Streamflow and Water Quality Data

Potomac River Basin
Early Warning Monitoring Workshop
August 25, 2004
The Potomac River Watershed has many subbasins.
In 2003, there were 99 active continuous USGS stream-gaging stations located throughout the watershed.
### USGS Stream-Gaging Stations Operated in 2003

<table>
<thead>
<tr>
<th>Basin (HUC)</th>
<th>Total stations</th>
<th>Main-stem stations</th>
<th>HCDN stations</th>
<th>Mean D.A. (mi²)</th>
<th>Mean years of record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Potomac</td>
<td>36</td>
<td>9</td>
<td>10</td>
<td>366*</td>
<td>47</td>
</tr>
<tr>
<td>Shenandoah</td>
<td>22</td>
<td>4</td>
<td>4</td>
<td>175*</td>
<td>47</td>
</tr>
<tr>
<td>Middle Potomac</td>
<td>20</td>
<td>3</td>
<td>7</td>
<td>82*</td>
<td>39</td>
</tr>
<tr>
<td>Lower Potomac</td>
<td>21</td>
<td>0</td>
<td>3</td>
<td>32</td>
<td>36</td>
</tr>
</tbody>
</table>

*Does not include nested main-stem stations.
Stream-Gaging Station Operations

- More than 35,000 data values per year are collected, processed, and verified for each regular stream-gaging station.
- Operating costs include:
  - Instrument rental and maintenance.
  - 6-8 routine site visits and measurements.
  - Troubleshooting site visits.
  - Flood measurements.
  - Satellite and/or phone fees.
  - Data processing.
  - Quality assurance.
  - Publication of data.
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Stilling-Well Station

Intakes

Outside reference
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Pressure Transducer Station

Orifice Line
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NAWQA

- Fixed stations
- Low intensity now
- Chain Bridge active
- Nutrients, pesticides, sediment, ecology
- 100+ synoptic sites also sampled

USGS
River Input Monitoring

- MDE and Va. DEQ
- 1985-Present
- Fall-line station at Chain Bridge
- Routine and storm samples
- Nutrients, pesticides, sediment
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South Br. Potomac
Shenandoah River, North & South Forks

- USEPA
- 1996-2002
- River Input add-on
- 2 stations
- Routine and storm samples
- Nutrients, sediment
Shenandoah River, North Fork

- Northern Shenandoah Valley Regional Commission
- 1995-Present
- Minimum in-stream flow
- Flow, biology
Monocacy River

- ICPRB, City of Frederick
- Recent emphasis on water availability
- New station just above water plant intake
Clarksburg SPA

- Montgomery County DEP, USEPA
- 5 stations
- Urbanization impacts
- Streamflow and ecology
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Anacostia River

- Prince Georges County, MDE
- 2 stations
- TMDL, restoration
- Nutrients, pesticides, sediment, ecology
- Real-time parameters
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Mattawoman Creek

- Charles County
- TMDL, restoration
- Nutrients, sediment
- Real-time parameters
- Real-time sediment
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Coastal Plain
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