Groundwater management impacts both our public water systems & areas that rely on individual wells.
14 largest permits

- RockTenn (paper mill in Westpoint)
- Newport News Waterworks
- Smithfield Packing Company
- Town of Smithfield
- Western Tidewater Water Authority (Isle of Wight County & City of Suffolk)
- City of Franklin
- City of Virginia Beach
- City of Chesapeake
- Hercules Incorporated (Ashland)
- International Paper (paper mill in Franklin)
- City of Norfolk
- Smithfield Service Authority
- Colonial Williamsburg
- James River
<table>
<thead>
<tr>
<th>Permit Holder</th>
<th>Permitted Withdrawal (MGD)</th>
<th>% Cut Below Previous Permit</th>
<th>Previous Permitted Withdrawal (MGD)</th>
<th>DEQ Target (MGD)</th>
<th>Reported Use (MGD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Franklin</td>
<td>1.4</td>
<td>51%</td>
<td>2.88</td>
<td>.93 – 1.3</td>
<td>0.93</td>
</tr>
<tr>
<td>City of Chesapeake</td>
<td>3.51</td>
<td>68%</td>
<td>11</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>International Paper - Franklin Mill</td>
<td>16.0 (Y1) to 14.0 (Y10)</td>
<td>56% (Y1) to 62% (Y10)</td>
<td>36.68</td>
<td>10.0 – 12.0</td>
<td>13.71</td>
</tr>
<tr>
<td>WestRock - West Point Mill</td>
<td>20.0 (Y1) to 16.0 (Y10)</td>
<td>13% (Y1) to 31% (Y10)</td>
<td>23.03</td>
<td>9.0 – 10.0</td>
<td>17.79</td>
</tr>
<tr>
<td>City of Portsmouth</td>
<td>5.0</td>
<td>67%</td>
<td>15.42</td>
<td>3.49</td>
<td>2.91</td>
</tr>
<tr>
<td>Solenis - formerly Hercules Inc</td>
<td>3.2</td>
<td>52%</td>
<td>6.67</td>
<td>3</td>
<td>2.74</td>
</tr>
<tr>
<td>Western Tidewater Water Authority (Suffolk &amp; Isle of Wight)</td>
<td>4.2</td>
<td>50%</td>
<td>8.34</td>
<td>3.5 – 3.9</td>
<td>3.51</td>
</tr>
<tr>
<td>Virginia Renewable Power - formerly Cogentrix</td>
<td>1.2</td>
<td>53%</td>
<td>2.60</td>
<td>1.0 – 1.2</td>
<td>0.18</td>
</tr>
<tr>
<td>James City Service Authority</td>
<td>6.0</td>
<td>32%</td>
<td>8.83</td>
<td>3.8 - 4.0</td>
<td>5.41</td>
</tr>
<tr>
<td>Newport News Waterworks</td>
<td>2.96</td>
<td>58%</td>
<td>7.00</td>
<td>1.53</td>
<td>1.53</td>
</tr>
<tr>
<td>Colonial Williamsburg</td>
<td>1.12</td>
<td>39%</td>
<td>1.84</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Smithfield Farmland Corp</td>
<td>2.60</td>
<td>35%</td>
<td>4.01</td>
<td>2.6</td>
<td>1.65</td>
</tr>
<tr>
<td>Town of Smithfield</td>
<td>1.28</td>
<td>8%</td>
<td>1.4</td>
<td>1.27</td>
<td>0.86</td>
</tr>
<tr>
<td>City of Norfolk</td>
<td>3.74</td>
<td>77%</td>
<td>15.94</td>
<td>3.74</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>72.3 to 66.3</strong></td>
<td><strong>50%</strong></td>
<td><strong>145.6</strong></td>
<td><strong>48.6 to 52.7</strong></td>
<td><strong>56.2</strong></td>
</tr>
</tbody>
</table>
Public Systems Water Supply & Demand

2011 Projections

Southside and Western Tidewater

- 2010: 122.2 MGD
- 2020: 138.2 MGD
- 2030: 152.4 MGD
- 2040: 164.2 MGD

Southside/WT Demand

- 2010: 195.5 MGD
- 2020: 195.5 MGD
- 2030: 195.5 MGD
- 2040: 195.5 MGD

Southside/WT Supply

- 2010: 90 MGD
- 2020: 110 MGD
- 2030: 130 MGD
- 2040: 150 MGD

2018 Draft Projections

Southside and Western Tidewater

- 2010: 195.5 MGD
- 2020: 183.2 MGD
- 2030: 183.2 MGD
- 2040: 183.2 MGD

Southside/WT Demand

- 2010: 122.2 MGD
- 2020: 105.9 MGD
- 2030: 115.6 MGD
- 2040: 120.1 MGD

Southside/WT Supply

- 2010: 195.5 MGD
- 2020: 183.2 MGD
- 2030: 183.2 MGD
- 2040: 183.2 MGD
Region is using less water

Regional Water Consumption (2002-2016)
How much water is enough?

Industrial Groundwater Users = 41 MGD

Anheuser Busch = 1.8 MGD

Ford Plant = 1.8 MGD

Google data center, SC = 4 MGD

Can we make better use of our water resources?
Unresolved Issue: Need aquifer replenishment for groundwater use to be sustainable at current permitted level and to allow rural development.

SWIFT is unique – only replenishment project where entity injecting water doesn’t want to use or sell the water.

Virginia needs regulations that provide the legal framework to incentivize aquifer replenishment.

Workgroup to develop banking / trading system by July 1, 2020 has had first meeting.
Map 1-10
Southside Sub-Region
Community Water Systems
Service Areas and Sources

Public Purveyor Service Areas *
- City of Chesapeake
- City of Norfolk
- City of Portsmouth
- City of Suffolk
- City of Virginia Beach
- Future Public Service Areas
- Purchase Water from Public Systems

Public Water Supply Sources
- Surface Water Intakes
- Municipal Wells
- Water Treatment Facilities
- Reservoirs/Rivers
- Lake Gaston Pipeline

Privately-Owned Community Water Systems
- Indian River Water Co.
  - Private CWs (Groundwater)

* The water distribution system in these areas may be owned by a public or private entity other than the water purveyor.

Prepared by the Hampton Roads Planning District Commission