

# DUDLEY RIDGE WATER DISTRICT

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## PROFILE OF THE DUDLEY RIDGE WATER DISTRICT 2019

### Location

The District is located in southern Kings County on the western edge of the San Joaquin Valley. The District lies south of Kettleman City and is bounded on the northeast by the Tulare Lake Basin Water Storage District, on the south by the Kings-Kern County Line, and generally on the west by the Governor Edmund G. Brown California Aqueduct ("Aqueduct"). Interstate 5 traverses the District in a northwest-southeast direction.

### History

The District is a California Water District, formed subsequent to a vote of the landowners on September 26, 1962 and organized on January 26, 1963 under California Water District Law, Division 13, Section 34000 et. seq. of the California Water Code. A five-member Board of Directors ("Board") governs the District. Board members must be landowners in the District or a designated representative of a landowner.

Since 1991, as a result of a zero SWP allocation to the District that year, the District has operated without any employees. Prior to that time, the District employed one ditchtender to oversee field operations. Currently, these field duties and other duties to manage and operate the District are performed in part by contracted services (part-time ditchtender and a management consultant) and in part by various farm operators themselves or by private contractors retained by the District (primarily weed control and facility maintenance).

The land use within the District is agricultural; the District's boundaries do not encompass any incorporated or unincorporated communities. Through a number of annexations over the years, the District has expanded in size from the original 29,330 acres to its current size of 37,615 acres, of which 23,010 acres have a water allocation and approximately 18,000 acres are currently farmed.

### Topography

A small portion of the District is located on the shore of the historic Tulare Lake, however, most of the District is on smooth, gently sloping alluvial fans extending eastward from the Kettleman Hills. Elevations range from about 190 to 350 feet above sea level. The slope varies from 15 feet per mile in the southeast part of the District to slightly more than 60 feet per mile in the northwest. Over shorter distances, near the apex of some more recent alluvial fans, there are slopes of about 4 percent and the break from the fans to the lakebed is very steep. However, most of the District has slopes of less than 25 feet per mile.

There are no major streams in the District. Minor streams (drainage arroyos) in the Kettleman Hills to the west will on rare storm occasions produce sufficient runoff to reach the District. Damage to land and crop losses due to flooding have occurred during these rare runoff events.

## **Climate**

The District's regional climate is semi-arid with hot, dry summers and mild winters. Average daily temperatures vary from 45 degrees in January to 84 degrees in July, with typical diurnal ranges of 32 degrees in the summer to 20 degrees in the winter. Annual precipitation from 1955 through 2015 averaged 6.64 inches, with over 90 percent of the total rainfall received between October and April.

## **Distribution System**

The District delivers water from the Aqueduct through five delivery structures ("turnouts"). From each turnout, water is delivered to landowners through District owned concrete-lined canals and/or underground pipelines to metered farm turnouts.

The District owns approximately 12 miles of concrete-lined distribution canals and 10 miles of pipelines. In addition to the distribution canals and pipelines, the District owns a terminal reservoir to capture operational spills, whereby the final field deliveries can be made directly from the reservoir. While this reservoir was historically utilized, privately owned storage reservoirs have since been constructed that supplant its operation.

The District does not own or operate any subsurface drainage facilities. Shallow groundwater conditions experienced prior to the late 1980's have long since been alleviated by extensive landowner conversions to low-volume irrigation systems. The only surface water drainage facilities controlled by the District are pipelines installed to carry local runoff under District canals. Similar drainage pipelines and structures are owned and operated by the State of California to protect the Aqueduct and Interstate 5 from flooding.

Landowners are required by the District to maintain applied water on their lands—privately operated tailwater/spill recovery systems are in place to accomplish this element of water management.

## **Water Pricing Policies**

District costs are allocated to landowners and water users via three types of charges:

Benefit Assessments – Levied on a per relative land valuation basis with valuations varying based on whether the property has a water allocation or not; these charges include all SWP fixed costs and minimum District administrative costs. These charges are levied in February and are due in equal installments on July 1 and November 1 of each year.

Standby Charges – Levied on a per acre basis to all lands that have ever received a water allocation; these charges include most District administrative costs and system maintenance costs. Charges vary within seven primary standby charge service areas, based on the maintenance requirements for the distribution system in each service area. These charges are levied in February and are due in equal installments on March 1 and July 1 of each year.

Water Toll Charges – Levied at a uniform block rate on a per acre-foot basis of water delivered to each farming operation; these charges include variable and off-aqueduct SWP costs and District costs associated with water deliveries. These charges are levied in February (due on

March 1) based on scheduled deliveries from January through June, and in June (due on July 1) based on actual and scheduled deliveries from January through December.

It is the Board's policy to make year-end adjustments to reflect actual costs incurred for the year. Standby charges and water toll charges may also be adjusted during the course of the year, if necessary. This policy insures that each year, each water user and landowner is charged their appropriate share of that year's water cost.

### **Water Supply and Demand**

The District's primary water source is imported surface water supplies from the SWP; the District does not use local groundwater due to its low yields and poor quality. In addition to the SWP supplies, water has been made available through programs for water regulation and storage in off-site groundwater basins and from purchases, transfers, and balanced and unbalanced exchanges from other water agencies. The District's surface water supply is comprised of (1) SWP Table A contract amount of 45,350 acre-feet ("AF"), (2) other SWP water including Article 21, Turnback Pool, Multi-Year Water Pool, and occasional annual or multi-year transfers or exchanges with other SWP contractors, and (3) as available, Dry Year Transfer Program water and non-Project water obtained outside the District and delivered to the District or to its banking/exchange programs. In drier years, the District's supply is heavily supplemented by banked water recovered from groundwater storage programs in which the District is participating; in average to wet years, the supply is mostly or exclusively from surface water sources. Additionally, the District participates with four water districts in Kern County to acquire water from various entities to supplement water supplies; both annual and longer-term transfer and exchange programs have supplemented supplies in most years over the past decade.

#### **Water Supplies Available to the District**

- State Water Project (SWP) water
  - 45,350 AF allotment (subject to annual delivery % reductions)
  - Article 21 Water (as available)
  - Turnback Pool Water (as available)
  - Multi-Year Water Pool Water (as available)
  - Dry Year Transfer Program Water (as available)
  - Yuba Accord Water (as available)
- Water stored outside the District in banking/exchange programs
  - Kern Water Bank Authority (9.62% interest of about 1,500,000 AF storage capacity)
  - San Gabriel Valley MWD (up to 20,000 AF storage capacity)
  - Conjunctive use program with Cawelo Water District comprised of groundwater banking and recovery facilities and exchange features (up to 50,000 AF storage capacity)

#### **Estimated Demand**

- Demand is solely for agricultural uses (no municipal demand)
- Current demand is for 60,000 – 65,000 AF/year

Delivery of all or a portion of the SWP allotment is dependent upon a balancing of the available SWP supply with requests made by all participants in the SWP. In years of low water supply, the amount available for delivery to the District is subject to deficiencies resulting in less than the full entitlement being delivered.

In recent years, water transfers, groundwater banking, and water purchases have played an increasing role in balancing the available water supply not only within the District, but within the individual growers' farming operations, which often extend to neighboring water districts.

### **Groundwater Conditions**

Although the District lies within the boundaries of what DWR has defined as the Tulare Lake groundwater subbasin, it is categorized as having "groundwater unavailable and/or unusable". Most wells in the area have been abandoned due to poor yield and poor water quality. Regardless, the District is subject to the 2014 Sustainable Groundwater Management Act ("SGMA") and is a member of the Southwest Kings Groundwater Sustainability Agency ("SWKGSA"). The SWKGSA is one of five GSAs jointly developing a Groundwater Sustainability Plan for the Tulare Lake subbasin.

### **Cropping Patterns**

A combination of row crops (cotton, small grains, vegetables, etc.) and permanent crops (fruit and nut trees, grapes) has historically been grown in the District. As water costs increased and supplies decreased, row crops were replaced with permanent plantings, and now the District is exclusively permanent crops.

### **Ownership**

While there are currently 59 landowners in the District, most are absentee owners with small landholdings. Through direct ownership and farming leases, seven farming entities control the farming operations in the District.

### **Soils**

The predominant soil type for the northern portion of the District (the lower half of township 22 to the upper quarter of township 23) is Wasco-Westhaven-Westcamp. The predominant soil type in the mid portion of the District (the rest of township 23 to the upper quarter of township 24) is Wasco-Panoche-Westhaven. The remainder of the District is both Lethent-Garces-Panoche with Milham bordering the west and Kimberlina-Twisselman the south. The soils are rated by grades from 1 to 6 with 1 being a soil with no limiting factors (i.e. drainage problems, high salinity, etc.) and 6 having the highest limitations for farming.

# Dudley Ridge Water District

