

Quality of Southern California's 2020 Water Supply Impacted

Most of the imported water supply into Southern California is delivered through the Metropolitan Water District, a regional wholesaler that provides water for 26 member public agencies to deliver to their customers. Metropolitan imports water from the Colorado River and the State Water Supply (SWP). Supplies from the Colorado River typically have much higher salinity levels than the SWP supply, which originates in Northern California.

Avocado trees are highly sensitive to salinity, which is measured based on Total Dissolved Solids (TDS) (a TDS of 1.0 = 640 parts per million (ppm) or 640 mg/L). In Metropolitan's avocado growing regions, district water generally has an average TDS of 0.7, or 448 ppm, according to Dr. Gary Bender, University of California farm advisor-emeritus. A TDS lower than 525 ppm is good, while a TDS below 175 ppm is excellent for avocado production.

Every year the Department of Water Resources (DWR) sets SWP allocation amounts for long-term contractors based on water supply availability for delivery. Supply availability is determined by the amount of rainfall, snowpack, runoff, reservoir storage, the pumping capacity of SWP facilities, and regulatory and environmental mandates on SWP operations. In a year with 100% allocation, Metropolitan, the largest SWP contractor, would receive

1,911,500 acre feet (AF). The initial 2020 SWP allocation was set at 15%, and in May it was increased to 20%. This resulted in a 2020 allocation for Metropolitan of 382,300 AF.

Metropolitan, in years with a greater SWP allocation, can provide a higher blend of SWP supply with Colorado River supply to help reduce salinity levels. Unfortunately, with the SWP allocation for 2020 at a mere 20%, Metropolitan's planned operations expected by March or April to have zero or near zero blends of SWP water with Colorado River water. This resulted in predicted higher TDS levels for the remainder of the year.

However, Metropolitan's Lake Skinner service area (essentially San Diego County) was receiving a better actual blend of SWP water (and lower TDS) than the rest of the blended service area because of two reasons: the higher SWP allocation from 2019 improved the blend in Lake Skinner to start the year, and Diamond Valley Lake was nearly full. Unfortunately, sampling at Lake Skinner in late July detected increasing levels of geosmin, an organic compound produced by the naturally occurring cyanobacteria. While geosmin poses no health risks to a water supply, at certain levels it can affect taste and smell. In response, Metropolitan scheduled a copper sulfate treatment for Lake Skinner in late July. The treatment in Lake Skinner forced Metropolitan's

operations to bypass Lake Skinner and reduced the blends to zero. As of this writing, operations are back to flowing through Lake Skinner, which helps to improve the blends.

According to Metropolitan, the running annual TDS average at Lake Skinner has been the lowest of the blended area at 353 ppm due to the water deliveries out of Lake Skinner and Diamond Valley Lake, and the high SWP allocation last year. There can be great fluctuations at points of delivery for water, with some growers reporting TDS levels as high as 600 ppm or more.

The California Avocado Commission remains engaged with Metropolitan and local water agencies concerning the importance of delivering a water supply to avocado growers that is low in salinity. Obviously, winters that bring significant rainfall provide a nice jumpstart to the year by leaching the soils and reducing the need for purchasing water.

While we continue to push through the many challenges in 2020, let us hope for a winter rainfall that is well above average. Although success is never guaranteed, our commitment remains unwavering and we will serve as your advocates whenever and wherever possible. On that note, if any of you have a contact number for Mother Nature, please pass it along – you just never know. 🍷