Who are largest groundwater users?

- RockTenn (paper mill in Westpoint)
- Colonial Williamsburg
- Newport News Waterworks
- Smithfield Packing Company
- Town of Smithfield
- Western Tidewater Water Authority (Isle of Wight County & City of Suffolk)
- City of Norfolk
- City of Portsmouth
- City of Franklin
- Hercules Incorporated (Ashland)
- International Paper (paper mill in Franklin)
- Portsmouth Genco (Cogentrix)
- City of Chesapeake
Why is DEQ proposing cuts?

- Declining water levels
- Land subsidence and loss of storage
- Reversal of groundwater flow leads to salt water intrusion

Supporting Data & Authority

Model simulations, measurements, and regulations
Did previous IP reductions fix the problem?
Declining Water Levels?

Our aquifer system has a shallow end & deep end.

Monitoring data from wells in a Shallow Aquifer – Piney Point
Declining Water Levels?

Monitoring data from wells in the Deep Aquifer - Potomac

Henrico

James City County

Isle of Wight
Data or Legal requirement to support cuts?

- Model and measurements support concerns for declining water levels.
- No model projections and less data to support subsidence and saltwater intrusion concerns.
- Regulations give DEQ authority to manage resource based on these concerns.
## Significant Cuts?

<table>
<thead>
<tr>
<th>Permit Holder</th>
<th>Current Withdrawal (MGD)</th>
<th>Permitted Withdrawal (MGD)</th>
<th>DEQ Requested Target (MGD)</th>
<th>Percent Cut below Current Use</th>
<th>Percent Cut below Permit</th>
</tr>
</thead>
<tbody>
<tr>
<td>RockTenn - West Point Mill</td>
<td>20.09</td>
<td>23.03</td>
<td>9.0 – 10.0</td>
<td>55-50%</td>
<td>61-57%</td>
</tr>
<tr>
<td>James City Service Authority</td>
<td>5.41</td>
<td>8.83</td>
<td>3.0 - 4.0</td>
<td>45-26%</td>
<td>66-57%</td>
</tr>
<tr>
<td>Colonial Williamsburg</td>
<td>1.4</td>
<td>1.84</td>
<td>1.2</td>
<td>14%</td>
<td>35%</td>
</tr>
<tr>
<td>Portsmouth Genco (Cogentrix)</td>
<td>0.18</td>
<td>2.6</td>
<td>1.0 – 1.2</td>
<td>12-0%</td>
<td>62-54%</td>
</tr>
<tr>
<td>City of Portsmouth</td>
<td>2.91</td>
<td>15.42</td>
<td>3.49</td>
<td>0%</td>
<td>77%</td>
</tr>
<tr>
<td>City of Chesapeake</td>
<td>3.5</td>
<td>11</td>
<td>3.5</td>
<td>0%</td>
<td>68%</td>
</tr>
<tr>
<td>Town of Franklin</td>
<td>0.93</td>
<td>2.88</td>
<td>.93 – 1.3</td>
<td>0%</td>
<td>68-55%</td>
</tr>
<tr>
<td>International Paper – Franklin Mill</td>
<td>9.08</td>
<td>20.61</td>
<td>10.0 – 12.0</td>
<td>0%</td>
<td>51-42%</td>
</tr>
<tr>
<td>Western Tidewater Water Authority (Suffolk &amp; Isle of Wight)</td>
<td>3.51</td>
<td>8.34</td>
<td>3.5 – 3.9</td>
<td>0%</td>
<td>58-53%</td>
</tr>
<tr>
<td>Newport News Waterworks</td>
<td>1.53</td>
<td>3.44</td>
<td>1.53</td>
<td>0%</td>
<td>56%</td>
</tr>
<tr>
<td>Hercules Incorporated (Ashland)</td>
<td>2.74</td>
<td>6.67</td>
<td>3</td>
<td>0%</td>
<td>55%</td>
</tr>
<tr>
<td>City of Norfolk</td>
<td>0.06</td>
<td>3.74</td>
<td>3.74</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Smithfield Packing Company, Inc.</td>
<td>1.65</td>
<td>2.6</td>
<td>2.6</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Town of Smithfield</td>
<td>0.86</td>
<td>1.27</td>
<td>1.27</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Most public water systems also have surface water supply. Chart only shows groundwater.
Alternate Water Sources

Optimize Surface Water in Region

Desalination of Surface Water
Alternate Water Sources

Wastewater Reuse

Rainwater Harvesting
Issues

- Alternatives are expensive.
- New permits are uncertain.
- No remedy for costs sunk into groundwater infrastructure that would no longer be used if we switch sources.
Timeline

Permitting Process
Follow-up meetings with each permit holder

Oct/Nov 2014
Finalize new permits

Sept 2015
Partial reductions in withdrawals

2017-2018

Permit Term

Related Studies underway:
• Economic Impact Analysis of groundwater cuts
• State Water Supply Plan

Sept 2025
Full reductions to meet targets
Recommended Actions

Authorize the HRPDC chairman to send a letter to David Paylor, Director of DEQ, asking him to:

1. Continue to coordinate closely with HRPDC and its member localities,
2. Allow HRPDC and its localities sufficient time to consider the impacts of DEQ’s proposed permit reductions on the regional water supply, and
3. Work with HRPDC and its member localities to gain regional support for a long-term solution.