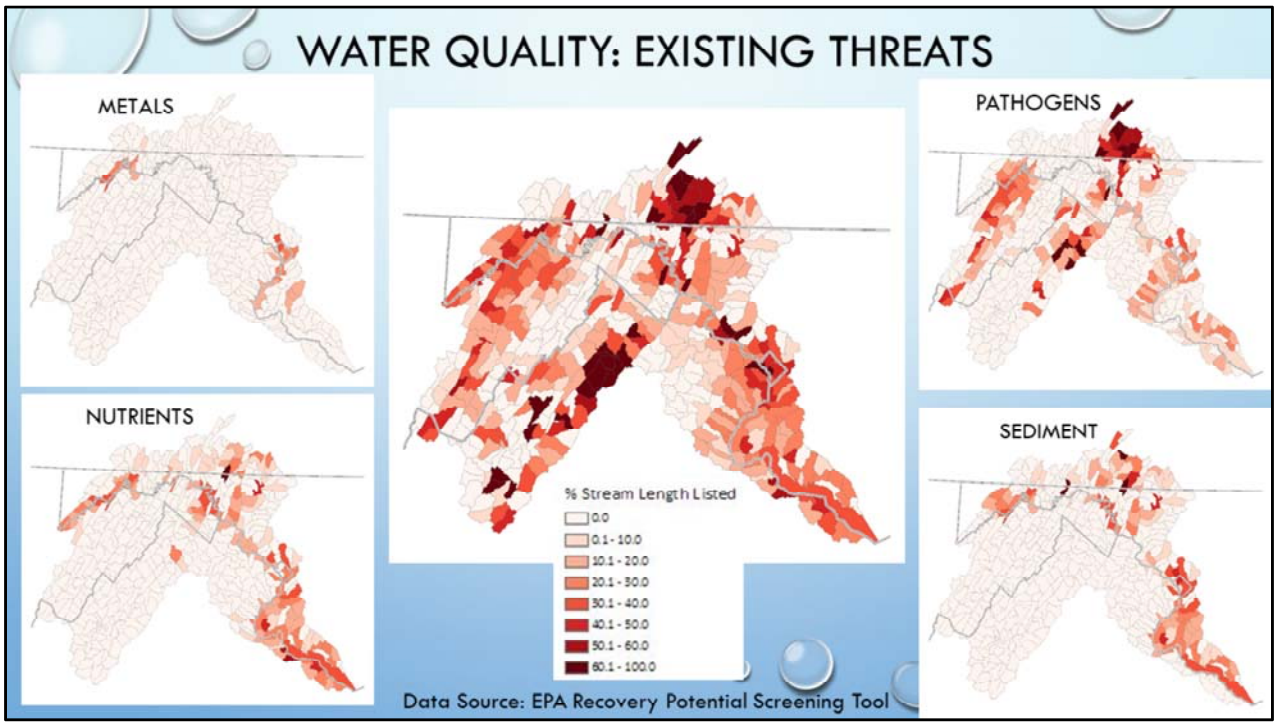
There's so much going on in the water quality realm across the basin. The purpose of this discussion is to provide a high level overview of what programs and information already exists and set the stage for a discussion about where the Comprehensive Plan should fit within this existing framework of water quality management efforts.

OUTLINE

- EXISTING THREATS
- NEW AND EMERGING THREATS
- REGULATORY FRAMEWORK
- EXAMPLE PROGRAMS & ACTIVITIES
- TOOLS
- ROLE OF PLAN

Acid mine drainage, McDonald Mine, 2012.
Photo by ICPRB.



US Clean Water Act (1972) establishes a regulatory framework for protecting and restoring the nation's waters.

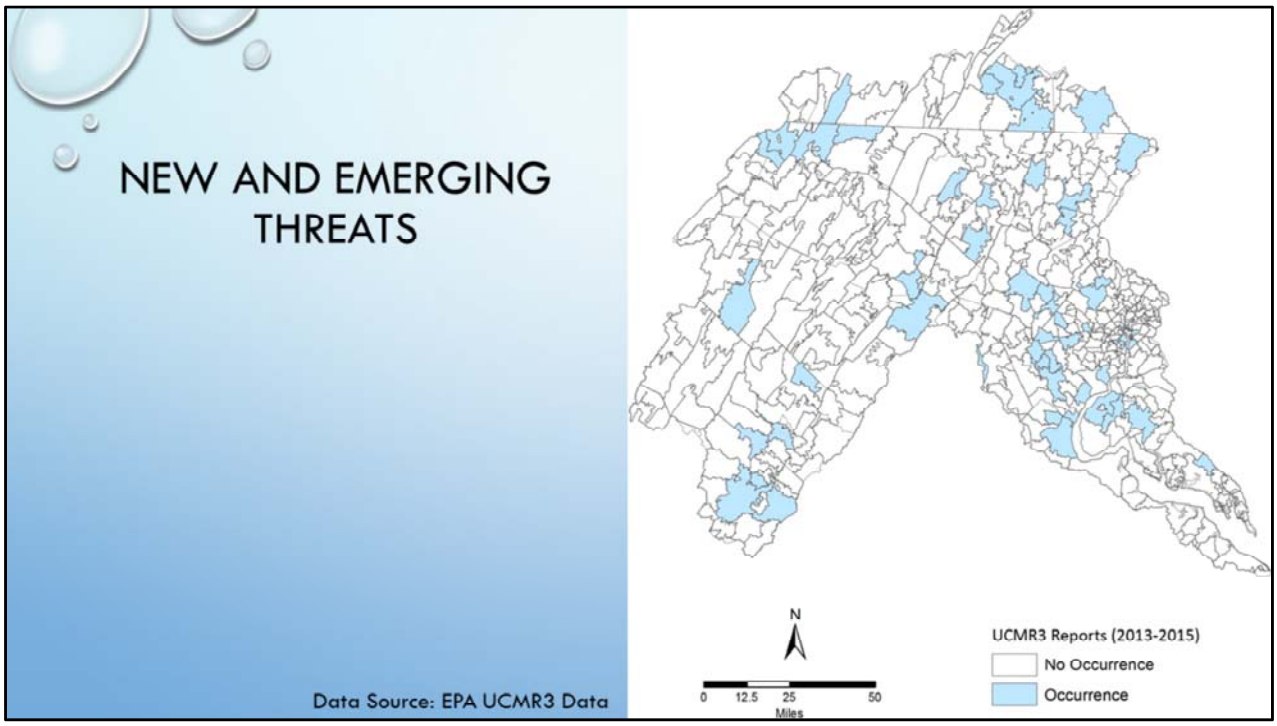
- All waters should be "fishable and swimmable"
- Most states, including all basin states, except DC, have delegated authority to implement CWA regulations
- States define water uses, water quality standards to protect those uses, issue permits, monitor & assess their waters, identify impaired waters, implement management actions to restore impaired waters.

Existing monitoring programs provide an understanding of the current conditions and existing issues.
The center map on this slide shows the % of stream lengths that are listed as impaired in the basin by HUC-12.
As seen in this map, impairments are found throughout the basin.
The four maps around the outsides of the slide show the impairments by major category – metals, nutrients, pathogens, and sediments – all using the same scale. The center map also accounts for Other types of impairments.

The states also have identified high quality waters in the basin (not shown on these maps)

The states have collected a great amount of data that allow us to create maps that show location and severity of problems
Must bear in mind that each state has its own definitions for uses and standards and assessment programs. These differences can sometimes be seen in maps of impairments and high quality waters.

We have, or can get, access to many data sets and can produce maps like these. How else should the Comprehensive Plan use these state and Federal data?

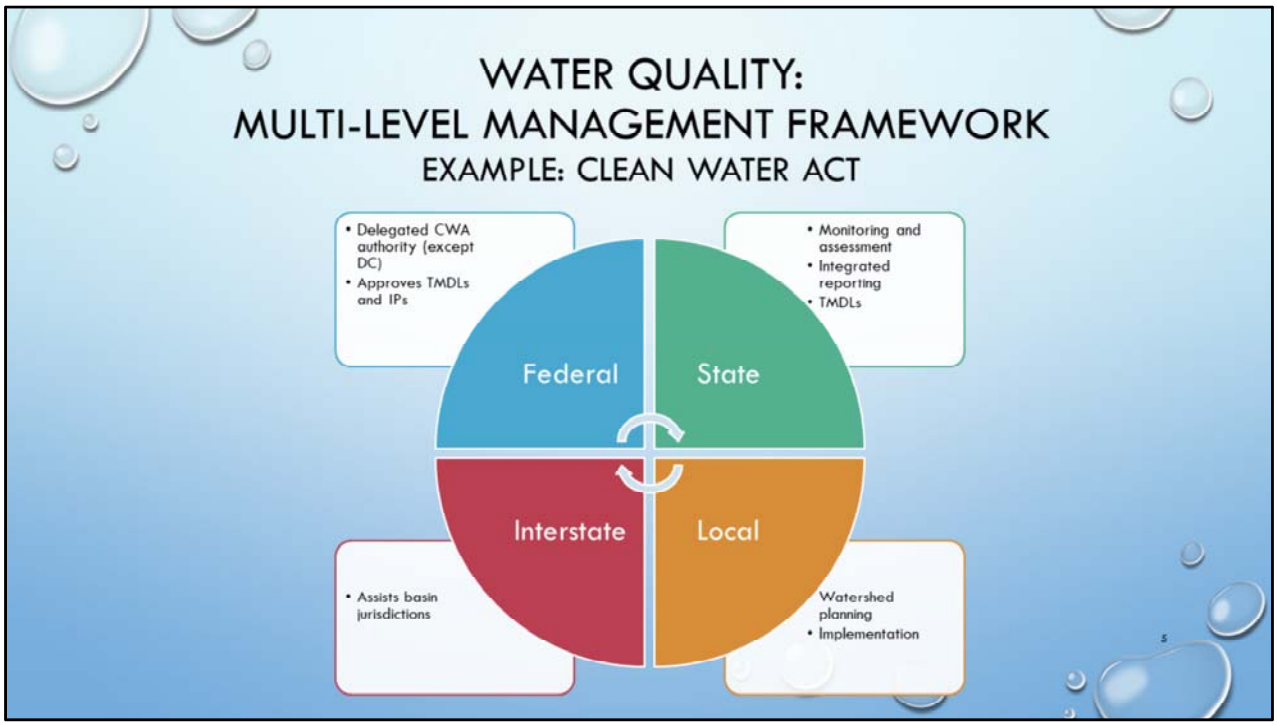


There are many potential new threats including pharmaceuticals, endocrine disruptors, and others that are not currently regulated.
The health effects and environmental impacts of these compounds are not fully understood and water quality standards have not been developed.

Data are being collected on these new and emerging threats through special studies (e.g. USGS), and through the EPA Unregulated Contaminant Monitoring Rule (UCMR).

The map on this slide shows the results of the UCMR3 data for the Potomac basin for the 2013-2015 time period– showing zip codes where UCMR contaminants are found (occurrence v no occurrence).

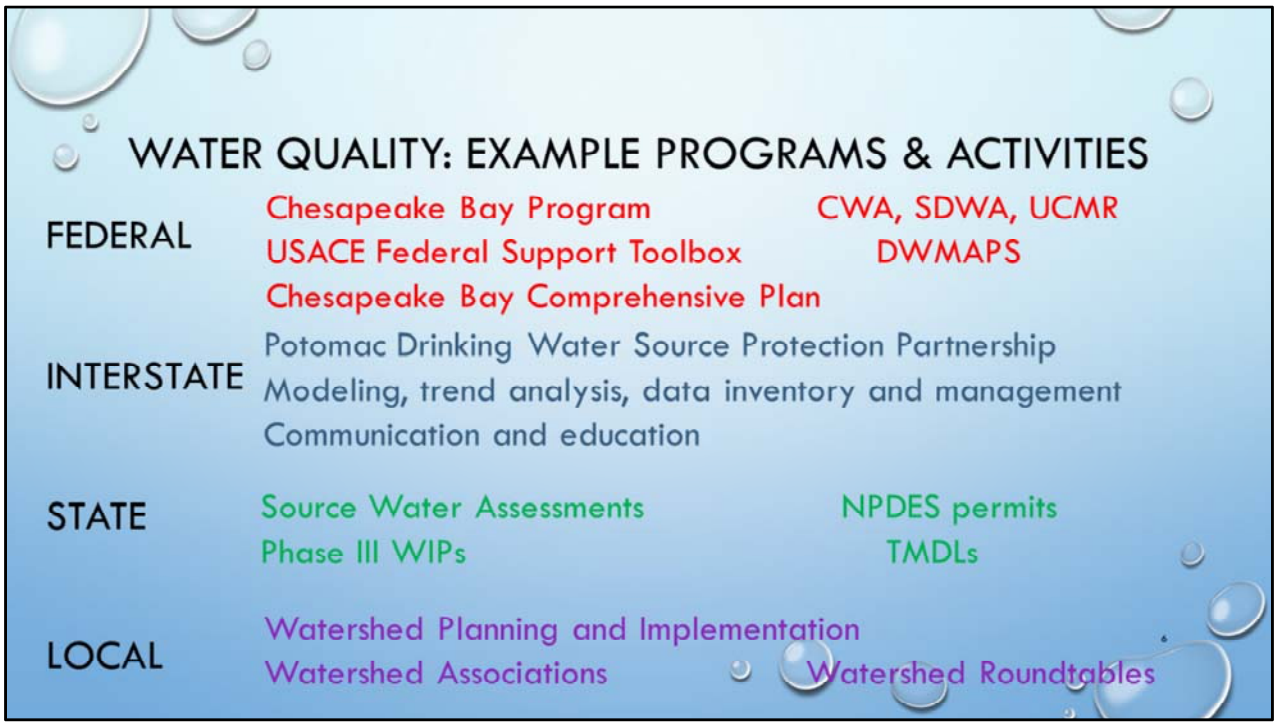
In addition to maps and data bases, how else should the Comprehensive Plan address potential new threats to water quality?



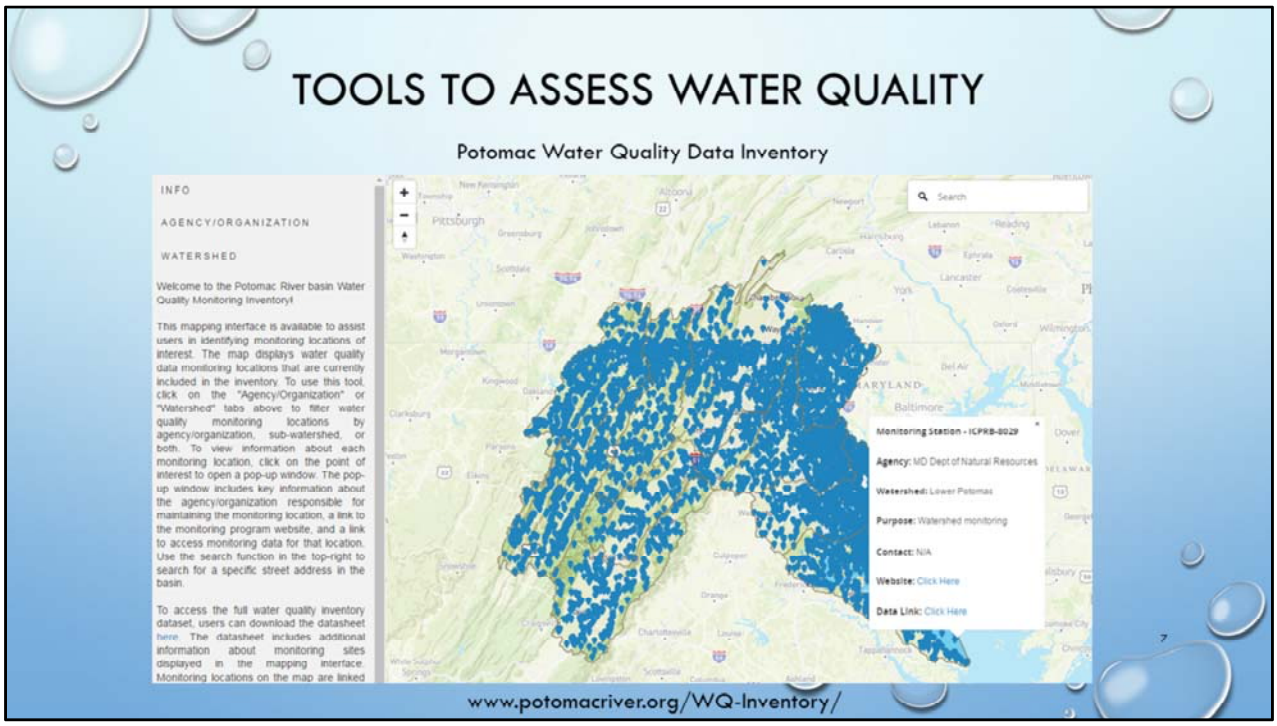
Water quality management is interrelated at multiple levels.
Take the CWA for example.

- The CWA is a federal law under which authority is delegated to the states (except in the instance of the District of Columbia).
- The states are authorized to establish designated uses and water quality standards, evaluate attainment, and submit Integrated Reports every 2 years.
- For impaired waters, the states are responsible for developing TMDLs.
- Once TMDLs are developed, watershed planning to implement the TMDLs involves local stakeholders and implementation occurs at the local level.
- While delegated to the states, approval of the TMDLs and IPs is given by the EPA and the EPA provides substantial funding to the states for their clean water programs and to state and local agencies in support of implementation activities.

The ICPRB, a non regulatory agency with basinwide scope, supports those agencies that have regulatory authority through technical studies and information sharing.



This is just to give a flavor, or random sampling, of some of the water quality programs and activities in the basin.



As an outcome of all of the ongoing activities (including significant data collection) in the basin, a number of tools have been developed to evaluate/understand water quality in the basin.

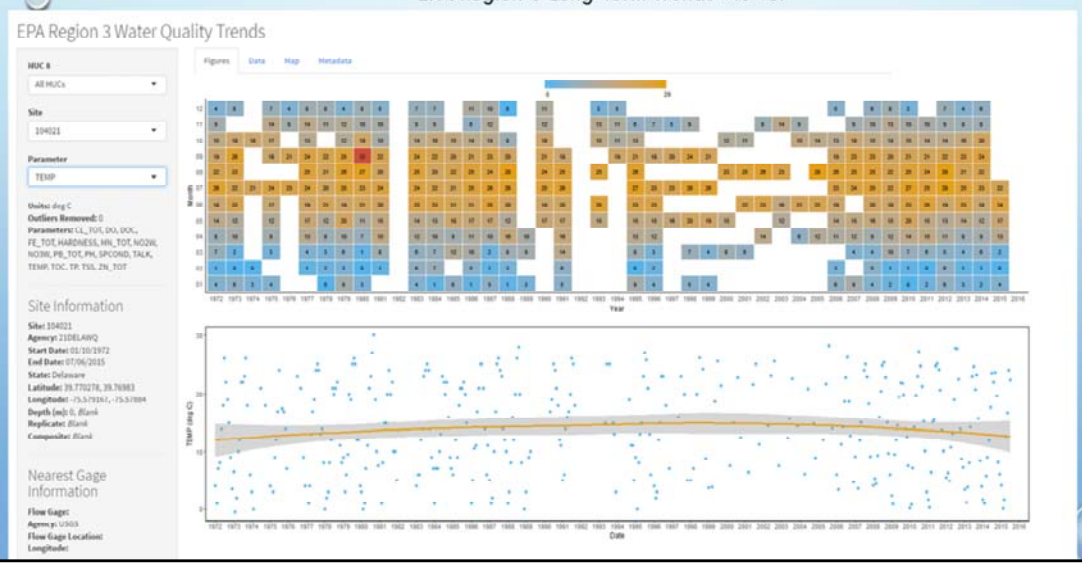
The EPA has tools as do the states and ICPRB has developed some as well.

I'm going to mention two here and then we'll provide a demo of these two at lunchtime. But there are a number of other tools – both user friendly and expert tools (like the Bay Program's models, USGS SPARROW, etc.)

This is the Potomac basin water quality data inventory, developed by ICPRB.

TOOLS TO ASSESS WATER QUALITY

EPA Region 3 Long-Term Trends Viewer



ROLE OF PLAN IN ADDRESSING WATER QUALITY CONCERNS

- WQ GOALS:
  - THE WATERS OF THE BASIN ACHIEVE OR EXCEED WATER QUALITY STANDARDS ESTABLISHED UNDER THE CLEAN WATER ACT.
  - NEW AND EMERGING THREATS ARE PROACTIVELY ADDRESSED.
- WQ CHALLENGES:
  - MANAGING EXISTING THREATS
  - ADDRESSING NEW AND POTENTIAL THREATS
  - IMPROVING POLLUTION CONTROL
- ROLE OF THE PLAN:
  - WITHIN EXISTING FRAMEWORK AND RESPONSIBILITIES
  - INFORMATION EXCHANGE, EDUCATION, AND COLLABORATION

EXAMPLE RECOMMENDATIONS

- SOURCE: ADVISORY COMMITTEE MEMBER INTERVIEWS:
  - ASSESS IMPACTS OF EXISTING PROGRAMS AND IDENTIFY GAPS AND DETERMINE WHETHER THERE ARE BETTER WAYS TO ATTAIN WATER QUALITY GOALS
  - IMPROVED INFORMATION SHARING
  - IDENTIFY PRIORITIES FOR WATER QUALITY INVESTMENTS IN THE BASIN
  - ENHANCE COORDINATION ACROSS STATE LINES ON WATER QUALITY PLANNING, PRIORITIZATION, AND IMPLEMENTATION
- SOURCE: GMU STUDENTS:
  - ENHANCE JURISDICTIONAL SHARING OF BMP INFORMATION: WHERE AND HOW ARE THEY WORKING AND WHY OR WHY NOT?
  - IMPROVE ABILITY TO PRESENT DATA ACROSS STATE LINES.