

Other Groundwater Extraction Areas

The following extraction areas are relatively small, undeveloped or lacking groundwater data:

More Ranch Groundwater Basin

The supply/demand status of this basin was updated in a 1993 study (Baca, 1993) prepared by the County. The discussion presented below reflects this report. The More Ranch Basin occupies about 502 acres in the southern Goleta area between the More Ranch Fault and the Pacific Ocean. The unconsolidated sand and silt of Santa Barbara Formation that comprise the basin overlie consolidated bedrock of the Sisquoc and Monterey formations. Most of the area encompassed by this basin is in open space. Developed land uses include residential dwellings with some open field and greenhouse agriculture. Water quality within the basin averages from 800 to 2,300 mg/l, TDS. The Safe Yield of the basin is estimated to be 84 AFY (gross), 76 AFY (net). The gross demand is estimated to be about 24 AFY, resulting in a surplus of 60 AFY.

Ellwood to Gaviota Groundwater Area

The Ellwood to Gaviota groundwater area covers about 105 square miles in the southern part of Santa Barbara County between the crest of the Santa Ynez Mountains and the Pacific Ocean. Geologically, the area consists of the south limb of a large anticline (concave upward fold) which forms the Santa Ynez Mountains. The terrace and alluvial deposits located near the coast formed as the mountains uplifted, folded and eroded. Rainfall in the area ranges from about 18 inches per year near the ocean to over 30 inches at the crest of the Santa Ynez Mountains. Surface drainage is south, down the steep slope of the mountains to the Pacific Ocean. The direction of groundwater flow is also south.

Samples analyzed from many groundwater wells in the late 1960's indicated that most of the ground water of the Ellwood-Gaviota area was too hard for domestic use without treatment. In addition, salinity was found at hazardous concentrations in many wells. Seawater intrusion might be occurring in alluvial areas near the coast. However, the presence of impermeable strata might prevent seawater from reaching deeper aquifers.

The USGS (Miller and Rapp, 1968) estimated the total ground water in storage above sea level within the area to be over 2 million acre feet. This study also estimated that average annual recharge (Safe Yield for net consumptive use) to this area is 6,000 AFY on the basis of groundwater discharge measurements. Ground water comprises the majority of the water supply used within the area, although some Cachuma Reservoir water was imported into the eastern half of the region in the early 1960's (less than 1,000 AFY) and is still used in support of agriculture to the present time.

Groundwater in the Ellwood-Gaviota area is produced from wells which tap bedrock aquifers or alluvial sediments which have accumulated along canyon floors. Land uses supported by this pumpage include the Exxon Los Flores Canyon oil processing facility, the Chevron Gaviota oil processing facility, residential development and agriculture at

the El Capitan Ranch, the El Capitan and Refugio state parks, the Tajiguas Municipal Landfill and several large avocado orchards. A detailed land use and water demand survey of this area has not been conducted. Water resources are evaluated by the County on a project-by-project basis during the review of applications for discretionary and ministerial County land use permits. The Environmental Thresholds and Guidelines Manual (Baca, 1995) describes the adopted County methodology for estimating the Safe Yield of bedrock aquifers.

Gaviota to Point Conception Groundwater Area

This area encompasses about 36 square miles between the crest of the Santa Ynez Mountains and the Pacific Ocean. It is located west of the Ellwood to Gaviota Area described in the previous section. The geologic structure and hydrology of the Gaviota to Point Conception and the Ellwood to Gaviota groundwater areas are nearly identical. The primary difference between the two is that the Santa Ynez Mountains are lower within the Gaviota to Point Conception area. As a result, there is less annual precipitation, less runoff and less recharge to the aquifer.

Groundwater is the only water supply source within the area. The primary land use within the area is ranching and some limited agriculture. A number of remote ranch homes are also present in this area. A detailed land use and water demand survey of this area has not been conducted. Water resources are evaluated by the County on a project-by-project basis during the review of applications for discretionary and ministerial County land use permits. Environmental Thresholds and Guidelines Manual describes the adopted County methodology for estimating the Safe Yield of bedrock aquifers.

The Santa Ynez River Alluvial Basin

The Santa Ynez River Alluvial Basin consists of the unconsolidated sand and gravel alluvial deposits of the Santa Ynez River. These deposits are up to 150 feet thick and several hundred feet across, and extend 36 miles from Bradbury Dam to the Lompoc Plain. Storage within the upper 50 feet of the basin is about 90,000 AF. This figure is based upon work done by SBCWA staff following USGS WSP 1107 and WRCB decisions 73-37 and 89-18. Groundwater in the Alluvial Basin is in direct hydraulic communication with surface flow of the river.

Inflow to the basin is from underflow from adjacent basins (Santa Ynez Uplands, Buellton Uplands, and Lompoc Basin) and percolation from rainfall and infiltration of river flow. In accordance with existing requirements included in State Water Resources Control Board agreements, water is released from Cachuma Reservoir to recharge the Alluvial Basin based on water levels in monitoring wells and "credits" of water held in reservoir storage. Thus, the Cachuma Project at certain times, controls basin water levels. This basin is not subject to overdraft (i.e. a progressive long-term drop in water levels) because the average annual flow to the Santa Ynez River (the main recharge source) is greater than the volume of the basin. Water is extracted from this basin for municipal and agricultural uses by many entities both private and public.