

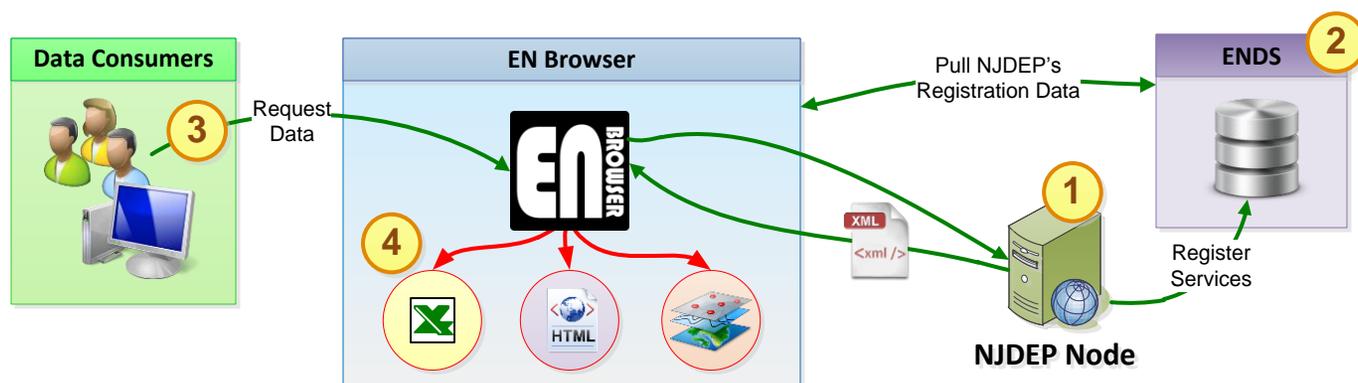
## NJDEP Initiatives To Share Safe Drinking Water Data

The New Jersey Department of Environmental Protection (NJDEP) is a multi-divisional State Agency responsible for the protection of human health and environment by ensuring clean air and water, managing solid waste, disposing hazardous waste and preserving wetlands and coastal resources. While NJDEP maintains its own database repository to store important environmental data, it also shares this information with other enforcement and interest groups. These agencies include the US Environmental Protection Agency (EPA), the Department of Health (DOH), the Department of Energy (DOE), the Federal Emergency Management Agency (FEMA), and other interested states.

To share environmental information with these groups efficiently, NJDEP implemented a node on the National Environmental Information Exchange Network (NEIEN). This web-based network enables data to be ported from local databases, validated against common XML schemas, and routed into federal repositories. In addition, the node, in conjunction with the Exchange Network Browser tool, allows NJDEP to share relevant real-time environmental quality data with the public.

## Publishing SDWIS Data on the Exchange Network

An average person requires 70 gallons of clean and safe water a day for drinking, cooking, and hygienic purposes. To protect the nation's drinking water, the EPA has established maximum contaminant levels and treatment techniques for microbiological, chemical and radiological contaminants, and monitoring and reporting requirements to ensure that water systems within each state provide safe water to their residents. EPA requires states to report certain specific types of safe drinking water quality data to the federal Safe Drinking Water Information System (SDWIS-FED) database. NJDEP has published their SDWIS data (SDWIS-STATE) on the Exchange Network to enable interested parties to request and view drinking water quality data within New Jersey. The process NJDEP followed to publish their SDWIS data on the EN is illustrated in the diagram below.

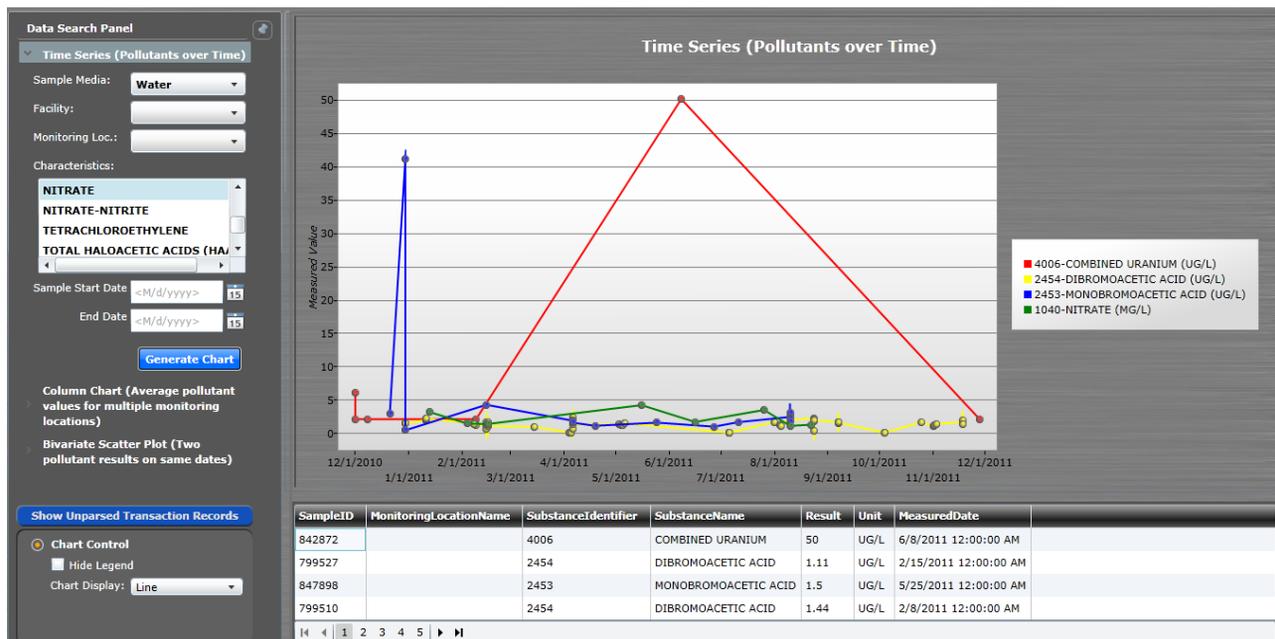


- 1 NJDEP implements a SDWIS Solicit service at their Node that can retrieve data from their SDWIS database and convert the data into an XML file that conforms to the SDWIS Schema. The SDWIS service supports the ability to filter data by various parameters including: county name, timeframe (e.g. start and end dates), analyte name, and Environmental Public Health Tracking (EPHT) Indicator.
- 2 NJDEP publishes their SDWIS data flow by registering their SDWIS solicit service at the Exchange Network Discovery Service (ENDS), a central repository created by the EPA to store and catalog Node services supported by EN partners. In general, the registration process involves submitting two registration files to ENDS. These are:
  - A **Service Registration**: The service registration file enables data providers to register their Node information, Node services, and filter parameters supported by each service.
  - B **Data Element Description Language (DEDL)**: The DEDL registration enables data providers to define the "pick-list" values that are supported by their service parameters.
- 3 Solicit and Query services that are registered at ENDS will automatically be made available to the EN Browser (ENB), a data discovery & analysis tool for the Exchange Network. Data consumers may use the EN Browser to discover NJDEP's SDWIS service, and request SDWIS data from NJDEP's Node.
- 4 Once NJDEP's Node receives and processes the request, the corresponding data will be returned to the ENB Browser in XML format. Data consumers may use the ENB's native CSV and HTML data transformation, GIS analysis, and graphing tools to analyze the SDWIS data.

## Using the ENB to Analyze SDWIS Data

### Time-Series Graphing and Analysis

The EN Browser includes an interactive graphing tool to graph the requested data into a Time-Series chart for the user to analyze. Users may filter by different parameters such as the date range, the contaminant of interest, or by facility/monitoring locations. This tool is especially useful for the EPA to track areas of high exposure and regulate and monitor the measures taken to mitigate these danger zones. The data presented by this feature is also supported by accessible text equivalents through HTML and CSV file formats. SDWIS Data in these formats allow users to conduct additional data manipulation and analysis, if needed.



### Reusability

The SDWIS dataflow uses several reusable components that can be easily implemented for any Exchange Network Partners who wish to provide their own SDWIS Data to share and publish with EPA and/or other interested parties. These components are highlighted below:

**NJDEP SDWIS Publication Process:** The process followed by NJDEP to publish their SDWIS data may be used as a reference guide for other data providers who are seeking to publish their SDWIS data on the EN.

**SDWIS Schema:** The SDWIS dataflow uses a shared, common XML schema that has been approved by the US EPA. This provides and creates a set structure for future data providers to fit their SDWIS Data into and exchange data.

**EN Browser:** The ENB provides analysis tools that can be leveraged by any individual seeking to retrieve and analyze environmental data published on the EN. The SDWIS HTML and CSV stylesheet can be used by data consumers and/or providers to transform the XML data into CSV and/ or HTML for easier viewing. In addition, individuals may utilize ENB's native GIS and graphing tools to analyze their data

## Addition Resources and Information

To learn more about how NJDEP's SDWIS dataflow was implemented, please contact:

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To learn more about the SDWIS Dataflow, please go to:

<http://www.exchangenetwork.net/data-exchange/safe-drinking-water-information-system/>