A photograph showing a fish, likely a trout or salmon, lying in a wooden box. A ruler is placed behind the fish to measure its length. The fish is dark with lighter spots. The background is a green, textured surface, possibly a tarp or plastic. The text is overlaid on the image in yellow and black.

**Baltimore County Department of Environmental
Protection and Sustainability**

2016 Sampling Stations

Mike Fedner

MWMC Stream Monitoring Roundtable

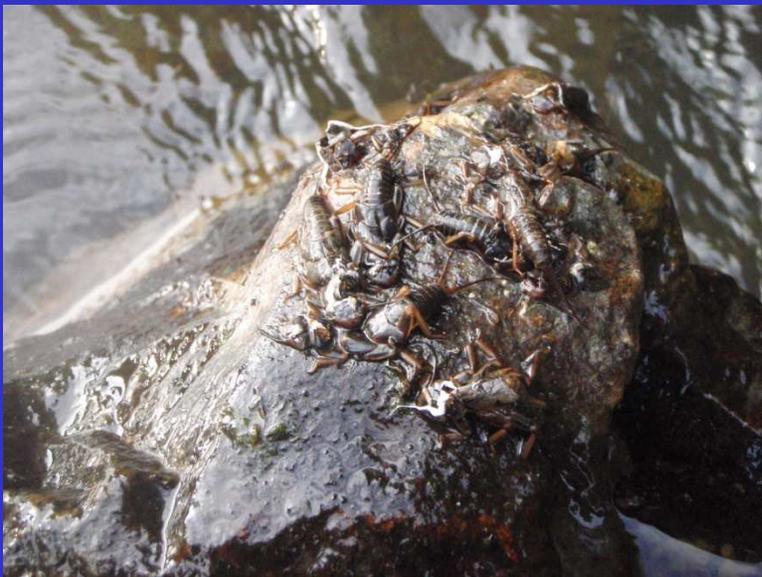
EPS Sampling Programs

- Biology (86)
- Water Chemistry Trend (41)
- Bacteria (40)
- Trash (30)

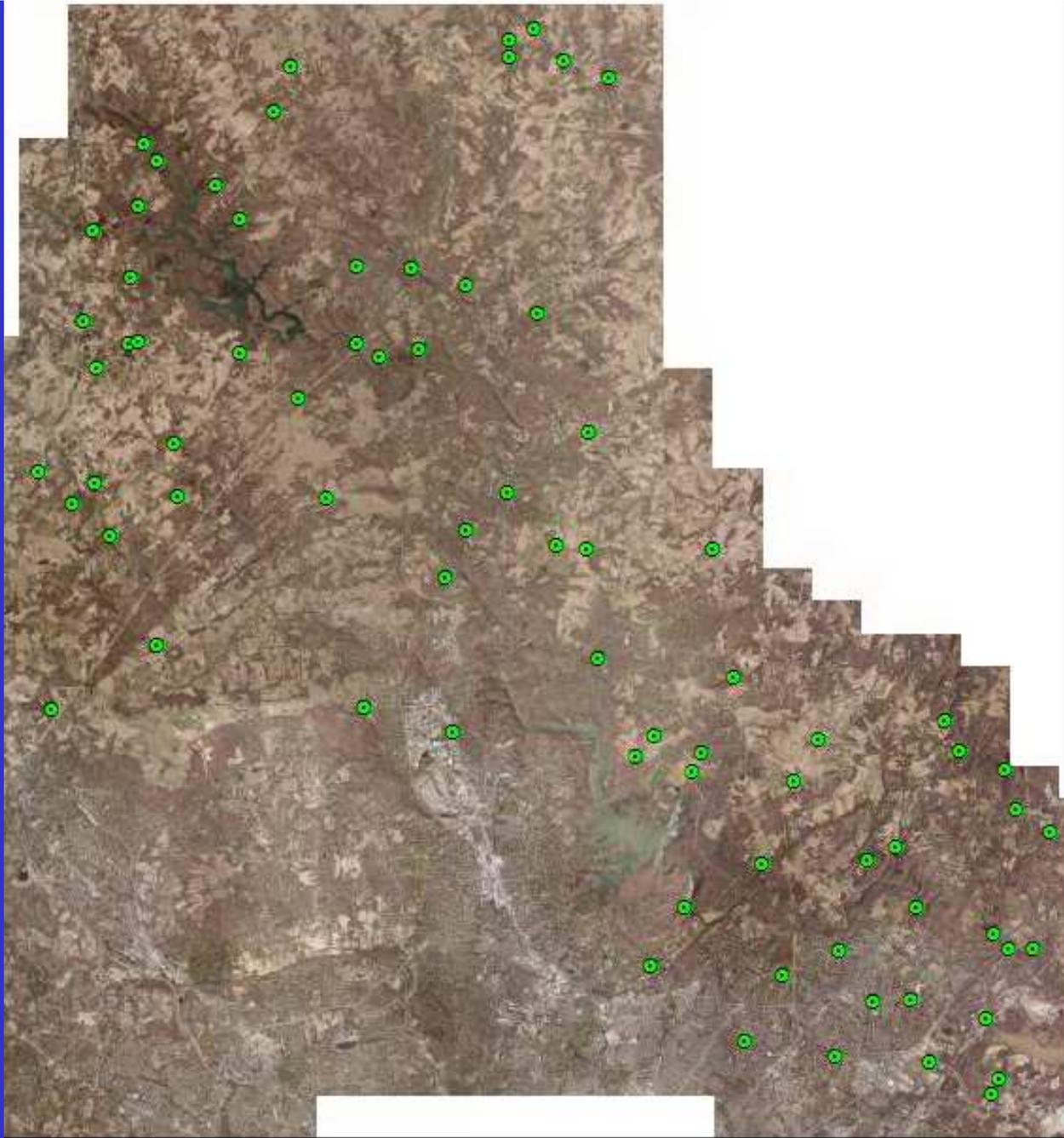


Random Point Sampling

- 50 randomized stream stations
- 25 randomized tidal stations



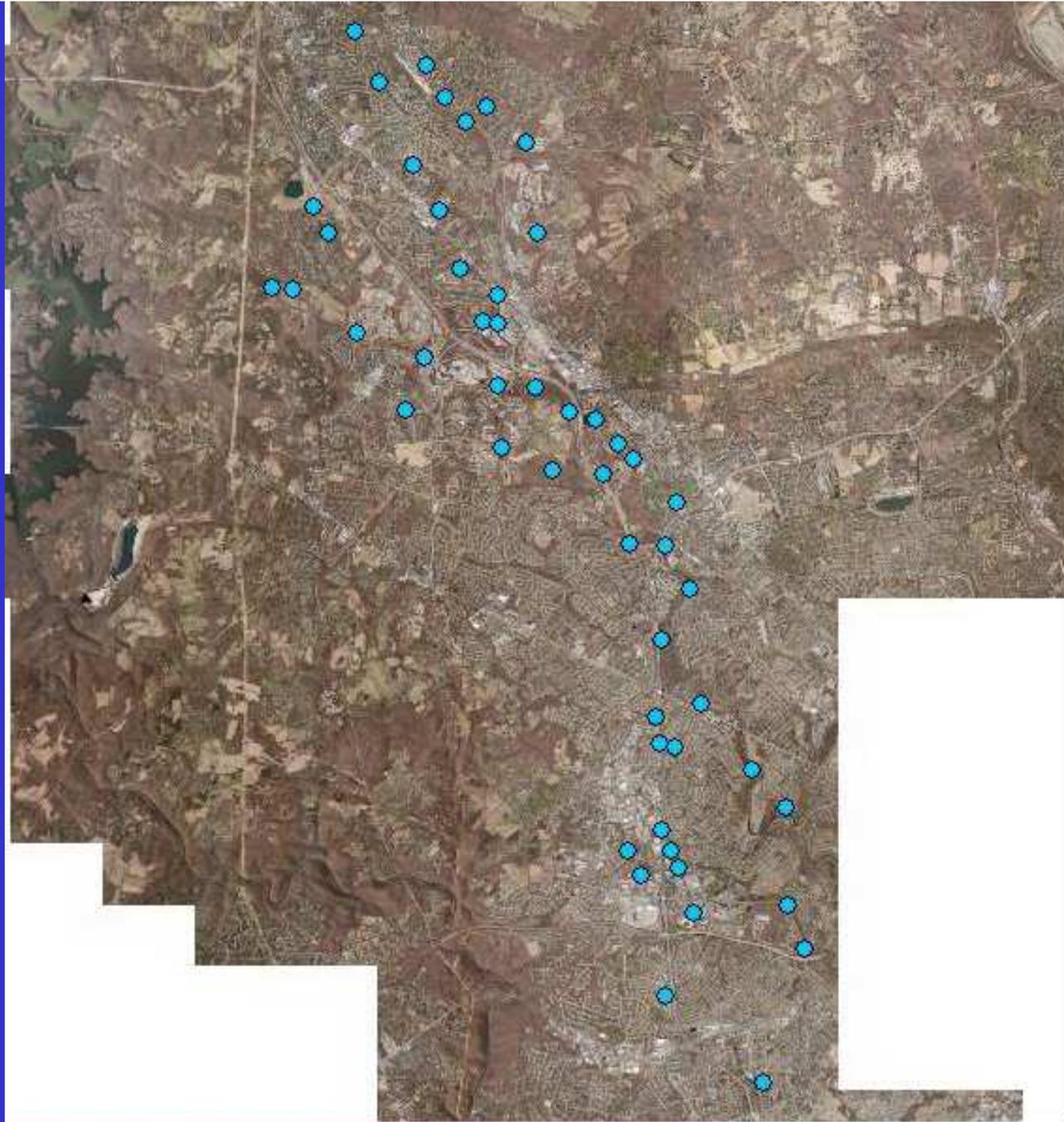
- Gunpowder Basin (Loch Raven, Prettyboy, Deer Creek)– even years
Patapsco/Back – odd years
- Streams sampled per MBSS methods, tidal rivers sampled per Bay long-term methods.



Random Point Assessment Map

Additional Monitoring for Stream Sediment TMDLs

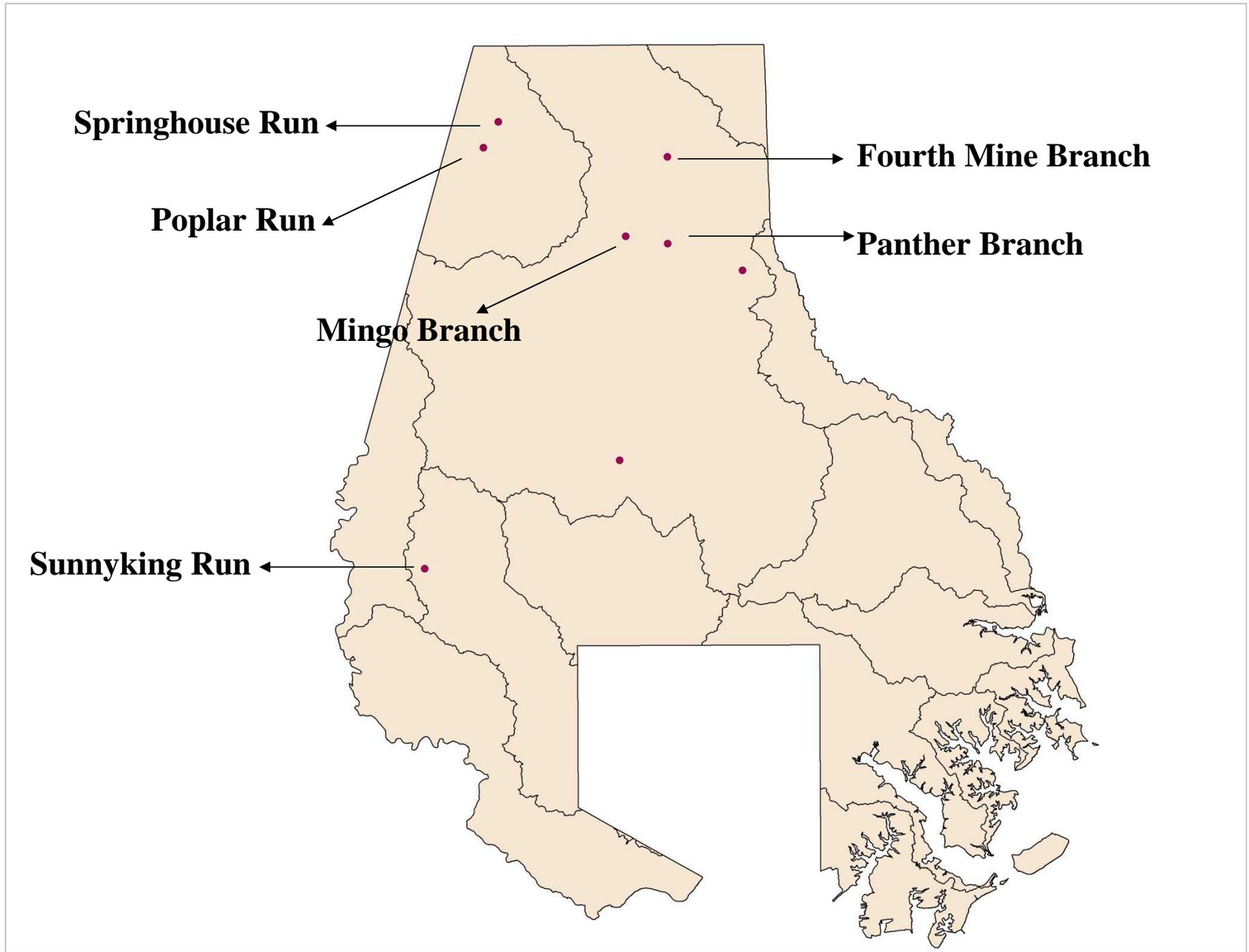
- Targeted monitoring program to determine if IBIs are being met on a subwatershed basis
- Patapsco (Sampled 2015) - 53
- Gwynns Falls (To be sampled 2016) - 48
- Jones Falls (2017) - 28



Gwynns Falls Sediment Random Points

Reference Stations (6)

- Monitored annually for benthos
- Monitored for fish approximately every 3 years
- Represent the best of Baltimore County streams
- Used to detect stream response to natural influence

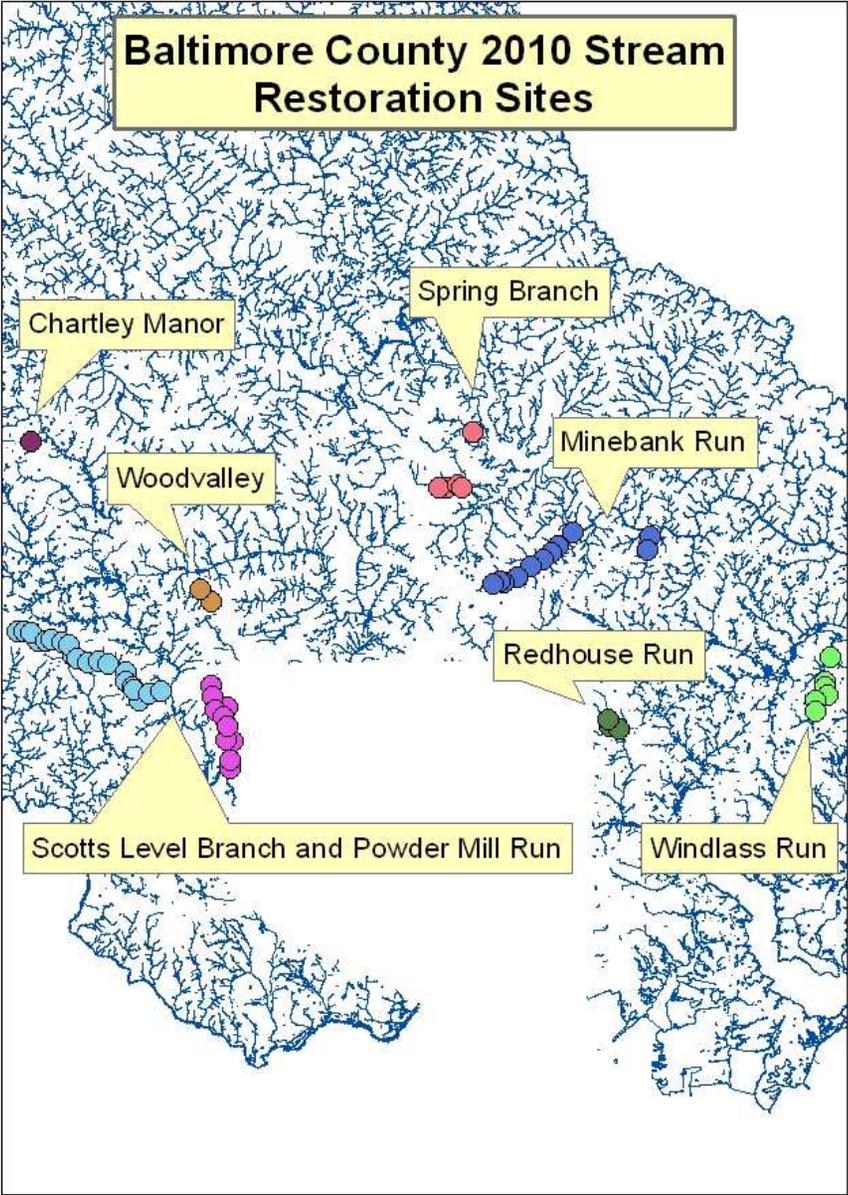


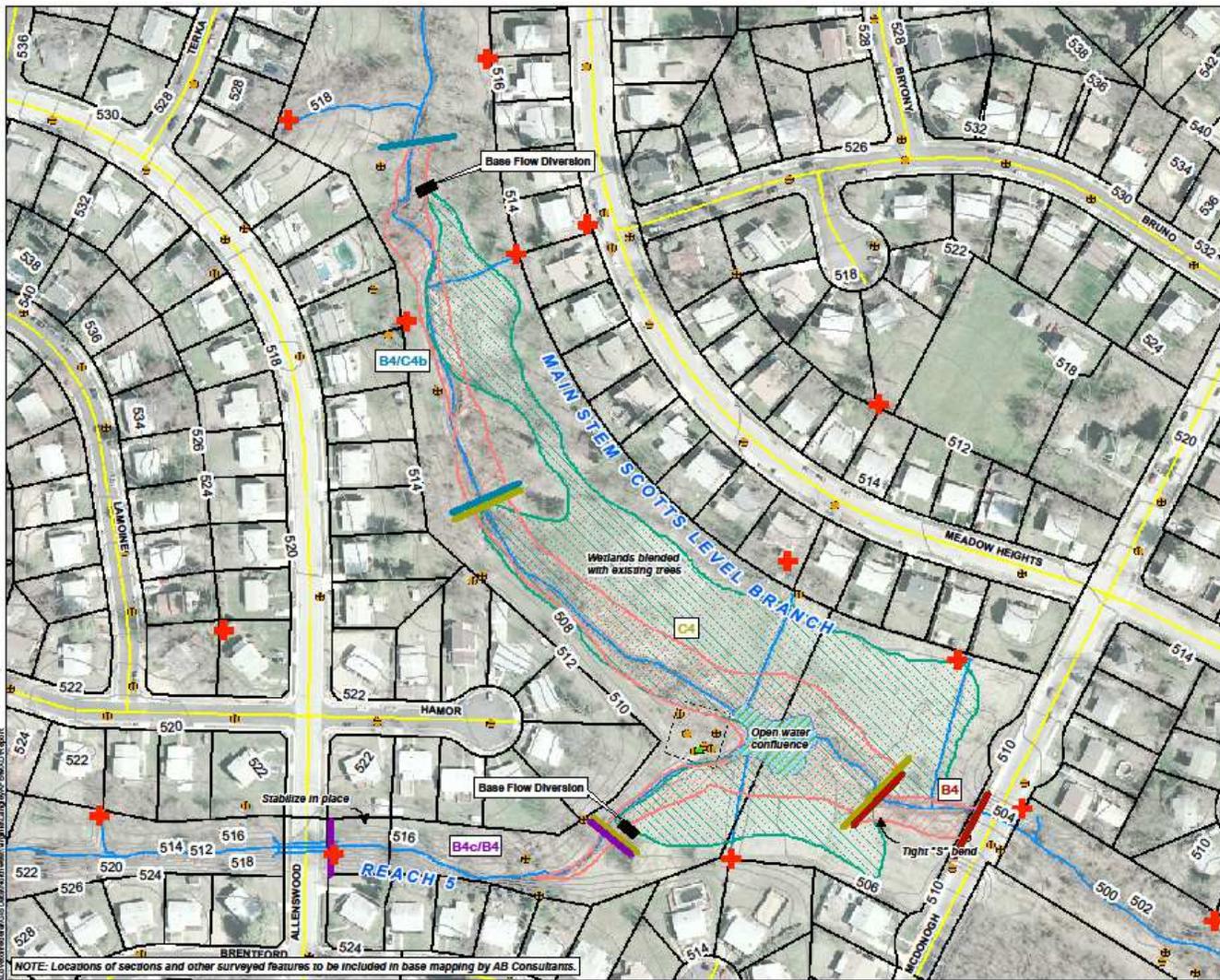


Stream Restoration Monitoring

- Monitored annually for benthos, fish, and geomorphic condition*
- Characterize biological communities and function of degraded streams
- Monitor stream response to un-natural influence
- Evaluate performance of stream restoration

Baltimore County 2010 Stream Restoration Sites





LEGEND

- | Area Floodplain and Wetland | Section Break Lines |
|------------------------------|---------------------|
| Wetland Creation/Enhancement | Diversion |
| Proposed Stream Belt Width | B4/C4c |
| Pond | C4 |
| Hydrology | B4 |
| Contours (2' intervals) | B4/C4b |
| Road Centerlines | Manhole |
| Minor Outfalls | System Valve |
| Parcels | |

Data Sources: ArcGIS Mapping Service 2010
Map Date: April 2011

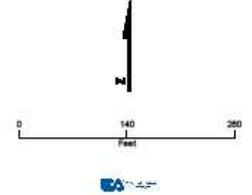
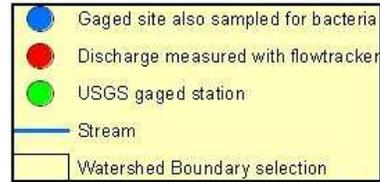


FIGURE 1
PRELIMINARY DESIGN CONCEPT
Scotts Level at McDonough Road
Water Quality Retrofit Project

Trend Monitoring

- Ambient Water Quality and Trends over time, used to assess progress in meeting phosphorus and sediment TMDLs
 - Fixed Site, Fixed Interval sampling plan – 41 sites county wide
- Constituents analyzed:
 - Field – discharge, temperature, DO, pH, turbidity
 - Lab - TS, TSS, TKN, Nitrate/Nitrite, Total Phosphorus, Sodium, Chloride, Metals, BOD, COD, hardness, sulfate, TPH
- Relates water chemistry to stream discharge at stations around Baltimore County
- Sampling occurs regardless of precipitation
- At stations with no USGS gage, stream discharge is field-measured
- Build rating curves

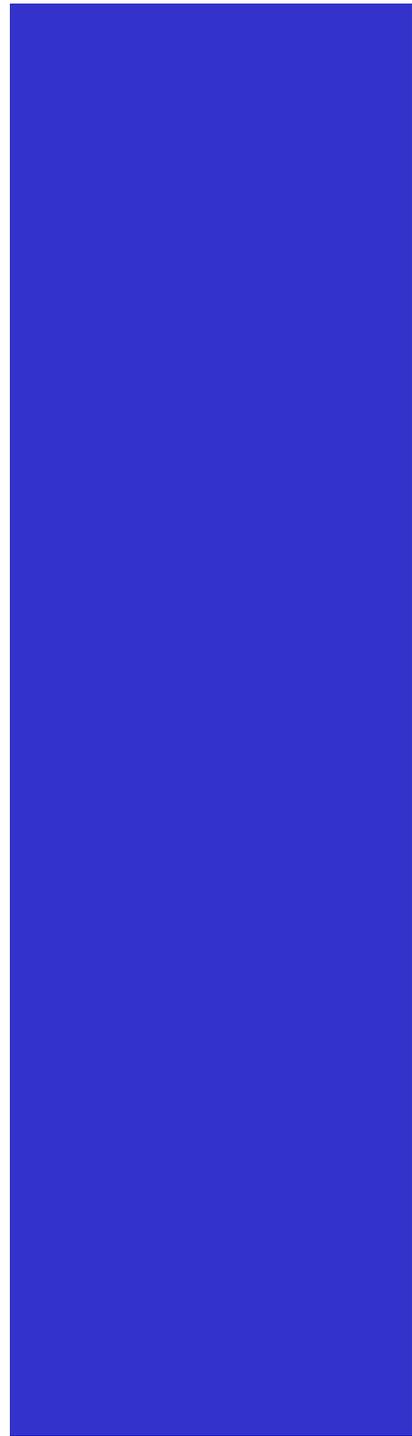
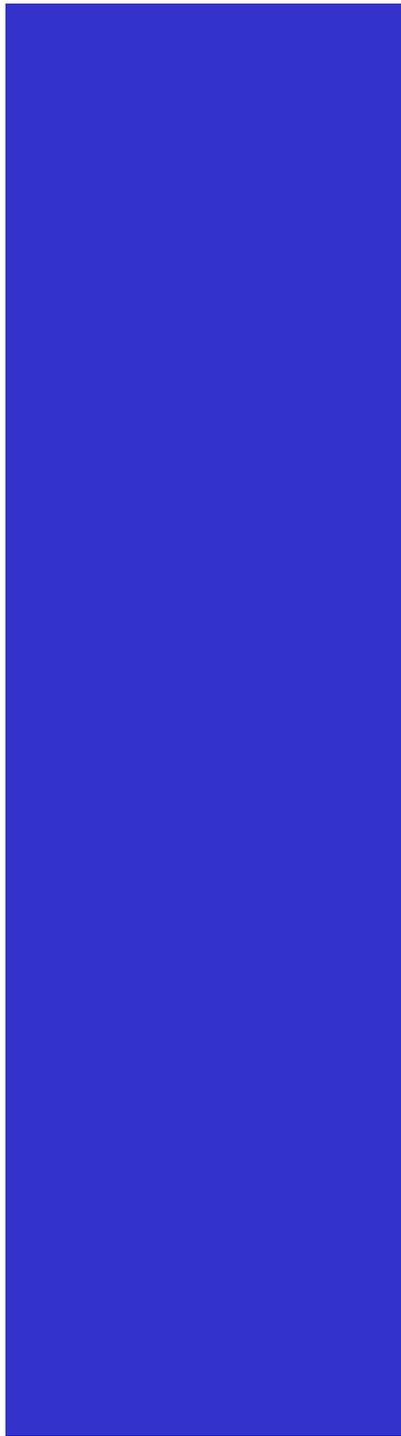
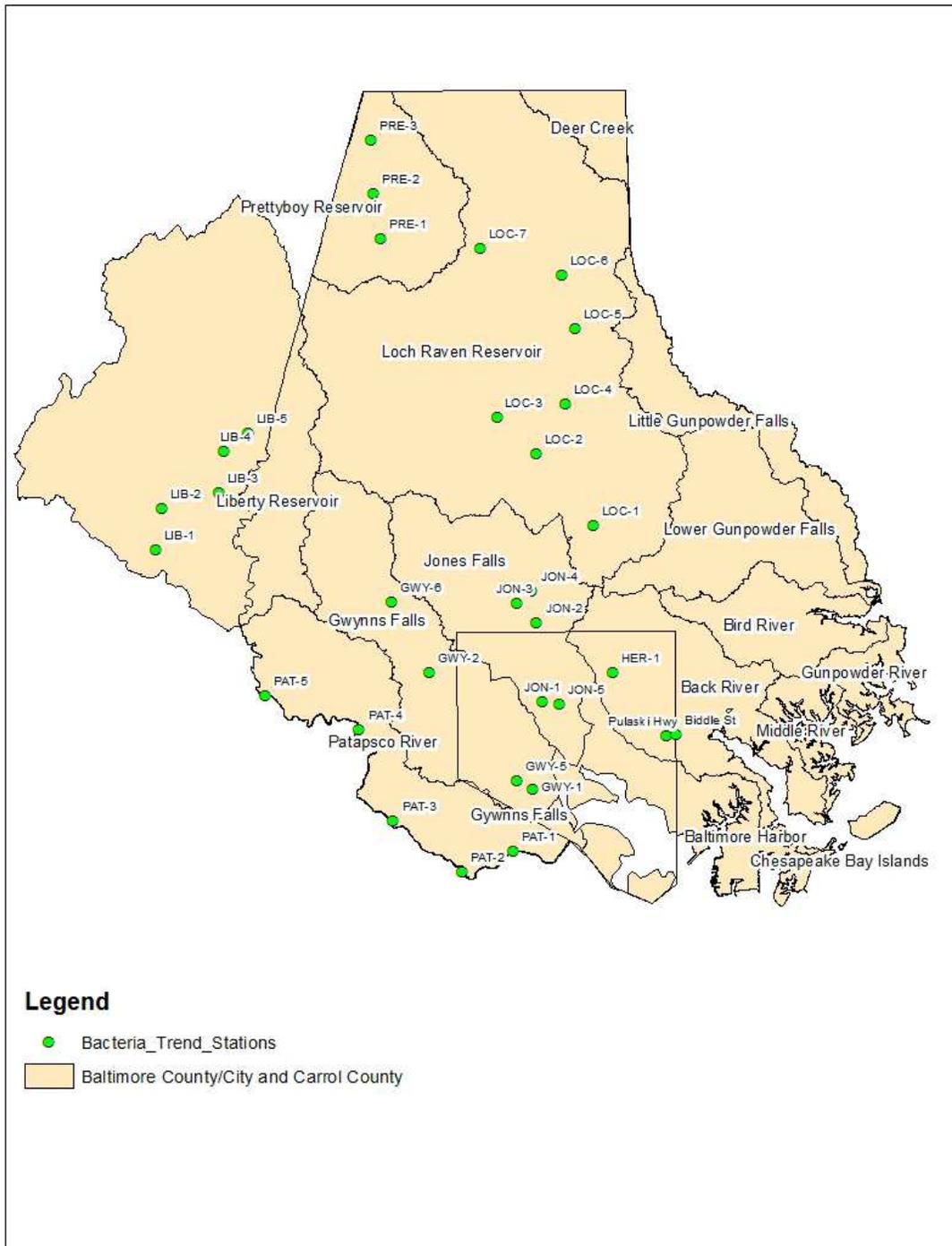
Trend Monitoring Sites Baltimore County, MD



Bacteria Sampling (40)



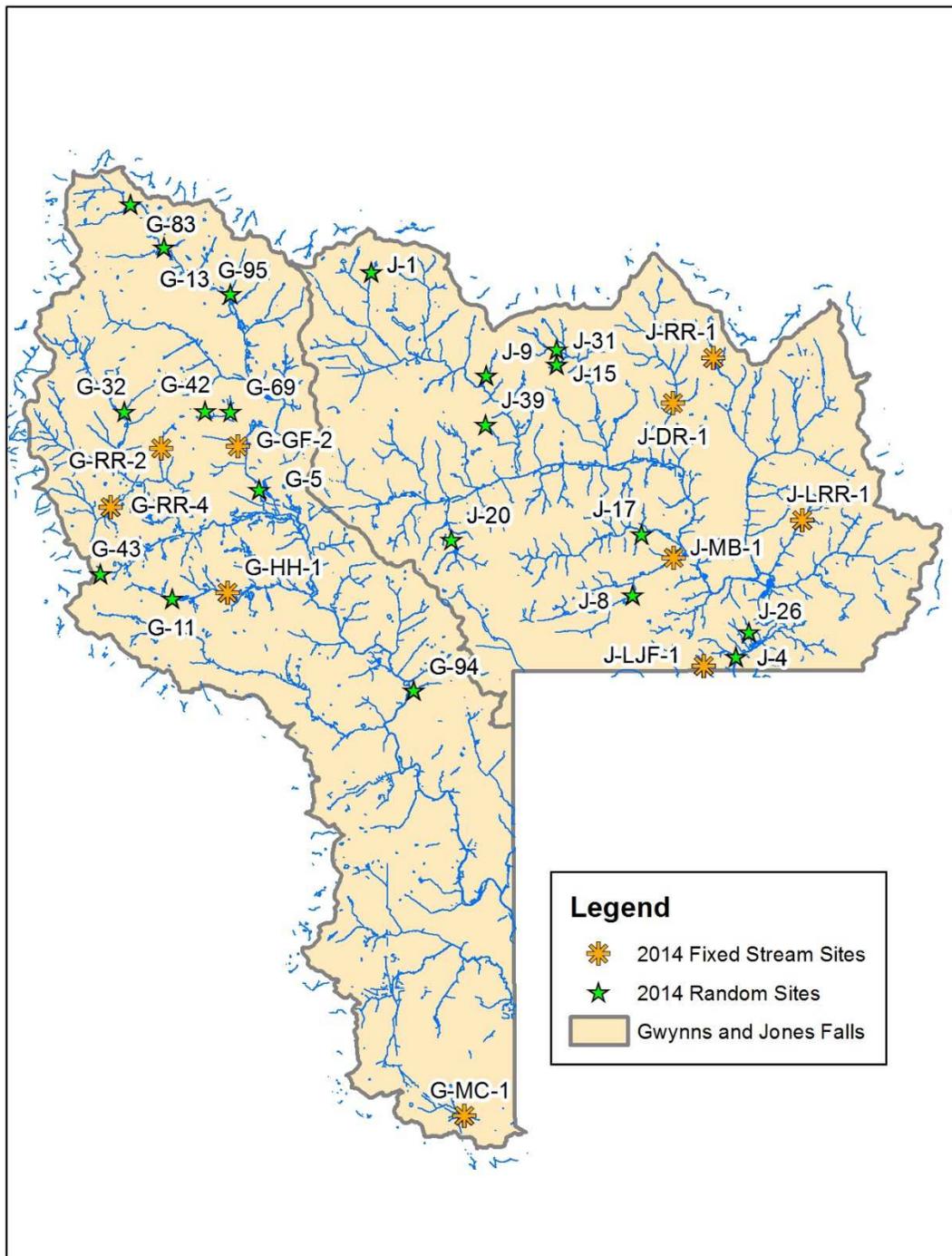
- County-wide
 - Bacteria Trend - Fixed site, fixed interval sampling
 - Monthly, first Thursday
 - Coordinate with Baltimore City and Carroll County
 - Subwatershed Prioritization



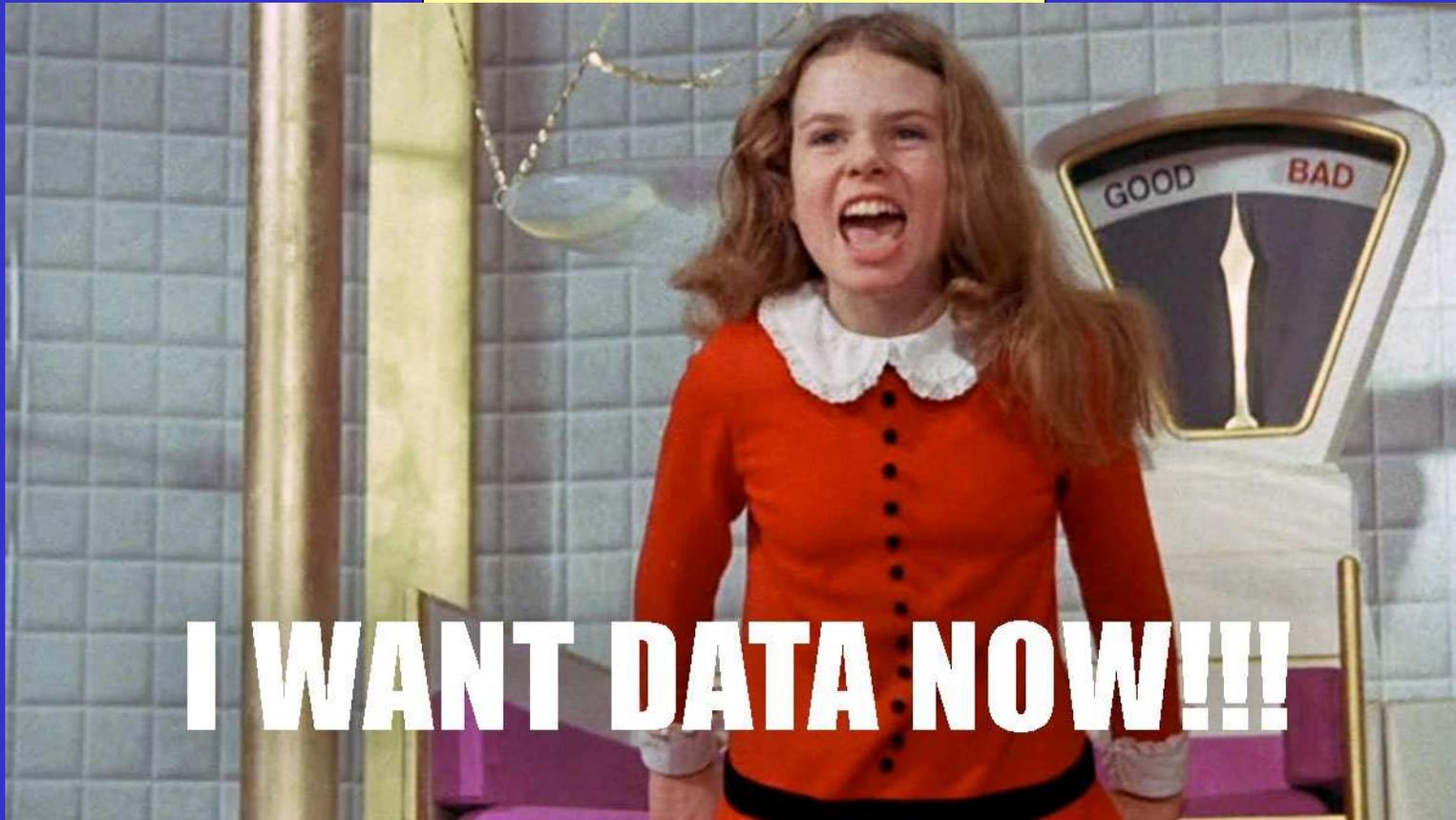
Trash Sampling



- Baltimore County, in coordination with Baltimore City, developed a TMDL for trash in the Baltimore Harbor.
- TMDL is one of only three TMDLs for trash in the USA
- TMDL affects the Gwynns Falls and Jones Falls watersheds in Baltimore County
- Monitor 10 streams sites each year from baseline study
 - 10 additional random sites per watershed each year
 - 500 ft reach, all trash collected within the banks of the stream
 - Sorted trash into categories and measured the weight



Data for you!



I WANT DATA NOW!!!

Mike Fedner

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