5**	**11.4**	**12.8**	**15.5**	**16.6**	**17.3**	**17.1**	**16.8**	**13.3**	**11.8**	**10.3**	**15,300**
MPWSP Desalination Plant Operations													
Desalinated Supplies for Distribution System	4.5	4.7	5.6	5.6	5.3	4.8	4.6	4.7	5.1	5.3	6.2	4.5	5,671
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Total Desalinated Supplies	**6.14**	**6.18**	**6.16**	**6.15**	**6.22**	**5.92**	**5.78**	**5.78**	**6.18**	**6.15**	**6.18**	**6.16**	**6,809**
Supplies Extracted from Seaside Groundwater Basin ASR System													
Highly Treated Wastewater from MRWPCA Regional WWTP	0.0	0.0	0.0	0.6	4.4	5.5	6.8	6.6	6.2	3.8	2.6	0.7	3,500
Carmel River	0.0	0.0	0.0	0.2	1.6	2.0	2.5	2.5	2.3	1.4	1.0	0.3	1,300
Desalinated Supplies	0.0	0.0	0.0	0.1	0.7	0.9	1.1	1.1	1.0	0.6	0.4	0.1	590
Total Extraction	**0.0**	**0.0**	**0.0**	**0.9**	**6.8**	**8.5**	**10.4**	**10.2**	**9.5**	**5.9**	**4.1**	**1.1**	**5,390**

Table 4: Average Monthly CAW Supply and Demand – Modification 2

Modifcation 1 - Carmel Injection through May; Capacity Deficit in June and July													
TYPICAL OPERATIONS BASED ON AVERAGE MONTHLY FLOWS – MPWSP VARIANT													
	Average Monthly Flow (mgd)												TOTAL (AFY)
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PREDICTED PUMPING ASSUMPTIONS

HydroMetrics WRI made a number of assumptions for the predictive simulation about future pumping rates by various entities in the Seaside Basin. These assumptions were consistent with assumptions developed for previous modeling exercises in the basin. Pumping assumptions were developed for standard producers, alternative producers, golf courses, and Cal-Am.

WATER YEAR 2009 THROUGH WATER YEAR 2012 PUMPING

Actual pumping and injection data for all wells from January 2009 through December 2012 are included in the predictive simulation.

MUNICIPAL PUPMPING FROM WATER YEAR 2013 ONWARDS

Predicted pumping by the City of Seaside and the City of Sand City follows the triennial reductions prescribed in the Amended Decision (California American Water v. City of Seaside et al., 2007). These pumping reductions are designed to reduce basin-wide pumping to the approximate safe yield of 3,000 acre-feet per year by 2021.

CAL-AM PUMPING FROM WATER 2013 ONWARDS

A number of assumptions were necessary to estimate Cal-Am's monthly pumping rates and pumping distribution.

Well Priority Assumptions

HydroMetrics WRI assumed that Cal-Am's monthly pumping from the Seaside Basin is allocated among their available wells with the following order of preference:

1. ASR 5&6
2. ASR 3&4
3. ASR 1&2
4. Ord Grove #2
5. Paralta
6. Luzern
7. Playa #3
8. Plumas #4

The pumping during any month was first allocated to the ASR wells up to their capacity. Pumping was then allocated to the Ord Grove #2 well up to its capacity, and

so on. As discussed above, ASR wells are unavailable for extraction if they are injecting water, or have injected water at any time during the previous 3 months. Cal-Am agreed that these are reasonable assumptions during coordination meetings in 2014. Using this well priority sequence, Figure 6 shows Cal-Am's monthly pumping by well in the predictive simulation. Figure 7 shows the monthly distribution of ASR water injection and extraction by well in the predictive simulation.

Water Available for Cal-Am During Droughts

The predictive simulation includes a five-year drought between 2030 and 2034. During this drought, virtually no Carmel River water is injected into the Seaside Basin (Figure 5). Therefore, Cal-Am will need to draw from ASR water previously stored in the basin during this drought. Figure 8 shows an analysis of the amount of ASR water stored in the Seaside Basin for the entire simulated period. This figure shows that, without pumping modifications, Cal-Am will deplete all the water previously stored in the Seaside Basin after the five-year drought, and will run a storage deficit.

To avoid a storage deficit, HydroMetrics WRI assumed that Cal-Am would suspend its groundwater repayment plan during the five-year drought. This is a reasonable assumption: during a drought, we expect all water purveyors will fully use any available water supplies. Analysis by HydroMetrics WRI showed that Cal-Am would need to suspend its groundwater repayment plan for only three years of the five year drought to avoid depleting all the water previously stored in the Seaside Basin. Figure 9 shows that Cal-Am would always retain some amount of stored water in the Seaside Basin by suspending its groundwater repayment plan for only three years. This suspension of repayment would be in accordance with, and would not undermine, the long-term goal of maintaining the groundwater basin as a water supply source. HydroMetrics WRI assumed that Cal-Am would restart its groundwater repayment schedule after the drought ends, and would continue this plan until the full amount of repayment is achieved.

Using these assumptions, Figure 10 shows were Cal-Am's water comes from during both drought and non-drought years. The green area on this figure represents the current year's GWR Project water that is extracted by Cal-Am. The purple area represents the MPWSP desalinated water that was injected during the current year, and subsequently extracted by Cal-Am. The red area represents native groundwater pumped by Cal-Am. The blue area represents Carmel River water that was injected during the current year, and subsequently extracted by Cal-Am. The orange area represents ASR water stored by Cal-Am in previous years.

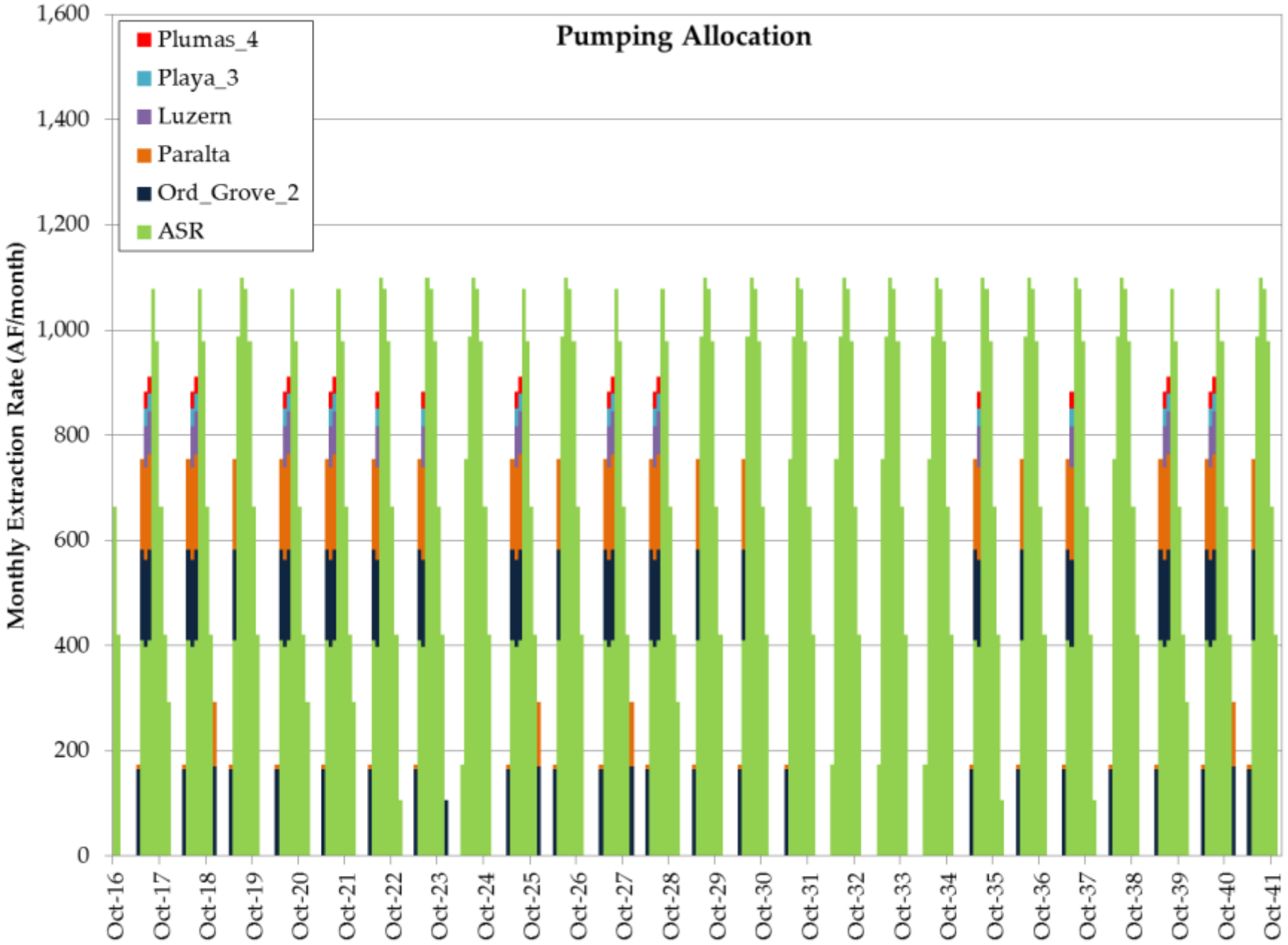

Figure 6: Monthly Pumping Totals by Well

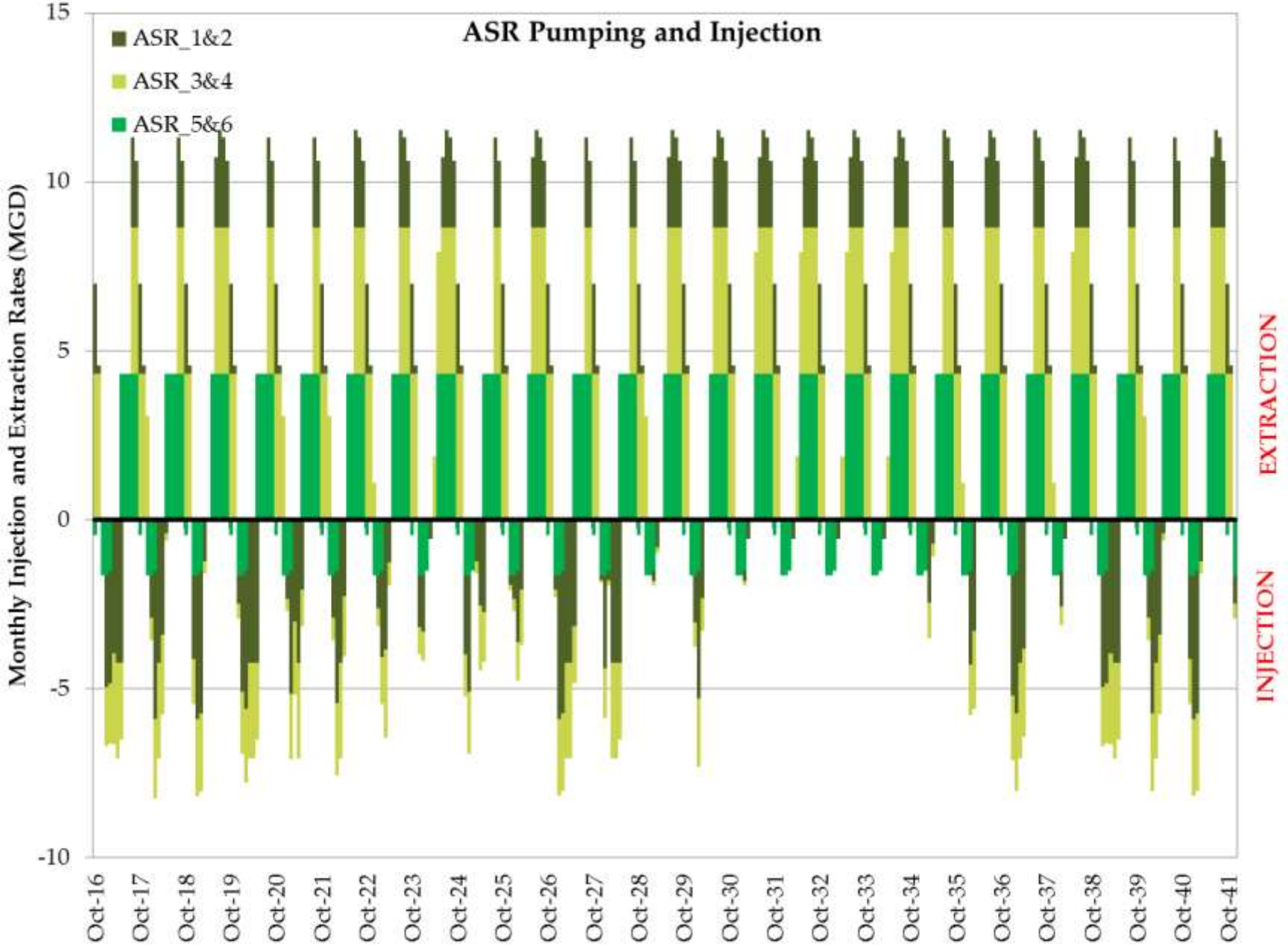

Figure 7: Monthly ASR Injection and Extraction

Figure 8: ASR Water in Storage with no Pumping Modifications

Figure 9: ASR Water in Storage with Repayment Suspended in 2034, 2035, and 2038

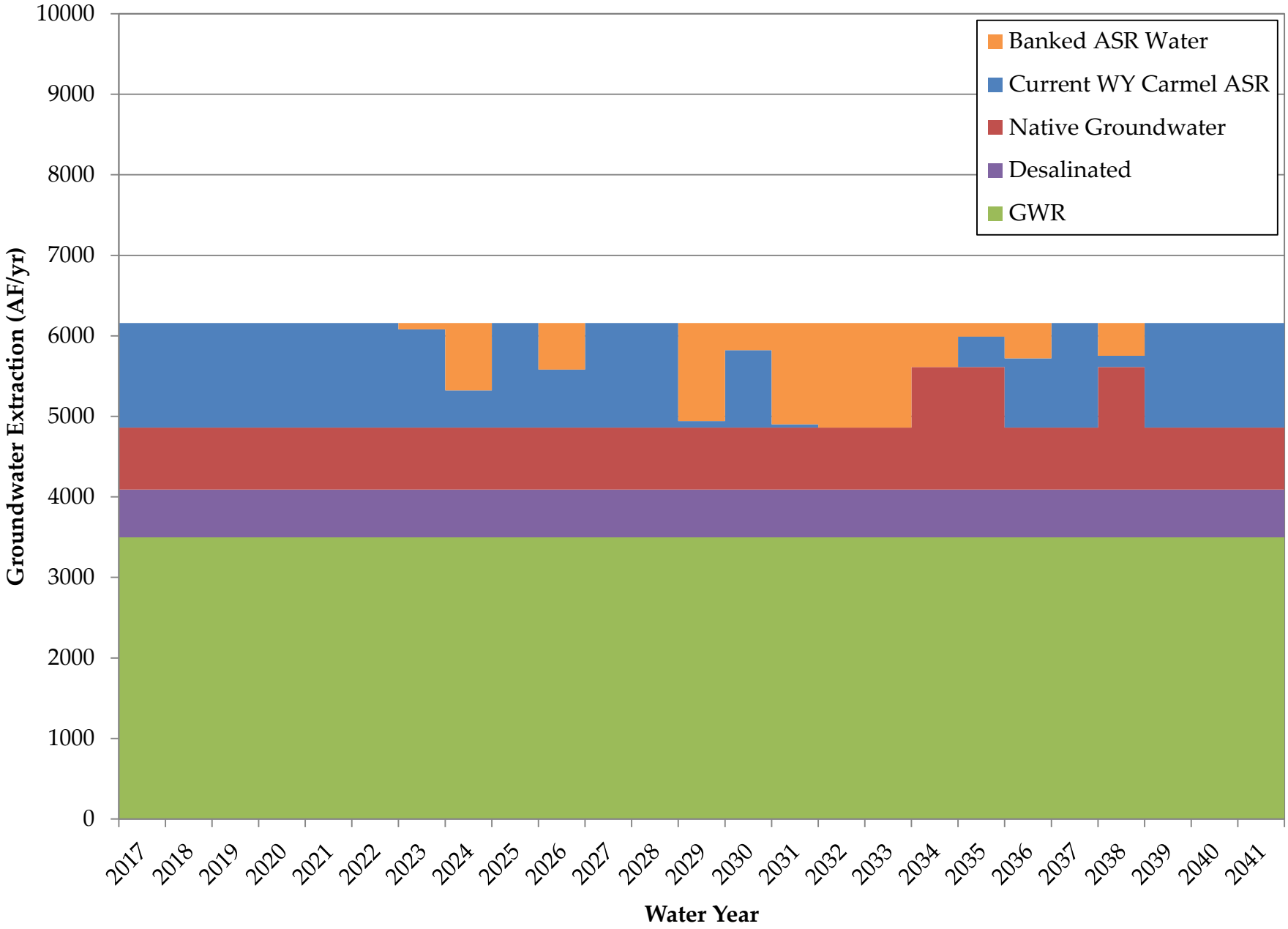

Figure 10: Annual Cal-Am Water Allocation by Water Right Source

GOLF COURSE PUMPING FROM WATER YEAR 2013 ONWARDS

Predicted golf course pumping is based on the hydrologic year. For example, pumping in January 2015 equals the amount pumped in January 1993, because the simulated 2015 hydrology is based on 1993 hydrology. This ensures that the demand corresponds to the hydrology. If the amount pumped by a Producer pre-adjudication exceeds the Producer's adjudicated right, pumping was capped at the Producer's adjudicated amount.

Additional golf course pumping adjustments accounted for in the simulation are:

- The Bayonet and Blackhorse golf courses pump no water until September, 2016. This is based on an in-lieu replenishment program in which Marina Coast Water District provides water in-lieu of the City of Seaside pumping from the Seaside Basin. The City of Seaside expects to start pumping its golf course wells again starting September 2016.

- In 2007, Bayonet and Black Horse golf courses had irrigation upgrades that have reduced irrigation demand by approximately 10% from historical amounts.

- The City of Seaside expects to begin pumping an average of 360 AFY from its wells for golf course supply starting in September 2016. These projected quantities were used rather than basing demand on the hydrology year.

PREDICTED ALTERNATIVE PRODUCER AND PRIVATE PUMPING

Predicted alternative producer pumping is set at measured Water Year (WY) 2011 volumes from WY 2013 onwards. All other pumpers that are not covered by the Decision, including Cal Water Service and private wells, also pump at WY 2011 volumes from WY 2013 onwards.

Pumping exceptions in the simulation are:

- Water for SNG, which is an Alternative Producer, is supplied from Cal-Am wells under an agreement with Cal-Am. When the SNG site is developed they will be supplied with water by Cal-Am, who will use SNG's water right of 149.7 acre-feet/year. Based on input from the

property owner, Ed Ghandour, project construction planned to start in 2013, and use 25 AFY of water; however, construction is now estimated to occur in 2015 or later. Water usage thereafter is estimated to be:

- 2014 - 30 AFY
- 2015 – 50 AFY
- 2016 onwards – 70 AFY

Because the SNG project has been delayed, it is unclear what SNG's future water use might be. Therefore, HydroMetrics WRI adopted the water use estimates listed above to be consistent with previous modeling efforts.

Particle Tracking Approach

Particle tracking was conducted to estimate the fate and transport of GWR water under the Cumulative Projects. Particles were first introduced around all eight GWR Project injection wells on the simulated period corresponding to October 1, 2016. A new set of particles was released into the model at the beginning of every month until the end of the simulation in 2042. Each month, 40 particles were released from each injection well. Every particle was tracked through the model until it terminated at an extraction well, or until the end of the simulation period in 2042. By introducing the particles continuously, we ensured that there were particles introduced and tracked during times when the travel times would be the fastest.

Particles were placed along the edges of each of the model cells that contained the injection and vadose wells. This strategy is necessary to ensure that the particles are carried outward in all directions in the same manner that water would travel radially from a well. Placing many particles at the exact location of the well results in only a single path taken by all particles. While the approach of placing particles around the edge of the model cell gives a more accurate picture of the dispersal pattern of the water from the injection wells, it also places particles closer to the extraction wells, effectively resulting in faster simulated travel times than actual travel times.

Particles are captured by wells not when they reach the exact location of the extraction wells, but when they reach the edge of the cell that contains an extraction well. This also leads to faster simulated travel times. The results

shown below should therefore be considered conservative estimates because actual travel times will be greater than simulated.

Model Results

GROUNDWATER ELEVATION RESULTS

The impact of the Cumulative Projects on groundwater elevations was determined by comparing results from the Cumulative Projects simulation with results from the GWR Project and No-Project scenarios. The No-Project scenario simulates future groundwater conditions without either the GWR or MSPWP projects. The Project scenario simulates future groundwater conditions with the GWR Project but without the MPWSP Project. The assumptions of each of these scenarios are documented in the *Groundwater Replenishment Project Description Development Modeling* (HydroMetrics WRI, October 2, 2013), where they are referred to as the No-Project and Project-High scenarios.

Simulated groundwater elevations from the three scenarios were compared at the following seven wells:

- ASR 1&2 Well Site
- City of Seaside #3
- Ord Grove #2
- Paralta
- Luzern
- PCA-West (Shallow)
- PCA-West (Deep)

Figure 11 shows the location of these seven wells and the GWR injection wells. These seven wells span the area between the GWR injection wells and the coast. Several of the major extraction wells for the GWR Project water are included in this set of wells.

Hydrographs for simulated groundwater elevations under the Cumulative Projects, Project, and No-Project scenarios are shown on Figure 12 through Figure 18. The blue lines represent the simulated static groundwater elevation under the No-Project scenario; the green lines represent the simulated static groundwater elevation under the GWR Project scenario, and the purple lines

represent the simulated static groundwater elevation under the Cumulative Projects scenario. The simulated groundwater elevations are generally higher under the Cumulative Projects scenario than under the No-Project and GWR Project scenarios. This is primarily the result of reduced extraction of native groundwater that occurs under the Cumulative Projects scenario. Cal-Am has proposed foregoing extracting 700 acre-feet/year of groundwater from 2017 through 2041 as repayment for past overpumping. The reduced use of native groundwater under the Cumulative Projects scenario translates to a relative increase in storage and rising groundwater elevations. Figure 9 shows the annual use of native groundwater under each scenario. Note that Figure 9 spans the entire simulation period from 2009-2041, while Figure 10 spans the simulation period 2017-2041.

Simulated groundwater elevations around Cal-Am production wells, such as Ord Grove #2, are also higher under the Cumulative Projects scenario because they have lower extraction rates than under the GWR Project and No-Project scenarios. As discussed in the Predicted Pumping Assumptions section above, the Cumulative Project scenario assumes that Cal-Am will use the ASR Well Sites to meet a greater portion of their pumping needs than under the Project and No-Project scenario. This is accompanied by reducing pumping from other Cal-Am well in the coastal subarea, including Ord Grove #2. Figure 20 compares the extraction rates of the Ord Grove #2 well under the No-project, Project, and Cumulative Project scenarios.

The increased use of ASR wells under the Cumulative Projects scenario also leads to increased groundwater elevations in the shallower model layers, where the Ord Grove #2 and Paralta wells draw a portion of their extracted water but the ASR wells do not. This behavior is seen in hydrographs of the Luzern and PCA-West Shallow wells (Figure 16 and Figure 17). Under the GWR Project scenario, drops in groundwater elevations in the Luzern and PCA-West Shallow wells were observed almost immediately with the beginning of GWR Project operation in 2017. This drop was caused by increases in pumping that were not offset immediately by the injection of water that took place in a deeper layer. Under the Cumulative Projects scenario, however, there is an overall reduction in pumping from the shallower layers.

Groundwater elevations in the Cumulative Projects scenario are below those of the GWR Project and No-Project scenarios for some short time periods. This is

observed only in wells that penetrate the deep aquifer, including the ASR 1&2 Well Site, the Paralta well, and the PCA-West Deep well. These reductions occur during the summer months of the simulated drought period between 2030 and 2034. For each of these years, winter groundwater levels under the Cumulative Projects scenario are high relative to the No-Project and GWR Project scenarios, drop to a relatively low levels during the summer months, and then quickly recover again to a relatively high level during the next winter. This behavior can be explained by the increased use of use of ASR wells under the Cumulative Projects scenario. Under the Cumulative Project scenario, more water is drawn from the deep aquifer layer, but the effect of the increased pumping is quickly offset by injection in the same layer. During the drought years, however, heavy pumping continues despite four consecutive years without any injection of Carmel River water to help offset the effect of pumping. Furthermore, with no injection of Carmel River water, the ASR wells are rested for fewer months and take an even greater share of the pumping than under a typical year.

Comparing GWR Project and No-Project Hydrographs of the PCA-West Deep and PCA-West Shallow wells allows us to evaluate how the Cumulative Project may impact seawater intrusion in the Seaside Basin. The simulated groundwater elevations at the PCA-West Deep and PCA-West Shallow wells are higher under the Cumulative Projects scenario than under the GWR Project and No-Project scenarios, indicating that the combined GWR and desalination project would not worsen the potential for seawater intrusion at this location. Instead, it appears that the Cumulative Projects would cause this location to become less vulnerable to seawater intrusion.

Figure 11: Locations of Wells with Groundwater Elevation Comparisons

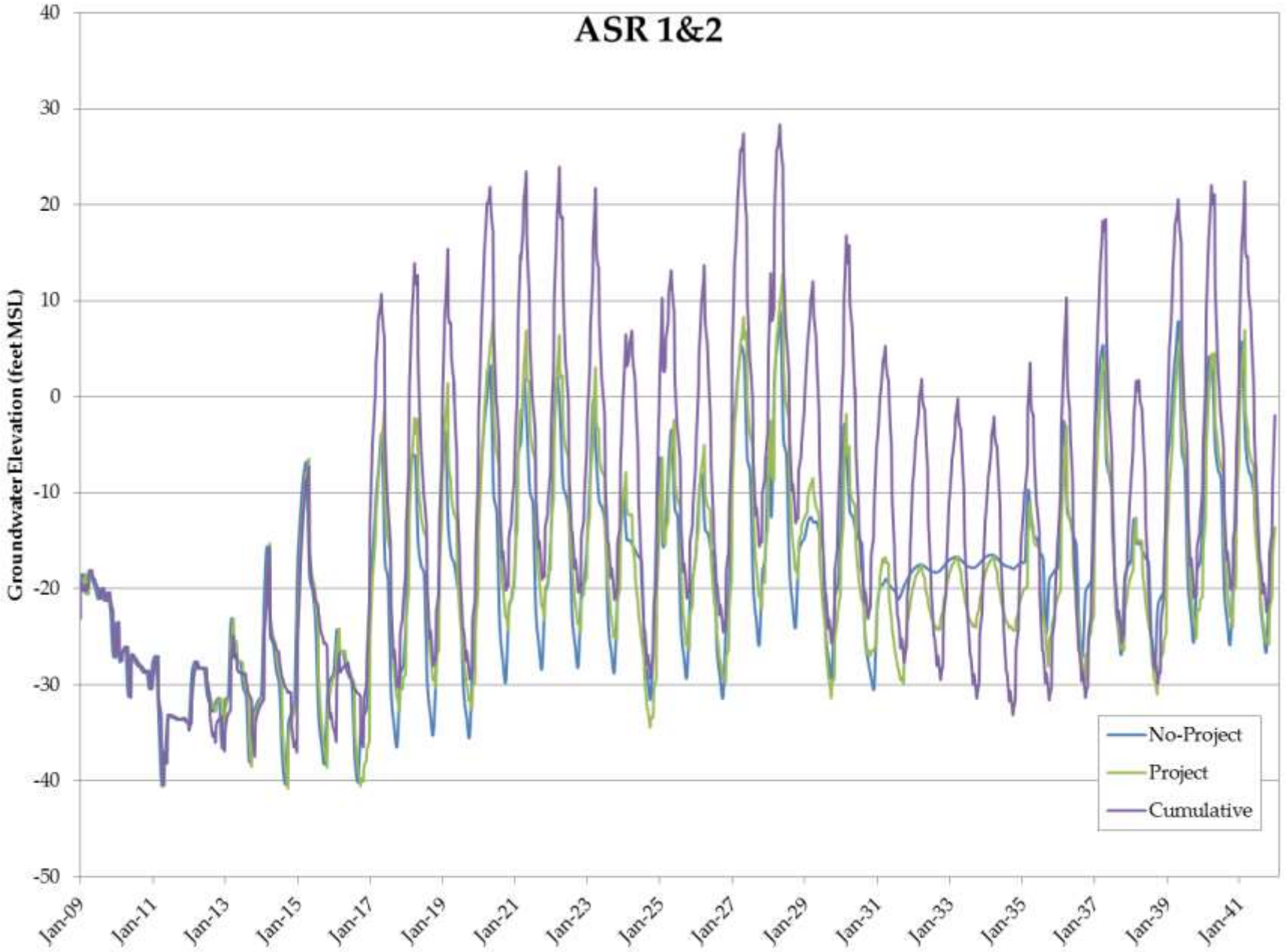

Figure 12: Predicted Static Groundwater Elevations at ASR 1&2 Wells

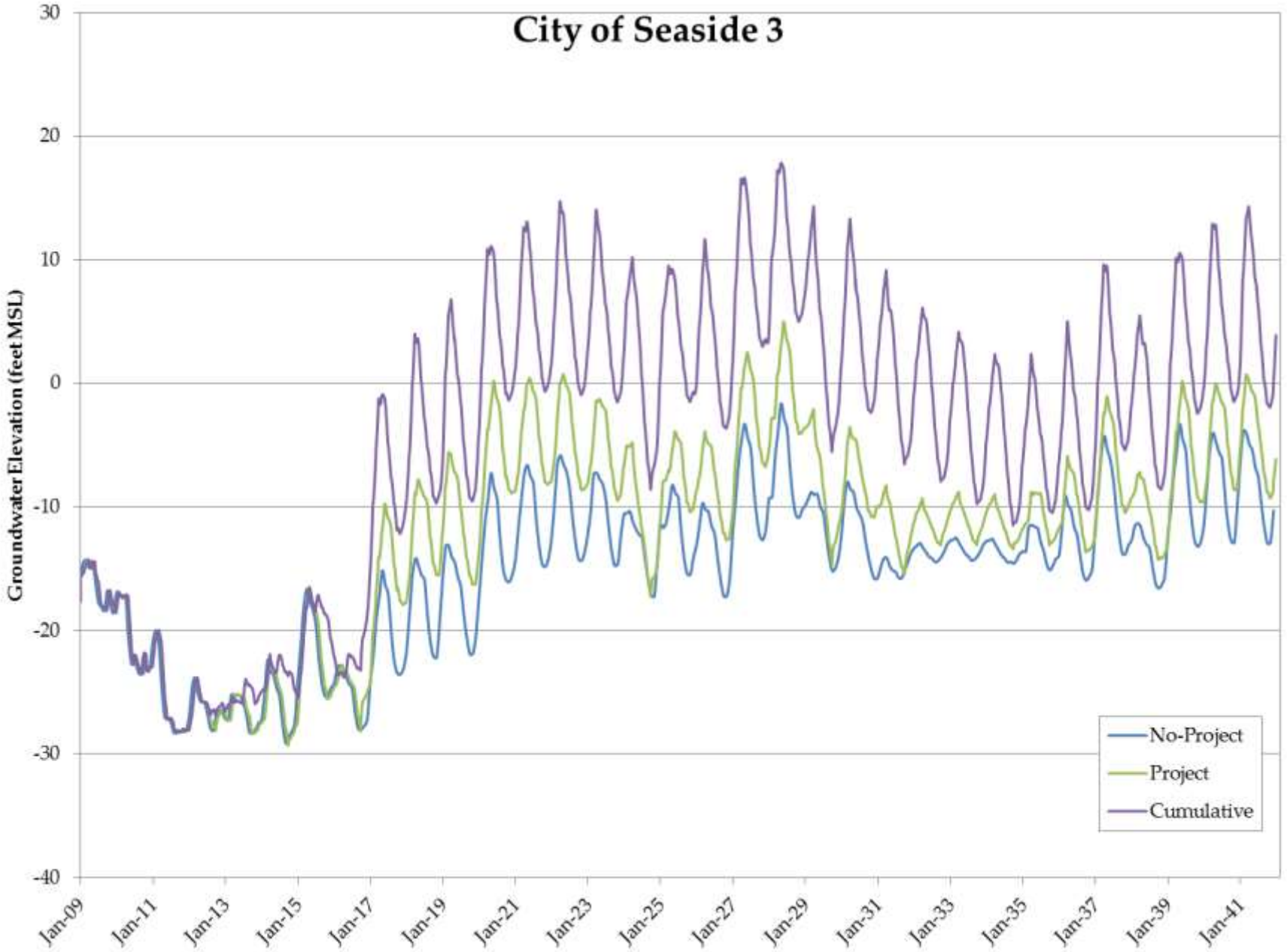

Figure 13: Predicted Static Groundwater Elevations at City of Seaside 3 Well

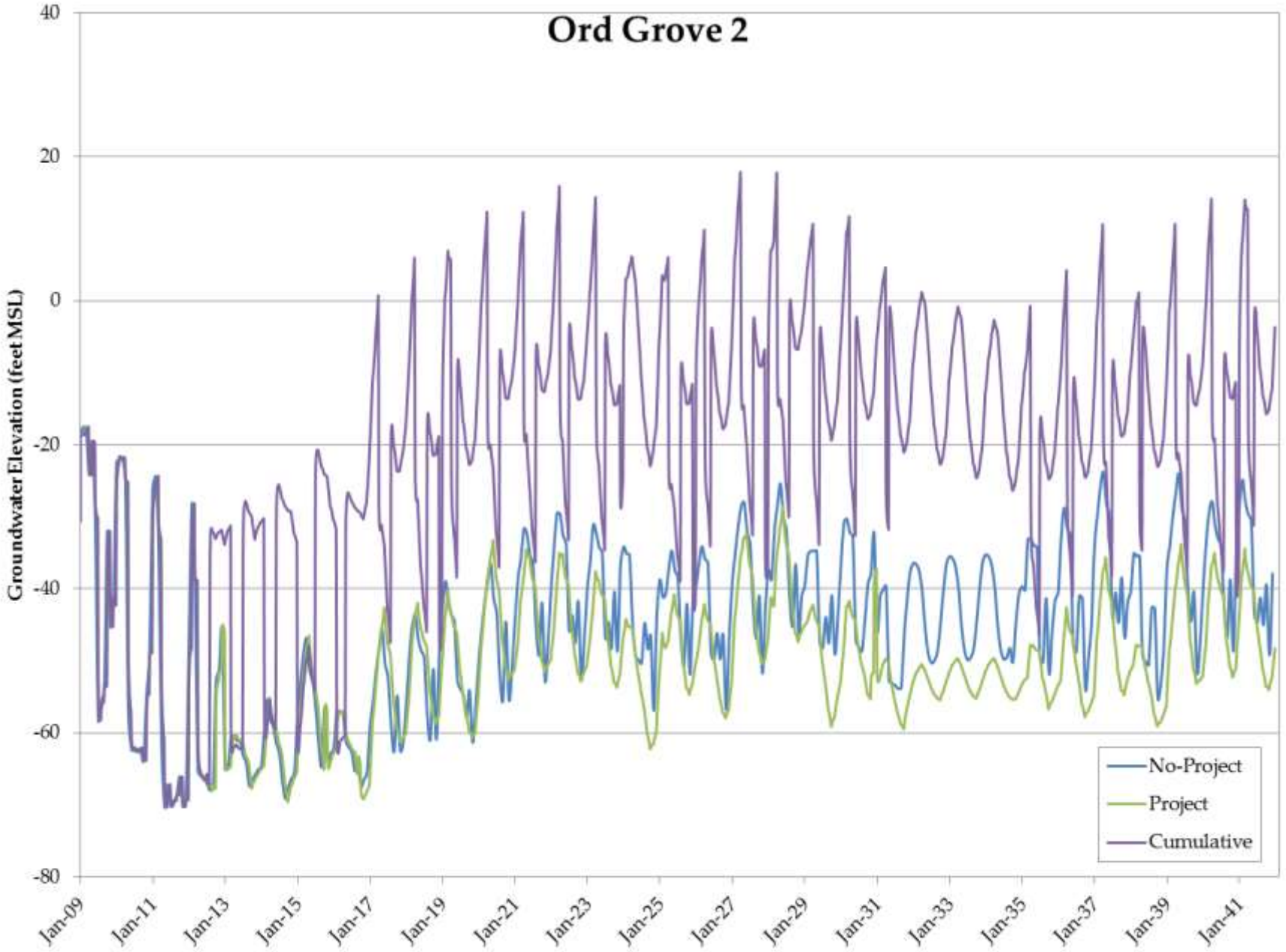

Figure 14: Predicted Static Groundwater Elevations at Ord Grove 2 Well

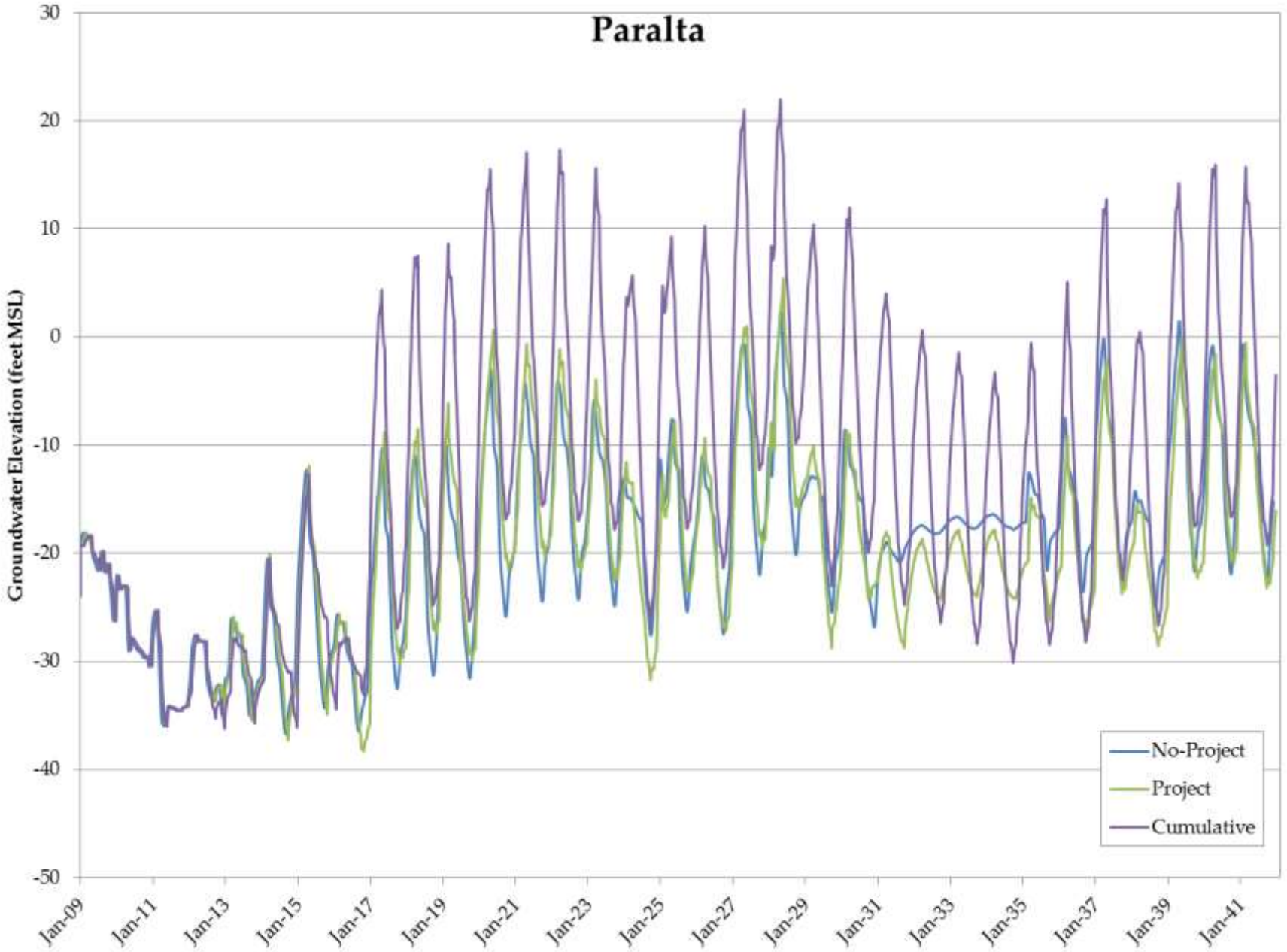

Figure 15: Predicted Static Groundwater Elevations at Paralta Well

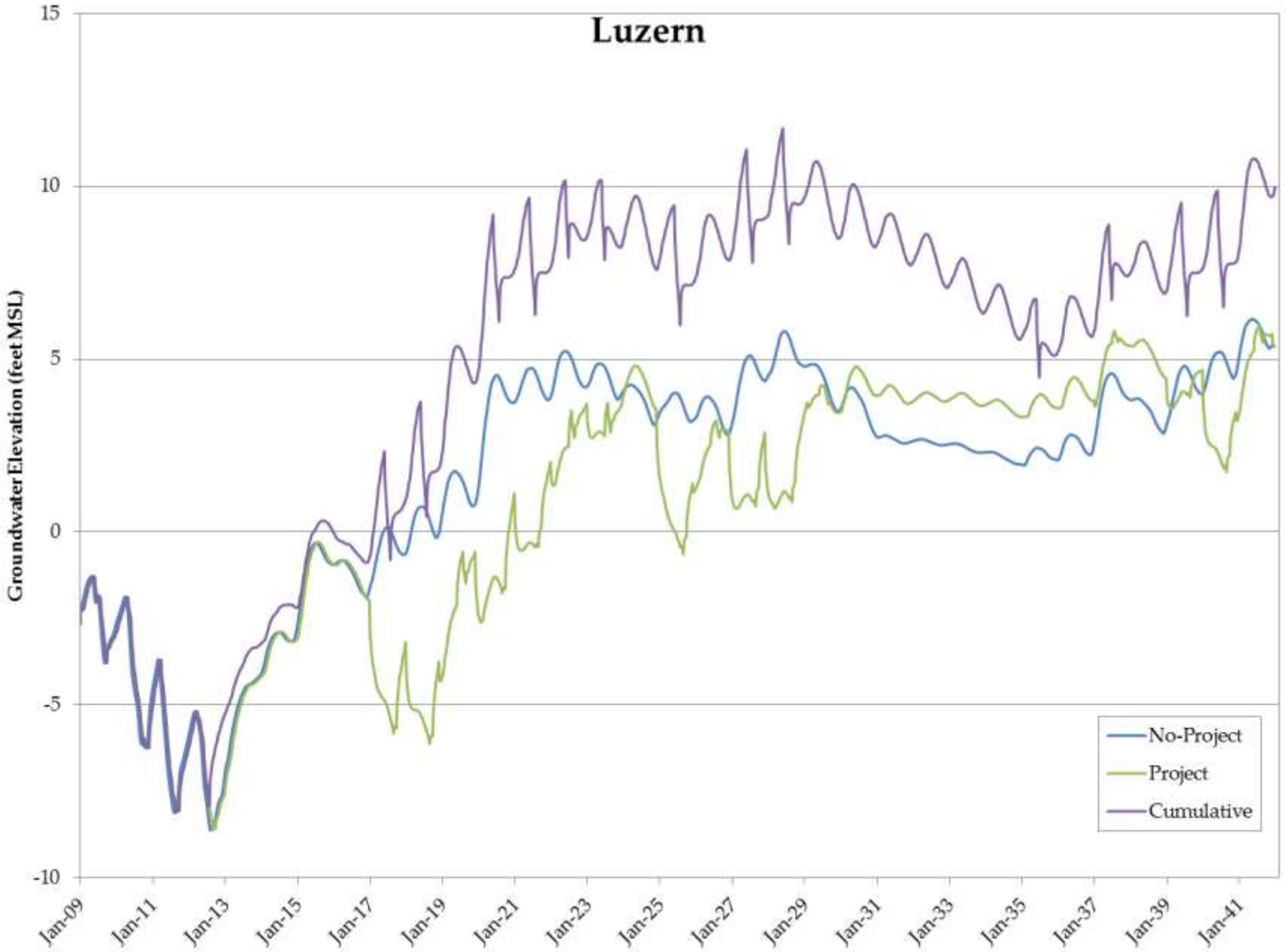

Figure 16: Predicted Static Groundwater Elevations at Luzern Well

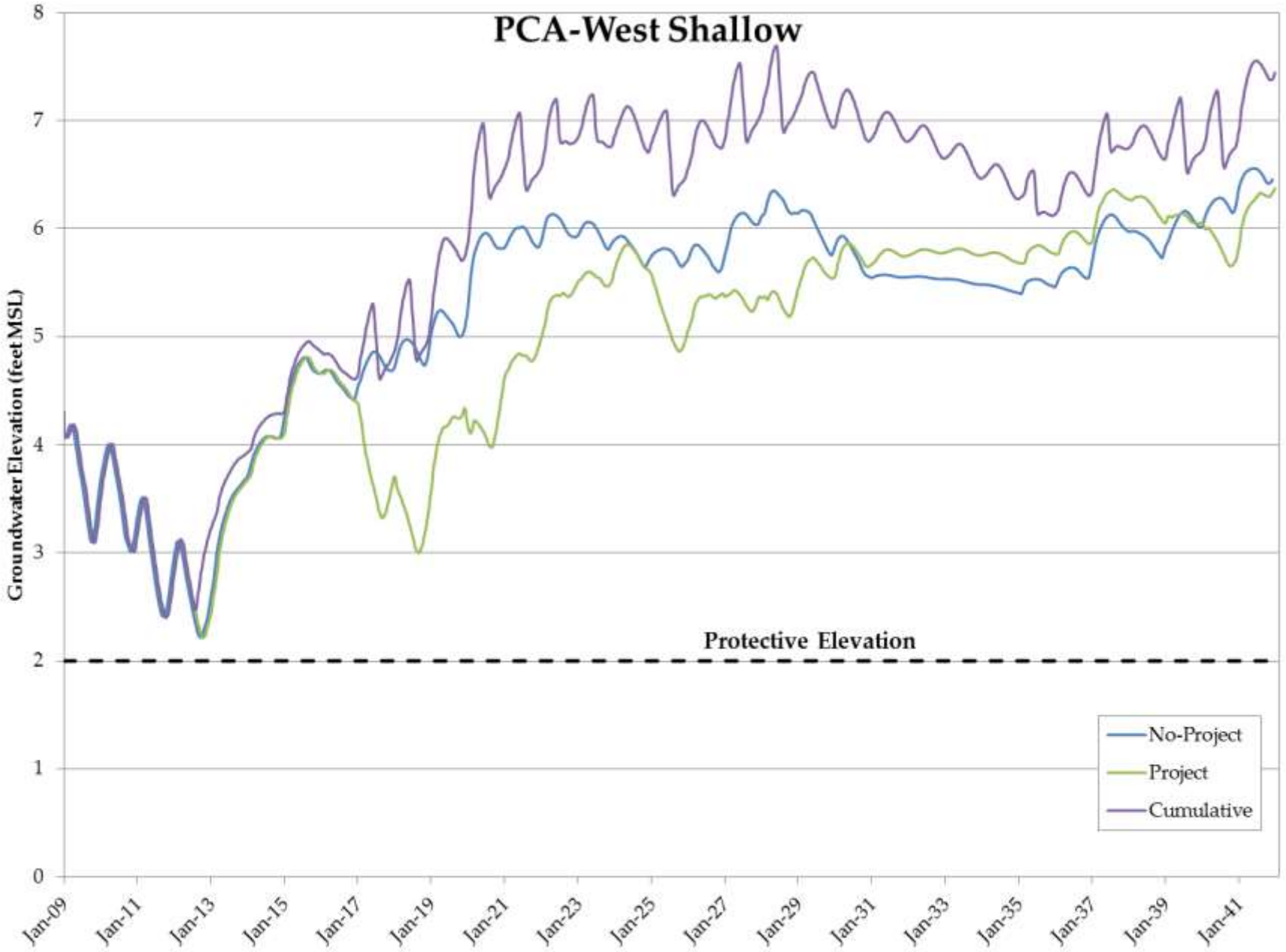

Figure 17: Predicted Static Groundwater Elevations at PCA-West Shallow Well

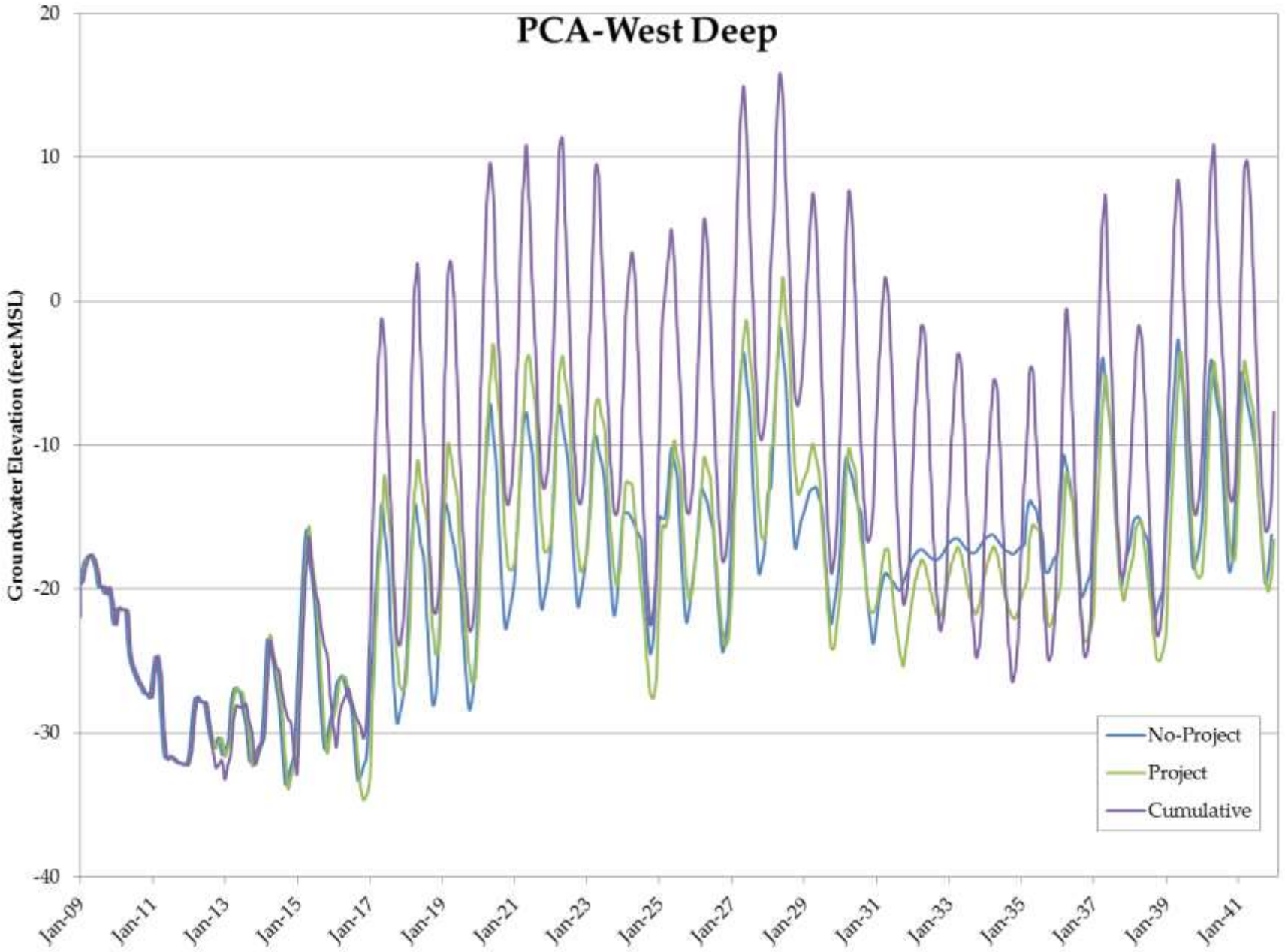

Figure 18: Predicted Static Groundwater Elevations at PCA-W Deep Well

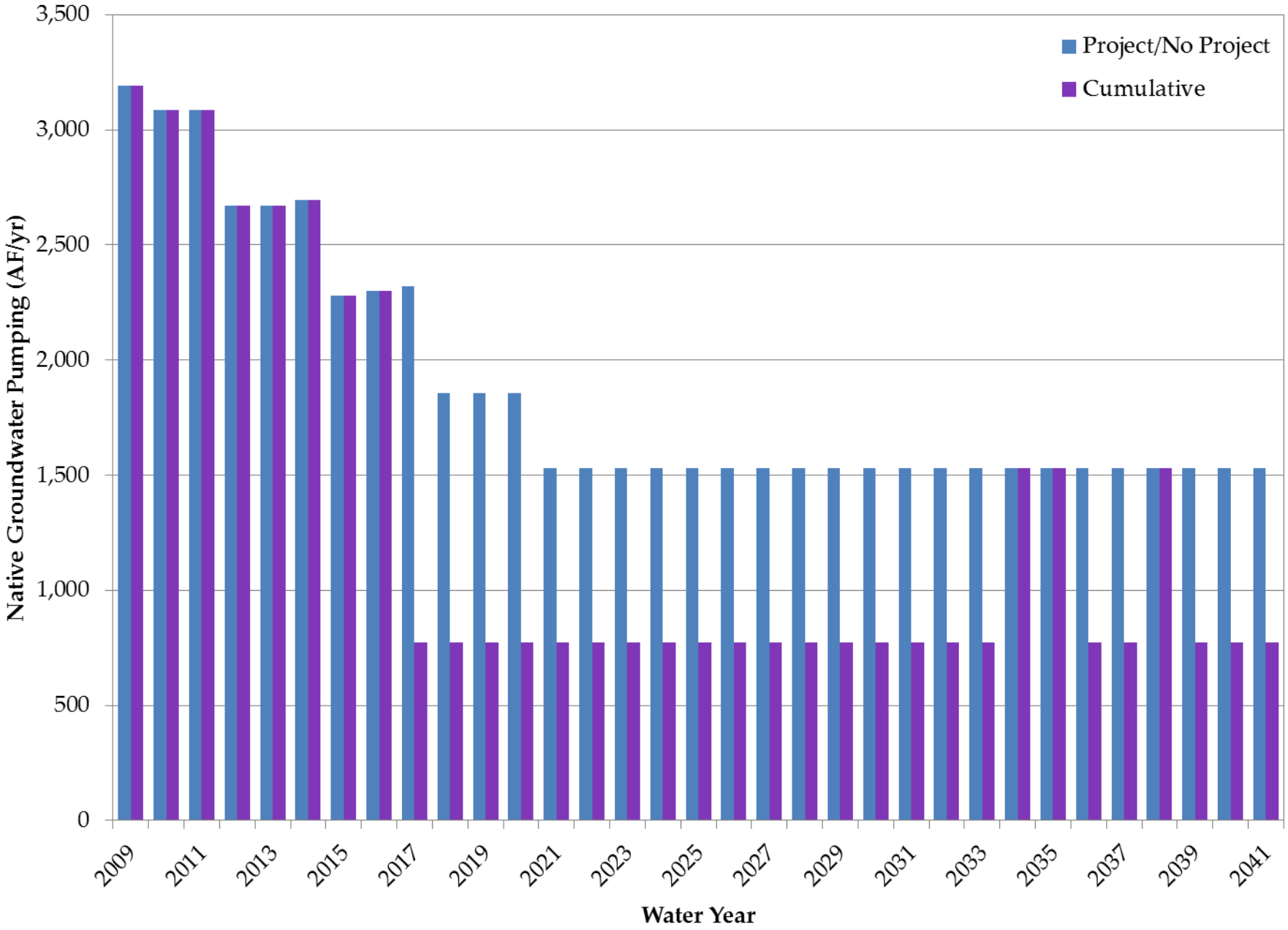

Figure 19: Annual Use of Native (non-ASR) Groundwater

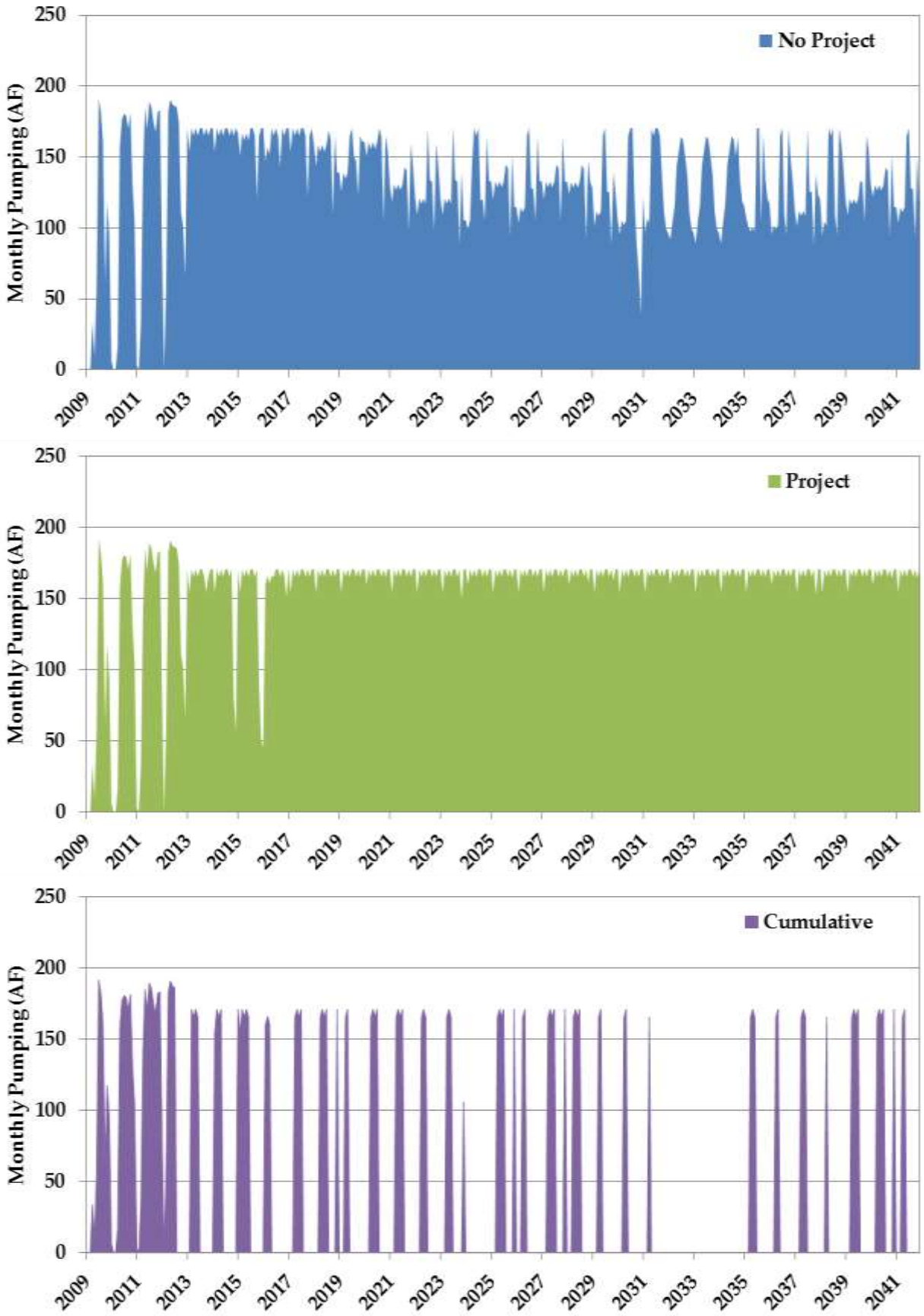

Figure 20: Pumping Rates for Ord Grove #2 Well

PARTICLE TRACKING RESULTS

Figure 21 shows how travel times between the GWR Project injection wells and the nearest extraction wells vary depending upon time of release. The horizontal axis represents the time at which groups of particles were released from the injection wells and the vertical axis represents time in days it took for the fastest particle to reach an extraction well. Each dot represents the time travelled by the fastest particle. The light blue, green, red, and dark blue dots show travel times from the locations of the deep injection wells DIW-1, DIW-2, DIW-3, and DIW-4, respectively. The black, yellow, orange, and magenta dots show travel times from the locations of the vadose zone wells VZW-1, VZW-2, VZW-3, and VZW-4, respectively.

The fastest particles are those released from well DIW-3, and captured at the ASR 1&2 Well Site. The fastest time any particle takes to travel from an injection well to a nearby extraction well is approximately 334 days. Travel times from deep injection well DIW-1 are the next fastest; taking approximately 543 days for the fastest particles to reach the ASR 3&4 Well Site. The fastest particles released at the remaining wells take between 2 and 22 years to reach an extraction well, with particles released from vadose zone well VZW-1 never reaching an extraction well after 24 years of simulation.

For most of the wells, there is a notable variation throughout the simulation in the minimum travel time taken by the released particles. For all four deep injection wells, the variations in travel times are strongly influenced by the ASR wells. These ASR wells both inject and extract water throughout the simulation period, thereby impacting groundwater gradients. These ASR wells sometimes draw particles in and sometimes repel them, creating greatly different trajectories depending on when a particle approaches the ASR wells. For example, particles that are released from well DIW-3 in the early winter and captured by wells ASR 1&2 in the late fall experience the fastest travel times. These particles approach the ASR 1&2 wells during the summer pumping season and are captured before any injection begins in the winter. Particles that approach the ASR wells during simulated drought years, experience less seasonal variation in travel times and faster travel times. During these years, particles encounter little to no injection of Carmel River water that would repel them from their path, and at the same time feel a greater a pull from ASR wells that have an extended pumping season under dry conditions.

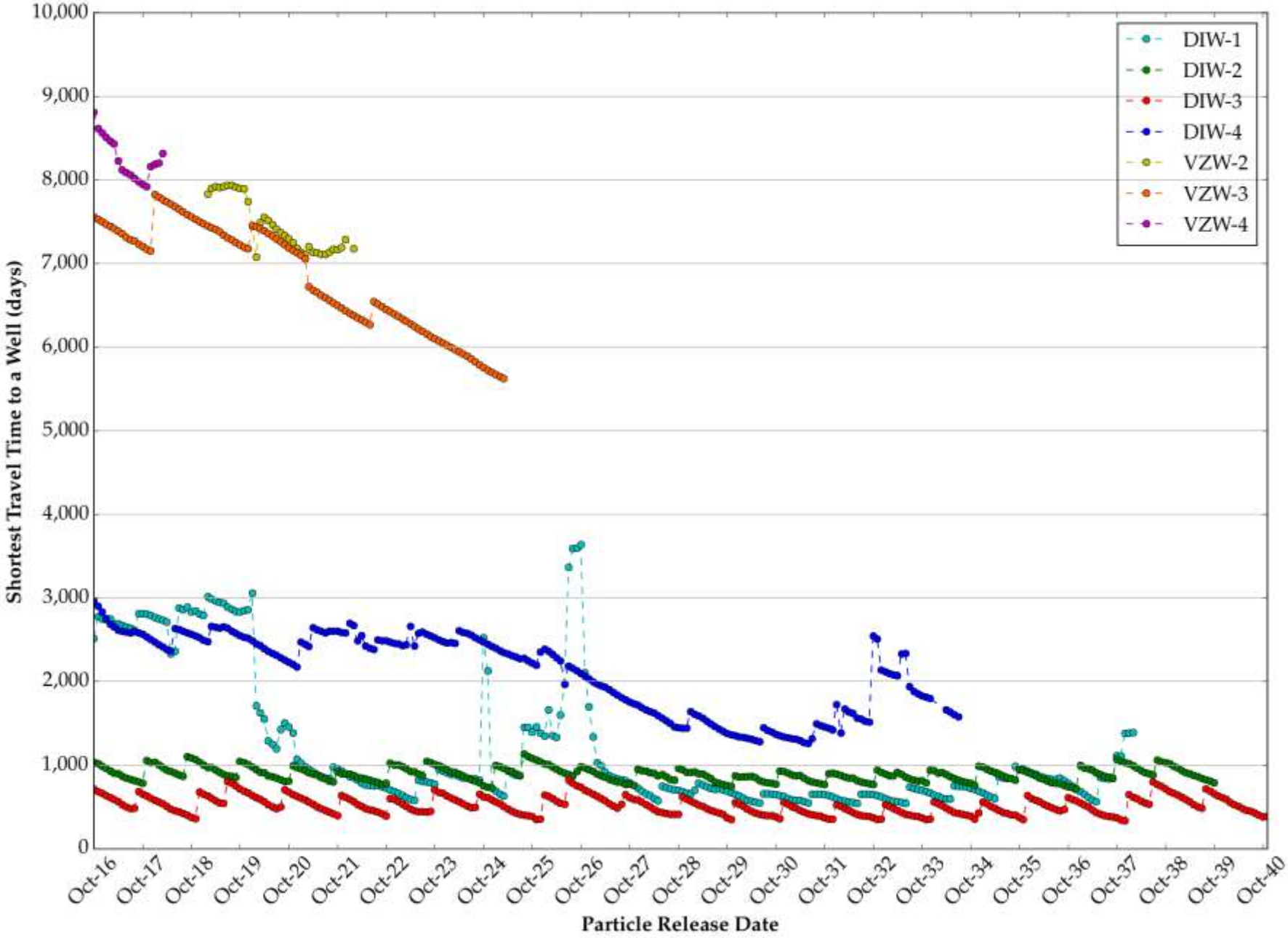

Figure 21: Fastest Travel Times to a Pumping Well

The vadose zone wells also display variations in minimum travel times throughout the simulation. These particles are initially released at shallow depths, above the influence of the large-capacity injection and extraction wells. The dynamics of the shallow layers in the model are mostly influenced by fluctuations in natural recharge and by the vadose zone injection itself. Variations in these factors can lead to saturation or desaturation of shallow model cells which in turn cause rapid changes in vertical and horizontal gradients in these cells. This type of behavior is likely to explain the stepped changes in minimum travel times that are seen in vadose zone wells VZW-2, VZW-3, and VZW-4.

The only production wells that capture particles released from the eight injection locations are the three ASR Well Sites, the Ord Grove #2 well; the Paralta well; and the Luzern well. Table 5 and Table 6 summarize how particles from each injection site are captured by nearby wells under the Cumulative Projects scenario.

Table 5 shows the fastest travel times between each injection location and the six groups of extraction wells. A value is not shown if there was no particle travelling between the two wells.

Table 5: Fastest Travel Times between Injection and Extraction Wells, in Days

Extraction Well	Well of Origin							
	DIW-1	DIW-2	DIW-3	DIW-4	VZW-1	VZW-2	VZW-3	VZW-4
ASR 1&2	-	834	334	1,259	-	-	-	-
ASR 3&4	543	720	1,217	2,070	-	-	-	-
ASR 5&6	2,515	4,068	6,116	5,828	-	-	-	-
Luzern	-	-	-	-	-	-	5,626	-
Ord Grove	-	-	3,788	2,583	-	-	-	7,924
Paralta	-	870	1,040	2,125	-	7,081	-	-

Note: — = no particle traveling between wells

Table 6 shows the percent of particles injected at each of the injection locations that were captured by each extraction well. This table only shows the fate of the captured particles – not the fate of all particles. As a result, the columns add to 100% for each scenario, even though most of the particles released from the vadose zone wells were not captured by the end of the simulation. The Paralta, Luzern, and Ord Grove 2 wells capture the greatest share of the particles

originating from the vadose zone wells; while the ASR 3&4 Well Site and ASR 5&6 Well Site capture the greatest share of particles originating from the deep injection wells.

Table 6: Percent of Captured Particles that Travel between Injection and Extraction Wells

Extraction Well	Well of Origin							
	DIW-1	DIW-2	DIW-3	DIW-4	VZW-1	VZW-2	VZW-3	VZW-4
ASR 1&2	-	2	60%	6%	-	-	-	-
ASR 3&4	63%	89%	32%	49%	-	-	-	-
ASR 5&6	37%	2%	1%	5%	-	-	-	-
Luzern	-	-	-	-	-	-	100%	-
Ord Grove	-	-	1%	38%	-	-	-	100%
Paralta	-	7%	6%	2%	-	100%	-	-

Note: — = no particle traveling between wells

Figure 22 and Figure 23 show the path each particle takes from its initial injection location to either an extraction well or its final location when the simulation ends. Separate maps for paths originating from deep injection wells and paths originating from vadose zone wells are included. The particle tracks shown on each figure display the fate of particles that were released in the model period corresponding to December, 2037. This is the release date corresponding to the fastest travel times.

Figure 22 and Figure 23 show that the northwestern-directed groundwater flow field dominates the migration of particles from the vadose zone wells while the local dynamics of the many deep injection and extraction wells dominate the migration of the particles from the deep injection wells. As noted above, there are several particle paths that fluctuate towards and away from the ASR wells before the particles are captured. These fluctuations are the result of the injection and extraction pattern at the ASR wells. The deep particles released in December 2037 that are not captured by the nearby ASR 1&2, ASR 3&4, Ord Grove #2, or Paralta wells flow northward toward the ASR 5&6 wells, but are not captured before the end of the simulation (Figure 22).

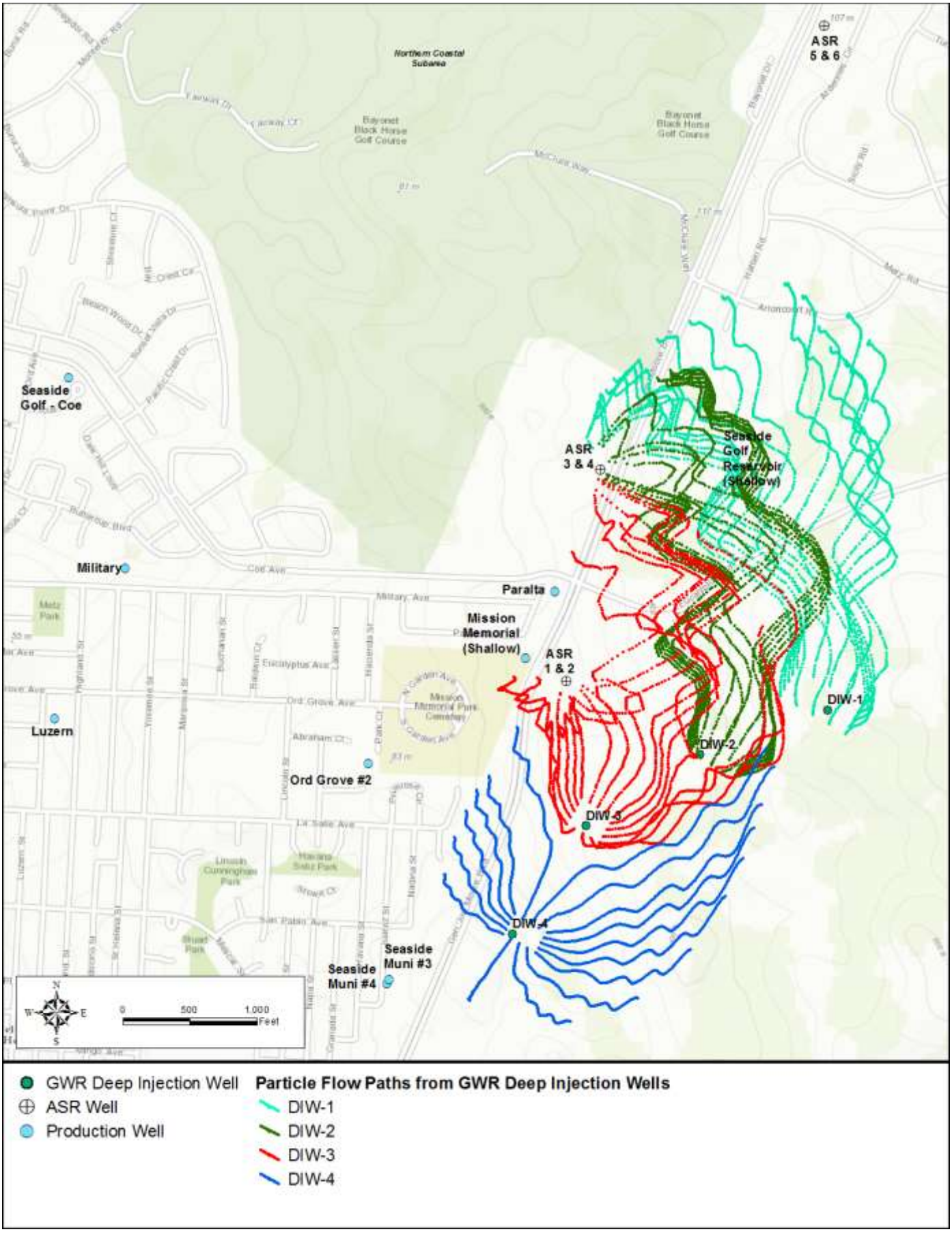

Figure 22: Particle Paths from a Single Release in Deep Injection

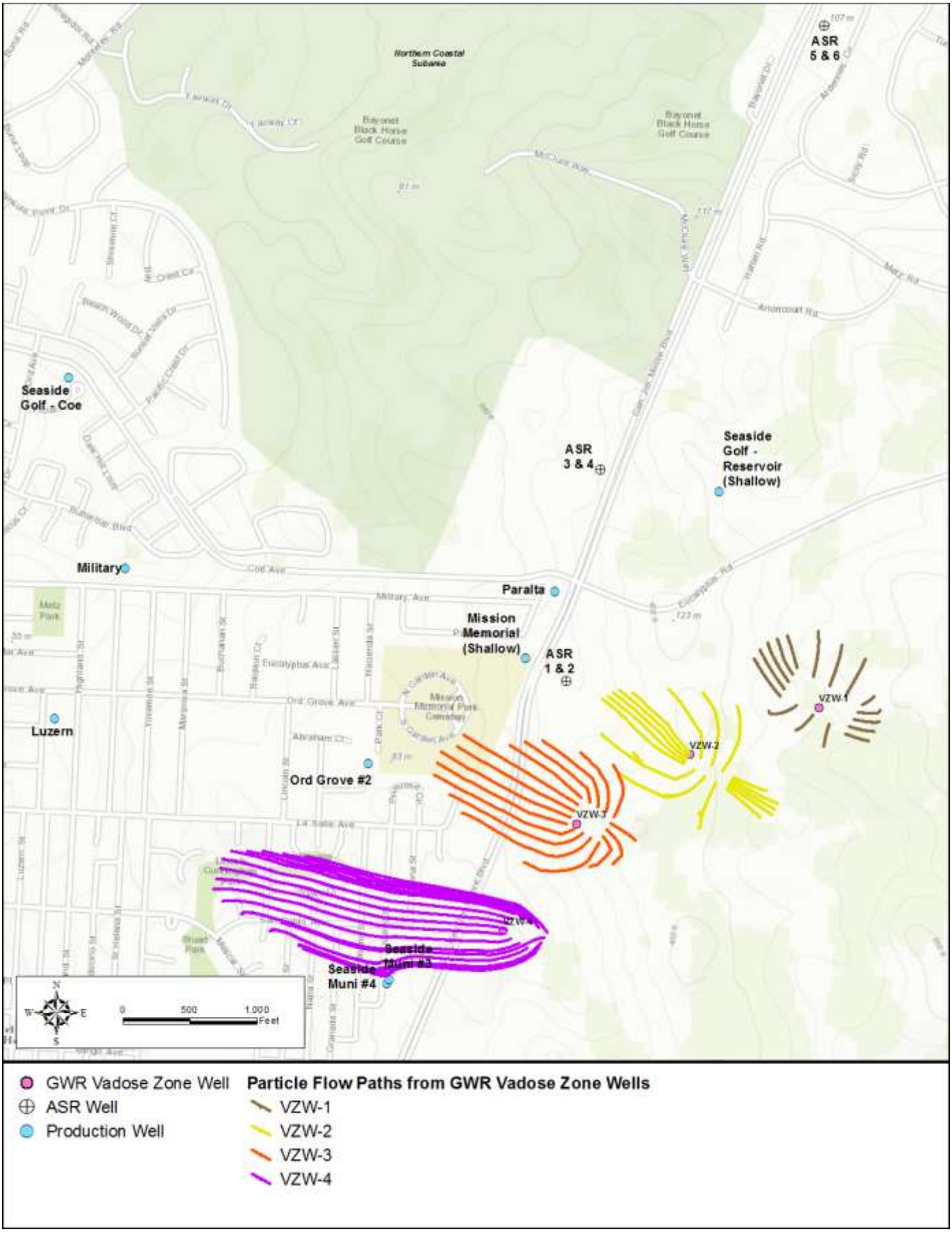

Figure 23: Particle Paths from a Single Release in Vadose Zone

Figure 24 and Figure 25 show the greatest particle extent from each injection location at four separate times. Separate maps for paths originating from deep injection wells and paths originating from vadose zone wells are included. Four times are shown: 90 days (yellow), 180 days (orange), 270 days (red), and 360 days (blue). These contours show the same general spatial pattern as Figure 22 and Figure 23 but represent the extent of all particles at any time rather than individual paths.

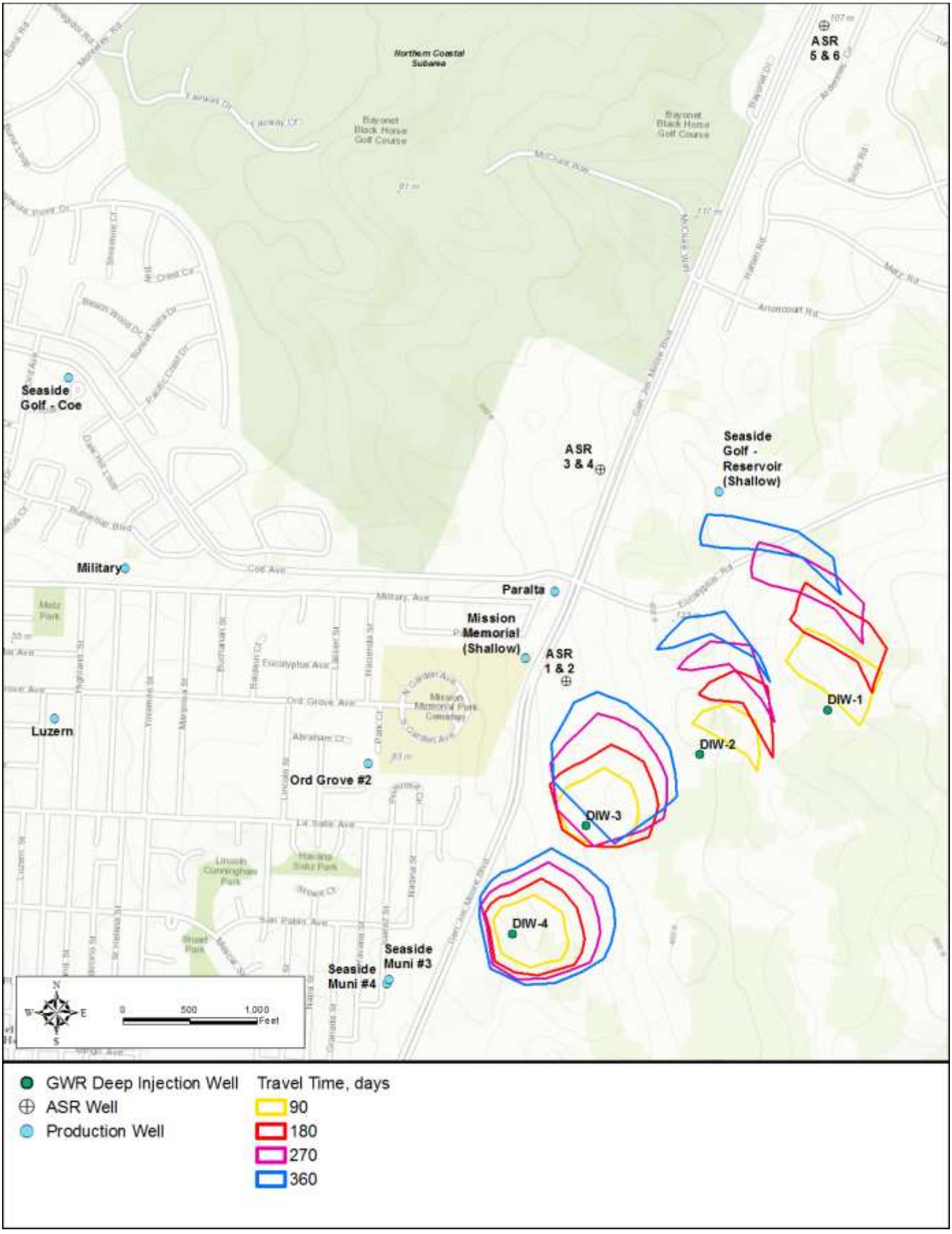

Figure 24: Travel Time Extents from Deep Injection Wells

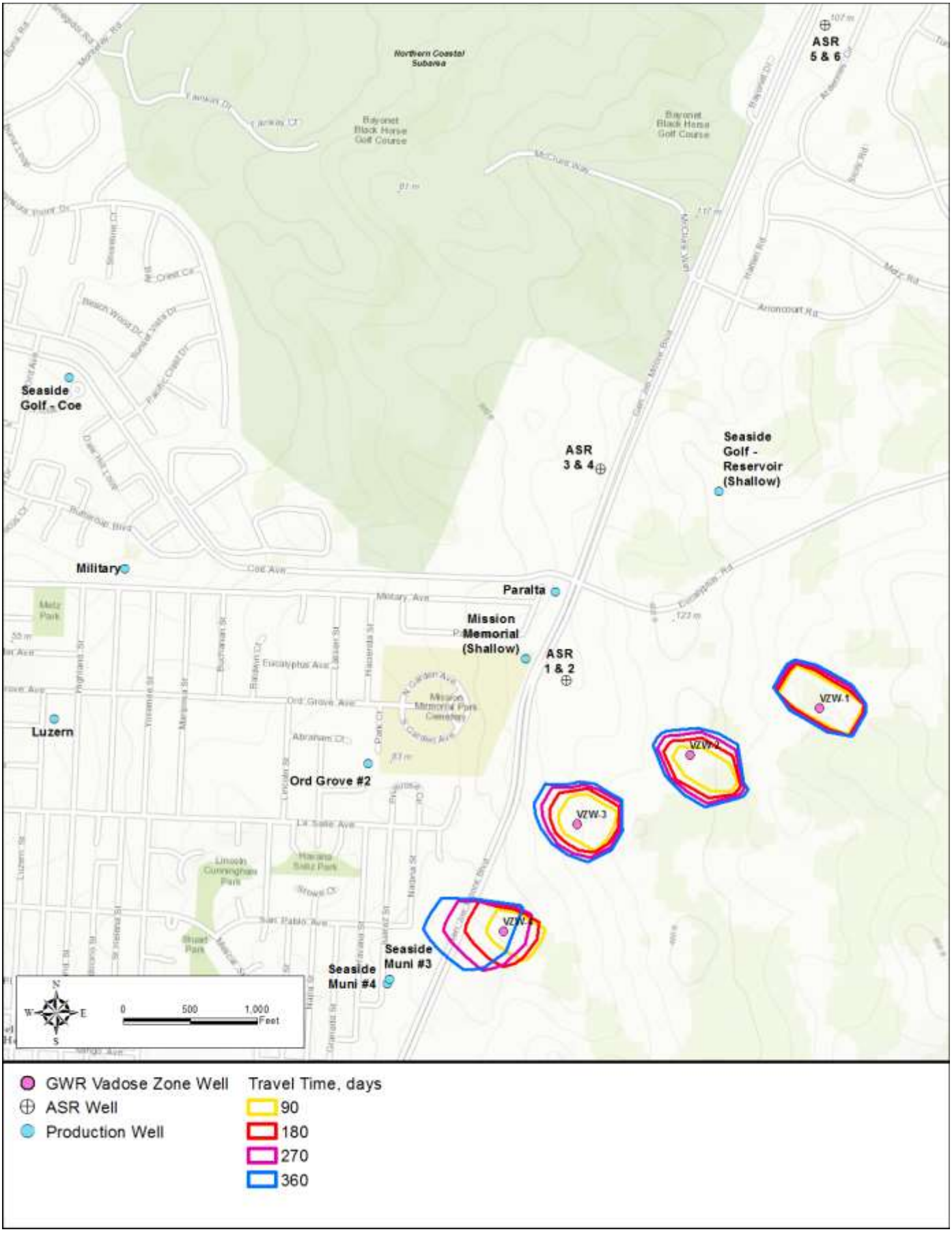

Figure 25: Travel Time Extents from Vadose Zone Wells

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California American Water v. City of Seaside et al. Monterey County Superior Court, Case Number M66343, filed in Monterey County Superior Court on March 27, 2006, amended on February 9, 2007

HydroMetrics Water Resources Inc. 2009. *Seaside groundwater basin modeling and protective groundwater elevations*, prepared for Seaside basin watermaster, November, 151 p.

HydroMetrics Water Resources Inc. 2013. G*roundwater replenishment project description development modeling*, letter to Mr. Bob Holden, Monterey County Water Pollution Control Agency, 12 p.

Planned Cumulative Projects Water Injection Schedule and CSIP Storage and Delivery Operation

Water Year	Simulated Historical Climate Water Year	Salinas Station Precip (% of Ave.)	Drought Year Criteria (<75% of Average)	Injection Delivery Schedule	Injection Volume (AF)	Annual Recycled Water to CSIP (AF)	Drought Reserve Change (AF)	Cumulative Drought Reserve (AF)	Injection Delivery Schedule (AFM)													
									Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Total
2017	1995	131%		A	3,700	-	200	200	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2018	1996	95%		A	3,700	-	200	400	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2019	1997	123%		A	3,700	-	200	600	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2020	1998	240%		A	3,700	-	200	800	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2021	1999	98%		A	3,700	-	200	1,000	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2022	2000	114%		B	3,500	-	-	1,000	297	288	297	297	268	297	288	297	288	297	297	288	3,500
2023	2001	93%		B	3,500	-	-	1,000	297	288	297	297	268	297	288	297	288	297	297	288	3,500
2024	2002	74%	Drought	G	2,500	1,000	(1,000)	-	297	288	297	297	268	297	124	128	124	128	128	124	2,500
2025	2003	94%		A	3,700	-	200	200	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2026	2004	82%		A	3,700	-	200	400	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2027	2005	148%		A	3,700	-	200	600	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2028	2006	118%		A	3,700	-	200	800	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2029	2007	73%	Drought	D	2,700	1,000	(800)	-	331	321	331	331	299	331	124	128	124	128	128	124	2,700
2030	2008	79%		A	3,700	-	200	200	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2031	1987	60%	Drought	E	3,300	400	(200)	-	331	321	331	331	299	331	222	229	222	229	229	222	3,300
2032	1988	40%	Drought	F	3,500	200	-	-	331	321	331	331	299	331	255	263	255	263	263	255	3,500
2033	1989	63%	Drought	F	3,500	200	-	-	331	321	331	331	299	331	255	263	255	263	263	255	3,500
2034	1990	57%	Drought	F	3,500	200	-	-	331	321	331	331	299	331	255	263	255	263	263	255	3,500
2035	1991	88%		A	3,700	-	200	200	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2036	1992	90%		A	3,700	-	200	400	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2037	1993	140%		A	3,700	-	200	600	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2038	1994	83%		A	3,700	-	200	800	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2039	1995	131%		A	3,700	-	200	1,000	331	321	331	331	299	331	288	297	288	297	297	288	3,700
2040	1996	95%		B	3,500	-	-	1,000	297	288	297	297	268	297	288	297	288	297	297	288	3,500
2041	1997	123%		B	3,500	-	-	1,000	297	288	297	297	268	297	288	297	288	297	297	288	3,500

Injection Delivery Schedule (AF/month)			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Total
before drought reserve complete	wet/normal year	A	331	321	331	331	299	331	288	297	288	297	297	288	3,700
after drought reserve complete	wet/normal year	B	297	288	297	297	268	297	288	297	288	297	297	288	3,500
before drought reserve complete	drought year (min. AWTF delivery)	C	331	321	331	331	299	331	107	111	107	111	111	107	2,601
before drought reserve complete	drought year (1,000 AF to CSIP)	D	331	321	331	331	299	331	124	128	124	128	128	124	2,700
before drought reserve complete	drought year (400 AF to CSIP)	E	331	321	331	331	299	331	222	229	222	229	229	222	3,300
before drought reserve complete	drought year (200 AF to CSIP)	F	331	321	331	331	299	331	255	263	255	263	263	255	3,500
after drought reserve complete	drought year (1,000 AF to CSIP)	G	297	288	297	297	268	297	124	128	124	128	128	124	2,500

APPENDIX A:
MPWMD HISTORIC AND PROJECTED ASR WELL SITE INJECTION

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	Oct-86	1986/10	0	0	0	YES	N	N	Y	Y
Before	Nov-86	1986/11	0	0	0	YES	N	N	Y	Y
Before	Dec-86	1986/12	0	0	0	YES	N	N	Y	Y
Before	Jan-87	1987/1	0	0	0	YES	N	N	Y	Y
Before	Feb-87	1987/2	40	26	14	NO	Y	Y	N	N
Before	Mar-87	1987/3	0	0	0	NO	N	N	N	N
Before	Apr-87	1987/4	0	0	0	NO	N	N	N	N
Before	May-87	1987/5	0	0	0	YES	N	N	Y	Y
Before	Jun-87	1987/6	0	0	0	YES	N	N	Y	Y
Before	Jul-87	1987/7	0	0	0	YES	N	N	Y	Y
Before	Aug-87	1987/8	0	0	0	YES	N	N	Y	Y
Before	Sep-87	1987/9	0	0	0	YES	N	N	Y	Y
Before	Oct-87	1987/10	0	0	0	YES	N	N	Y	Y
Before	Nov-87	1987/11	0	0	0	YES	N	N	Y	Y
Before	Dec-87	1987/12	0	0	0	YES	N	N	Y	Y
Before	Jan-88	1988/1	0	0	0	YES	N	N	Y	Y
Before	Feb-88	1988/2	0	0	0	YES	N	N	Y	Y
Before	Mar-88	1988/3	0	0	0	YES	N	N	Y	Y
Before	Apr-88	1988/4	0	0	0	YES	N	N	Y	Y
Before	May-88	1988/5	0	0	0	YES	N	N	Y	Y
Before	Jun-88	1988/6	0	0	0	YES	N	N	Y	Y
Before	Jul-88	1988/7	0	0	0	YES	N	N	Y	Y
Before	Aug-88	1988/8	0	0	0	YES	N	N	Y	Y
Before	Sep-88	1988/9	0	0	0	YES	N	N	Y	Y
Before	Oct-88	1988/10	0	0	0	YES	N	N	Y	Y
Before	Nov-88	1988/11	0	0	0	YES	N	N	Y	Y
Before	Dec-88	1988/12	0	0	0	YES	N	N	Y	Y
Before	Jan-89	1989/1	0	0	0	YES	N	N	Y	Y
Before	Feb-89	1989/2	0	0	0	YES	N	N	Y	Y
Before	Mar-89	1989/3	0	0	0	YES	N	N	Y	Y
Before	Apr-89	1989/4	0	0	0	YES	N	N	Y	Y
Before	May-89	1989/5	0	0	0	YES	N	N	Y	Y
Before	Jun-89	1989/6	0	0	0	YES	N	N	Y	Y
Before	Jul-89	1989/7	0	0	0	YES	N	N	Y	Y
Before	Aug-89	1989/8	0	0	0	YES	N	N	Y	Y
Before	Sep-89	1989/9	0	0	0	YES	N	N	Y	Y
Before	Oct-89	1989/10	0	0	0	YES	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	Nov-89	1989/11	0	0	0	YES	N	N	Y	Y
Before	Dec-89	1989/12	0	0	0	YES	N	N	Y	Y
Before	Jan-90	1990/1	0	0	0	YES	N	N	Y	Y
Before	Feb-90	1990/2	0	0	0	YES	N	N	Y	Y
Before	Mar-90	1990/3	0	0	0	YES	N	N	Y	Y
Before	Apr-90	1990/4	0	0	0	YES	N	N	Y	Y
Before	May-90	1990/5	0	0	0	YES	N	N	Y	Y
Before	Jun-90	1990/6	0	0	0	YES	N	N	Y	Y
Before	Jul-90	1990/7	0	0	0	YES	N	N	Y	Y
Before	Aug-90	1990/8	0	0	0	YES	N	N	Y	Y
Before	Sep-90	1990/9	0	0	0	YES	N	N	Y	Y
Before	Oct-90	1990/10	0	0	0	YES	N	N	Y	Y
Before	Nov-90	1990/11	0	0	0	YES	N	N	Y	Y
Before	Dec-90	1990/12	0	0	0	YES	N	N	Y	Y
Before	Jan-91	1991/1	0	0	0	YES	N	N	Y	Y
Before	Feb-91	1991/2	0	0	0	YES	N	N	Y	Y
Before	Mar-91	1991/3	280	182	98	NO	Y	Y	N	N
Before	Apr-91	1991/4	100	65	35	NO	Y	Y	N	N
Before	May-91	1991/5	0	0	0	NO	N	N	N	N
Before	Jun-91	1991/6	0	0	0	NO	N	N	N	N
Before	Jul-91	1991/7	0	0	0	YES	N	N	Y	Y
Before	Aug-91	1991/8	0	0	0	YES	N	N	Y	Y
Before	Sep-91	1991/9	0	0	0	NO	N	N	Y	Y
Before	Oct-91	1991/10	0	0	0	YES	N	N	Y	Y
Before	Nov-91	1991/11	0	0	0	YES	N	N	Y	Y
Before	Dec-91	1991/12	0	0	0	YES	N	N	Y	Y
Before	Jan-92	1992/1	0	0	0	YES	N	N	Y	Y
Before	Feb-92	1992/2	380	247	133	NO	Y	Y	N	N
Before	Mar-92	1992/3	480	312	168	NO	Y	Y	N	N
Before	Apr-92	1992/4	0	0	0	NO	N	N	N	N
Before	May-92	1992/5	0	0	0	NO	N	N	N	N
Before	Jun-92	1992/6	0	0	0	YES	N	N	Y	Y
Before	Jul-92	1992/7	0	0	0	YES	N	N	Y	Y
Before	Aug-92	1992/8	0	0	0	NO	N	N	Y	Y
Before	Sep-92	1992/9	0	0	0	NO	N	N	Y	Y
Before	Oct-92	1992/10	0	0	0	YES	N	N	Y	Y
Before	Nov-92	1992/11	0	0	0	YES	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	Dec-92	1992/12	0	0	0	YES	N	N	Y	Y
Before	Jan-93	1993/1	520	338	182	NO	Y	Y	N	N
Before	Feb-93	1993/2	560	364	196	NO	Y	Y	N	N
Before	Mar-93	1993/3	620	403	217	NO	Y	Y	N	N
Before	Apr-93	1993/4	540	351	189	NO	Y	Y	N	N
Before	May-93	1993/5	0	0	0	NO	N	N	N	N
Before	Jun-93	1993/6	0	0	0	NO	N	N	N	N
Before	Jul-93	1993/7	0	0	0	YES	N	N	Y	Y
Before	Aug-93	1993/8	0	0	0	NO	N	N	Y	Y
Before	Sep-93	1993/9	0	0	0	NO	N	N	Y	Y
Before	Oct-93	1993/10	0	0	0	NO	N	N	Y	Y
Before	Nov-93	1993/11	0	0	0	YES	N	N	Y	Y
Before	Dec-93	1993/12	0	0	0	YES	N	N	Y	Y
Before	Jan-94	1994/1	0	0	0	YES	N	N	Y	Y
Before	Feb-94	1994/2	140	91	49	NO	Y	Y	N	N
Before	Mar-94	1994/3	0	0	0	NO	N	N	N	N
Before	Apr-94	1994/4	0	0	0	NO	N	N	N	N
Before	May-94	1994/5	0	0	0	YES	N	N	Y	Y
Before	Jun-94	1994/6	0	0	0	YES	N	N	Y	Y
Before	Jul-94	1994/7	0	0	0	YES	N	N	Y	Y
Before	Aug-94	1994/8	0	0	0	NO	N	N	Y	Y
Before	Sep-94	1994/9	0	0	0	NO	N	N	Y	Y
Before	Oct-94	1994/10	0	0	0	YES	N	N	Y	Y
Before	Nov-94	1994/11	0	0	0	YES	N	N	Y	Y
Before	Dec-94	1994/12	0	0	0	YES	N	N	Y	Y
Before	Jan-95	1995/1	480	312	168	NO	Y	Y	N	N
Before	Feb-95	1995/2	440	286	154	NO	Y	Y	N	N
Before	Mar-95	1995/3	580	377	203	NO	Y	Y	N	N
Before	Apr-95	1995/4	600	390	210	NO	Y	Y	N	N
Before	May-95	1995/5	620	403	217	NO	Y	Y	N	N
Before	Jun-95	1995/6	0	0	0	NO	N	N	N	N
Before	Jul-95	1995/7	0	0	0	NO	N	N	N	N
Before	Aug-95	1995/8	0	0	0	NO	N	N	Y	Y
Before	Sep-95	1995/9	0	0	0	NO	N	N	Y	Y
Before	Oct-95	1995/10	0	0	0	NO	N	N	Y	Y
Before	Nov-95	1995/11	0	0	0	YES	N	N	Y	Y
Before	Dec-95	1995/12	0	0	0	YES	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	Jan-96	1996/1	180	117	63	NO	Y	Y	N	N
Before	Feb-96	1996/2	580	377	203	NO	Y	Y	N	N
Before	Mar-96	1996/3	620	403	217	NO	Y	Y	N	N
Before	Apr-96	1996/4	480	312	168	NO	Y	Y	N	N
Before	May-96	1996/5	60	39	21	NO	Y	Y	N	N
Before	Jun-96	1996/6	0	0	0	NO	N	N	N	N
Before	Jul-96	1996/7	0	0	0	NO	N	N	N	N
Before	Aug-96	1996/8	0	0	0	NO	N	N	Y	Y
Before	Sep-96	1996/9	0	0	0	NO	N	N	Y	Y
Before	Oct-96	1996/10	0	0	0	NO	N	N	Y	Y
Before	Nov-96	1996/11	0	0	0	YES	N	N	Y	Y
Before	Dec-96	1996/12	360	234	126	NO	Y	Y	N	N
Before	Jan-97	1997/1	620	403	217	NO	Y	Y	N	N
Before	Feb-97	1997/2	560	364	196	NO	Y	Y	N	N
Before	Mar-97	1997/3	100	65	35	NO	Y	Y	N	N
Before	Apr-97	1997/4	0	0	0	NO	N	N	N	N
Before	May-97	1997/5	0	0	0	NO	N	N	N	N
Before	Jun-97	1997/6	0	0	0	YES	N	N	Y	Y
Before	Jul-97	1997/7	0	0	0	YES	N	N	Y	Y
Before	Aug-97	1997/8	0	0	0	NO	N	N	Y	Y
Before	Sep-97	1997/9	0	0	0	NO	N	N	Y	Y
Before	Oct-97	1997/10	0	0	0	NO	N	N	Y	Y
Before	Nov-97	1997/11	0	0	0	YES	N	N	Y	Y
Before	Dec-97	1997/12	120	78	42	NO	Y	Y	N	N
Before	Jan-98	1998/1	500	325	175	NO	Y	Y	N	N
Before	Feb-98	1998/2	560	364	196	NO	Y	Y	N	N
Before	Mar-98	1998/3	620	403	217	NO	Y	Y	N	N
Before	Apr-98	1998/4	600	390	210	NO	Y	Y	N	N
Before	May-98	1998/5	620	403	217	NO	Y	Y	N	N
Before	Jun-98	1998/6	0	0	0	NO	N	N	N	N
Before	Jul-98	1998/7	0	0	0	NO	N	N	N	N
Before	Aug-98	1998/8	0	0	0	NO	N	N	Y	Y
Before	Sep-98	1998/9	0	0	0	NO	N	N	Y	Y
Before	Oct-98	1998/10	0	0	0	NO	N	N	Y	Y
Before	Nov-98	1998/11	0	0	0	YES	N	N	Y	Y
Before	Dec-98	1998/12	0	0	0	YES	N	N	Y	Y
Before	Jan-99	1999/1	100	65	35	NO	Y	Y	N	N

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	Feb-99	1999/2	480	312	168	NO	Y	Y	N	N
Before	Mar-99	1999/3	440	286	154	NO	Y	Y	N	N
Before	Apr-99	1999/4	600	390	210	NO	Y	Y	N	N
Before	May-99	1999/5	300	195	105	NO	Y	Y	N	N
Before	Jun-99	1999/6	0	0	0	NO	N	N	N	N
Before	Jul-99	1999/7	0	0	0	NO	N	N	N	N
Before	Aug-99	1999/8	0	0	0	NO	N	N	Y	Y
Before	Sep-99	1999/9	0	0	0	NO	N	N	Y	Y
Before	Oct-99	1999/10	0	0	0	NO	N	N	Y	Y
Before	Nov-99	1999/11	0	0	0	YES	N	N	Y	Y
Before	Dec-99	1999/12	0	0	0	YES	N	N	Y	Y
Before	Jan-00	2000/1	180	117	63	NO	Y	Y	N	N
Before	Feb-00	2000/2	520	338	182	NO	Y	Y	N	N
Before	Mar-00	2000/3	620	403	217	NO	Y	Y	N	N
Before	Apr-00	2000/4	320	208	112	NO	Y	Y	N	N
Before	May-00	2000/5	0	0	0	NO	N	N	N	N
Before	Jun-00	2000/6	0	0	0	NO	N	N	N	N
Before	Jul-00	2000/7	0	0	0	YES	N	N	Y	Y
Before	Aug-00	2000/8	0	0	0	NO	N	N	Y	Y
Before	Sep-00	2000/9	0	0	0	NO	N	N	Y	Y
Before	Oct-00	2000/10	0	0	0	NO	N	N	Y	Y
Before	Nov-00	2000/11	0	0	0	YES	N	N	Y	Y
Before	Dec-00	2000/12	0	0	0	YES	N	N	Y	Y
Before	Jan-01	2001/1	140	91	49	NO	Y	Y	N	N
Before	Feb-01	2001/2	340	221	119	NO	Y	Y	N	N
Before	Mar-01	2001/3	560	364	196	NO	Y	Y	N	N
Before	Apr-01	2001/4	180	117	63	NO	Y	Y	N	N
Before	May-01	2001/5	0	0	0	NO	N	N	N	N
Before	Jun-01	2001/6	0	0	0	NO	N	N	N	N
Before	Jul-01	2001/7	0	0	0	YES	N	N	Y	Y
Before	Aug-01	2001/8	0	0	0	NO	N	N	Y	Y
Before	Sep-01	2001/9	0	0	0	NO	N	N	Y	Y
Before	Oct-01	2001/10	0	0	0	NO	N	N	Y	Y
Before	Nov-01	2001/11	0	0	0	YES	N	N	Y	Y
Before	Dec-01	2001/12	220	143	77	NO	Y	Y	N	N
Before	Jan-02	2002/1	240	156	84	NO	Y	Y	N	N
Before	Feb-02	2002/2	0	0	0	NO	N	N	N	N

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	Mar-02	2002/3	0	0	0	NO	N	N	N	N
Before	Apr-02	2002/4	0	0	0	YES	N	N	Y	Y
Before	May-02	2002/5	0	0	0	YES	N	N	Y	Y
Before	Jun-02	2002/6	0	0	0	YES	N	N	Y	Y
Before	Jul-02	2002/7	0	0	0	YES	N	N	Y	Y
Before	Aug-02	2002/8	0	0	0	NO	N	N	Y	Y
Before	Sep-02	2002/9	0	0	0	NO	N	N	Y	Y
Before	Oct-02	2002/10	0	0	0	NO	N	N	Y	Y
Before	Nov-02	2002/11	0	0	0	YES	N	N	Y	Y
Before	Dec-02	2002/12	340	221	119	NO	Y	Y	N	N
Before	Jan-03	2003/1	500	325	175	NO	Y	Y	N	N
Before	Feb-03	2003/2	0	0	0	NO	N	N	N	N
Before	Mar-03	2003/3	100	65	35	NO	Y	Y	N	N
Before	Apr-03	2003/4	360	234	126	NO	Y	Y	N	N
Before	May-03	2003/5	400	260	140	NO	Y	Y	N	N
Before	Jun-03	2003/6	0	0	0	NO	N	N	N	N
Before	Jul-03	2003/7	0	0	0	NO	N	N	N	N
Before	Aug-03	2003/8	0	0	0	NO	N	N	Y	Y
Before	Sep-03	2003/9	0	0	0	NO	N	N	Y	Y
Before	Oct-03	2003/10	0	0	0	NO	N	N	Y	Y
Before	Nov-03	2003/11	0	0	0	YES	N	N	Y	Y
Before	Dec-03	2003/12	40	26	14	NO	Y	Y	N	N
Before	Jan-04	2004/1	100	65	35	NO	Y	Y	N	N
Before	Feb-04	2004/2	280	182	98	NO	Y	Y	N	N
Before	Mar-04	2004/3	300	195	105	NO	Y	Y	N	N
Before	Apr-04	2004/4	0	0	0	NO	N	N	N	N
Before	May-04	2004/5	0	0	0	NO	N	N	N	N
Before	Jun-04	2004/6	0	0	0	YES	N	N	Y	Y
Before	Jul-04	2004/7	0	0	0	YES	N	N	Y	Y
Before	Aug-04	2004/8	0	0	0	NO	N	N	Y	Y
Before	Sep-04	2004/9	0	0	0	NO	N	N	Y	Y
Before	Oct-04	2004/10	0	0	0	NO	N	N	Y	Y
Before	Nov-04	2004/11	0	0	0	YES	N	N	Y	Y
Before	Dec-04	2004/12	60	39	21	NO	Y	Y	N	N
Before	Jan-05	2005/1	620	403	217	NO	Y	Y	N	N
Before	Feb-05	2005/2	560	364	196	NO	Y	Y	N	N
Before	Mar-05	2005/3	620	403	217	NO	Y	Y	N	N

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	Apr-05	2005/4	600	390	210	NO	Y	Y	N	N
Before	May-05	2005/5	460	299	161	NO	Y	Y	N	N
Before	Jun-05	2005/6	0	0	0	NO	N	N	N	N
Before	Jul-05	2005/7	0	0	0	NO	N	N	N	N
Before	Aug-05	2005/8	0	0	0	NO	N	N	Y	Y
Before	Sep-05	2005/9	0	0	0	NO	N	N	Y	Y
Before	Oct-05	2005/10	0	0	0	NO	N	N	Y	Y
Before	Nov-05	2005/11	0	0	0	YES	N	N	Y	Y
Before	Dec-05	2005/12	20	13	7	NO	Y	Y	N	N
Before	Jan-06	2006/1	400	260	140	NO	Y	Y	N	N
Before	Feb-06	2006/2	40	26	14	NO	Y	Y	N	N
Before	Mar-06	2006/3	620	403	217	NO	Y	Y	N	N
Before	Apr-06	2006/4	600	390	210	NO	Y	Y	N	N
Before	May-06	2006/5	620	403	217	NO	Y	Y	N	N
Before	Jun-06	2006/6	0	0	0	NO	N	N	N	N
Before	Jul-06	2006/7	0	0	0	NO	N	N	N	N
Before	Aug-06	2006/8	0	0	0	NO	N	N	Y	Y
Before	Sep-06	2006/9	0	0	0	NO	N	N	Y	Y
Before	Oct-06	2006/10	0	0	0	NO	N	N	Y	Y
Before	Nov-06	2006/11	0	0	0	YES	N	N	Y	Y
Before	Dec-06	2006/12	0	0	0	YES	N	N	Y	Y
Before	Jan-07	2007/1	0	0	0	YES	N	N	Y	Y
Before	Feb-07	2007/2	40	26	14	NO	Y	Y	N	N
Before	Mar-07	2007/3	40	26	14	NO	Y	Y	N	N
Before	Apr-07	2007/4	0	0	0	NO	N	N	N	N
Before	May-07	2007/5	0	0	0	NO	N	N	N	N
Before	Jun-07	2007/6	0	0	0	YES	N	N	Y	Y
Before	Jul-07	2007/7	0	0	0	YES	N	N	Y	Y
Before	Aug-07	2007/8	0	0	0	NO	N	N	Y	Y
Before	Sep-07	2007/9	0	0	0	NO	N	N	Y	Y
Before	Oct-07	2007/10	0	0	0	NO	N	N	Y	Y
Before	Nov-07	2007/11	0	0	0	YES	N	N	Y	Y
Before	Dec-07	2007/12	0	0	0	YES	N	N	Y	Y
Before	Jan-08	2008/1	200	130	70	NO	Y	Y	N	N
Before	Feb-08	2008/2	500	325	175	NO	Y	Y	N	N
Before	Mar-08	2008/3	260	169	91	NO	Y	Y	N	N
Before	Apr-08	2008/4	0	0	0	NO	N	N	N	N

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
Before	May-08	2008/5	0	0	0	NO	N	N	N	N
Before	Jun-08	2008/6	0	0	0	YES	N	N	Y	Y
Before	Jul-08	2008/7	0	0	0	YES	N	N	Y	Y
Before	Aug-08	2008/8	0	0	0	YES	N	N	Y	Y
Before	Sep-08	2008/9	0	0	0	NO	N	N	Y	Y
Before	Oct-08	2008/10	0	0	0	NO	N	N	Y	Y
Before	Nov-08	2008/11	0	0	0	NO	N	N	Y	Y
Before	Dec-08	2008/12	0	0	0	NO	N	N	Y	Y
1	Jan-09	1987/1	0	0	0	YES	N	N	Y	Y
2	Feb-09	1987/2	40	26	14	NO	Y	Y	N	N
3	Mar-09	1987/3	0	0	0	NO	N	N	N	N
4	Apr-09	1987/4	0	0	0	NO	N	N	N	N
5	May-09	1987/5	0	0	0	YES	N	N	Y	Y
6	Jun-09	1987/6	0	0	0	YES	N	N	Y	Y
7	Jul-09	1987/7	0	0	0	YES	N	N	Y	Y
8	Aug-09	1987/8	0	0	0	YES	N	N	Y	Y
9	Sep-09	1987/9	0	0	0	YES	N	N	Y	Y
10	Oct-09	1987/10	0	0	0	YES	N	N	Y	Y
11	Nov-09	1987/11	0	0	0	YES	N	N	Y	Y
12	Dec-09	1987/12	0	0	0	YES	N	N	Y	Y
13	Jan-10	1988/1	0	0	0	YES	N	N	Y	Y
14	Feb-10	1988/2	0	0	0	YES	N	N	Y	Y
15	Mar-10	1988/3	0	0	0	YES	N	N	Y	Y
16	Apr-10	1988/4	0	0	0	YES	N	N	Y	Y
17	May-10	1988/5	0	0	0	YES	N	N	Y	Y
18	Jun-10	1988/6	0	0	0	YES	N	N	Y	Y
19	Jul-10	1988/7	0	0	0	YES	N	N	Y	Y
20	Aug-10	1988/8	0	0	0	YES	N	N	Y	Y
21	Sep-10	1988/9	0	0	0	YES	N	N	Y	Y
22	Oct-10	1988/10	0	0	0	YES	N	N	Y	Y
23	Nov-10	1988/11	0	0	0	YES	N	N	Y	Y
24	Dec-10	1988/12	0	0	0	YES	N	N	Y	Y
25	Jan-11	1989/1	0	0	0	YES	N	N	Y	Y
26	Feb-11	1989/2	0	0	0	YES	N	N	Y	Y
27	Mar-11	1989/3	0	0	0	YES	N	N	Y	Y
28	Apr-11	1989/4	0	0	0	YES	N	N	Y	Y
29	May-11	1989/5	0	0	0	YES	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
30	Jun-11	1989/6	0	0	0	YES	N	N	Y	Y
31	Jul-11	1989/7	0	0	0	YES	N	N	Y	Y
32	Aug-11	1989/8	0	0	0	YES	N	N	Y	Y
33	Sep-11	1989/9	0	0	0	YES	N	N	Y	Y
34	Oct-11	1989/10	0	0	0	YES	N	N	Y	Y
35	Nov-11	1989/11	0	0	0	YES	N	N	Y	Y
36	Dec-11	1989/12	0	0	0	YES	N	N	Y	Y
37	Jan-12	1990/1	0	0	0	YES	N	N	Y	Y
38	Feb-12	1990/2	0	0	0	YES	N	N	Y	Y
39	Mar-12	1990/3	0	0	0	YES	N	N	Y	Y
40	Apr-12	1990/4	0	0	0	YES	N	N	Y	Y
41	May-12	1990/5	0	0	0	YES	N	N	Y	Y
42	Jun-12	1990/6	0	0	0	YES	N	N	Y	Y
43	Jul-12	1990/7	0	0	0	YES	N	N	Y	Y
44	Aug-12	1990/8	0	0	0	YES	N	N	Y	Y
45	Sep-12	1990/9	0	0	0	YES	N	N	Y	Y
46	Oct-12	1990/10	0	0	0	YES	N	N	Y	Y
47	Nov-12	1990/11	0	0	0	YES	N	N	Y	Y
48	Dec-12	1990/12	0	0	0	YES	N	N	Y	Y
49	Jan-13	1991/1	0	0	0	YES	N	N	Y	Y
50	Feb-13	1991/2	0	0	0	YES	N	N	Y	Y
51	Mar-13	1991/3	280	182	98	NO	Y	Y	N	N
52	Apr-13	1991/4	100	65	35	NO	Y	Y	N	N
53	May-13	1991/5	0	0	0	NO	N	N	N	N
54	Jun-13	1991/6	0	0	0	NO	N	N	N	N
55	Jul-13	1991/7	0	0	0	YES	N	N	Y	Y
56	Aug-13	1991/8	0	0	0	YES	N	N	Y	Y
57	Sep-13	1991/9	0	0	0	NO	N	N	Y	Y
58	Oct-13	1991/10	0	0	0	YES	N	N	Y	Y
59	Nov-13	1991/11	0	0	0	YES	N	N	Y	Y
60	Dec-13	1991/12	0	0	0	YES	N	N	Y	Y
61	Jan-14	1992/1	0	0	0	YES	N	N	Y	Y
62	Feb-14	1992/2	380	247	133	NO	Y	Y	N	N
63	Mar-14	1992/3	480	312	168	NO	Y	Y	N	N
64	Apr-14	1992/4	0	0	0	NO	N	N	N	N
65	May-14	1992/5	0	0	0	NO	N	N	N	N
66	Jun-14	1992/6	0	0	0	YES	N	N	Y	Y

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Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
67	Jul-14	1992/7	0	0	0	YES	N	N	Y	Y
68	Aug-14	1992/8	0	0	0	NO	N	N	Y	Y
69	Sep-14	1992/9	0	0	0	NO	N	N	Y	Y
70	Oct-14	1992/10	0	0	0	YES	N	N	Y	Y
71	Nov-14	1992/11	0	0	0	YES	N	N	Y	Y
72	Dec-14	1992/12	0	0	0	YES	N	N	Y	Y
73	Jan-15	1993/1	520	338	182	NO	Y	Y	N	N
74	Feb-15	1993/2	560	364	196	NO	Y	Y	N	N
75	Mar-15	1993/3	620	403	217	NO	Y	Y	N	N
76	Apr-15	1993/4	540	351	189	NO	Y	Y	N	N
77	May-15	1993/5	0	0	0	NO	N	N	N	N
78	Jun-15	1993/6	0	0	0	NO	N	N	N	N
79	Jul-15	1993/7	0	0	0	YES	N	N	Y	Y
80	Aug-15	1993/8	0	0	0	NO	N	N	Y	Y
81	Sep-15	1993/9	0	0	0	NO	N	N	Y	Y
82	Oct-15	1993/10	0	0	0	NO	N	N	Y	Y
83	Nov-15	1993/11	0	0	0	YES	N	N	Y	Y
84	Dec-15	1993/12	0	0	0	YES	N	N	Y	Y
85	Jan-16	1994/1	0	0	0	YES	N	N	Y	Y
86	Feb-16	1994/2	140	91	49	NO	Y	Y	N	N
87	Mar-16	1994/3	0	0	0	NO	N	N	N	N
88	Apr-16	1994/4	0	0	0	NO	N	N	N	N
89	May-16	1994/5	0	0	0	YES	N	N	Y	Y
90	Jun-16	1994/6	0	0	0	YES	N	N	Y	Y
91	Jul-16	1994/7	0	0	0	YES	N	N	Y	Y
92	Aug-16	1994/8	0	0	0	NO	N	N	Y	Y
93	Sep-16	1994/9	0	0	0	NO	N	N	Y	Y
94	Oct-16	1994/10	0	0	0	YES	N	N	Y	Y
95	Nov-16	1994/11	0	0	0	YES	N	N	Y	Y
96	Dec-16	1994/12	0	0	0	YES	N	N	Y	Y
97	Jan-17	1995/1	480	312	168	NO	Y	Y	N	N
98	Feb-17	1995/2	440	286	154	NO	Y	Y	N	N
99	Mar-17	1995/3	580	377	203	NO	Y	Y	N	N
100	Apr-17	1995/4	600	390	210	NO	Y	Y	N	N
101	May-17	1995/5	620	403	217	NO	Y	Y	N	N
102	Jun-17	1995/6	0	0	0	NO	N	N	N	N
103	Jul-17	1995/7	0	0	0	NO	N	N	N	N

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
104	Aug-17	1995/8	0	0	0	NO	N	N	Y	Y
105	Sep-17	1995/9	0	0	0	NO	N	N	Y	Y
106	Oct-17	1995/10	0	0	0	NO	N	N	Y	Y
107	Nov-17	1995/11	0	0	0	YES	N	N	Y	Y
108	Dec-17	1995/12	0	0	0	YES	N	N	Y	Y
109	Jan-18	1996/1	180	117	63	NO	Y	Y	N	N
110	Feb-18	1996/2	580	377	203	NO	Y	Y	N	N
111	Mar-18	1996/3	620	403	217	NO	Y	Y	N	N
112	Apr-18	1996/4	480	312	168	NO	Y	Y	N	N
113	May-18	1996/5	60	39	21	NO	Y	Y	N	N
114	Jun-18	1996/6	0	0	0	NO	N	N	N	N
115	Jul-18	1996/7	0	0	0	NO	N	N	N	N
116	Aug-18	1996/8	0	0	0	NO	N	N	Y	Y
117	Sep-18	1996/9	0	0	0	NO	N	N	Y	Y
118	Oct-18	1996/10	0	0	0	NO	N	N	Y	Y
119	Nov-18	1996/11	0	0	0	YES	N	N	Y	Y
120	Dec-18	1996/12	360	234	126	NO	Y	Y	N	N
121	Jan-19	1997/1	620	403	217	NO	Y	Y	N	N
122	Feb-19	1997/2	560	364	196	NO	Y	Y	N	N
123	Mar-19	1997/3	100	65	35	NO	Y	Y	N	N
124	Apr-19	1997/4	0	0	0	NO	N	N	N	N
125	May-19	1997/5	0	0	0	NO	N	N	N	N
126	Jun-19	1997/6	0	0	0	YES	N	N	Y	Y
127	Jul-19	1997/7	0	0	0	YES	N	N	Y	Y
128	Aug-19	1997/8	0	0	0	NO	N	N	Y	Y
129	Sep-19	1997/9	0	0	0	NO	N	N	Y	Y
130	Oct-19	1997/10	0	0	0	NO	N	N	Y	Y
131	Nov-19	1997/11	0	0	0	YES	N	N	Y	Y
132	Dec-19	1997/12	120	78	42	NO	Y	Y	N	N
133	Jan-20	1998/1	500	325	175	NO	Y	Y	N	N
134	Feb-20	1998/2	560	364	196	NO	Y	Y	N	N
135	Mar-20	1998/3	620	403	217	NO	Y	Y	N	N
136	Apr-20	1998/4	600	390	210	NO	Y	Y	N	N
137	May-20	1998/5	620	403	217	NO	Y	Y	N	N
138	Jun-20	1998/6	0	0	0	NO	N	N	N	N
139	Jul-20	1998/7	0	0	0	NO	N	N	N	N
140	Aug-20	1998/8	0	0	0	NO	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
141	Sep-20	1998/9	0	0	0	NO	N	N	Y	Y
142	Oct-20	1998/10	0	0	0	NO	N	N	Y	Y
143	Nov-20	1998/11	0	0	0	YES	N	N	Y	Y
144	Dec-20	1998/12	0	0	0	YES	N	N	Y	Y
145	Jan-21	1999/1	100	65	35	NO	Y	Y	N	N
146	Feb-21	1999/2	480	312	168	NO	Y	Y	N	N
147	Mar-21	1999/3	440	286	154	NO	Y	Y	N	N
148	Apr-21	1999/4	600	390	210	NO	Y	Y	N	N
149	May-21	1999/5	300	195	105	NO	Y	Y	N	N
150	Jun-21	1999/6	0	0	0	NO	N	N	N	N
151	Jul-21	1999/7	0	0	0	NO	N	N	N	N
152	Aug-21	1999/8	0	0	0	NO	N	N	Y	Y
153	Sep-21	1999/9	0	0	0	NO	N	N	Y	Y
154	Oct-21	1999/10	0	0	0	NO	N	N	Y	Y
155	Nov-21	1999/11	0	0	0	YES	N	N	Y	Y
156	Dec-21	1999/12	0	0	0	YES	N	N	Y	Y
157	Jan-22	2000/1	180	117	63	NO	Y	Y	N	N
158	Feb-22	2000/2	520	338	182	NO	Y	Y	N	N
159	Mar-22	2000/3	620	403	217	NO	Y	Y	N	N
160	Apr-22	2000/4	320	208	112	NO	Y	Y	N	N
161	May-22	2000/5	0	0	0	NO	N	N	N	N
162	Jun-22	2000/6	0	0	0	NO	N	N	N	N
163	Jul-22	2000/7	0	0	0	YES	N	N	Y	Y
164	Aug-22	2000/8	0	0	0	NO	N	N	Y	Y
165	Sep-22	2000/9	0	0	0	NO	N	N	Y	Y
166	Oct-22	2000/10	0	0	0	NO	N	N	Y	Y
167	Nov-22	2000/11	0	0	0	YES	N	N	Y	Y
168	Dec-22	2000/12	0	0	0	YES	N	N	Y	Y
169	Jan-23	2001/1	140	91	49	NO	Y	Y	N	N
170	Feb-23	2001/2	340	221	119	NO	Y	Y	N	N
171	Mar-23	2001/3	560	364	196	NO	Y	Y	N	N
172	Apr-23	2001/4	180	117	63	NO	Y	Y	N	N
173	May-23	2001/5	0	0	0	NO	N	N	N	N
174	Jun-23	2001/6	0	0	0	NO	N	N	N	N
175	Jul-23	2001/7	0	0	0	YES	N	N	Y	Y
176	Aug-23	2001/8	0	0	0	NO	N	N	Y	Y
177	Sep-23	2001/9	0	0	0	NO	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
178	Oct-23	2001/10	0	0	0	NO	N	N	Y	Y
179	Nov-23	2001/11	0	0	0	YES	N	N	Y	Y
180	Dec-23	2001/12	220	143	77	NO	Y	Y	N	N
181	Jan-24	2002/1	240	156	84	NO	Y	Y	N	N
182	Feb-24	2002/2	0	0	0	NO	N	N	N	N
183	Mar-24	2002/3	0	0	0	NO	N	N	N	N
184	Apr-24	2002/4	0	0	0	YES	N	N	Y	Y
185	May-24	2002/5	0	0	0	YES	N	N	Y	Y
186	Jun-24	2002/6	0	0	0	YES	N	N	Y	Y
187	Jul-24	2002/7	0	0	0	YES	N	N	Y	Y
188	Aug-24	2002/8	0	0	0	NO	N	N	Y	Y
189	Sep-24	2002/9	0	0	0	NO	N	N	Y	Y
190	Oct-24	2002/10	0	0	0	NO	N	N	Y	Y
191	Nov-24	2002/11	0	0	0	YES	N	N	Y	Y
192	Dec-24	2002/12	340	221	119	NO	Y	Y	N	N
193	Jan-25	2003/1	500	325	175	NO	Y	Y	N	N
194	Feb-25	2003/2	0	0	0	NO	N	N	N	N
195	Mar-25	2003/3	100	65	35	NO	Y	Y	N	N
196	Apr-25	2003/4	360	234	126	NO	Y	Y	N	N
197	May-25	2003/5	400	260	140	NO	Y	Y	N	N
198	Jun-25	2003/6	0	0	0	NO	N	N	N	N
199	Jul-25	2003/7	0	0	0	NO	N	N	N	N
200	Aug-25	2003/8	0	0	0	NO	N	N	Y	Y
201	Sep-25	2003/9	0	0	0	NO	N	N	Y	Y
202	Oct-25	2003/10	0	0	0	NO	N	N	Y	Y
203	Nov-25	2003/11	0	0	0	YES	N	N	Y	Y
204	Dec-25	2003/12	40	26	14	NO	Y	Y	N	N
205	Jan-26	2004/1	100	65	35	NO	Y	Y	N	N
206	Feb-26	2004/2	280	182	98	NO	Y	Y	N	N
207	Mar-26	2004/3	300	195	105	NO	Y	Y	N	N
208	Apr-26	2004/4	0	0	0	NO	N	N	N	N
209	May-26	2004/5	0	0	0	NO	N	N	N	N
210	Jun-26	2004/6	0	0	0	YES	N	N	Y	Y
211	Jul-26	2004/7	0	0	0	YES	N	N	Y	Y
212	Aug-26	2004/8	0	0	0	NO	N	N	Y	Y
213	Sep-26	2004/9	0	0	0	NO	N	N	Y	Y
214	Oct-26	2004/10	0	0	0	NO	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
215	Nov-26	2004/11	0	0	0	YES	N	N	Y	Y
216	Dec-26	2004/12	60	39	21	NO	Y	Y	N	N
217	Jan-27	2005/1	620	403	217	NO	Y	Y	N	N
218	Feb-27	2005/2	560	364	196	NO	Y	Y	N	N
219	Mar-27	2005/3	620	403	217	NO	Y	Y	N	N
220	Apr-27	2005/4	600	390	210	NO	Y	Y	N	N
221	May-27	2005/5	460	299	161	NO	Y	Y	N	N
222	Jun-27	2005/6	0	0	0	NO	N	N	N	N
223	Jul-27	2005/7	0	0	0	NO	N	N	N	N
224	Aug-27	2005/8	0	0	0	NO	N	N	Y	Y
225	Sep-27	2005/9	0	0	0	NO	N	N	Y	Y
226	Oct-27	2005/10	0	0	0	NO	N	N	Y	Y
227	Nov-27	2005/11	0	0	0	YES	N	N	Y	Y
228	Dec-27	2005/12	20	13	7	NO	Y	Y	N	N
229	Jan-28	2006/1	400	260	140	NO	Y	Y	N	N
230	Feb-28	2006/2	40	26	14	NO	Y	Y	N	N
231	Mar-28	2006/3	620	403	217	NO	Y	Y	N	N
232	Apr-28	2006/4	600	390	210	NO	Y	Y	N	N
233	May-28	2006/5	620	403	217	NO	Y	Y	N	N
234	Jun-28	2006/6	0	0	0	NO	N	N	N	N
235	Jul-28	2006/7	0	0	0	NO	N	N	N	N
236	Aug-28	2006/8	0	0	0	NO	N	N	Y	Y
237	Sep-28	2006/9	0	0	0	NO	N	N	Y	Y
238	Oct-28	2006/10	0	0	0	NO	N	N	Y	Y
239	Nov-28	2006/11	0	0	0	YES	N	N	Y	Y
240	Dec-28	2006/12	0	0	0	YES	N	N	Y	Y
241	Jan-29	2007/1	0	0	0	YES	N	N	Y	Y
242	Feb-29	2007/2	40	26	14	NO	Y	Y	N	N
243	Mar-29	2007/3	40	26	14	NO	Y	Y	N	N
244	Apr-29	2007/4	0	0	0	NO	N	N	N	N
245	May-29	2007/5	0	0	0	NO	N	N	N	N
246	Jun-29	2007/6	0	0	0	YES	N	N	Y	Y
247	Jul-29	2007/7	0	0	0	YES	N	N	Y	Y
248	Aug-29	2007/8	0	0	0	NO	N	N	Y	Y
249	Sep-29	2007/9	0	0	0	NO	N	N	Y	Y
250	Oct-29	2007/10	0	0	0	NO	N	N	Y	Y
251	Nov-29	2007/11	0	0	0	YES	N	N	Y	Y

							Carmel River Water Injection		ASR sites available for extraction	
Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
252	Dec-29	2007/12	0	0	0	YES	N	N	Y	Y
253	Jan-30	2008/1	200	130	70	NO	Y	Y	N	N
254	Feb-30	2008/2	500	325	175	NO	Y	Y	N	N
255	Mar-30	2008/3	260	169	91	NO	Y	Y	N	N
256	Apr-30	2008/4	0	0	0	NO	N	N	N	N
257	May-30	2008/5	0	0	0	NO	N	N	N	N
258	Jun-30	2008/6	0	0	0	YES	N	N	Y	Y
259	Jul-30	2008/7	0	0	0	YES	N	N	Y	Y
260	Aug-30	2008/8	0	0	0	YES	N	N	Y	Y
261	Sep-30	2008/9	0	0	0	NO	N	N	Y	Y
262	Oct-30	2008/10	0	0	0	NO	N	N	Y	Y
263	Nov-30	2008/11	0	0	0	NO	N	N	Y	Y
264	Dec-30	2008/12	0	0	0	NO	N	N	Y	Y
265	Jan-31	1987/1	0	0	0	YES	N	N	Y	Y
266	Feb-31	1987/2	40	26	14	NO	Y	Y	N	N
267	Mar-31	1987/3	0	0	0	NO	N	N	N	N
268	Apr-31	1987/4	0	0	0	NO	N	N	N	N
269	May-31	1987/5	0	0	0	YES	N	N	Y	Y
270	Jun-31	1987/6	0	0	0	YES	N	N	Y	Y
271	Jul-31	1987/7	0	0	0	YES	N	N	Y	Y
272	Aug-31	1987/8	0	0	0	YES	N	N	Y	Y
273	Sep-31	1987/9	0	0	0	YES	N	N	Y	Y
274	Oct-31	1987/10	0	0	0	YES	N	N	Y	Y
275	Nov-31	1987/11	0	0	0	YES	N	N	Y	Y
276	Dec-31	1987/12	0	0	0	YES	N	N	Y	Y
277	Jan-32	1988/1	0	0	0	YES	N	N	Y	Y
278	Feb-32	1988/2	0	0	0	YES	N	N	Y	Y
279	Mar-32	1988/3	0	0	0	YES	N	N	Y	Y
280	Apr-32	1988/4	0	0	0	YES	N	N	Y	Y
281	May-32	1988/5	0	0	0	YES	N	N	Y	Y
282	Jun-32	1988/6	0	0	0	YES	N	N	Y	Y
283	Jul-32	1988/7	0	0	0	YES	N	N	Y	Y
284	Aug-32	1988/8	0	0	0	YES	N	N	Y	Y
285	Sep-32	1988/9	0	0	0	YES	N	N	Y	Y
286	Oct-32	1988/10	0	0	0	YES	N	N	Y	Y
287	Nov-32	1988/11	0	0	0	YES	N	N	Y	Y
288	Dec-32	1988/12	0	0	0	YES	N	N	Y	Y

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			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
289	Jan-33	1989/1	0	0	0	YES	N	N	Y	Y
290	Feb-33	1989/2	0	0	0	YES	N	N	Y	Y
291	Mar-33	1989/3	0	0	0	YES	N	N	Y	Y
292	Apr-33	1989/4	0	0	0	YES	N	N	Y	Y
293	May-33	1989/5	0	0	0	YES	N	N	Y	Y
294	Jun-33	1989/6	0	0	0	YES	N	N	Y	Y
295	Jul-33	1989/7	0	0	0	YES	N	N	Y	Y
296	Aug-33	1989/8	0	0	0	YES	N	N	Y	Y
297	Sep-33	1989/9	0	0	0	YES	N	N	Y	Y
298	Oct-33	1989/10	0	0	0	YES	N	N	Y	Y
299	Nov-33	1989/11	0	0	0	YES	N	N	Y	Y
300	Dec-33	1989/12	0	0	0	YES	N	N	Y	Y
301	Jan-34	1990/1	0	0	0	YES	N	N	Y	Y
302	Feb-34	1990/2	0	0	0	YES	N	N	Y	Y
303	Mar-34	1990/3	0	0	0	YES	N	N	Y	Y
304	Apr-34	1990/4	0	0	0	YES	N	N	Y	Y
305	May-34	1990/5	0	0	0	YES	N	N	Y	Y
306	Jun-34	1990/6	0	0	0	YES	N	N	Y	Y
307	Jul-34	1990/7	0	0	0	YES	N	N	Y	Y
308	Aug-34	1990/8	0	0	0	YES	N	N	Y	Y
309	Sep-34	1990/9	0	0	0	YES	N	N	Y	Y
310	Oct-34	1990/10	0	0	0	YES	N	N	Y	Y
311	Nov-34	1990/11	0	0	0	YES	N	N	Y	Y
312	Dec-34	1990/12	0	0	0	YES	N	N	Y	Y
313	Jan-35	1991/1	0	0	0	YES	N	N	Y	Y
314	Feb-35	1991/2	0	0	0	YES	N	N	Y	Y
315	Mar-35	1991/3	280	182	98	NO	Y	Y	N	N
316	Apr-35	1991/4	100	65	35	NO	Y	Y	N	N
317	May-35	1991/5	0	0	0	NO	N	N	N	N
318	Jun-35	1991/6	0	0	0	NO	N	N	N	N
319	Jul-35	1991/7	0	0	0	YES	N	N	Y	Y
320	Aug-35	1991/8	0	0	0	YES	N	N	Y	Y
321	Sep-35	1991/9	0	0	0	NO	N	N	Y	Y
322	Oct-35	1991/10	0	0	0	YES	N	N	Y	Y
323	Nov-35	1991/11	0	0	0	YES	N	N	Y	Y
324	Dec-35	1991/12	0	0	0	YES	N	N	Y	Y
325	Jan-36	1992/1	0	0	0	YES	N	N	Y	Y

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Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
326	Feb-36	1992/2	380	247	133	NO	Y	Y	N	N
327	Mar-36	1992/3	480	312	168	NO	Y	Y	N	N
328	Apr-36	1992/4	0	0	0	NO	N	N	N	N
329	May-36	1992/5	0	0	0	NO	N	N	N	N
330	Jun-36	1992/6	0	0	0	YES	N	N	Y	Y
331	Jul-36	1992/7	0	0	0	YES	N	N	Y	Y
332	Aug-36	1992/8	0	0	0	NO	N	N	Y	Y
333	Sep-36	1992/9	0	0	0	NO	N	N	Y	Y
334	Oct-36	1992/10	0	0	0	YES	N	N	Y	Y
335	Nov-36	1992/11	0	0	0	YES	N	N	Y	Y
336	Dec-36	1992/12	0	0	0	YES	N	N	Y	Y
337	Jan-37	1993/1	520	338	182	NO	Y	Y	N	N
338	Feb-37	1993/2	560	364	196	NO	Y	Y	N	N
339	Mar-37	1993/3	620	403	217	NO	Y	Y	N	N
340	Apr-37	1993/4	540	351	189	NO	Y	Y	N	N
341	May-37	1993/5	0	0	0	NO	N	N	N	N
342	Jun-37	1993/6	0	0	0	NO	N	N	N	N
343	Jul-37	1993/7	0	0	0	YES	N	N	Y	Y
344	Aug-37	1993/8	0	0	0	NO	N	N	Y	Y
345	Sep-37	1993/9	0	0	0	NO	N	N	Y	Y
346	Oct-37	1993/10	0	0	0	NO	N	N	Y	Y
347	Nov-37	1993/11	0	0	0	YES	N	N	Y	Y
348	Dec-37	1993/12	0	0	0	YES	N	N	Y	Y
349	Jan-38	1994/1	0	0	0	YES	N	N	Y	Y
350	Feb-38	1994/2	140	91	49	NO	Y	Y	N	N
351	Mar-38	1994/3	0	0	0	NO	N	N	N	N
352	Apr-38	1994/4	0	0	0	NO	N	N	N	N
353	May-38	1994/5	0	0	0	YES	N	N	Y	Y
354	Jun-38	1994/6	0	0	0	YES	N	N	Y	Y
355	Jul-38	1994/7	0	0	0	YES	N	N	Y	Y
356	Aug-38	1994/8	0	0	0	NO	N	N	Y	Y
357	Sep-38	1994/9	0	0	0	NO	N	N	Y	Y
358	Oct-38	1994/10	0	0	0	YES	N	N	Y	Y
359	Nov-38	1994/11	0	0	0	YES	N	N	Y	Y
360	Dec-38	1994/12	0	0	0	YES	N	N	Y	Y
361	Jan-39	1995/1	480	312	168	NO	Y	Y	N	N
362	Feb-39	1995/2	440	286	154	NO	Y	Y	N	N

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Model Stress Period	Model Date	Historic Date	Monthly Injection	Santa Margarita Site Injection	Seaside Middle School Site Injection	ASR Wells Available for GWR extraction	Active Injection Santa Margarita	Active Injection Seaside Middle School	Santa Margarita Available for Extraction	Santa Margarita Available for Extraction
			(AF)	(AF)	(AF)	(Yes/NO)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
363	Mar-39	1995/3	580	377	203	NO	Y	Y	N	N
364	Apr-39	1995/4	600	390	210	NO	Y	Y	N	N
365	May-39	1995/5	620	403	217	NO	Y	Y	N	N
366	Jun-39	1995/6	0	0	0	NO	N	N	N	N
367	Jul-39	1995/7	0	0	0	NO	N	N	N	N
368	Aug-39	1995/8	0	0	0	NO	N	N	Y	Y
369	Sep-39	1995/9	0	0	0	NO	N	N	Y	Y
370	Oct-39	1995/10	0	0	0	NO	N	N	Y	Y
371	Nov-39	1995/11	0	0	0	YES	N	N	Y	Y
372	Dec-39	1995/12	0	0	0	YES	N	N	Y	Y
373	Jan-40	1996/1	180	117	63	NO	Y	Y	N	N
374	Feb-40	1996/2	580	377	203	NO	Y	Y	N	N
375	Mar-40	1996/3	620	403	217	NO	Y	Y	N	N
376	Apr-40	1996/4	480	312	168	NO	Y	Y	N	N
377	May-40	1996/5	60	39	21	NO	Y	Y	N	N
378	Jun-40	1996/6	0	0	0	NO	N	N	N	N
379	Jul-40	1996/7	0	0	0	NO	N	N	N	N
380	Aug-40	1996/8	0	0	0	NO	N	N	Y	Y
381	Sep-40	1996/9	0	0	0	NO	N	N	Y	Y
382	Oct-40	1996/10	0	0	0	NO	N	N	Y	Y
383	Nov-40	1996/11	0	0	0	YES	N	N	Y	Y
384	Dec-40	1996/12	360	234	126	NO	Y	Y	N	N
385	Jan-41	1997/1	620	403	217	NO	Y	Y	N	N
386	Feb-41	1997/2	560	364	196	NO	Y	Y	N	N
387	Mar-41	1997/3	100	65	35	NO	Y	Y	N	N
388	Apr-41	1997/4	0	0	0	NO	N	N	N	N
389	May-41	1997/5	0	0	0	NO	N	N	N	N
390	Jun-41	1997/6	0	0	0	YES	N	N	Y	Y
391	Jul-41	1997/7	0	0	0	YES	N	N	Y	Y
392	Aug-41	1997/8	0	0	0	NO	N	N	Y	Y
393	Sep-41	1997/9	0	0	0	NO	N	N	Y	Y
394	Oct-41	1997/10	0	0	0	NO	N	N	Y	Y
395	Nov-41	1997/11	0	0	0	YES	N	N	Y	Y
396	Dec-41	1997/12	120	78	42	NO	Y	Y	N	N