



Training: Ambient Water Quality Data Exchange in NJ

Sponsored by the NJ Water Monitoring Council



Leslie McGeorge

Co-chair, NJ Water Monitoring Council

Administrator, NJDEP Freshwater & Biological Monitoring

NJDEP Headquarters, Trenton, NJ

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Overview

- NJ Water Monitoring Council
- Value of Data Exchange
- NJ's Water Quality Data Exchange (WQDE) System
- National Data Exchange Systems
- Today's Training Objectives

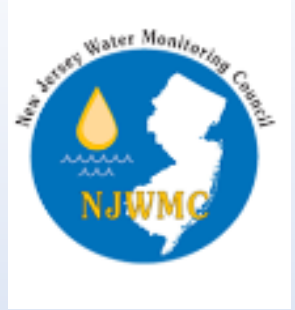
NJ Water Monitoring Council



- **Vision** - Provide water information foundation for management of NJ's aquatic environment
- **Mission** - Promote coordination, collaboration & communication of scientifically sound water quality/quantity data
- **Scope** - Biological, chemical, & physical water monitoring, including freshwater, estuarine, marine & ground waters
- **Key Council Objective** – *“Enhance data exchange and compatibility”*
- **Co-chairs** – DEP (Leslie McGeorge) and USGS (Bob Reiser)
- **Coordinator** – Alena Baldwin-Brown



NJ Water Monitoring Council Members



Government (Federal, State, Local)

- [DEP Division of Water Monitoring & Standards](#)
- DEP Bureau of Marine Water Monitoring
- [DEP Bureau of Freshwater & Biological Monitoring](#)
- [DEP Bureau of Env Analysis, Restoration & Standards](#)
- [DEP NJ Geological and Water Survey](#)
- [DEP Division of Science, Research & Env Health](#)
- DEP Division of Site Remediation
- [DEP Division of Water Quality](#)
- DEP Division of Fish & Wildlife
- Department of Health (DOH)
- USGS – NJ Water Science Center
- EPA Region 2 – Monitoring & Assessment Branch
- NOAA – NE Fisheries Science Center
- Monmouth County Health Department

Interstate Agencies

- Interstate Environmental Commission
- Delaware River Basin Commission

Env Commissions/Authorities

- NJ Pinelands Commission
- [NJ Water Supply Authority](#)

Partnership Organizations

- [Barnegat Bay Partnership](#)

Watershed Associations

- Musconetcong Watershed Association
- [Stony Brook Millstone Watershed Association](#)
- [Raritan Headwaters Association](#)
- [Great Swamp Watershed Association](#)

NJWMC Members (continued)



Academia

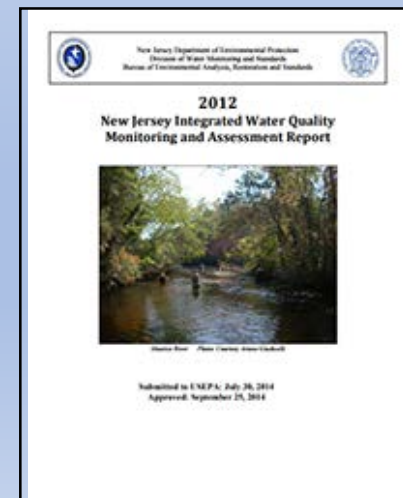
- [Meadowlands Environmental Research Institute](#)
- Rutgers University - Institute for Marine & Coastal Science, NJ Agricultural Experiment Station, NJ Water Resources Institute, Bioenvironmental Engineering Program
- NJ Sea Grant Consortium
- [Montclair University](#)
- Monmouth University
- Stockton University

Utilities Authorities

- [NJ Harbor Dischargers Group](#)
- [Brick Township Municipal Utilities Authority](#)

Value & Uses of Integrated Data Exchange

- Enhances water monitoring community & partnerships
- Increases visibility & longevity of data
- Integrates data from multiple organizations in common format
- Enables comprehensive data discovery, analyses & display (e.g., NJ-GeoWeb)
- Informs local, state, & regional water quality decision-making
- Combined data supplied to US data systems to meet national information & reporting needs (*Integrated Water Quality Report*)



Ambient Water Quality Data Exchange in NJ

Numerous Monitoring Data Sources

- **Internal** – NJDEP programs
- **External - NJ Water Monitoring Council** facilitates data exchange

Needs

- Integrate monitoring data
- Include chemical, biological, tissue & habitat data
- Receive & store data in common format (WQX)
- Submit results to EPA's national STORET data system

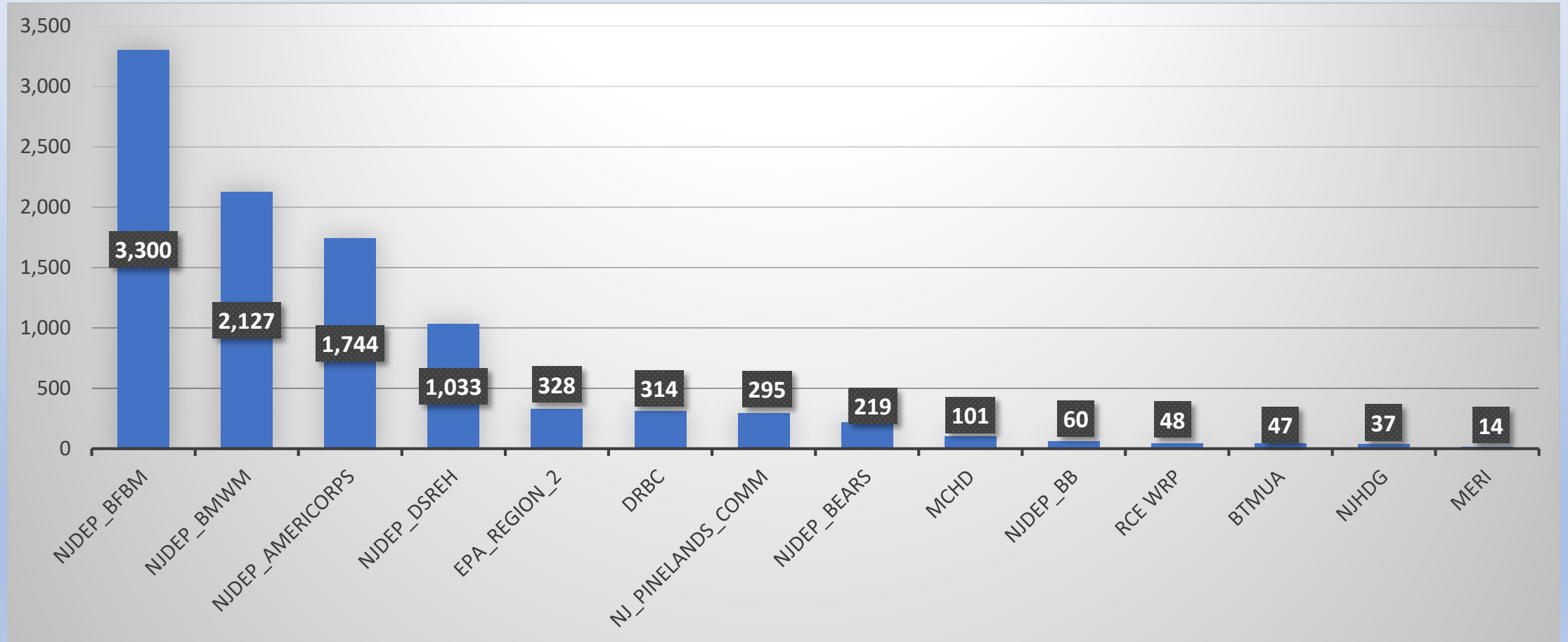
WQDE System - Developed in 2009 with NJWMC

- As of 2018: ~2 million results from >9600 locations
- Includes data from 14 programs

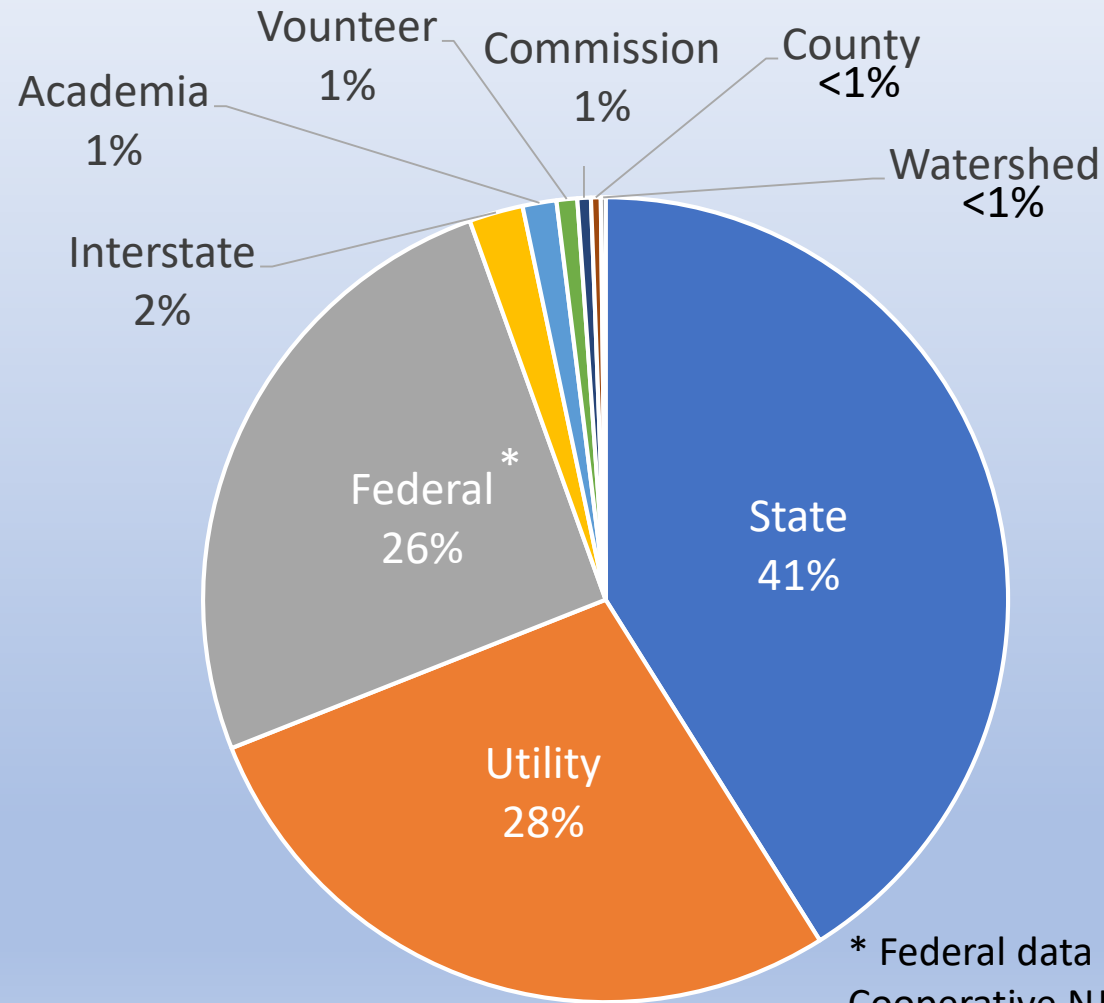
NJ WQDE Team



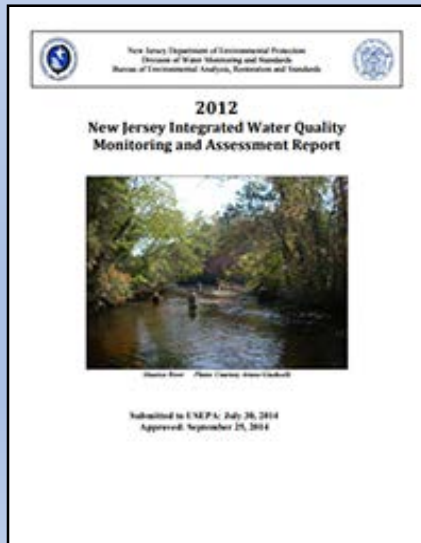
WQDE Monitoring Locations by Organization 2018



Data Sources for 2016 NJ Integrated Report



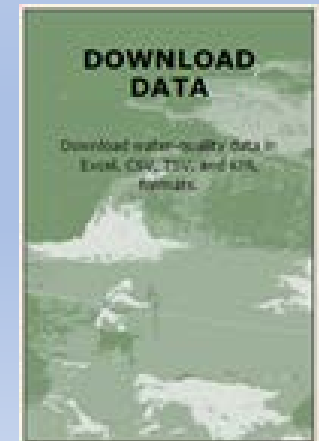
* Federal data includes:
Cooperative NJDEP/USGS
River and Stream Monitoring Network



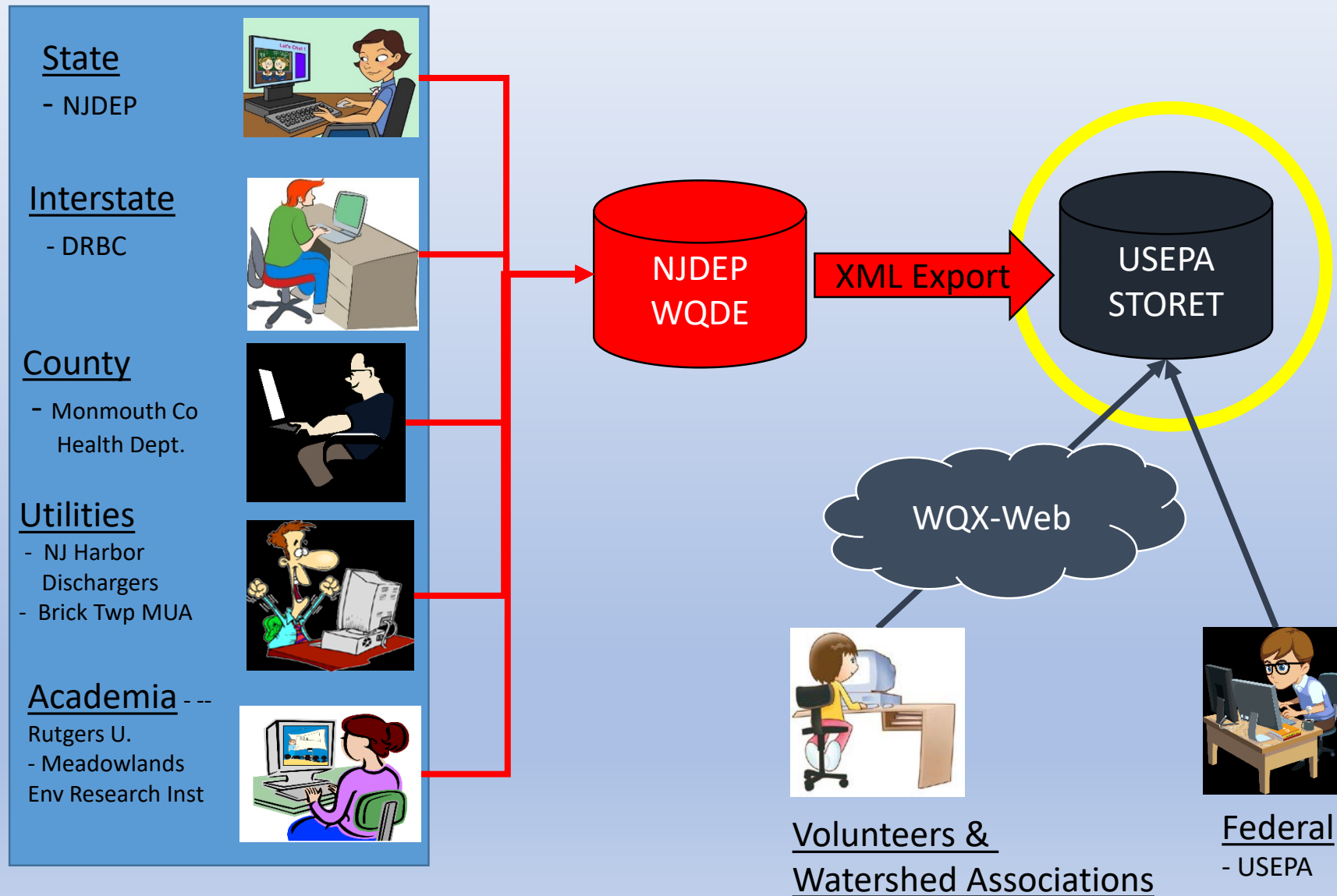


National Data Exchange Through Water Quality Portal

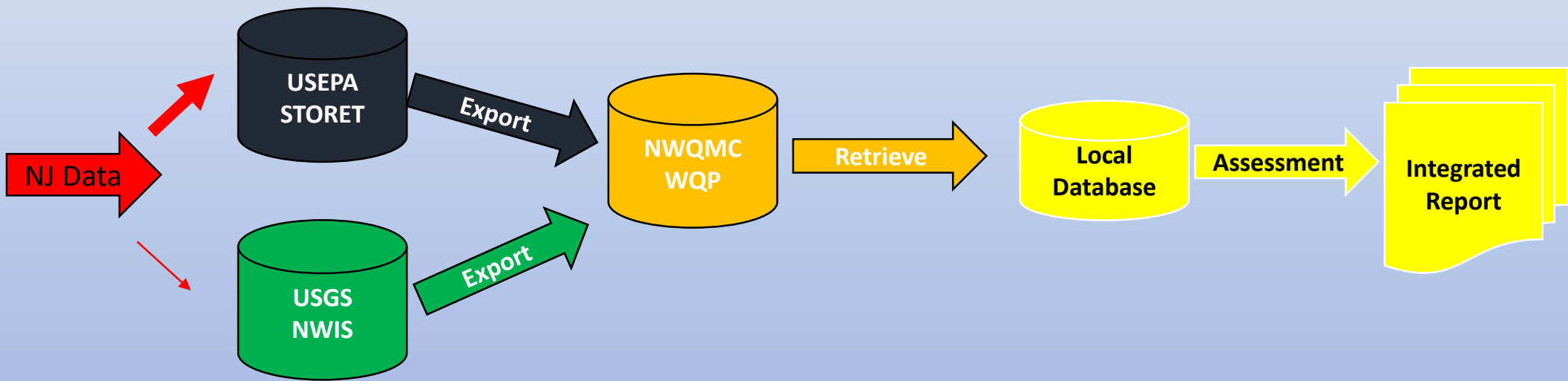
- Two major federal water quality databases:
 - USEPA STORET (includes states, interstates, watershed associations, EPA)
 - USGS NWIS (includes USGS + much DEP Cooperative NJ data)
- Databases now integrated through national Water Quality Portal (WQP)
- Product of National Water Quality Monitoring Council (NWQMC)
- Uses common data standard (WQX)
- National WQP >300 million results as of 2018



Partner Data Entry to NJ WQDE and National EPA STORET System



National Data Exchange Through Water Quality Portal



STORET = STORage and RETrieval System
NWIS = National Water Information System

Training Objectives

- Today's training – at request of NJWMC members and other NJ data generators

Objectives:

- Learn data discovery & retrieval via NJ-GeoWeb and the national Water Quality Portal
- Learn specifics of entering your organization's data in the NJ WQDE System






TRAINING: Ambient Water Quality Data Exchange in NJ

FINAL AGENDA

PRESENTATIONS/ DEMOS		9:00 – 11:00
Welcome and Introductions <ul style="list-style-type: none"> - Ambient Water Data Exchange in NJ & the Nation - Training Objectives 	Leslie McGeorge	9:00 – 9:30
What is NJ's Water Quality Data Exchange (WQDE)? <ul style="list-style-type: none"> - Organizations, Projects, Monitoring Locations and Results 	Paul Morton	9:30 – 10:00
Using NJ-GeoWeb to Search for and Display Ambient WQ data	Seema Gopinathan	10:00 – 10:45
Using the National Water Quality Portal to search for & download data	Paul Morton	10:45 – 11:00
BREAK		11:00 – 11:15
HANDS ON TRAINING		11:15 – 3:00
Logging into NJDEP Online and Accessing WQDE	Paul Morton	11:15 - 11:30
Entering Projects and Monitoring Locations in WQDE via Interactive Web Forms	Patricia Ingelido	11:30 – 11:45
Import Configurations	Paul Morton	11:45 – 12:00
Entering Monitoring Locations via Batch file	Leigh Lager	12:00 -12:15
LUNCH (on your own)		12:15 – 1:15
Entering Field Results in WQDE via Batch File <ul style="list-style-type: none"> - Field Measurements (temperature, DO, pH, flow) - Habitat Assessments (RBP and volunteer) 	Paul Morton	1:15 – 1:45
Entering Lab Chemical Results in WQDE via Batch File	Paul Morton	1:45 – 2:15
Entering Biological Results in WQDE via a Batch File <ul style="list-style-type: none"> - Taxa Counts (Benthic Macroinvertebrates and Fish) - Biological Metrics and Indices 	Leigh Lager	2:15 – 2:45
Data Transformations (“Data Gymnastics” to get data into WQDE format)	Leigh Lager	2:45 – 3:00
TRAINING SESSION ENDS (BREAK)		3:00 – 3:15
Optional Clinic – Bring an example of your data and we will give you advice on entering it into WQDE	All DEP WQDE users	3:15 – 4:00

Name	Role	Organization	Email
Leslie McGeorge	Administrator & NJWMC Co-chair	NJDEP Bureau of Freshwater and Biological Monitoring	Leslie.McGeorge@dep.nj.gov
Paul Morton	WQDE Water Program Lead	NJDEP Division of Water Monitoring and Standards	Paul.Morton@dep.nj.gov
Seema Gopinathan	NJ GeoWeb Lead	NJDEP Bureau of Geographic Information Systems	Seema.Gopinathan@dep.nj.gov
Trish Ingelido	Community Water Monitoring Program Lead	NJDEP Bureau of Environmental Analysis, Restoration & Standards	Patricia.Ingelido@dep.nj.gov
Leigh Lager	GIS Specialist	NJDEP Bureau of Freshwater and Biological Monitoring	Leigh.Lager@dep.nj.gov

Today's Speakers - NJDEP

Leslie McGeorge 	Administrator & NJWMC Co-chair	DWM&S Bureau of Freshwater and Biological Monitoring
Paul Morton 	WQDE Water Program Lead	Division of Water Monitoring and Standards (DWM&S)
Seema Gopinathan 	NJ GeoWeb Lead	DOIT Bureau of Geographic Information Systems
Trish Ingelido 	Community Water Monitoring Program Lead	DWM&S Bureau of Environmental Analysis, Restoration & Standards
Leigh Lager 	GIS Specialist	DWM&S Bureau of Freshwater and Biological Monitoring

Acknowledgements



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Leigh Lager

Trish Ingelido

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