Water Supply Update

Board of Directors Meeting

March 10, 2020
Water Supply Briefing

- Current Water Supply
- California Water Supply
- Water Supply Projections
Current Water Supply
Gross Water Production

![Graph showing Gross Water Production (mgd) from 1-Jul to 1-Jun with lines for Average FY 2005-2007, FY 2019, and FY 2020.]
Current Water Supply
Mokelumne Precipitation

Through Mar 8: 18.70” (52% of average)
Current Water Supply
East Bay Precipitation

Through Mar 8: 8.20” (39% of average)

- Average
- Rainfall Year 2020

- JUL
- AUG
- SEP
- OCT
- NOV
- DEC
- JAN
- FEB
- MAR
- APR
- MAY
- JUN

Through Mar 8: 8.20” (39% of average)
Current Water Supply
Caples Lake Snow Depth

- Historical Average
- WY2015
- WY2018
- WY2020
Current Water Supply

Snow

As of Mar. 8, 2020

<table>
<thead>
<tr>
<th></th>
<th>Cumulative Precipitation</th>
<th>% of Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caples Lake Snow Depth</td>
<td>38”</td>
<td>51%</td>
</tr>
<tr>
<td>Caples Lake Snow Water Content</td>
<td>14.25”</td>
<td>52%</td>
</tr>
</tbody>
</table>
## Current Water Supply
### Reservoir Storage

**As of 3/8/2020**

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Current Storage</th>
<th>Percent of Average</th>
<th>Percent of Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pardee</td>
<td>181,330 AF</td>
<td>99%</td>
<td>89%</td>
</tr>
<tr>
<td>Camanche</td>
<td>280,380 AF</td>
<td>100%</td>
<td>67%</td>
</tr>
<tr>
<td>East Bay</td>
<td>129,900 AF</td>
<td>96%</td>
<td>86%</td>
</tr>
<tr>
<td>Total System</td>
<td>591,610 AF</td>
<td>99%</td>
<td>77%</td>
</tr>
</tbody>
</table>
California Water Supply
Driest February on Record

Water Supply Projections
Dry Year Precipitation Comparison

![Bar chart showing lowest precipitation years with median and dry year comparisons](chart.png)
Total System Storage WY2020

- 630 TAF (10% Exceedance)
- 555 TAF (50% Exceedance)
- 480 TAF (90% Exceedance)

Water Supply Projections
Projected 2020 EBMUD Total System Storage
Questions?
### WATER SUPPLY ENGINEERING DAILY REPORT

**Monday, March 9, 2020**

#### RESERVOIR STORAGE AND ELEVATION

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Elevation</th>
<th>+Gain</th>
<th>Storage</th>
<th>+Gain</th>
<th>Maximum Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MOKELUMNE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pardee</td>
<td>557.3</td>
<td>0.1</td>
<td>181540</td>
<td>210</td>
<td>567.65</td>
</tr>
<tr>
<td>Camanche</td>
<td>215.43</td>
<td>-0.1</td>
<td>279760</td>
<td>-620</td>
<td>235.5</td>
</tr>
<tr>
<td><strong>EAST BAY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Briones</td>
<td>570.66</td>
<td>0</td>
<td>55170</td>
<td>0</td>
<td>576.14</td>
</tr>
<tr>
<td>Chabot</td>
<td>223.59</td>
<td>-0.01</td>
<td>9140</td>
<td>-10</td>
<td>227.25</td>
</tr>
<tr>
<td>Lafayette</td>
<td>437.74</td>
<td>-0.01</td>
<td>2910</td>
<td>0</td>
<td>449.16</td>
</tr>
<tr>
<td>San Pablo</td>
<td>303.98</td>
<td>0.02</td>
<td>30270</td>
<td>10</td>
<td>313.68</td>
</tr>
<tr>
<td>Upper San Leandro</td>
<td>451.04</td>
<td>0</td>
<td>32410</td>
<td>0</td>
<td>459.98</td>
</tr>
<tr>
<td><strong>Total East Bay Res</strong></td>
<td></td>
<td></td>
<td>129900</td>
<td>0</td>
<td>150380</td>
</tr>
<tr>
<td><strong>TOTAL SYSTEM STORAGE</strong></td>
<td></td>
<td></td>
<td>591200</td>
<td>-410</td>
<td>771295</td>
</tr>
</tbody>
</table>

#### DISTRIBUTION SYSTEM

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Storage</th>
<th>Operating Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Today</strong></td>
<td>342 MG</td>
<td>720 GMD</td>
</tr>
<tr>
<td><strong>Total Previous Day</strong></td>
<td>358 MG</td>
<td></td>
</tr>
<tr>
<td><strong>Total Change</strong></td>
<td>-16</td>
<td></td>
</tr>
</tbody>
</table>

#### WATER PRODUCTION

<table>
<thead>
<tr>
<th>AND DEMAND</th>
<th>Million Capacity</th>
<th>MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lafayette WTP</td>
<td>0 25</td>
<td></td>
</tr>
<tr>
<td>Orinda WTP</td>
<td>106 190</td>
<td></td>
</tr>
<tr>
<td>San Pablo WTP</td>
<td>0 30</td>
<td></td>
</tr>
<tr>
<td>Sobrante WTP</td>
<td>0 50</td>
<td></td>
</tr>
<tr>
<td>Upper San Leandro WTP</td>
<td>0 45</td>
<td></td>
</tr>
<tr>
<td>Walnut Creek WTP</td>
<td>29.3 90</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL SURFACE PRODUCTION</strong></td>
<td>135.3</td>
<td>430</td>
</tr>
<tr>
<td>Miscellaneous(Estimated)</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

#### TOTAL WATER PRODUCTION

| Change in Distribution System | -16 |
| Wash Water from Distribution Sys. | 0.3 |
| **SYSTEM DEMAND** | 151.3 |
| East-of-Hills Demand | 36.9 |
| West-of-Hills Demand | 114.4 |

#### RAW WATER TRANSMISSION

<table>
<thead>
<tr>
<th>INPUT Ac-ft</th>
<th>DRAFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briones Res.</td>
<td>0</td>
</tr>
<tr>
<td>San Pablo Res.</td>
<td>7</td>
</tr>
<tr>
<td>U. San Leandro Res.</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

#### REMARKS

- WID Canal Diversion = 55 cfs
- Mokelumne River below WID = 219 cfs
- PG&E data as of 4:00 pm previous date.
- All other data as of midnight.
- WTP capacities are sustainable rates.

#### PRECIPITATION (Inches)

<table>
<thead>
<tr>
<th>STATION</th>
<th>THIS YEAR</th>
<th>AVERAGE YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>USL WTP</td>
<td>0.07</td>
<td>8.49</td>
</tr>
<tr>
<td>Orinda WTP</td>
<td>0.35</td>
<td>11.35</td>
</tr>
<tr>
<td>Lafayette Reservoir</td>
<td>0.13</td>
<td>7.9</td>
</tr>
<tr>
<td>Walnut Creek WTP</td>
<td>0</td>
<td>9.11</td>
</tr>
<tr>
<td>Camp Pardee</td>
<td>0.12</td>
<td>9.4</td>
</tr>
<tr>
<td>Salt Springs P.H.</td>
<td>0.41</td>
<td>18.51</td>
</tr>
</tbody>
</table>

#### CAPLES LAKE (7,830 FT) DATA

<table>
<thead>
<tr>
<th>STATION</th>
<th>Today</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snow Depth</td>
<td>37 Inches</td>
<td>74 Inches</td>
</tr>
<tr>
<td>Water Content</td>
<td>14.3 Inches</td>
<td>27.3 Inches</td>
</tr>
</tbody>
</table>
Public Safety Power Shutoff
2020 Preparations

Board of Directors

March 10, 2020
### Summary of 2019 PSPS Events

<table>
<thead>
<tr>
<th>Event</th>
<th>Total</th>
<th>Water Treatment Plants</th>
<th>Distribution Pumping Plants</th>
<th>Distribution Reservoirs</th>
<th>Upcountry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 9</td>
<td>136</td>
<td>2</td>
<td>47</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>Oct 26</td>
<td>216</td>
<td>4</td>
<td>58</td>
<td>54</td>
<td>27</td>
</tr>
</tbody>
</table>

**October 9**
- 43 Pressure Zones Affected
- ~97,000 Customers Affected

**October 26**
- 73 Pressure Zones Affected
- ~236,000 Customers Affected
### PSPS Triggers

While no single factor will drive a Public Safety Power Shutoff, some factors include:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🚭</td>
<td><strong>A Red Flag Warning declared</strong> by the National Weather Service</td>
</tr>
<tr>
<td>🌧💧</td>
<td><strong>Low humidity levels</strong>, generally 20% and below</td>
</tr>
<tr>
<td>☁️♂️</td>
<td><strong>Forecasted sustained winds</strong> generally above <strong>25 mph</strong> and <strong>wind gusts in excess of approximately 45 mph</strong>, depending on <strong>location and site-specific conditions</strong> such as temperature, terrain and local climate</td>
</tr>
<tr>
<td>🍃</td>
<td><strong>Condition of dry fuel</strong> on the ground and live vegetation (moisture content)</td>
</tr>
<tr>
<td>🐘🔍</td>
<td><strong>On-the-ground, real-time observations</strong> from PG&amp;E’s Wildfire Safety Operations Center and field observations from PG&amp;E crews</td>
</tr>
</tbody>
</table>
PSPS Preparation

- Updated PSPS mitigation plan
- Conduct tabletop and field exercises
- Routine equipment testing
- Meeting with PG&E
PSPS Response Plan

- Pre-deploy equipment
- Coordinate with PG&E
- Maximize distribution reservoir storage
- PSPS communications
- Activate EOT
Backup Equipment

- Existing fleet of 32 portable generators and pumps
- Rental generator contract for Board consideration on April 14
- Outreach to communities
Vegetation Management

- Vegetation management
  - Service area
  - Mokelumne Aqueduct right-of-way
  - Pardee Powerhouse 7.2kV line

- Work done by
  - District forces
  - Civicorps
  - Goats
Business Continuity

- Business Continuity Plans identify mitigation measures for critical business functions
  - Alternative work locations
  - Backup systems
- 2020 BCP exercises tested alternative work locations
- EOT will work with BCP coordinators
  - Identify needs and priorities
  - Develop plan to ensure business continuity
PSPS Public Outreach

- Outreach materials (print)
  - Update fact sheet, Customer Pipeline article, and press releases
- Social media: Regular updates before, during, and after PSPS
- Interviews/field visits with regional media
- PSPS webpage/map on EBMUD.com
- Community meetings, briefings for elected officials and workshops
- Communications with fire agency partners
PSPS Communications Sequence

Notifications

- All-employee messages
- Emails to local electeds, city/county officials and stakeholders
- Targeted WaterSmart emails to customers in areas where operations may be affected
- Social media posts (Twitter, Facebook, and Nextdoor)
- Media advisories

---

Dear April,

Due to extreme fire danger, PG&E has announced it is planning to shut down power to parts of East Bay Municipal Utility District’s service area beginning Wed, October 9. Your neighborhood is included in the affected areas.

East Bay Municipal Utility District (EBMUD) has topped off reservoirs and is ensuring backup equipment is ready. EBMUD asks that customers in affected areas to reduce water use indoors and turn off outdoor irrigation. This will help to conserve water in our local reservoir tanks.

EBMUD also recommends customers prepare emergency water supplies: two gallons per person per day, plus pets. More information on how to store emergency water is available at: [ebmud.com/customers/pipeline/2019/10/storing-emergency-water/](http://ebmud.com/customers/pipeline/2019/10/storing-emergency-water/)
PSPS Communications – Map

- Website with impacted pressure zone map
- Interagency collaboration
  - County PIO updates
  - Sharing messaging with peer water agencies
### Water Consumption

**Customer Response – 2019 PSPS**

---

#### Total Water Demand - October 10 PSPS

- **PSPS Pressure Zones**: 22 MGD (Prior 5-Day Avg.), 15 MGD (Oct 10), **32%** Difference
- **Non-PSPS Pressure Zones**: 185 MGD (Prior 5-Day Avg.), 169 MGD (Oct 10), **9%** Difference

---

#### Total Water Demand - October 27-29 PSPS

- **PSPS Pressure Zones**: 41 MGD (Prior 5-Day Avg.), 25 MGD (Oct 27), **40%** Difference
- **Non-PSPS Pressure Zones**: 158 MGD (Prior 5-Day Avg.), 149 MGD (Oct 27), **6%** Difference
Next Steps

• Rental generator contract for 2020

• Prepare RFP for
  – Generator purchase
  – Multi-year generator rental

• Meeting with PG&E

• Continue PSPS preparations

• Continue to participate in CPUC process
What We Know

• 129 confirmed cases in California

• 79 confirmed cases in the Bay Area

• Cases in Alameda and Contra Costa counties

Source: SF Chronicle
Communicable Disease
Emergency Response Plan

• Plan objectives
  – Reduce the transmission among employees, customers, and vendors
  – Maintain essential operations and services
  – Minimize the impact to the District
  – Provide employees with timely and useful information

• Information from CDC, WHO, CDPH, and local health departments

• CDC has interim guidelines for businesses and employers
Communicable Disease Emergency Response Plan

<table>
<thead>
<tr>
<th>District Level</th>
<th>Impact to the District</th>
<th>Example Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No impact</td>
<td>Routine awareness, preparedness, training</td>
</tr>
<tr>
<td>2</td>
<td>General impact to the service area</td>
<td>Increased awareness, communication, progressive cleaning procedures</td>
</tr>
<tr>
<td>3</td>
<td>Moderate impact to the District</td>
<td>EOT activity, communication to employees and customers, increased cleaning procedures, some restrictions</td>
</tr>
<tr>
<td>4</td>
<td>Severe impact to the District</td>
<td>Shutting buildings, restricting access, customer service impacts, additional restrictions</td>
</tr>
</tbody>
</table>

- Communicable disease working group activated
- EOT transition at level 3 or 4
District Actions

• Communication
  – Regular communication with staff
  – Meeting with the Unions
  – Posted information on social media

• Increased cleaning procedures
District Actions

- Coordination and planning
  - Working group activated
  - Senior Management Team
  - Reviewing IT capabilities
  - Business Continuity Plans
  - Monitoring supply chains for disruption

- Reviewing policies and procedures
Possible Additional Actions

- Evaluate other actions as the situation evolves
- Evaluating potential restrictions
  - Travel and conferences
  - Non-essential public events
  - Other events
- Conducting remote meetings
- Telecommuting
Questions