An Overview of the Kern County Water Agency’s Improvement District No. 4

For MWQI

David Beard | July 30, 2014
About the Kern County Water Agency

- Created by the Legislature and approved by Kern County voters in 1961.
- Governed by a 7-person voter-elected board of directors serving 4-year terms.
- Created primarily to serve as the local contracting entity for the State Water Project (SWP).
- Discretionary activities:
  - Groundwater
  - Flood control and dams
  - Hydroelectric power
Kern County’s State Water Project Supplies

**Kern County Water Agency SWP Facts:**

- Largest ag contractor
- 5th largest urban contractor
- Annual contracted Table A supply is about 1 million acre-feet:
  - 863,730 af – Agriculture
  - 119,000 af – M&I
- Represents about 24% of the SWP
California Water Facilities

- Lake Shasta
- Lake Oroville
- Sacramento-San Joaquin Delta
- Folsom Lake
- Friant-Kern Canal
- Isabella Reservoir
- Kern County
- San Luis Reservoir
- Madera Canal
- Delta Mendota Canal
- California Aqueduct

An Overview of Improvement District No. 4
Kern County Water Districts

1. Belridge WSD
2. Berrenda Mesa WSD
3. Buena Vista WSD
4. Cawelo WD
5. Henry Miller WD
6. Improvement District No. 4
7. Kern Delta WD
8. Lost Hills WD
9. Rosedale-Rio Bravo WSD
10. Semitropic WSD
11. Tehachapi-Cummings County WD
12. Tejon-Castac WD
13. West Kern WD
14. Wheeler Ridge-Maricopa WSD

An Overview of Improvement District No. 4
### Kern County Water Agency Member Unit
#### State Water Project Contract Amounts (acre-feet)

<table>
<thead>
<tr>
<th>District / Agency</th>
<th>Agriculture</th>
<th>Municipal and Industrial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belridge Water Storage District</td>
<td>121,508</td>
<td></td>
<td>121,508</td>
</tr>
<tr>
<td>Berrenda Mesa Water District</td>
<td>92,600</td>
<td></td>
<td>92,600</td>
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<tr>
<td>Buena Vista Water Storage District</td>
<td>21,300</td>
<td></td>
<td>21,300</td>
</tr>
<tr>
<td>Cawelo Water District</td>
<td>38,200</td>
<td></td>
<td>38,200</td>
</tr>
<tr>
<td>Henry Miller Water District</td>
<td>35,500</td>
<td></td>
<td>35,500</td>
</tr>
<tr>
<td>Improvement District No. 4</td>
<td>5,946</td>
<td>77,000</td>
<td>82,946</td>
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<tr>
<td>Kern County Water Agency</td>
<td>8,000</td>
<td></td>
<td>8,000</td>
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<tr>
<td>Kern Delta Water District</td>
<td>25,500</td>
<td></td>
<td>25,500</td>
</tr>
<tr>
<td>Lost Hills Water District</td>
<td>119,110</td>
<td></td>
<td>119,110</td>
</tr>
<tr>
<td>Rosedale-Rio Bravo Water Storage District</td>
<td>29,900</td>
<td></td>
<td>29,900</td>
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<tr>
<td>Semitropic Water Storage District</td>
<td>155,000</td>
<td></td>
<td>155,000</td>
</tr>
<tr>
<td>Tehachapi-Cummings County Water District</td>
<td>4,300</td>
<td>15,000</td>
<td>19,300</td>
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<tr>
<td>Tejon-Castac Water District</td>
<td>3,278</td>
<td>2,000</td>
<td>5,278</td>
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<tr>
<td>West Kern Water District</td>
<td>6,500</td>
<td>25,000</td>
<td>31,500</td>
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<tr>
<td>Wheeler Ridge-Maricopa Water Storage District</td>
<td>197,088</td>
<td></td>
<td>197,088</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>863,730</td>
<td>119,000</td>
<td>982,730</td>
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</tbody>
</table>

An Overview of Improvement District No. 4
History of Improvement District No. 4

- Improvement District No. 4 (ID4) was formed in 1971.
- Purpose is to provide a supplemental water supply for portions of the metropolitan Bakersfield area through the importation of SWP water.
- Original financing included the construction of a water purification plant, related water conveyance facilities, and a portion of the cost of the Cross Valley Canal (CVC).
- Prior to the formation of ID4 and the primary water supply for all uses within ID4 was pumping groundwater.
ID4’s Operations and Functions

- 82,946 af of State Water Project supply
  - 77,000 af M&I and 5,946 af agricultural
  - Recharge local groundwater table
  - Delivery of treated surface water to areas of deficient groundwater quality and/or quantity

- Provides treated water to:
  - California Water Service Company
  - City of Bakersfield
  - East Niles Community Services District
  - North of the River Municipal Water District
  - Oildale Mutual Water Company
ID4 Water Supply Operations

- Annual surface water exchanges with Kern River Interests

- Other supplies are acquired depending on availability and need: Article 21 water, Section 215 water, Kern River water

- Participation in groundwater banking programs: Kern Water Bank Authority, Pioneer Banking Project, and City of Bakersfield 2800 Acres Facility
Henry C. Garnett Water Purification Plant

- Serves approximately 185,000 people in Metropolitan Bakersfield
- Originally constructed in 1977 with capacity of 38 million gallons per day (mgd)
- Expanded to 72 mgd in 2010
- Utilizes a conventional water treatment process
Drought Impacts to ID4: Water Supply

2013-2014

- ID4 delivered approximately 33,000 af of treated water.
- The sources used were:

2012-2013

- ID4 delivered approximately 40,000 af of treated water.
- Source used was surface water (100%)
## Drought Impacts to ID4: Water Quality

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Units</th>
<th>Aqueduct May-14</th>
<th>CVC June-14</th>
<th>Kern River April-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>ug/l</td>
<td>4.0</td>
<td>2.0</td>
<td>5.6</td>
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<tr>
<td>Bromide</td>
<td>ug/l</td>
<td>400</td>
<td>80</td>
<td>20</td>
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<tr>
<td>Total Chromium</td>
<td>ug/l</td>
<td>1.0</td>
<td>1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Hexavalent Chromium</td>
<td>ug/l</td>
<td>0.3</td>
<td>ND</td>
<td>ND</td>
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<tr>
<td>Nitrate (as NO3)</td>
<td>mg/l</td>
<td>0.3</td>
<td>6.5</td>
<td>ND</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>mg/l</td>
<td>418</td>
<td>164</td>
<td>116</td>
</tr>
<tr>
<td>D. Organic Carbon</td>
<td>mg/l</td>
<td>7.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>T. Organic Carbon</td>
<td>mg/l</td>
<td>-</td>
<td>2.3</td>
<td>2.2</td>
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<tr>
<td>Sulfate</td>
<td>mg/l</td>
<td>72.0</td>
<td>22.5</td>
<td>22.8</td>
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<tr>
<td>Chloride</td>
<td>mg/l</td>
<td>122.0</td>
<td>21.9</td>
<td>8.2</td>
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</tbody>
</table>
Looking Forward

- Continual mix of sources used at the Henry C. Garnett Water Purification Plant based on hydrology, surface water exchange opportunities and water banking program operations.

- ID4 customer treated water contract amounts total 53,000 af in 2034-35.

- Increase in percentage of SWP supply delivered for treatment at Henry C. Garnett Water Purification Plant.

- Possibility of constructing additional facilities to augment current water treatment techniques.