NJWaTr and the Status of the USGS State Water Use Data and Research Cooperative Agreement

Water Management Advisory Committee
Delaware River Basin Commission
June 2016

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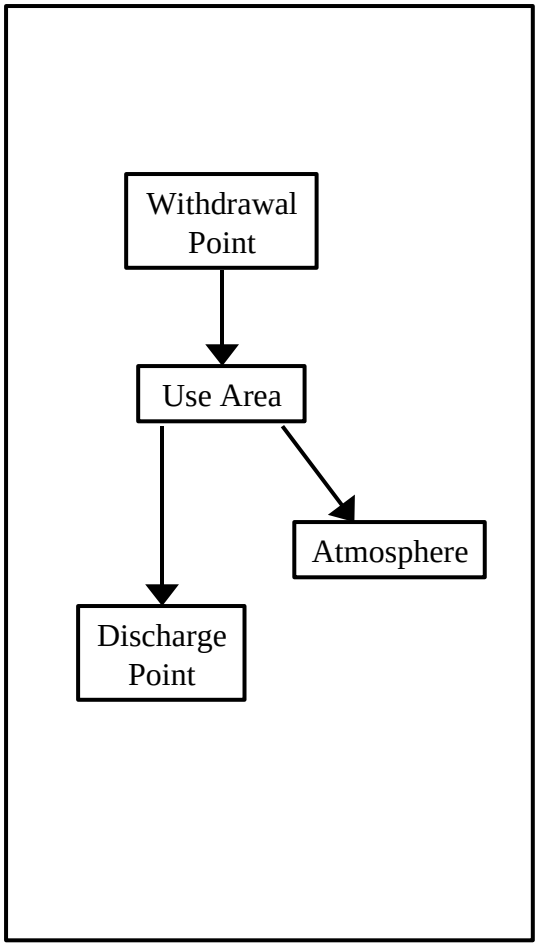
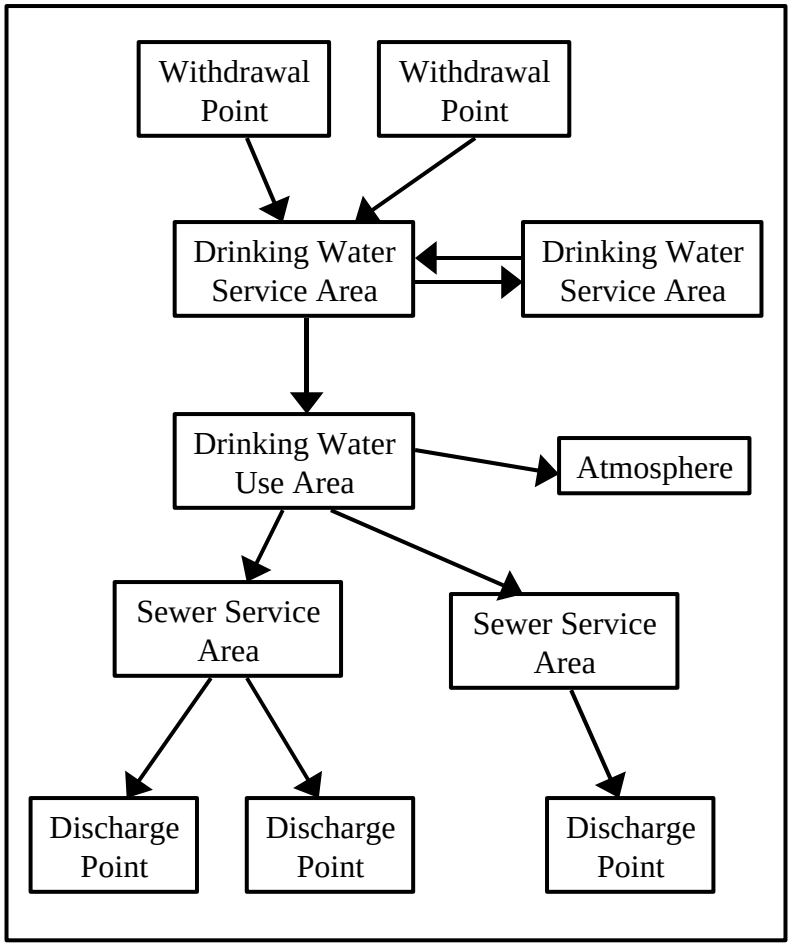
What is NJWaTr…

- NJ's tool to compile "cradle to grave" water use data for research purposes (not regulatory)
- A conveyance-based model that represents any water exchange activity between two sites
- Pairs of Sites are joined through unidirectional Conveyances for which water Transactions are recorded
- Sites and conveyances form a water network
- Attributes such as owner, permit, water resource, location are linked with each component of the network
- Uses MS Access as primary data management tool

Two Primary Conveyance Networks



self-supplied commercial and industrial, agricultural, power generation, irrigation and mining uses



Potable supply and wastewater

NJWaTr Contains

- Sites
  - Over 37,000 withdrawal points, use areas, collection areas and discharge points
- Conveyances
  - 25,000 one-way conveyances between sites
- Transfer Volumes
  - 1990 to 2011 monthly data
  - 2.1 million monthly transfers: includes resource withdrawals, bulk transfers, and sewer discharges
- 2012 to 2013 data will be available summer 2016
- 2014 and 2015 data available January 2017
- Flexible design allows easy addition of new data/attributes and meet needs of multiple users

Goals of Coop Agreement

- Data
  - NJWaTr meet baseline standards
    - minimum of Tier 2
    - where possible to Tier 3
  - Specific areas of investigation:
    - Saline diversions
    - Aquifer designations
    - Additional agricultural data sources
    - Private domestic well estimates
    - Consumptive use estimates
    - Interbasin transfers

Goals of Coop Agreement cont.

- Use and application of water data:
  - Maintenance/conversion of data ontology to be consistent with national/global standards; wml, IWRSS, CUASHI, etc
  - Cloud based data distribution and utilization of web services to make data more readily available to all researchers
  - Interaction with NHD Plus and Open Water Data Initiative

Additional Resources

New Jersey Water
Data and Analysis Publications – March 2016
New Jersey Geological and Water Survey- NJDEP
www.njgeology.org

Data

- **DGS10-3 New Jersey Water Transfer Model Withdrawal, Use, and Return Data Summaries**: 5 MS Access files with complete set of site attribute data and monthly transfer data 1990 through 2009
  http://www.nj.gov/dep/njgs/geodata/dgs10-3.htm
- **DGS09-1 Reservoir Storage and Related Diversions in the Passaic and Hackensack River Basins, 1898 to 2011**
  http://www.njgeology.org/geodata/dgs09-1.htm

Data Summaries

- **IC - Water Withdrawals in New Jersey 1990 to 1999**
  http://www.nj.gov/dep/njgs/enviroed/infocirc/withdrawals.pdf
- **IC - Water Withdrawals in New Jersey 2000 to 2009**
  http://www.njgeology.org/enviroed/infocirc/withdrawals2009.pdf
- **DGS13-1 Computer Workbook Summarizing New Jersey Withdrawals and Discharges on a HUC11 Basis**
  http://www.nj.gov/dep/njgs/geodata/dgs13-1.htm
- **DGS04-9 New Jersey water withdrawals, transfers, and discharges by WMA, 1990-1999**
  http://www.nj.gov/dep/njgs/geodata/dgs04-9.htm
- **New Jersey Water Withdrawal, Use, Transfer and Discharge Summary 1990 to 1999 by HUC11**
  http://www.nj.gov/dep/njgs/enviroed/HUC11.htm
- **Potable Water Supplied in 1999 by New Jersey's Highlands**
  http://www.nj.gov/dep/njgs/enviroed/freedwn/highpotwater.pdf
- **OFR 15-1 Potable Water Supplied in 2011 by New Jersey's Highlands**
  http://www.njgeology.org/pricelst/ofreport/ofr15-1.pdf

Data Analysis

- **TM 13-3, Using the Stream Low Flow Margin Method to Assess Water Availability in New Jersey's Water-Table-Aquifer Systems**
  http://www.nj.gov/dep/njgs/pricelst/tmemo/tm13-3.pdf
- **DGS14-1 Water Availability in New Jersey on a Watershed Management Area Basis**
  http://www.njgeology.org/geodata/dgs14-1.htm
- **TM 09-1 Potential Rate of Stream-Base-Flow Depletion from Groundwater Use in New Jersey**
  http://www.njgeology.org/pricelst/tmemo/tm09-1.pdf

Geology

- **IC - Kirkwood-Cohansey water-table aquifer**
  http://www.njgeology.org/enviroed/infocirc/kirkwood-cohansey.pdf
- **GSR 40 - Hydrostratigraphy of the Kirkwood and Cohansey Formations of Miocene Age in Atlantic County and Vicinity, New Jersey** http://www.njgeology.org/pricelst/gsreport/gsr40.pdf
- **GMS 13-1, Aquifer Correlation Map of Monmouth and Ocean Counties, New Jersey**
  http://www.state.nj.us/dep/njgs/pricelst/gmseries/gms13-1.pdf

Thankyou

Questions: steven.domber@dep.nj.gov