

3.4 Management Areas

3.4.1 Reason for Creation of Each Management Area

FWD elected to become a management area for two of the five applicable sustainability indicators, Degraded Water Quality and Interconnected Surface Waters. A management area was created for these sustainability indicators due to their high sensitivity to the management actions of surrounding areas.

As discussed in section 2.4.2, water quality in FWD has been significantly affected by the Steffens Plume located in the Fresno County Management Area A GSA for which a CAO has been issued to remediate the contaminated groundwater (**Appendix G**). The purpose for creating a management area for groundwater quality is to negate the responsibility of FWD in the implementation of this GSP to address groundwater quality issues. This issue is under the purview of the Regional Board and FWD will use the standards set in the plan to provide further support for the need to remediate the contaminated groundwater in a timely manner.

The current status of the CAO (September 2019) is in the development of a “Site Assessment” report which is to more accurately delineate the extent of the Steffens Plume in both the Shallow and Deep Zones of the Upper Aquifer. Within 180 days of the “Site Assessment” report, a “Feasibility and Remedial Options Evaluation” is to be submitted to the Regional Board. Within 120 of that, a “Cleanup Plan” is to be submitted.

Interconnected Surface Waters are strongly influenced by the existing Herminghouse Agreement and the SJRRP. FWD does not extract groundwater from the Shallow Zone of the Upper Aquifer, therefore, FWD pumping does not directly impact groundwater levels for this specific zone. There is some indirect seepage from the Shallow Zone to the Deep Zone of the Upper Aquifer through the A-Clay as a result of a downward vertical gradient and the fact that the A-Clay is not entirely impermeable. Water flowing in the SJR near FWD is highly regulated and managed by USBR. The FWD GSA has been designated as a management area primarily due to FWD’s lack of control on SJR flows and the effects those flows naturally have on groundwater levels in the Shallow Zone. Depletion of interconnected surface water could negatively impact environmental conditions in FWD, specifically the occurrence of GDEs.

3.4.2 Level of Monitoring and Analysis

3.4.2.1 Degraded Water Quality

The focus of the water quality monitoring network will be on salinity measured as EC or TDS. The monitoring network for groundwater quality will occur at a much greater density than any of the other sustainability indicators due to the variable nature of salinity as a result of the Steffens Plume migration into FWD. The groundwater quality monitoring network will obtain data from two existing monitoring programs: the Mendota Pool Group annual monitoring and reporting program and the former Spreckels plant monitoring program. For SGMA, groundwater quality results will be reported on an annual basis utilizing data from these existing monitoring programs. The selection of wells to serve as monitoring

sites were based on the historic movement of the Steffens Plume which is discussed in section 3.2.5. Given the current conditions, no additional monitoring will be required beyond the existing two groundwater monitoring programs. Additional monitoring may be necessary if conditions exceed minimum thresholds, which are discussed in Chapter 4.

3.4.2.2 Interconnected Surface Waters

Interconnected surface water be monitored using the existing SJRRP monitoring network. A set of nested monitoring wells adjacent to the SJR are measured on a weekly basis. The groundwater level data collected will be used to calculate the horizontal and vertical gradients of groundwater occurring in the Shallow Zone of the Upper Aquifer. Given the existing frequency of monitoring, no additional monitoring will be necessary.

3.4.2.3 Description of Management Area

The management area for Degraded Water Quality and Interconnected Surface Waters consists of the entire FWD GSP area.

3.4.3 Explanation of How Management of Management Areas Will Not Cause Undesirable Results Outside the Management Area

The management of groundwater resources within the FWD GSA has resulted in a relatively stable use of groundwater over the last several decades with no significant changes anticipated in the planning and implementation horizon of the GSP. These practices have not resulted in significant and unreasonable impacts to the groundwater system as represented by the SGMA sustainability indicators. As a result, the continuation of historical groundwater management practices is not expected to cause groundwater quality degradation in FWD of a significant and unreasonable amount or in surrounding GSAs assuming cleanup activities occur in the near future. FWD will work with neighboring GSAs to monitoring groundwater conditions to prevent any further spread impacts from degraded groundwater quality.

For the management of Interconnected Surface Waters, the USBR SJR operations are not expected to result in undesirable results for beneficial users of surface water. FWD pumping from the lower portions of the Upper Aquifer minimize direct impacts on surface water flows in the SJR and the depletion of interconnected surface waters. Adequate monitoring facilities are currently available for groundwater and surface water interaction monitoring near FWD as a result of the implementation of the SJRRP. In the future, when a longer historical period of data is available from these recently installed monitoring sites, FWD will be able to evaluate groundwater and surface water interactions over different hydrologic year types and observe variations in USBR SJR operations.