

# **Potomac River Basin Ground Water Assessment Project**

**A joint project by the  
Interstate Commission on the Potomac River Basin  
and the  
U.S. Geological Survey**

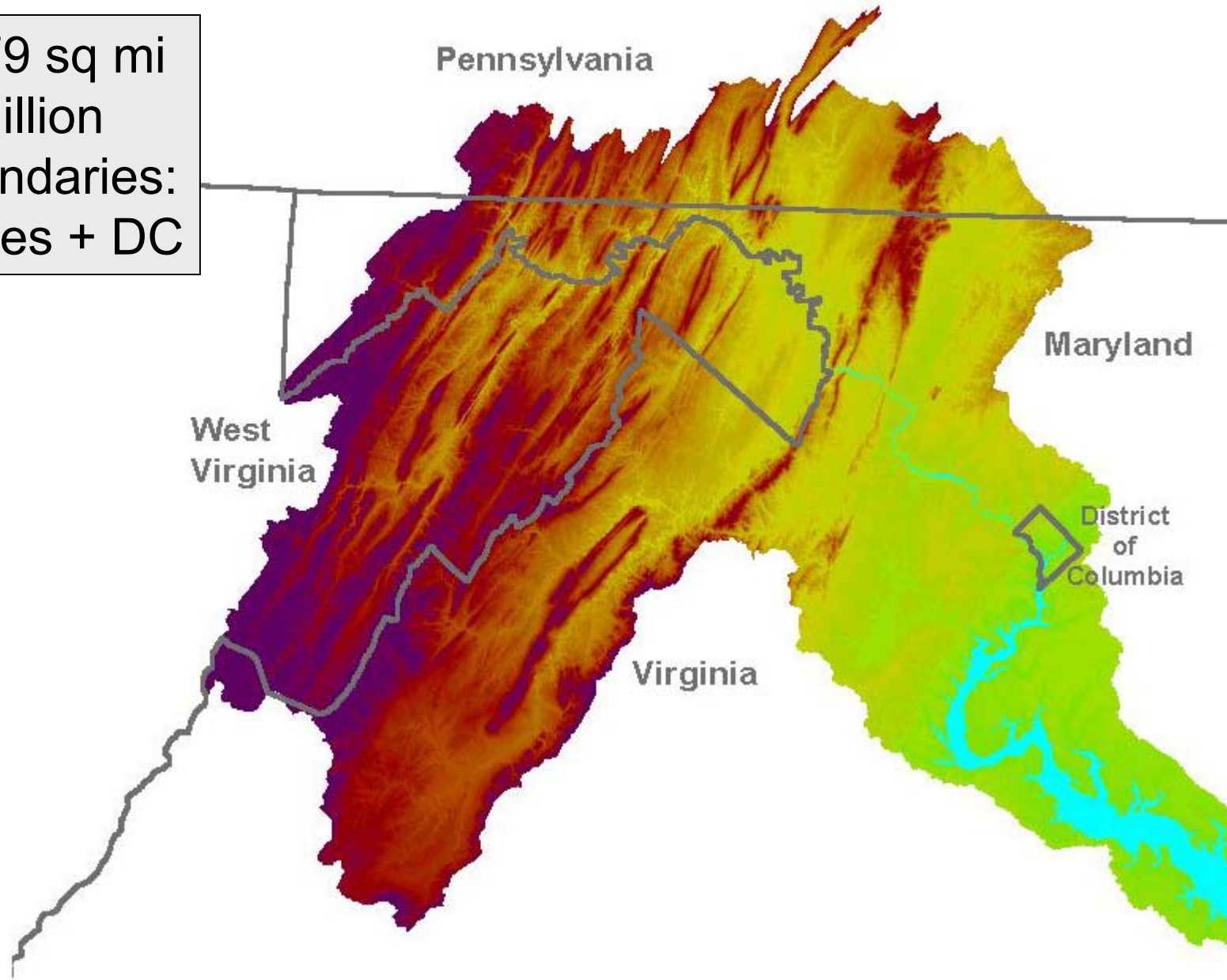
**May 5, 2004  
Cherie Schultz, ICPRB**

# Interstate Commission on the Potomac River Basin (ICPRB)

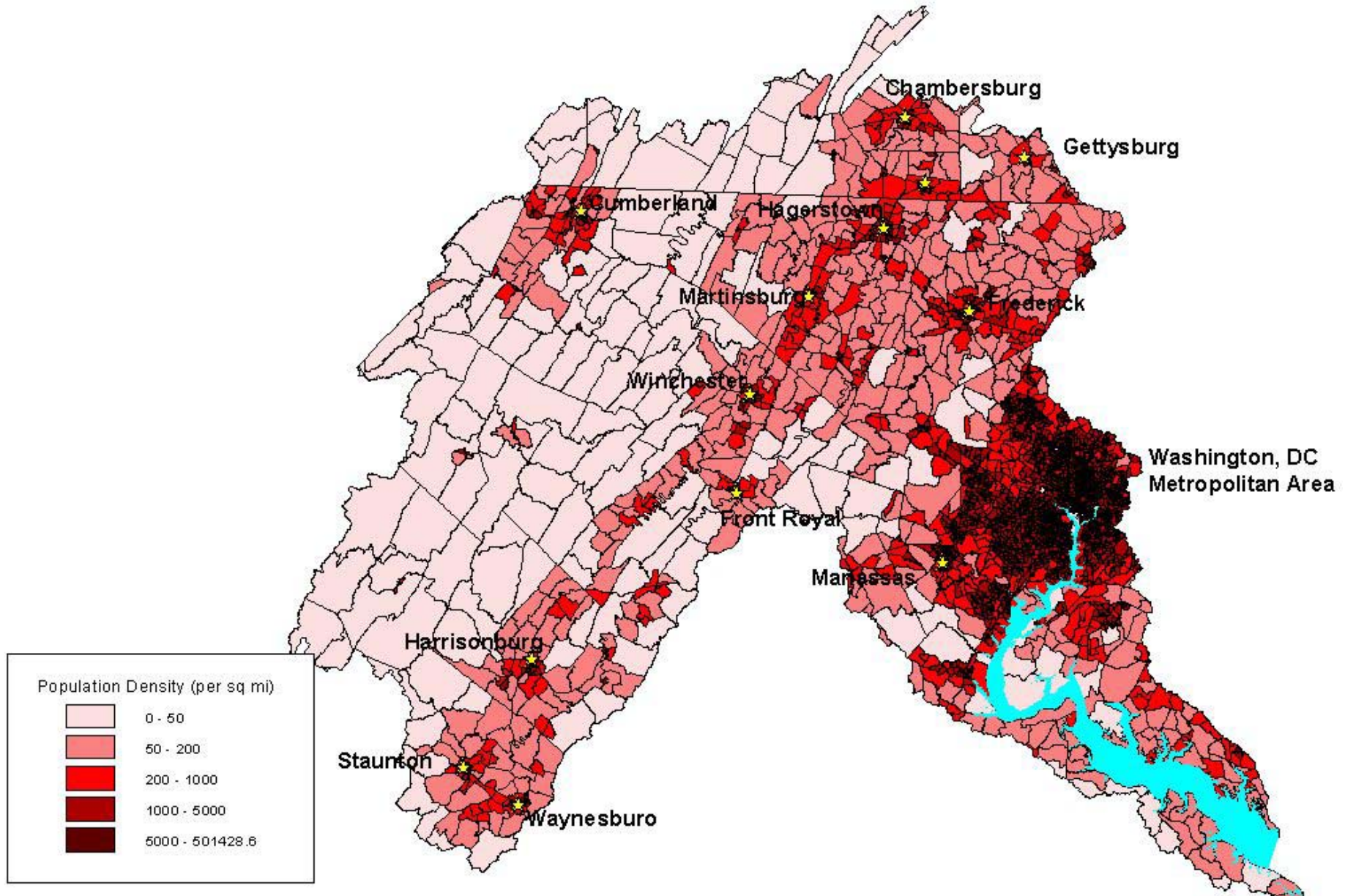
- An interstate compact commission created by an act of Congress in 1940
- Mission: *to enhance, protect, and conserve the water and associated land resources of the Potomac River basin and its tributaries through regional and interstate cooperation*

# Potomac River Basin

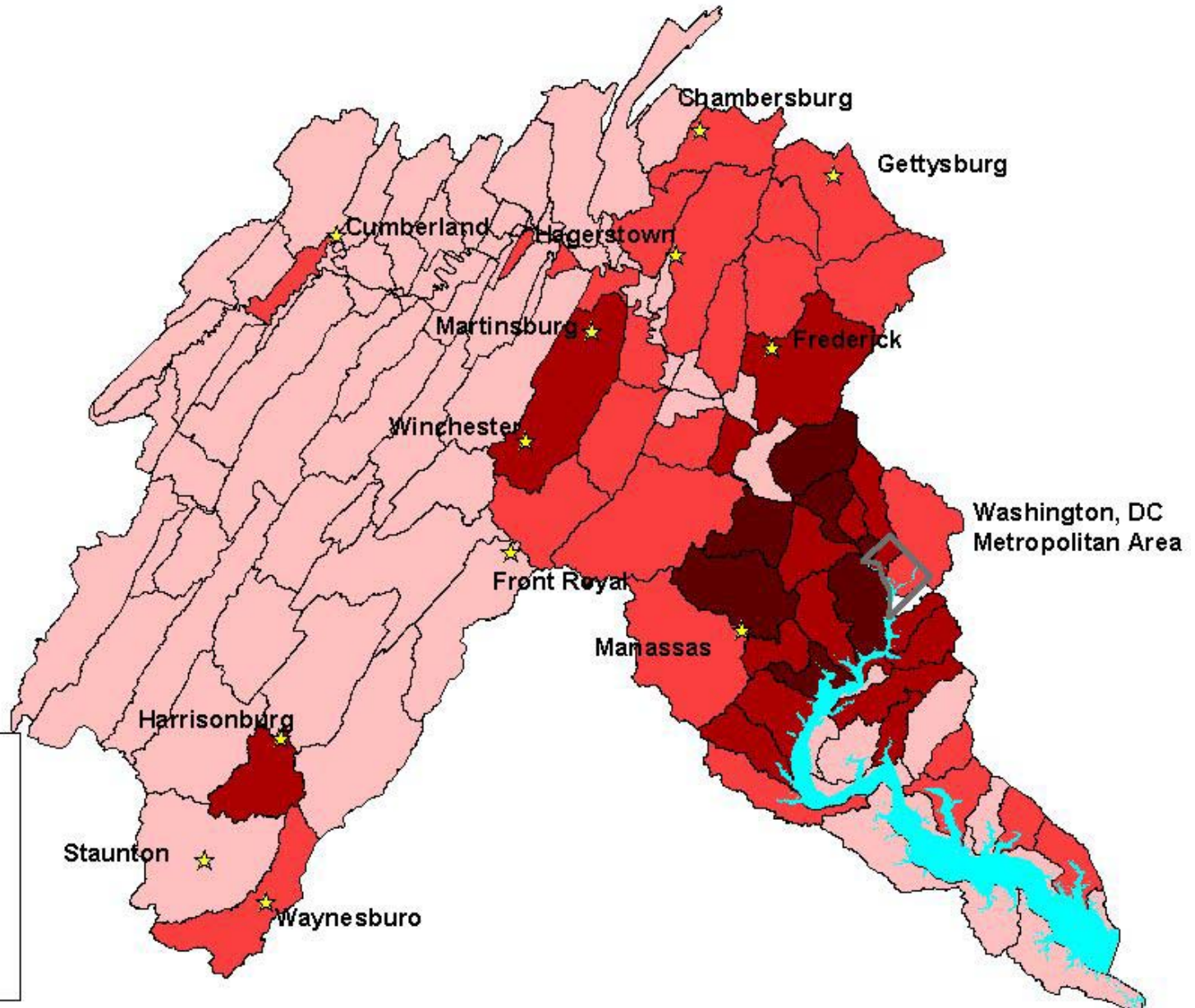
Area: 14,679 sq mi  
Pop: 5.3 million  
Political boundaries:  
4 states + DC



# Potomac Basin Population

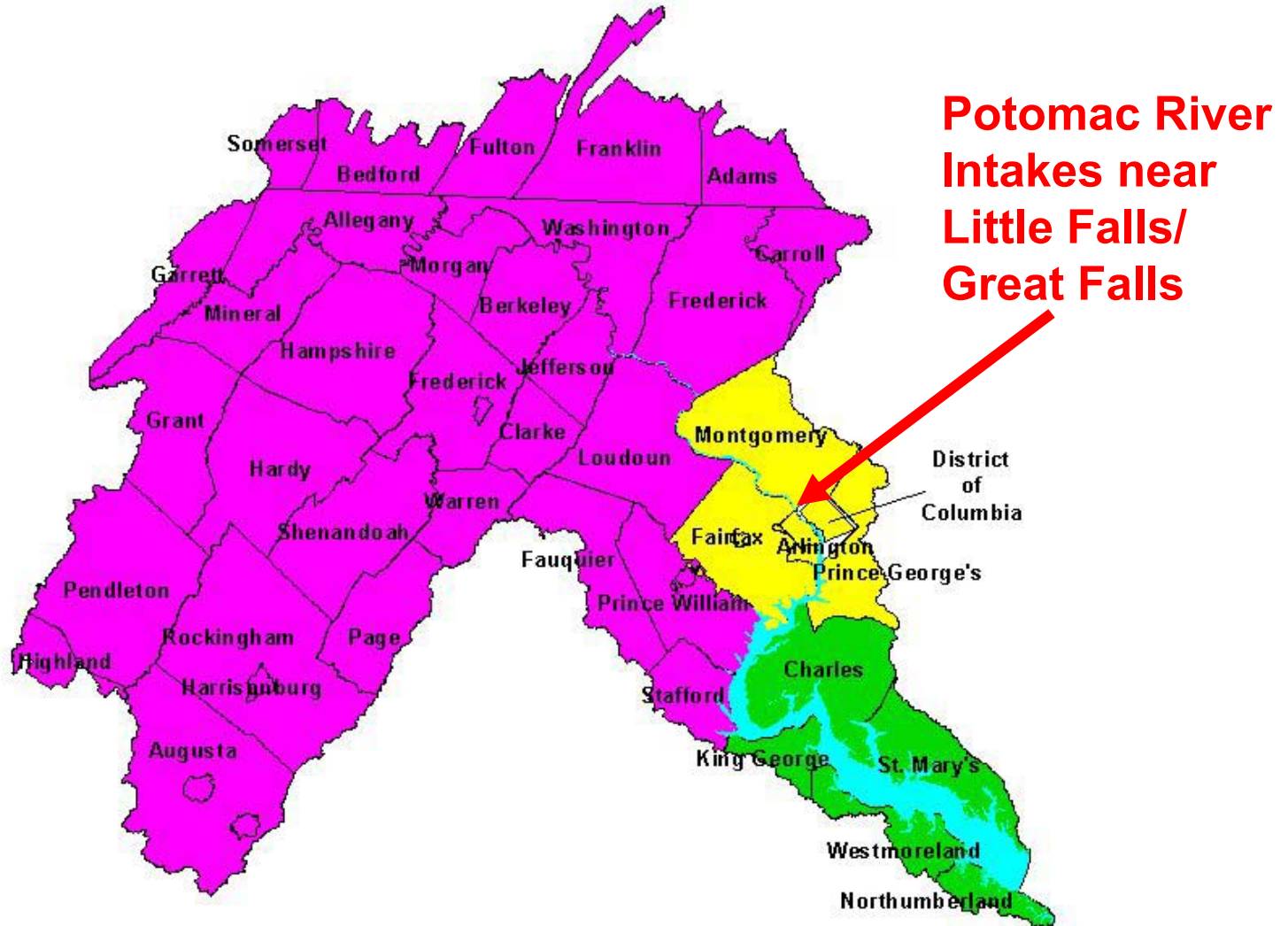


# Population Growth (by HUC11 watersheds)



# Potomac Basin Counties

## - Primary Sources of Water



# Potomac River Basin Ground Water Assessment Project

- **Objective:** *To provide information and tools to assist jurisdictions in management and planning involving ground water availability, with emphasis on developing an integrated understanding of ground water and surface water resources in the Potomac River Basin*
- **Approach:**
  - System of real-time monitoring wells
  - Screening level assessment of ground water availability for fractured bedrock aquifer of upper basin
  - Integrated water usage data base for entire basin
  - Support of detailed assessments for targeted sub-basins

# Screening Level Assessment

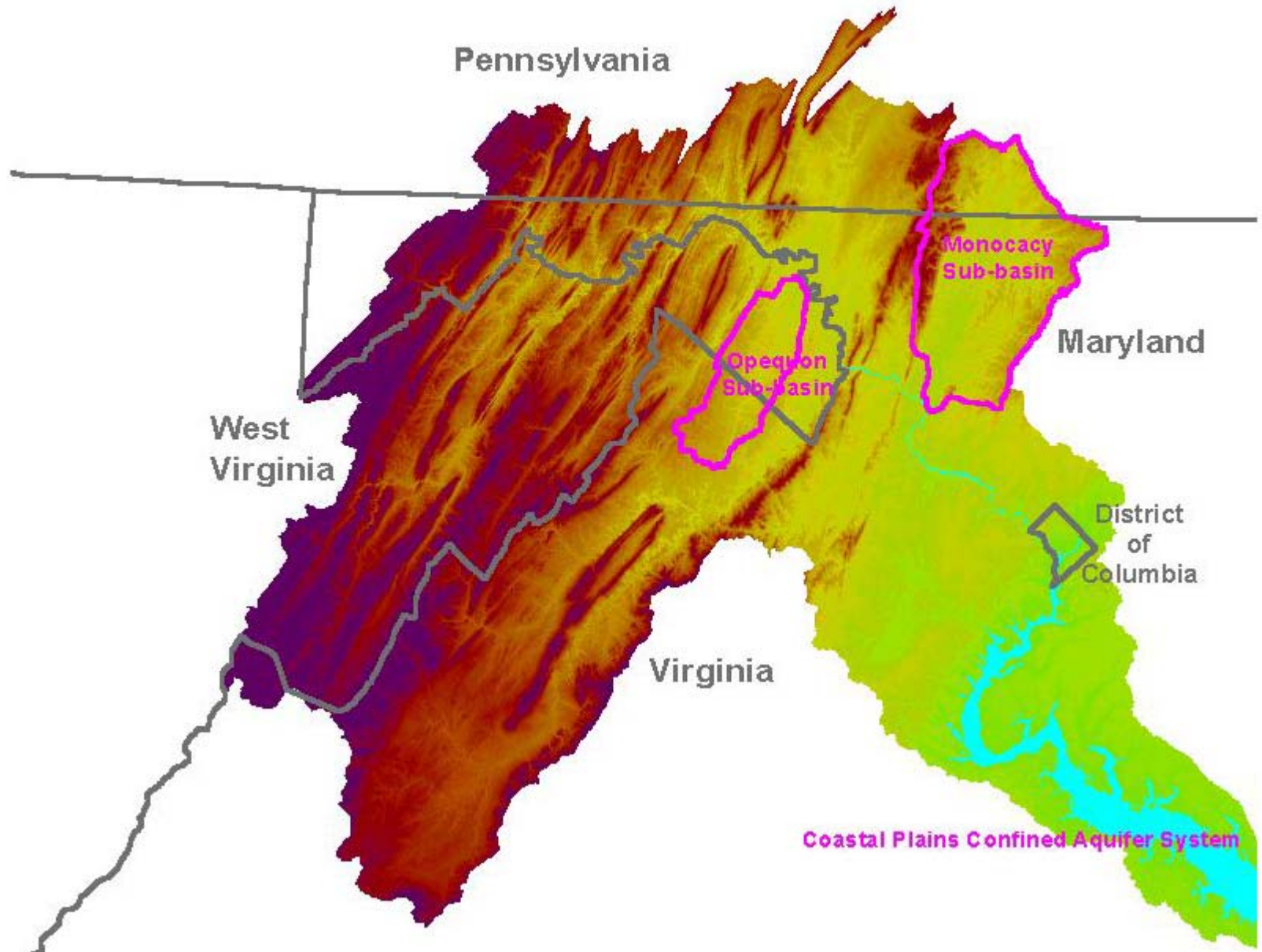
- Baseflow/low-flow statistics from stream gage data are used to estimate ground water recharge/water availability
  - When combined with water usage/demand estimates, allows “red flagging” of sub-basins at greatest risk
  - Allows water supply managers to develop estimates of sustainable withdrawals
- Advantages:
  - Few data requirements
  - Simple analyses
- Disadvantages:
  - Limited predictive capability
  - Limited spatial resolution



# Integrated Water Usage Data Base

- Will integrate water withdrawal data from 4 USGS State Water Usage Data Systems (SWUDS)
- Will include information on consumptive use collected by ICPRB from largest basin users, as well as USGS Aggregated Water Usage Data System (AWUDS) estimates
- Will link withdrawal information with water discharge locations

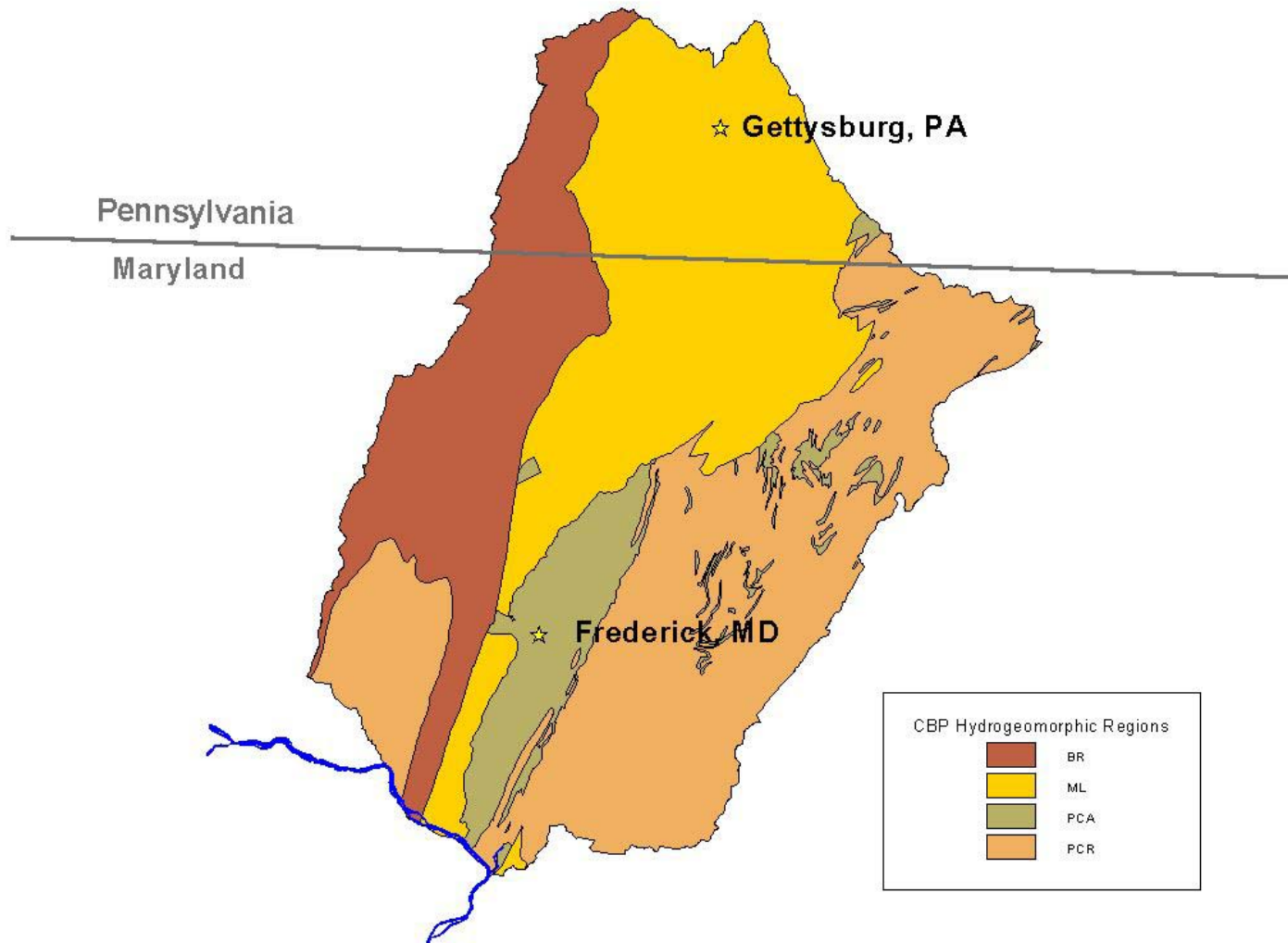
# Detailed Assessments in Targeted Areas



# Detailed Assessments in Targeted Areas

- Monocacy sub-basin:
  - Year 1: ICPRB pilot study
  - Year 2 -: ICPRB/USGS(MD) GW/SW flow model
- Opequon sub-basin:
  - Year 2 -: Support of USGS (WV & VA) GW/SW flow model
- Coastal Plain aquifer system:
  - Year 2: ICPRB-sponsored meeting of state agencies and stakeholders
  - Year 3 -: Support of assessment efforts

# Monocacy Pilot Study



# **Monocacy Pilot Study**

## **(Project Year 1: Sep 03 – Aug 04)**

- Application and evaluation of several screening level methodologies
- Investigation of seasonal water budget time series for 1985-2002, including usage and storage estimates
- Study of impact of drought of 1999-2002 on public water suppliers
- Construction of draft water usage data base