

LEVERAGING MONITORING NETWORKS TO MEET MULTIPLE WATER QUALITY DATA NEEDS

presented by

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Water: One Resource – Shared Effort – Common Future

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Pennsylvania's Water Quality Network (WQN)

A long-term, fixed station network of ~ 170 stations on rivers and streams throughout PA designed to monitor water quality conditions on a broad scale.

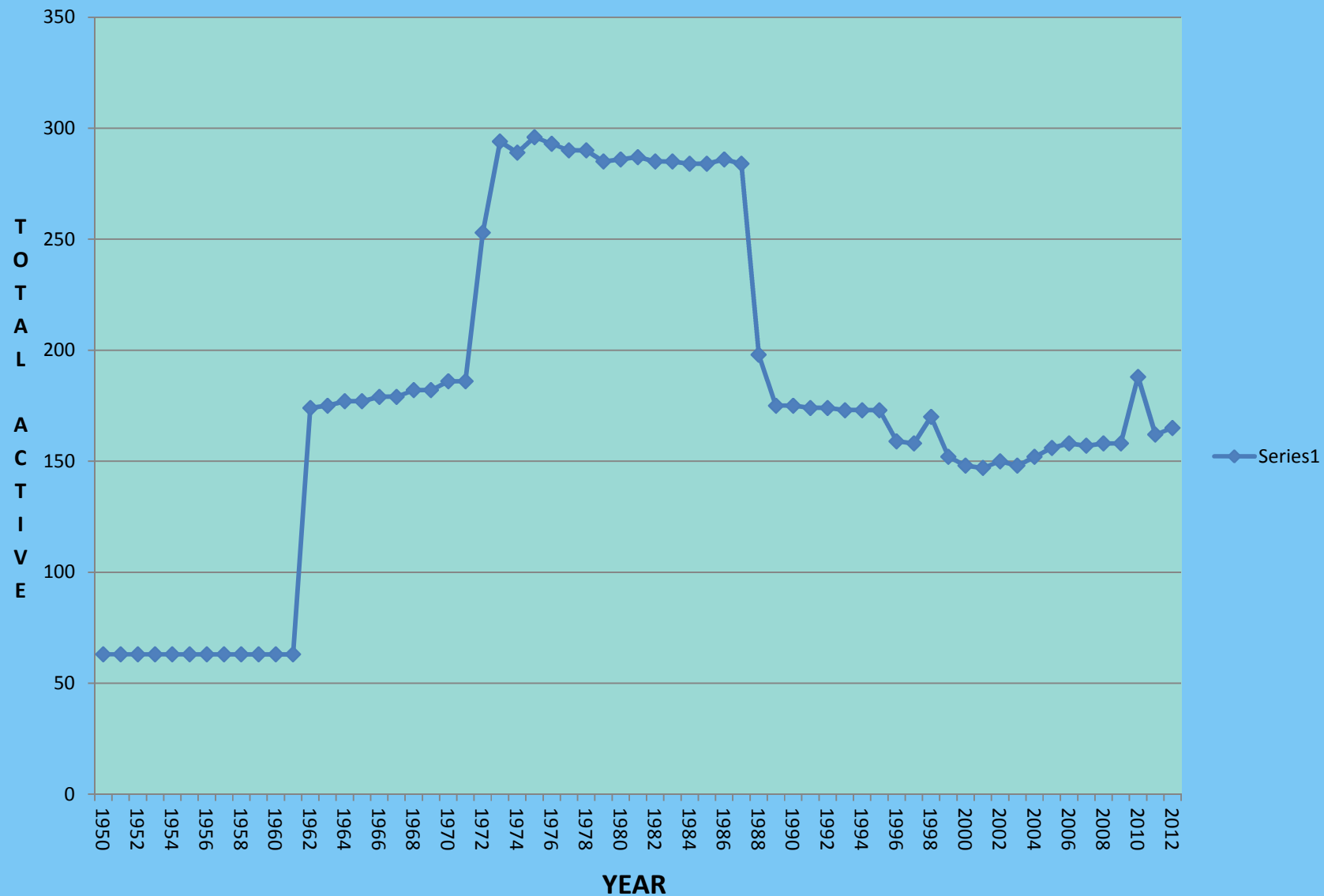
Located primarily on:

- Major streams (for trend analyses)**
- Selected minimally disturbed streams for reference condition development**
- Selected locations in the Chesapeake Bay drainage to monitor nutrient and sediment loading.**

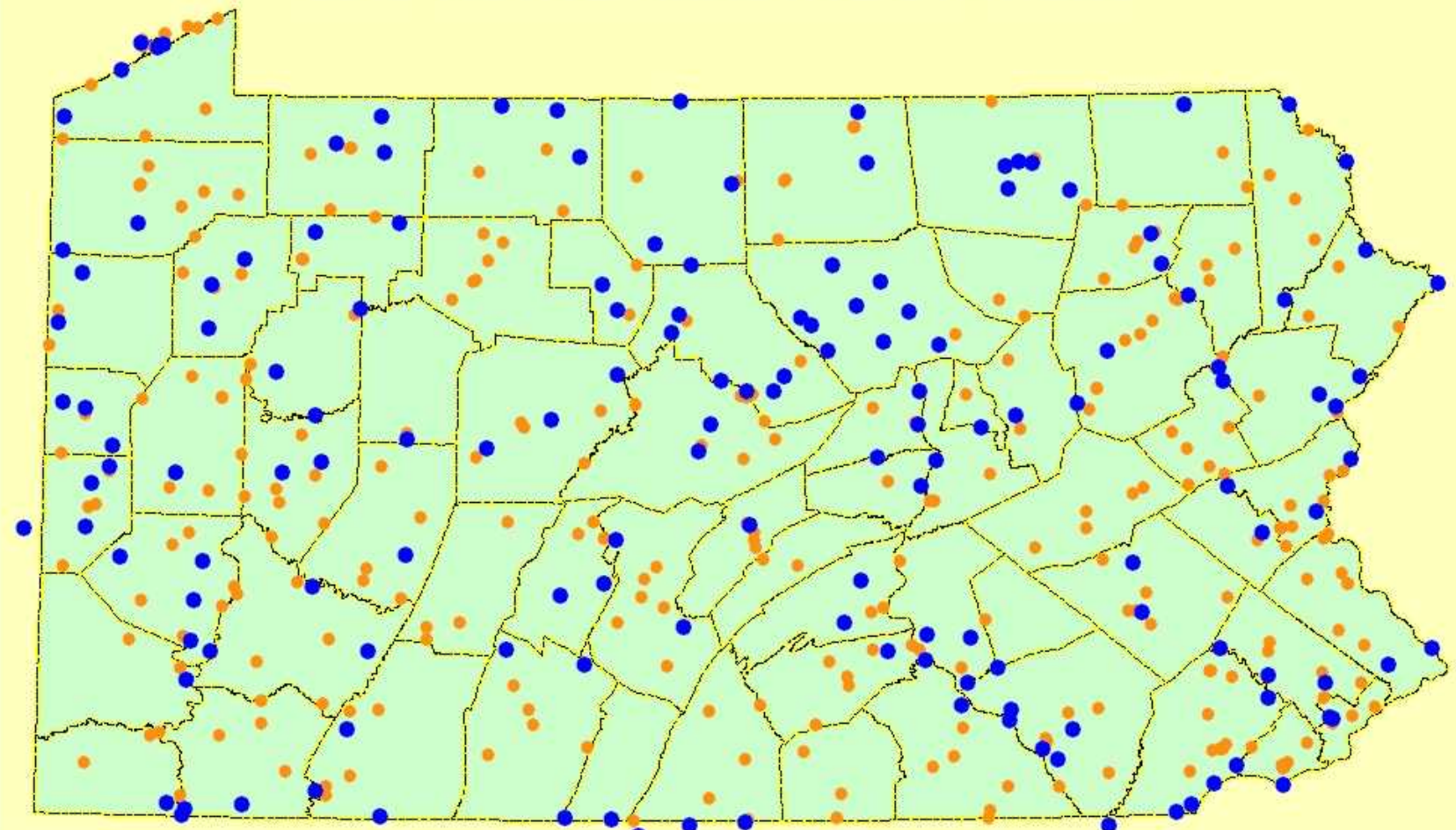
History: records for some stations start in 1950

- Originally (at least? '70s on), most stations are co-located with USGS gage stations**
- To characterize medium-to-large basins for long term trends**
- To support NPDES discharge permit calculations**

ACTIVE PA WQN STATIONS ~ 1950 - 2012



PENNSYLVANIA WATER QUALITY NETWORK 2012 ACTIVE / INACTIVE STATIONS

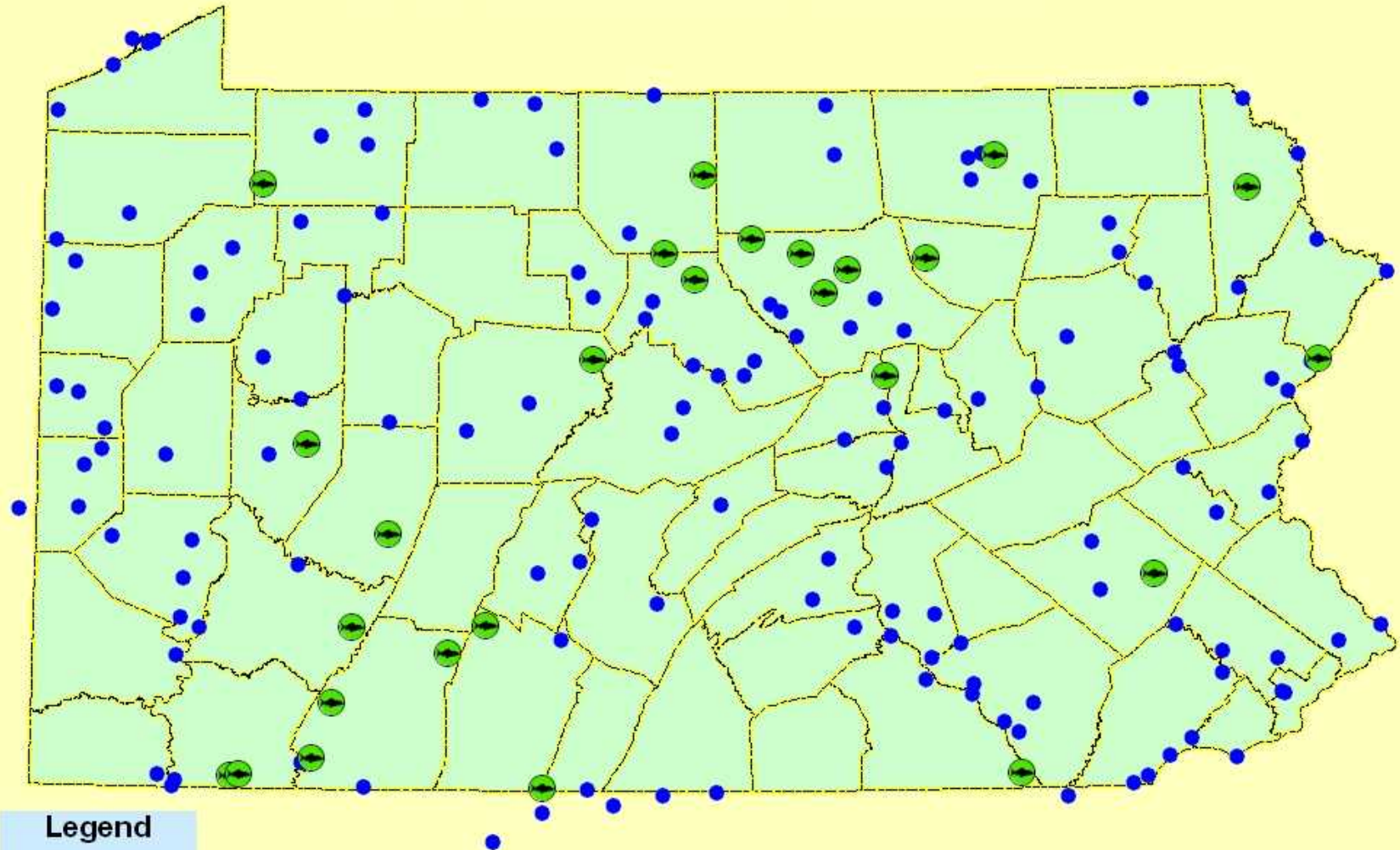


Legend

- Active2012
- Inactive2012
- Counties

0 12.5 25 50 75 100 Miles

PENNSYLVANIA WATER QUALITY NETWORK 2012 REFERENCE STATIONS

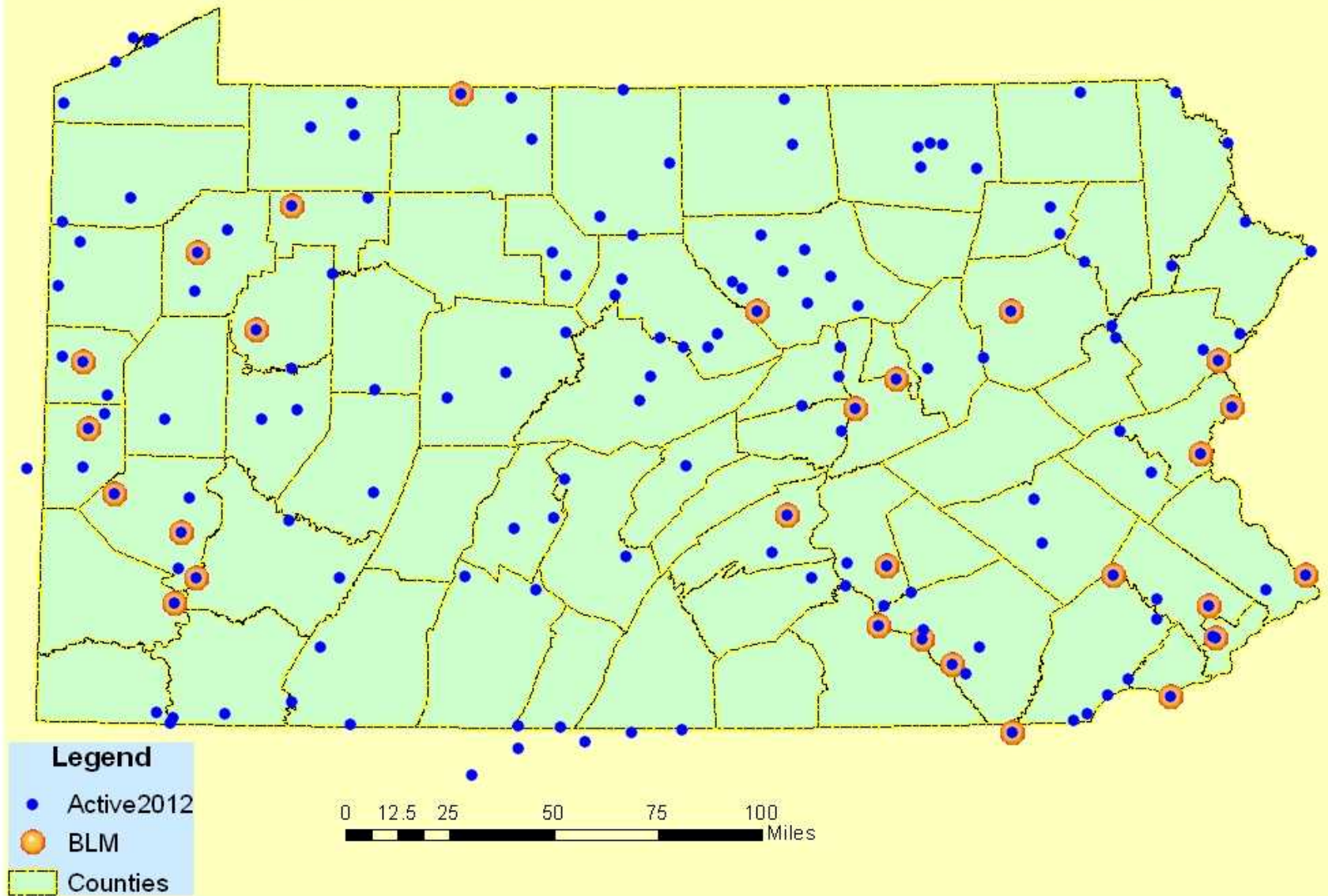


Legend

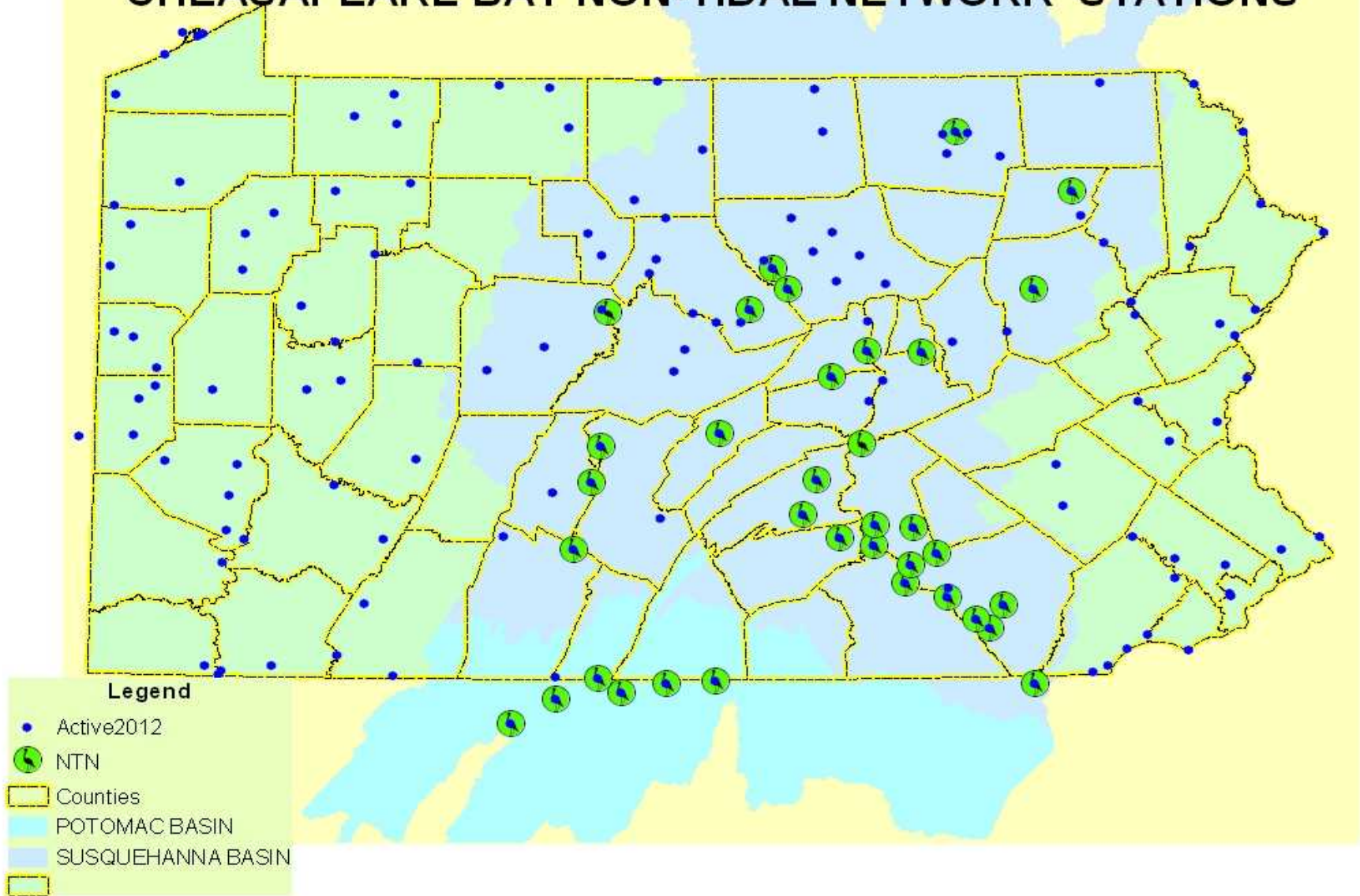
- REF
- Active2012
- Counties



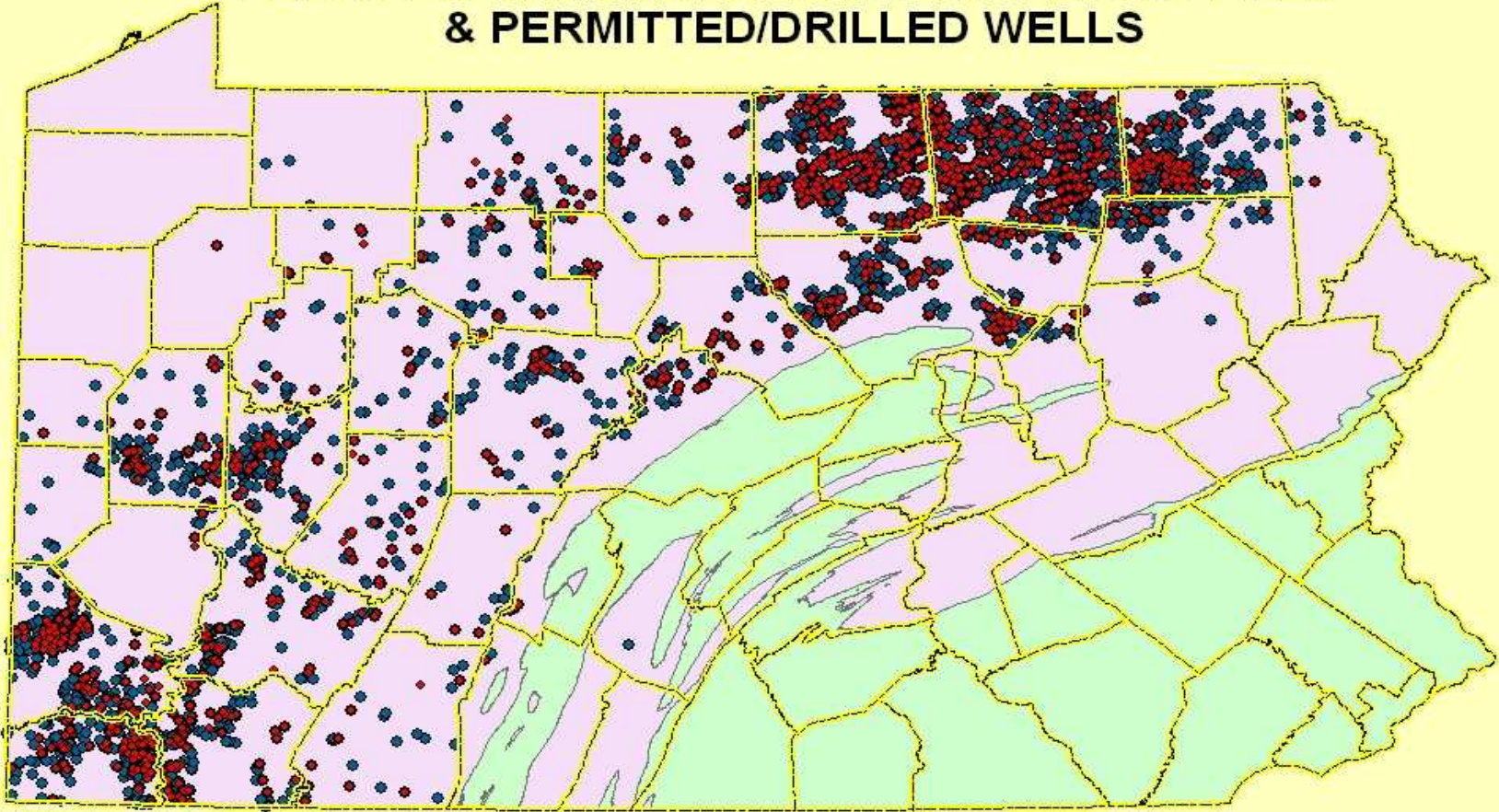
PENNSYLVANIA WATER QUALITY NETWORK DATA COLLECTION FOR COPPER BIOTIC LIGAND MODELING



PENNSYLVANIA WATER QUALITY NETWORK CHEASAPEAKE BAY NON-TIDAL NETWORK STATIONS



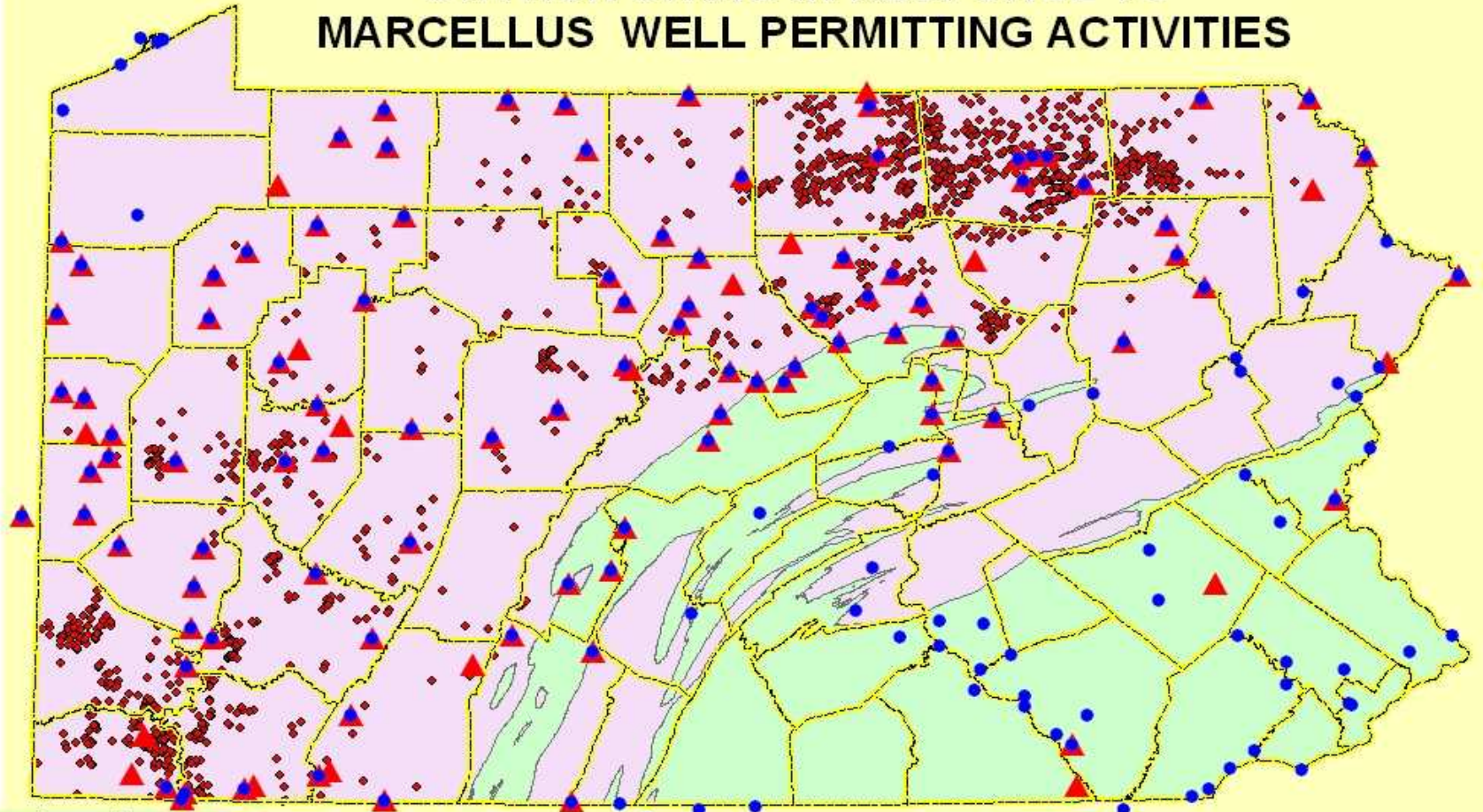
PENNSYLVANIA MARCELLUS SHALE GAS FIELD & PERMITTED/DRILLED WELLS



Legend

- Counties
- Drilled_Marcellus_Wells
- All_Marcellus_Permits_4-9-2012
- Marcellus_Formation

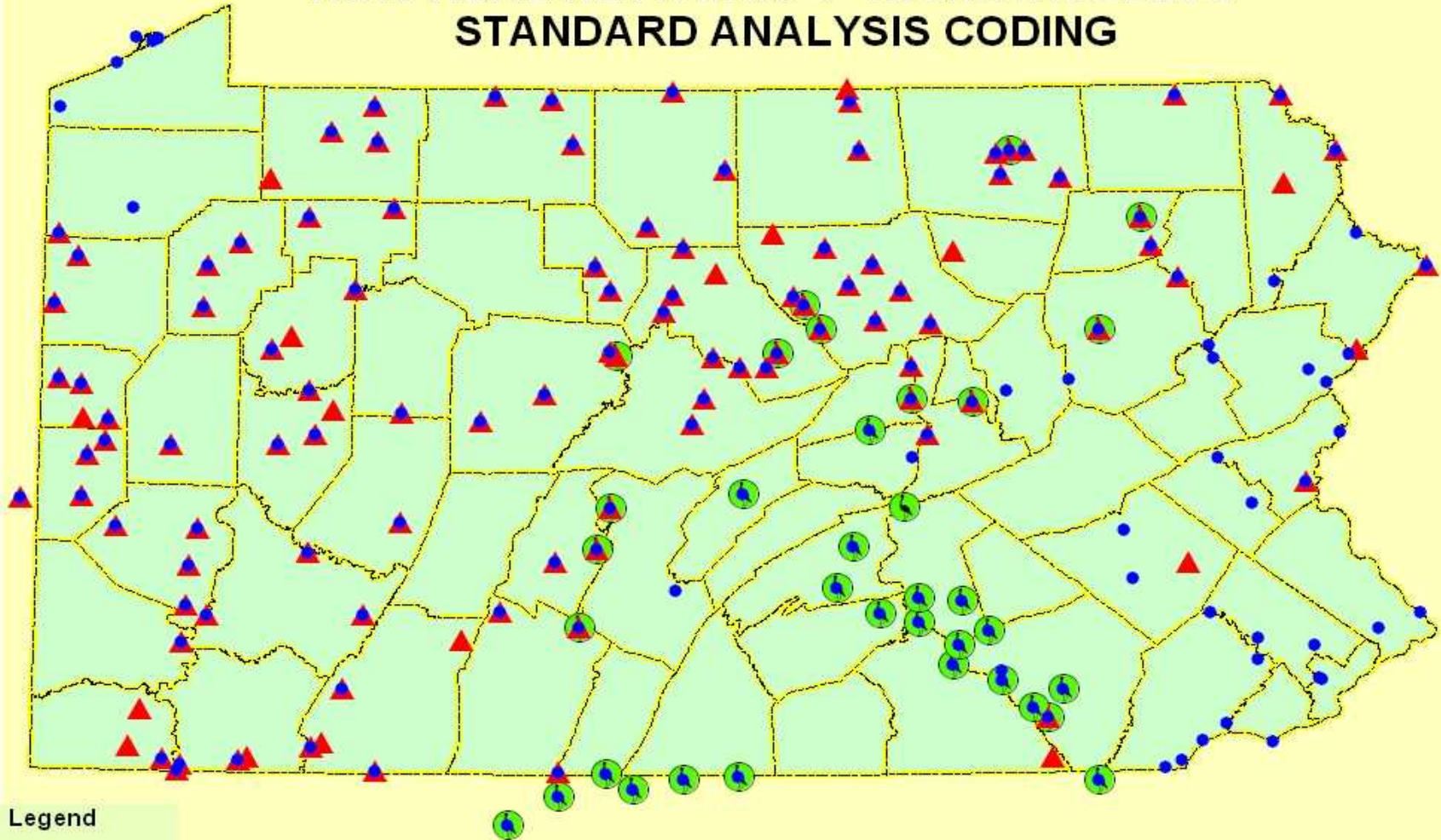
PENNSYLVANIA WATER QUALITY NETWORK STATION SITING IN RESPONSE TO MARCELLUS WELL PERMITTING ACTIVITIES



Legend

- Active2012
- ▲ TDS_MARCELLUS
- Counties
- ◆ Drilled_Marcellus_Wells
- Marcellus_Formation
-

PENNSYLVANIA WATER QUALITY NETWORK NON-TIDAL NETWORK v TDS/MARCELLUS STANDARD ANALYSIS CODING



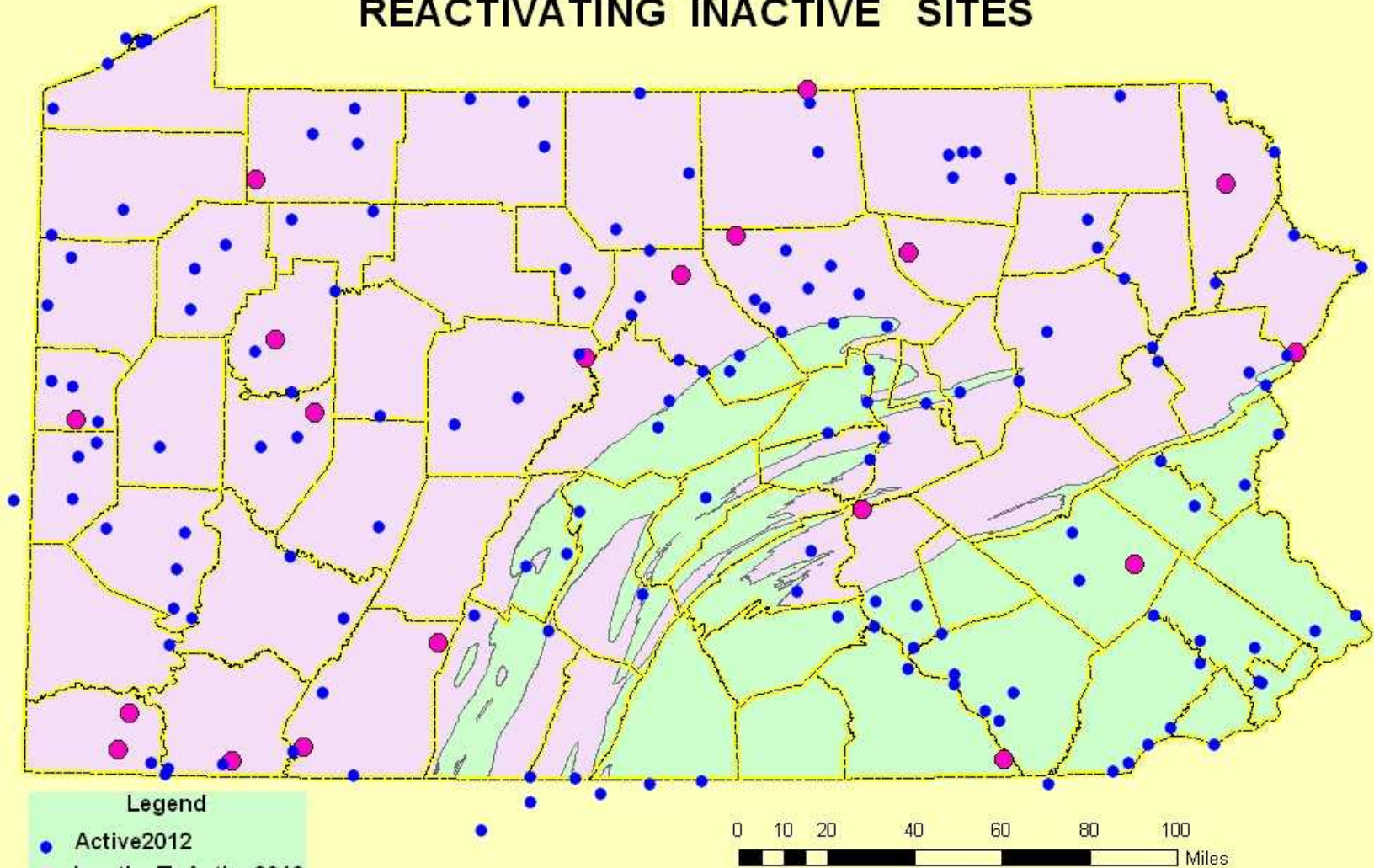
Legend

- Active2012
- ▲ TDS_MARCELLUS
- NTN
- Counties
-

Budget Reactions Summary


- Reduce sampling frequency
- Discontinue Stations:
- Revise / Update Analytical Parameter Lists
 - Localized parameter focus
- Add Stations and Parameters thoughtfully
- Be Selective in Reactivating Inactive Stations

PENNSYLVANIA WATER QUALITY NETWORK REACTIVATING INACTIVE SITES



Legend

- Active2012
- InactiveToActive2012
- Counties
- Marcellus_Formation



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