

GROUNDWATER BASIN STUDIES AND MANAGEMENT IN SONOMA COUNTY

Marcus Trotta, PG, CHg – Sonoma County Water Agency

Sonoma County is in the northern part of the greater San Francisco Bay region, an area of Northern California that has experienced population growth over the past few decades, along with an expansion in agriculture associated with this premier wine-growing region. The county's groundwater basins provide numerous benefits to the region, including rural residential and municipal water supplies, irrigation water for agriculture, and baseflow to streams and surface water bodies. Future development and demand for water coupled with a changing climate and constraints on existing surface water sources are likely to increase stresses on the region's groundwater resources.

In recognition of the importance of characterizing, monitoring and managing the region's groundwater resources, in the early 2000's the Sonoma County Water Agency and U.S. Geological Survey began cooperating on performing hydrogeologic studies of the four largest and most heavily populated groundwater basins in Sonoma County (Alexander Valley, Petaluma Valley, Santa Rosa Plain and Sonoma Valley). The objectives of the cooperative studies include: 1) developing updated assessments of the hydrogeology and geochemistry of the groundwater basins; 2) developing a multi-aquifer groundwater flow models for select groundwater basins; and 3) evaluating the hydrologic impacts of alternative groundwater management strategies. These studies serve to provide a basis for subsequent groundwater management planning activities which emphasize local and regional coordination and collaboration.

Biography

Marcus Trotta is a hydrogeologist for the Sonoma County Water Agency's Water Resource Planning Section. The primary focus of his work at the Water Agency involves leading feasibility studies for enhanced groundwater recharge projects and managing groundwater monitoring programs and technical studies in support of collaborative groundwater management activities. His role also includes investigating the interaction and exchange of surface water and groundwater associated with the Water Agency's production facilities along the Russian River. He is a Professional Geologist and Certified Hydrogeologist in the State of California and received his Bachelor of Science degree in Geology with an emphasis in Hydrologic Science from the University of California at Davis.