Monitoring Ambient Water Quality Across Illinois

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 Ambient Water Quality Monitoring Network

- Baseline water quality information
- Characterize and define trends
- Identify new or existing water quality problems
- Act as a triggering mechanism for special studies or other actions
Ambient Water Quality Monitoring Network

- 146 stations
- 9 times per year
- 6 week intervals
Ambient Water Quality Monitoring Network

- ISWS responsibility
  - 40 Stations- general analytes
    - 6 pesticide stations
    - 6 chlorophyll stations
Data collection

- In-stream water quality measurements
- Point samples
- Composite samples
Data collection- in-stream

- YSI data sonde
  - Water temperature
    - °C
  - Dissolved oxygen
    - % saturation
    - mg/L
  - Conductivity
    - Specific conductance in μS/cm
  - pH
Data collection- point samples

- Pesticide
- Chlorophyll
- Total Organic Carbon
- Phenols
Data collection - composite samples
Data collection- composite samples
Data collection - composite samples

- Chloride
- Sulfate
- Suspended Solids
- Cyanide
- Phosphorus, forms of Nitrogen
- Metals
Data collection- composite samples
After Processing

- Liquinox detergent
- Diluted HCl
- Deionized water
- Packed in ice for shipment
Looking Further: Potential Improvements

Time of Site Visitations for 2009
Looking Further:
Time Series

Atrazine levels in Sangamon River above the Lake Decatur Dam
Looking Further: Handling Non-detects

- Due to limits to the accuracy, precision, and sensitivity to chemicals by the techniques used
- Cannot assume the value to be zero
Looking Further: Handling Non-detects

Frequency of Atrazine Concentrations in the Sangamon River above the Lake Decatur Dam
Looking Further: Handling Non-detects

Atrazine: Non-detects Replaced with 0.5xDL
Atrazine: Non-detects Estimated in MLE
In Review

- Maintained consistency in field data collection
  - IEPA Standard Operating Procedures
  - Maintain data comparability
- Always looking to improving quality of data collection
  - Preventing bias
- Looking for trends in data
  - Over time
  - Non-detect
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