

Santa Rosa Plain
Groundwater Management Plan
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Annotated Outline for Water Resources Section

1.0 WATER RESOURCES SETTING

- 1.1 Introduction – overview of the chapter, including statement regarding the challenges faced and resiliency strategies to meet growing water supply demands in a time of reduced availability due to increasing environmental restrictions and a changing climate
 - 1.1.1 Location – physical location within the state in terms of state population centers, major highways and waterways, discuss watershed vs groundwater basin boundaries
 - 1.1.2 Population – population changes over time and predictions for the future based on general plan data, urban water management plans and associated uncertainties
 - 1.1.3 Previous Work – brief chronological discussion of previous water and groundwater studies and major works that form the foundation for this chapter
- 1.2 Background and Physical Setting
 - 1.2.1 Physiography – discussion of the physiographic setting including geomorphic province, major highlands and valleys surrounding the SRP, and the SRP
 - 1.2.2 Climate – overview of climate type, air temperature variation precipitation patterns and temporal variability including potential climate change
 - 1.2.3 Soils – overview of soil types and thicknesses referencing SSURGO to set stage for land use section
 - 1.2.4 Land Use – describes current and historic and use changes over time to set stage for discussion on water use
- 1.3 Water Use – provide an overview of total water use in the SRP area, including breakdown by imported water, recycled water, and groundwater use & infrastructure, by urban water providers, agricultural users and rural domestic water users
 - 1.3.1 Historical – provide historical
 - 1.3.2 Urban Water Service Providers and Facilities
 - 1.3.2.1 Sonoma County Water Agency
 - 1.3.2.2 City of Cotati
 - 1.3.2.3 City of Santa Rosa
 - 1.3.2.4 City of Sebastopol
 - 1.3.2.5 City of Rohnert Park
 - 1.3.2.6 Town of Windsor
 - 1.3.2.7 Mutual or Community Public Water Supply Systems
 - 1.3.3 Rural Users

- 1.3.3.1 Agriculture
- 1.3.3.2 Domestic
- 1.4 Groundwater
 - 1.4.1 Regional Stratigraphy and Structure – the underlying discussion of geology and stratigraphy which controls the flow of groundwater sets the stage for the hydrogeology section – briefly
 - Basement Rocks describe the rock types and distribution that make up the underlying bedrock of the area
 - Tertiary volcanic Rocks - briefly describe origin, nature and approximate distribution of the Sonoma Volcanics and relationship to other geologic features
 - Tertiary Sedimentary Rocks - briefly describe origin, texture and approximate distribution of the principal Tertiary sedimentary rocks including Wilson Grove Formation, Petaluma Formation and Glen Ellen Formation and relationship to one another
 - Quaternary Deposits - briefly describe origin, texture and approximate distribution of the Quaternary alluvial, terrace, marine and landslide deposits and their relationship to underlying geology
 - Basin Structure and Faults – describe basin depth and geometry and structure and faulting
 - 1.4.2 Hydrogeology – describe the nature and extent of water bearing zones (aquifers) and confining units including water bearing properties and relative permeability and well yield, interconnections and separations
 - 1.4.2.1 Quaternary Alluvial Aquifers
 - 1.4.2.2 Glen Ellen
 - 1.4.2.3 Wilson Grove
 - 1.4.2.4 Sonoma Volcanics
 - 1.4.2.5 Petaluma
 - 1.4.2.6 Bedrock
 - 1.4.3 Groundwater Level Trends and Movement – describe current and historic groundwater levels and trends, discuss movement in the SRP and faults
 - 1.4.4 Groundwater-Surface Water Interaction – discuss the concept of gw-sw interaction and areas of known interaction in the SRP
 - 1.4.5 Groundwater Recharge and Discharge – identify groundwater recharge and discharge areas in the SRP
 - 1.4.6 Land Subsidence – discuss concept of groundwater extraction related land subsidence and discuss any available data indicating the potential occurrence of subsidence (eg, InSar data)

- 1.4.7 Groundwater Quality – summarize groundwater quality monitoring, and discuss general groundwater quality results and distribution across the SRP and provide focused paragraph on each of the following constituents in terms of sources, properties, concentrations, distribution and temporal variation
 - 1.4.7.1 Natural Occurring Constituents
 - Manganese
 - Iron
 - Arsenic
 - 1.4.7.2 Anthropogenic Constituents
 - Nitrate
 - Contaminant Release Sites
- 1.4.8 Groundwater Age and Flowpaths – describe the distribution of younger and older waters based on the stable and radioactive isotopes analysis conducted in the USGS study and discuss groundwater flowpaths based on the combined groundwater quality, age dating and structure
- 1.4.9 Groundwater Rights – provide brief basis of groundwater rights and relate to non-regulatory/voluntary nature of GMP
- 1.5 Surface Water
 - 1.5.1 Surface Water Systems and Water Bodies discuss overall surface water system setting and important features of each element below
 - 1.5.1.1 Mark West Creek
 - 1.5.1.2 Santa Rosa Creek
 - 1.5.1.3 Laguna de Santa Rosa Peripheral Streams and Drainages
 - 1.5.1.4 Water Bodies
 - 1.5.2 Surface Water Facilities – one paragraph each on flood control facilities (five retention basins) and drainage modifications to the SRP with figure
 - 1.5.2.1 Flood Control
 - 1.5.2.2 Drainage Modifications
 - 1.5.3 Streamflow – discuss nature and distribution of runoff and streamflow in the SRP, seasonal, annual average and long term trends and effects of particularly wet and dry years
 - 1.5.4 Surface Water Diversions – summarize available information on surface water diversions in Mark West Creek, Santa Rosa Creek and in the headwaters
 - 1.5.5 Imported Water – overview of Russian River supplies
 - 1.5.6 Surface Water Quality - summarize surface water quality monitoring, and discuss general surface water quality results and distribution across the SRP
 - 1.5.7 Surface Water Rights - provide brief basis of surface water rights and relate to non-regulatory/voluntary nature of GMP

- 1.6 Hydrologic Conceptual Model– discusses the surface water-groundwater conceptual model, the sw-gw flow model and estimated water budget from the model for surface water, groundwater and recycled water supplies
- 1.7 Future Water Supplies and Demands - provides a summary of current projections by users and then a section on various modeling scenarios to look at potential outcomes given a series of sets of assumptions and then a summary
 - 1.7.1 Urban Water Supplies and Demands
 - 1.7.2 Rural Supplies and Demands
 - 1.7.2.1 Agriculture
 - 1.7.2.2 Domestic
 - 1.7.3 Surface Water-Groundwater Model Scenarios
 - 1.7.4 Summary
- 1.8 Current Management Efforts - this section will describe current regional water and groundwater management activities and plans which address groundwater resources in a summary fashion, to set the stage for the next session, data gaps and issues, and the GMP management actions section
 - 1.8.1 North Coast IRWMP
 - 1.8.2 Stormwater Management/Groundwater Recharge Scoping Study
 - 1.8.3 Groundwater Banking Feasibility Study
 - 1.8.4 Groundwater Monitoring
 - 1.8.5 Salt and Nutrient Management Plan
 - 1.8.6 North Coast RWQCB Basin Plan
 - 1.8.7 Recycled Water Programs
 - 1.8.8 Water Conservation (e.g., Sonoma-Marín Saving Water Partnership)
- 1.9 Data Needs and Key Santa Rosa Plain Issues – TAC to discuss what key data needs and issues to outline for inclusion in this section, which sets the stage for groundwater management activities