Water Supply Resource Report

• Update to Water Supply Resource Plan
• Long-term plan through 2080
• Includes input from customers on future water demands
• LCRA developed projected future commitments for firm water
• Compared commitments to the firm supply to determine needs for additional firm supply
Outline of WSRR Scope

Coordination and project management

Water supply planning area and demand projections

Existing supply availability and future supply needs

Potential water supply options

Uncertainty analysis

Water Supply Resource Report

WSRR: Water Supply Resource Report
Population and Demand Projections
Outreach to LCRA Firm Customers

• Met with 15 large firm water customers individually to discuss projections
  – Provided a survey packet with draft projections in advance
  – Smallest customer with which we met: maximum annual quantity of 3,000 acre-feet per year

• Sent a survey packet with draft projections to 12 additional customers
  – Received feedback from five customers
  – Smallest customer to which we sent a survey packet: MAQ of 830 a-f per year
Demand Projections

• Two demand projection scenarios (by decade 2030 to 2080)
  1) Expected case demand based on current trends
  2) Higher case demand assuming growth beyond expected

• Potential future customers
  1) Highland Lakes industrial allowance: 5,000 a-f per year by 2030
  2) Downstream industrial allowance (Bay City/Arbuckle reach):
     30,000 a-f per year by 2030
  3) High-demand case – additional downstream industrial allowance:
     20,000 a-f per year by 2050
Projection Results – Firm Demands

Historical Deliveries Less Austin ROR Supplies
Higher Case LCRA-Supplied Demand
Expected Case LCRA-Supplied Demand
2010 WSRP Demand Less ROR Supplies

ROR: run of river
Projection Results – Commitments

- Historical Deliveries Less Austin ROR Supplies
- Expected Case LCRA-Supplied Demand
- Higher Case Firm Commitments
- Higher Case LCRA-Supplied Demand
- Expected Case Firm Commitments
- Firm Commitments Incl. E-Flows and Losses (Nov. 2022)

ROR: run of river
E-Flows: environmental flows
Total System Firm Supply and Demands and Commitments

E-Flows: environmental flows
Accounting for Location

Upper reach (Highland Lakes to Wharton) – Firm customers can access supply from lakes Buchanan and Travis or amended Garwood Agricultural Division right

Lower reach (Bay City/Arbuckle and Matagorda) – Firm customers can access supply from downstream rights and Arbuckle Reservoir (also can access supply from upstream reach if needed)
Firm Supply by Location

- **Upper reach:** about 450,000 a-f per year
  - Lakes Buchanan and Travis
  - Amended Garwood water right

- **Lower reach:** about 140,000 a-f per year
  - Run-of-river rights
  - Arbuckle Reservoir
Upper Reach: Firm Supply and Projected Future Firm Contractual Commitments

Firm yield supply
Projected Future Firm Contractual Commitments
Firm Commitments Incl. E-Flows and Losses (May 2023)

E-Flows: environmental flows
Planning for Uncertainty

• Projected demands and commitments
  – Population growth rates
  – New customers and industry

• Firm supply
  – Could have future droughts worse than we’ve experienced
  – Sedimentation rates could vary

Prudent to have a cushion to help deal with the unexpected
# Need for New Water Supply in Upper Reach

<table>
<thead>
<tr>
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<th>A-f per year</th>
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<tbody>
<tr>
<td></td>
<td>2030</td>
</tr>
<tr>
<td>Projected future firm contractual commitments in upper reach</td>
<td>468,000</td>
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<tr>
<td>Uncertainty cushion</td>
<td>30,000</td>
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<tr>
<td>Total supply needed</td>
<td>498,000</td>
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<tr>
<td>Historic firm yield – upper reach(^1)</td>
<td>450,000</td>
</tr>
<tr>
<td>New supply needed</td>
<td>48,000</td>
</tr>
</tbody>
</table>

\(^1\)Combined firm yield of lakes Travis and Buchanan plus 33,000 a-f per year of Garwood right. Does not include potential sedimentation.

Targeted new firm water supply for the upper reach of about **60,000** a-f per year by 2040
Upper Reach Firm Supply and Projected Future Firm Contractual Commitments Plus Uncertainty Cushion

Firm yield supply
Projected Future Firm Contractual Commitments
Firm Commitments Incl. E-Flows and Losses (May 2023)
Projected Future Firm Contractual Commitments plus Uncertainty Cushion

E-Flows: environmental flows