

<b>Table 20. Decreased Water Supplies Allocations</b>	
Allocation Method	Check if used
<b>By crop</b>	
<b>Area in district</b>	
<b>Other</b>	
Decrease Allocated Water	x
<b>No specific policy</b>	

Waste of water is addressed in the Rules (Appendix 6). In general, the District will stop deliveries to Water Users that are found to be wasting water. Deliveries will not resume until the conditions that are found to be the cause of said waste of water are corrected. As stated before, the price of water to BWSL landowners is one of the highest anywhere in the state north of the Tehachapi Mountains. Therefore, Water Users are aware of this and use their water wisely (Table 21).

<b>Table 21. Enforcement Methods of Allocation Policies</b>	
Enforcement Method	Check if used
<b>Fines</b>	
<b>Water Shut-off</b> (Deliveries resume after the cause of waste of water is corrected)	x
<b>Other</b>	
<b>No specific policy</b>	

### Section III: Description of Quantity of Water Uses

Water year 2020 is chosen as the representative year for this plan (Table 22), because SWP allocation in 2020 was 20%. For planning purposes, data starts in January 2020 and ends December 2020 (to include a full year of historic data). This “water year” will be the basis to reference the water supplies and water uses that define the water budget in the sections that follow.

<b>Table 22. Representative Year</b>	
	Description
<b>Representative year(s) based upon</b>	2020
<b>First month of representative year</b>	January
<b>Last month of representative year</b>	December

## A. Agriculture Water Use

BWSD relies on surface water (**Table 23.**) for irrigation supplies of the many crops grown in the District.

<b>Table 23. Annual Agricultural Water Use (AF)</b>					
<b>Source</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Agricultural Water Supplier Delivered</b>					
<b>Surface Water</b>	82,958	89,235	85,445	89,333	83,781
<b>Groundwater</b>	N/A	N/A	N/A	N/A	8,415
<b>Subtotal</b>	<b>82,958</b>	<b>89,235</b>	<b>85,445</b>	<b>89,333</b>	<b>92,196</b>

The primary crops grown within the BWSD service area are trees (mostly almonds and pistachios), citrus and carrots. The evolution of irrigation and changing economic conditions has brought many crop changes to the District. Lands historically used for row crop production, mainly cotton, have been converted to permanent plantings (almonds, pistachios and citrus). As lands are converted, pressurized irrigation systems such as drip and micro sprinkler replace flood and sprinkler irrigation as the predominant method of irrigation. Similarly, the on-farm irrigation water efficiencies improve as the irrigation system conversions materialize.

The overall crop requirement also takes into consideration the leaching requirements and the effective precipitation. The following assumptions were used in the estimates for table 24.

- Crop evapotranspiration (ETc) was derived from the Irrigation Training and Research Centers (ITRC) ETc Table for Irrigation District Water Balances, Zone 16 for Typical Year.
- Leaching requirement was developed from Journal of Irrigation and Drainage Division data to maintain 100% yield potential.
- Effective Precipitation was calculated using a 50% effectiveness coefficient for the months of December and January, and a 100% effectiveness coefficient for the remaining months.

**Table 24.1 2020 Agricultural Crop Water Needs Etc (in)**

Crop	Area (acres)	ET Crop (ac-ft/ac)	Leaching Reqmnt LR (ac-ft/ac)	Effective Precip'n Pe (ac-ft/ac)	Total Crop Water Needs (AF/Ac)	Total Crop Water Needs (ac-ft)
Almonds	14,547	3.72	0.26	0.42	3.56	51,812
Carrots	2558	2.48	0.10	0.42	2.16	5,527
Citrus	3,609	3.42	0.24	0.42	3.24	11,699
Pistachios	13,747	3.44	0.21	0.42	3.23	44,382
<b>Totals</b>	<b>34,461</b>	<b>120,078.38</b>	<b>7,742.33</b>	14401.25		113,419

**Table 24.2 2019 Agricultural Crop Water Needs Etc (in)**

Crop	Area (acres)	ET Crop (ac-ft/ac)	Leaching Reqmnt LR (ac-ft/ac)	Effective Precip'n Pe (ac-ft/ac)	Total Crop Water Needs (AF/Ac)	Total Crop Water Needs (ac-ft)
Almonds	16,960	3.51	0.25	0.50	3.26	55,239
Carrots	0	0.00	0.00	0.50	0.00	-
Citrus	3,400	3.22	0.23	0.50	2.95	10,036
Pistachios	13,620	3.23	0.19	0.50	2.93	39,873
<b>Totals</b>	<b>33,980</b>	<b>114,440.68</b>	<b>7,570.92</b>	16864.27		105,147

**Table 24.3 2018 Agricultural Crop Water Needs Etc (in)**

Crop	Area (acres)	ET Crop (ac-ft/ac)	Leaching Reqmnt LR (ac-ft/ac)	Effective Precip'n Pe (ac-ft/ac)	Total Crop Water Needs (AF/Ac)	Total Crop Water Needs (ac-ft)
Almonds	16,960	3.77	0.26	0.33	3.71	62,918
Carrots	1150	2.46	0.10	0.33	2.23	2,568
Citrus	3,400	3.46	0.24	0.33	3.38	11,485
Pistachios	13,260	3.44	0.21	0.33	3.32	44,019
<b>Totals</b>	<b>34,770</b>	<b>124,197.38</b>	<b>8,152.76</b>	11359.36		120,991

**Table 24.4 2017 Agricultural Crop Water Needs Etc (in)**

Crop	Area (acres)	ET Crop (ac-ft/ac)	Leaching Reqmnt LR (ac-ft/ac)	Effective Precip'n Pe (ac-ft/ac)	Total Crop Water Needs (AF/Ac)	Total Crop Water Needs (ac-ft)
Almonds	14,520	3.86	0.27	0.35	3.77	54,805
Carrots	1870	2.46	0.10	0.35	2.20	4,118
Citrus	3,400	3.54	0.25	0.35	3.44	11,693
Pistachios	12,060	3.58	0.21	0.35	3.44	41,530
<b>Totals</b>	<b>31,850</b>	<b>115,794.80</b>	<b>7,536.16</b>	11185.72		112,145

**Table 24.5 2016 Agricultural Crop Water Needs Etc (in)**

Crop	Area (acres)	ET Crop (ac-ft/ac)	Leaching Reqmnt LR (ac-ft/ac)	Effective Precip'n Pe (ac-ft/ac)	Total Crop Water Needs (AF/Ac)	Total Crop Water Needs (ac-ft)
Almonds	15,200	4.00	0.28	0.28	4.00	60,776
Carrots	1870	2.56	0.10	0.28	2.38	4,451
Citrus	3,260	3.67	0.26	0.28	3.64	11,862
Pistachios	12,060	3.70	0.22	0.28	3.64	43,875
<b>Totals</b>	<b>32,390</b>	<b>122,196.37</b>	<b>7,963.82</b>	9195.52		120,965

The District encompasses about 97,396 acres. As shown on Table 25, in 2020 surface irrigation water was delivered to 34,461 acres (total acreage). Most of the non-irrigated land (62,755 acres) is not served by District facilities. Other non-irrigated land (9,173 acres) in the District is non-farmable land (oilfields).

**Table 25. Irrigated Acres**

Represented Year/District	2020	2019	2018	2017	2016
<b>Total Irrigated Acres</b>	34,461	33,980	34,770	31,850	32,390

For purposes of this report, cropped acreage is the same as irrigated acreage. The amount of irrigated land that is not cropped at any point in time during the year is small. Nearly 99% of the cropped land is planted with permanent crops. The remaining land not planted with permanent crops is devoted, to row crops.

**Table 26. Multiple Crop Information**

Cropping System	2020	2019	2018	2017	2016
<b>Single-Cropped Acres</b>	34,461	33980	34770	31850	32390
<b>Inter-cropping</b>	0	0	0	0	0
<b>Double Cropping</b>	0	0	0	0	0

## B. Environmental Water Use

BWSD does not provide any of its Table A contract water to any environmental uses.

## C. Recreational Water Use

BWSD does not provide any water to any recreational uses.

### D. Municipal and Industrial Use

Water Users in the Industrial Zone own and operate a distribution system that delivers water through a pumping plant located at the forebay of BWSD Turnout No.5 (Bel 5) on the CA Aqueduct via a pipeline (collectively referred to as the Industrial System) to the Industrial Zone of the District. Water delivered through the Industrial System is used primarily to support petroleum recovery activities in the North and South Belridge Oil Fields located along the western portion of the District. No treatment is required prior to use.

As previously mentioned, 5,578 AF of BWSD's annual Table A amount is under contract for industrial use. However, approximately 1,600 AF is actually delivered annually for use in the Industrial Zone. The remaining balance is normally transferred to other Water Users and used for agricultural purposes within the District (Table 27).

<b>Table 27. Municipal/Industrial Water Uses (AF)</b>					
<b>Municipal/ Industrial Entity</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Municipal Entity</b>					
None	0	0	0	0	0
<b>Subtotal</b>					
<b>Industrial Entity</b>					
Oil Producers	888	859	1013	1077	587
Ag Processing	0	0	0	0	0
<b>Subtotal</b>	888	859	1013	1077	587
<b>Total</b>	<b>888</b>	<b>859</b>	<b>1013</b>	<b>1077</b>	<b>587</b>

### E. Groundwater Recharge Use

There is no active groundwater recharge supported by District supplies within the District.

<b>Table 28. Groundwater Recharge Water Uses (AF)</b>						
<b>Groundwater Basin</b>	<b>Method of Recharge</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
None	Recharge basins	0	0	0	0	0
<b>Voluntary/Oppportunistic</b>						
Other (non-District projects)	Recharge basins	0	0	0	0	0
Pioneer	Recharge basins	0	0	0	0	0
Berrenda Mesa	Recharge basins	0	0	0	0	0
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Notes:						
Amounts shown correlate to 2020 recovery. Recharge occurs opportunistically. A 10% factor is applied to recharge account for banking losses.						