

4.0 HYDROGEOLOGIC CONCEPTUAL MODEL

4.7 Groundwater Recharge and Discharge Areas

4.7.2 Groundwater Discharge Areas Inside the Subbasin

Areas that have been identified in previous studies as potential historic natural groundwater discharge areas within the Plan area are shown on Figure 4-17 and include springs and seeps, groundwater discharge to surface water bodies, and ET by phreatophytes. Phreatophytes are plants with roots that tap into groundwater. The springs and seeps shown in the figure are a subset of the locations identified in the National Hydrology Dataset (NHD). Each of the NHD locations was examined on recent high-resolution (Google Earth©) aerial photographs to assess whether topography, soil color and vegetation at the site were consistent with the presence of groundwater discharge. In many cases they were not, and those locations were removed from the spring and seep data set¹. Off-channel springs and seeps are almost all located in the foothills of the Santa Lucia and Temblor mountain ranges. Based on their elevations high above the main part of the Subbasin, the springs and seeps may represent discharge of groundwater from perched strata feeding the Paso Robles Formation Aquifer that is forced to the surface locally by subsurface stratigraphy or faults. No efforts were made to ground truth or physically verify the presence of these features and there is no evidence that pumping from the Paso Robles Formation Aquifer is affecting these areas.

Groundwater discharge to streams – primarily, the Salinas River and Estrella River – has not been mapped to date. Instead, areas of potential groundwater discharge to streams were tentatively identified using the conceptual groundwater flow model. Highlighted purple areas along streams on Figure 4-17 represent stream cells in the model where simulated average groundwater discharge to the stream reach is at least 10 AFY. In contrast to mapped springs and seeps, which are derived from groundwater in the Paso Robles Formation Aquifer, groundwater discharge to streams is derived from the Alluvial Aquifer. No efforts were made to ground truth or physically verify the presence of these features and there is no evidence that pumping from the Paso Robles Formation Aquifer is affecting these areas.

Phreatophytic vegetation along stream channels also functions as a discharge point for groundwater by removing water directly from the water table. The locations of this type of riparian vegetation are described in Section 5.5.

¹ Methodology for Identifying Groundwater Dependent Ecosystems (Reference Document)

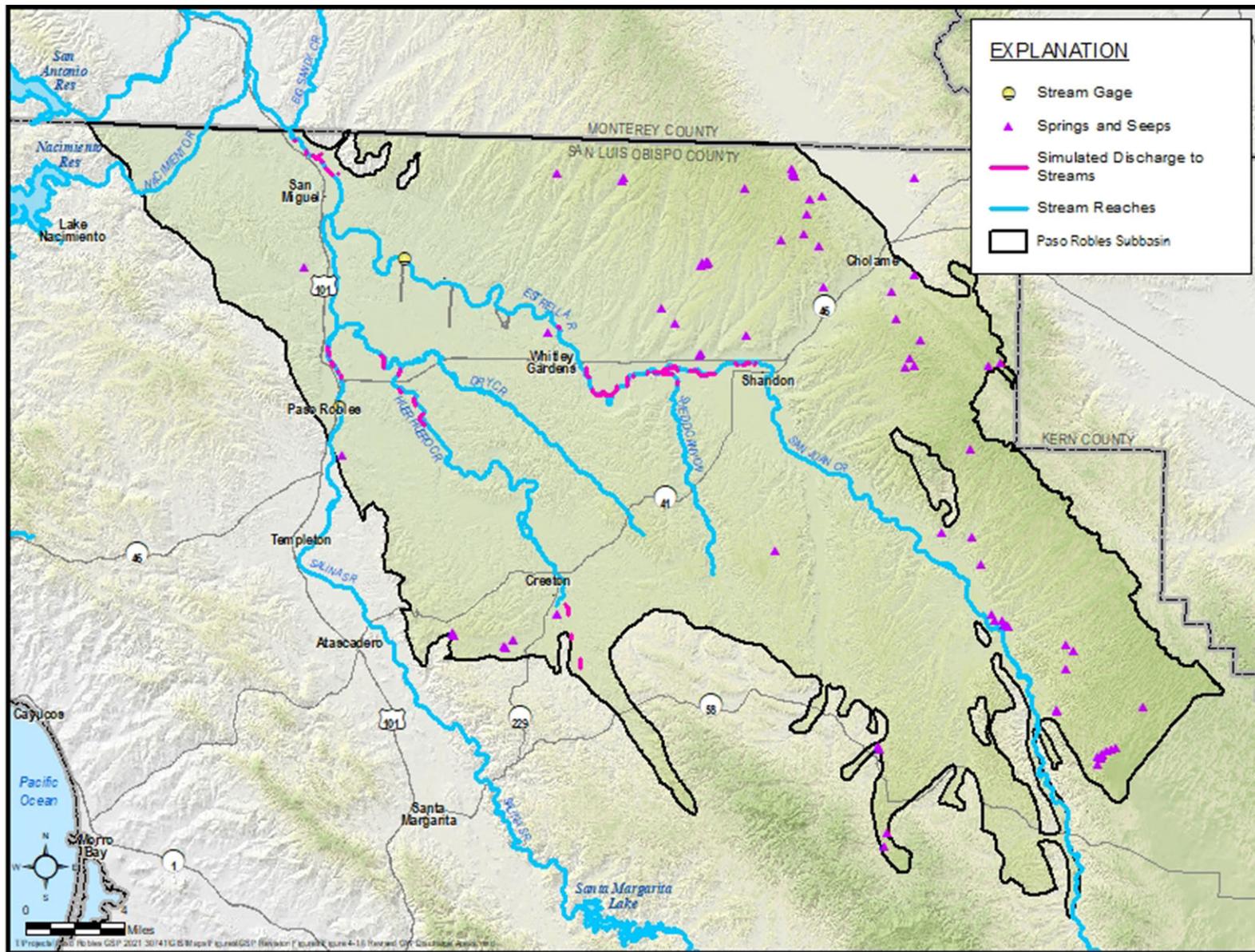


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