

APPENDIX B - ATTACHMENT 3

New Jersey Source Water Assessment Program Potential Contaminant Source Inventory (PCSI) Methodology

Introduction

The 1996 Amendments to the Federal Safe Drinking Water Act required states to complete Source Water Assessments for all public drinking water sources. New Jersey's Source Water Assessment Program (SWAP) Plan developed in conjunction with the Source Water Assessment Advisory Committee, and approved by USEPA Region 2 on November 1, 1999. Four steps were necessary to complete a source water assessment:

1. Delineate the source water assessment area of each public drinking water source.
2. Inventory the potential contaminant sources within the source water assessment area.
3. Determine the source's susceptibility to contaminants.
4. Produce a Source Water Assessment Report for each public drinking water system, and release the report to the public.

The Source Water Assessment process determined a drinking water source's susceptibility to potential contamination from natural and anthropogenic sources.

$$\text{Susceptibility} = \text{Sensitivity} + \text{Intensity of contaminant use/occurrence.}$$

Susceptibility to contamination was a function of several factors, including the characteristics of the water source and contaminant use near the water source. A drinking water source's susceptibility was determined by adding "sensitivity" and "intensity" factors. "Sensitivity" factors included items related to well construction (such as well depth) and naturally occurring items (such as geology). "Intensity" factors included contamination related to anthropogenic activities (such as Contaminated Sites). The Potential Contaminant Source Inventory (PCSI) was developed to catalog these factors. These factors were then used in susceptibility modeling to determine each drinking water source's susceptibility rating of Low, Medium, or High. *This rating represents the potential for contamination and not the actual existence of contamination.*

Background

Source Water Assessment Program Geographic Information System (GIS)

GIS technology was the main tool utilized to accumulate, analyze, transfer, report, and deliver source water assessments in New Jersey. The GIS software utilized was Environmental Systems Research Institute, Inc.'s (ESRI) ArcView and ArcInfo with migration to ArcGIS vr. 8.x. GIS tools identified source water assessment delineation areas (both groundwater and surface water) based upon certain GIS data layers. Surface water delineations were based on the overland drainage basin upstream of the intake,

including all tributaries to the headwaters. The delineation areas then served as the instrument for GIS clipping of the remaining data layers for use in the PCSI.

GIS Data Sets

The New Jersey SWAP Plan identified two distinct sets of necessary GIS data layers; 1) those required to create the delineation areas, and 2) those required to develop the Potential Contaminant Source Inventory (PCSI) for susceptibility model development and implementation. The New Jersey SWAP Plan, Table 3 pp. 36-37, lists sites/activities of concern, and guided DEP when identifying data layers necessary for the PCSI. GIS data-sets were gathered from many sources both within the DEP and from other sources (other New Jersey State Agencies, Federal Agencies, and State Agencies outside of New Jersey). All accumulated data for SWAP development were assessed and accepted or rejected based on the accuracy constraints of the data layers. Accuracy constraints included but were not limited to data completeness, positional accuracy, and temporal concerns. Critical data layers which either did not exist or did not meet necessary accuracy levels were developed by DEP staff as needed. The DEP/GIS Mapping and Digital Data Standards were followed for any data developed internally by the SWAP.

When assessing GIS data layer's applicability, the SWAP consulted the available metadata. In cases when metadata were unavailable, the data steward(s) were contacted and "pre-metadata" acquired. The SWAP saved all applicable metadata and pre-metadata. GIS data continues to evolve, therefore the SWAP made every effort to keep current with newly released data and any updates to current data. As new data were assessed and accepted, these were incorporated into the SWAP.

Potential Contaminant Source Inventory (PCSI)

An essential component in determining susceptibility ratings for drinking water sources was the PCSI. The PCSI is a catalog of the “sensitivity” and the “intensity” factors in the delineated areas for each drinking water source. These contaminants may impact a drinking water source either through point or non-point contamination.

Many of the GIS data layers utilized did not contain attributes specific to the needs of SWAP, especially for PCSI/susceptibility modeling development. In these instances, the SWAP accessed external databases containing additional attribute information whenever available. These data were found in both digital and paper format and manipulated into a format consistent with the program's requirements. An MS Access database was developed, which organized, managed, and stored these data for all delineation areas (PCSI Database). Data stored in the PCSI Database can be directly linked to the point or area found in the GIS data layers.

Data-Sets Utilized for SWAP

Table 1 from the New Jersey Source Water Assessment Program (SWAP) Plan, describes the various “sensitivity” and “intensity” factors of concern, agreed upon during the development of the SWAP Plan. These factors were used to develop the susceptibility ratings for groundwater and surface water drinking water sources for the following categories of contaminants:

- Pathogens
- Nutrients
- Pesticides
- Volatile Organic Compounds (VOCs)
- Synthetic Organic Compounds (SOCs)
- Inorganics
- Radionuclides
- Disinfection Byproduct Precursors (DBPs)

* This list was modified during the model development process.

Table 1: Sites/Activities Identified in the SWAP Plan (1999) Included in the New Jersey Source Water Assessments Potential Contamination Source Inventories

Site/Activity	Information Source	Potential Associated Contaminant Groups
Agriculture	Land use GIS	Pathogens, nutrients, pesticides, inorganics
Animal feedlots/livestock yards/animal boarding facilities	Land use GIS	Pathogens, nutrients, disinfection byproduct formation potential
Bulk chemical storage	Electronic text, GIS	VOCs, SOCs, inorganics
Combined sewer overflow	GIS	Pathogens, nutrients
Compost facilities	Electronic Text, GIS	Disinfection byproduct formation potential
Contaminated soils	GIS	VOCs, SOCs, pesticides, inorganics, radionuclides
Discharges to surface and ground water [NJPDES/DGW (including Class V UIC) & NJPDES/DSW]	Electronic text, GIS	All contaminant groups
Erosion	Case by case	Disinfection byproduct formation potential
Ground water discharges to surface water	GIS	All contaminant groups
Highway runoff	Case by case	VOCs, pesticides, inorganics
Industrial commercial point sources	GIS	All contaminant groups
Infiltration lagoons, spray irrigation sites, overland flow	Electronic text, GIS	Pathogens, nutrients, VOCs, pesticides, SOCs, inorganics
Interstate pollution sources	PA/NY databases	All contaminant groups
Junkyards	GIS	VOCs, SOCs, inorganics
Known contaminated sites (e.g. Superfund sites, RCRA sites, etc.)	GIS	All contaminant groups
Landfills	GIS	All contaminant groups
Leaking sewer lines	Case by Case	pathogens, nutrients, VOCs
Military base	GIS	all contaminant groups
Mining operations	Electronic Files	VOCs, inorganics
Naturally occurring contaminants (e.g. arsenic, asbestos, radium, radon etc.)	Future GIS	inorganics, radionuclides
Nonagricultural pesticide application	Land use GIS	nutrients, pesticides
Radioactive sites	GIS	Radionuclides
Recreational activities (e.g. golf courses)	GIS	nutrients, pesticides, inorganics
Runoff	Land use and GIS	pathogens, nutrients, VOCs, pesticides, SOCs, inorganics
Salt water intrusion	Future GIS	Inorganic
Septic systems (Class V UIC-exempt and authorized by permit-by-rule)	Future GIS Census data	pathogens, nutrients, VOCs
Surface impoundments	GIS	pathogens, nutrients, VOCs, pesticides, SOCs, inorganics
Leaking underground storage tanks	GIS	VOCs
Wastewater treatment plants	GIS	pathogens, nutrients, VOCs, SOCs, inorganics, disinfection byproduct formation potential

With the list of potential factors of concern for each contaminant group, SWAP staff reached out to many Local, County, State, and Federal organizations to identify additional potential data-sets. Those data-sets found had varying levels of positional, temporal, and attribute accuracy. SWAP staff weighed the benefits and drawbacks of each data-set and established a final list of data-sets utilized for the susceptibility modeling. The data-sets used can be found in Table 2: GIS Data-sets Utilized for New Jersey SWAP. Descriptions of each data-set follow in the PCSI Data-set Descriptions section.

Preliminary variables were identified for each contaminant category (pesticides, pathogens, etc.) in groundwater and surface water for use in the susceptibility models as shown in Table 3: Preliminary Surface Water Explanatory Variables and Table 4: Preliminary Groundwater Explanatory Variables.

With the preliminary variables established, the PCSI GIS data-sets were clipped by an automated macro language program, written by USGS, to the delineation of each drinking water source. Each of the resulting clipped attribute tables were migrated to a MS Access database. A total of 482 surface water and groundwater preliminary variables were created. These variables were then used in the susceptibility modeling, an exploratory data analysis using univariate and multivariate statistical techniques, and graphical procedures. This analysis determined the susceptibility explanatory variables.

Point Source Reconciliation

The geographic data-sets used in source water assessments created overlap difficulties for both geographic location and attribute data for each potential contaminant site. Many sites have several different permit types that reside in several geographic data-sets. Each data-set potentially had different locational information or used a different mapping method. SWAP staff felt when a site had multiple permits the site should be counted for each permit type. In other words, a site with four permit types was weighted higher than a site with a single permit. In this way sites were ranked by how many permit types were present.

In addition to evaluating the contaminant variables separately, USGS and DEP investigated grouping several point source variables together as a single explanatory variable to determine if a certain subset of point sources produced meaningful results. USGS determined that although several types of point sources are not statistically significant individually, grouping them as a unit could produce statistical significance. DEP and USGS grouped point sources that are similar to each other, and these combinations are known as “Point Source Groupings.”

Point Source Grouping 1: consists of sites on the Known Contaminated Site List and on the Solid Waste Landfill Site list. These point sources are existing contamination problems.

Point Source Grouping 2: consists of New Jersey Pollutant Discharge Elimination System for permitted discharges to surface water, New Jersey Pollutant Discharge Elimination

System storm water discharges, and Compost Facilities. These point sources are potential surface water contamination problems.

Point Source Grouping 3: consists of New Jersey Pollutant Discharge Elimination System discharges for ground water, Solid Waste Resource Recovery Facilities (RRF), Solid Waste Transfer Facilities (SWTF), and Class B Recycling Facilities. These point sources are potential ground water contamination problems. The last three activities (RRF, SWTF, and Class B) are designed not to discharge contamination and degrade ground water. They do handle pollutants, and there is a potential to cause contamination. Thus, they are in the inventory. Facilities that discharge in via a NJPDES/DGW permit are given strict permit limits. The discharge standards are typically at or below the ground water quality standards. For that reason, USGS and DEP felt the NJPDES/DGW activities are closer to things that are not designed to discharge.

Point Source Grouping 4: consists of sites regulated by the DEP Discharge Prevention and Countermeasures Plan regulations and Discharge Cleanup and Removal Plan regulations. These point sources are sources in which contamination currently does not exist, but if a disaster occurs a contamination problem may develop.

Point Source Grouping 5: consists of regulated Underground Storage Tanks. USGS and DEP decided to keep underground storage tanks as a separate point source grouping due to the number of underground storage tanks in New Jersey. There are approximately 19,454 underground storage tank registrations in New Jersey, consisting of active and inactive tanks. Since there are numerous registrations, USGS and DEP did not want these sources to overpower the other point sources and be the deciding factor in determining susceptibility.

Point Source Grouping 6: consists of the entire Potential Contaminant Source Inventory of point sources.

Several point source groupings were combined to determine whether or not these point source groupings had an effect on a source's susceptibility. If a point source grouping combination was found to be significant it was used as an explanatory variable in the susceptibility models.

Table 2: GIS Data-sets Utilized for New Jersey SWAP

Data-Set Title	Data-Set Name	Originator	Publication Date	Modified By
1970s Land Use/Land Classification	giras70s	USGS	1986	
1986 Land Use/Land Classification	nj_itu_spf	NJ Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)		
1995/97 Land Use/Land Classification	nj_itu_spf	NJ Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)	20001201	
20' Elevation Contours	stcon	New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)	1987	
Agricultural land in NJ by township in 1986	twpag86sp	USGS – Eric Vowinkel	2002	Eric Vowinkel
Agricultural land in NJ by township in 1995	twpag95sp	USGS – Eric Vowinkel	2002	Eric Vowinkel
Agricultural land in NJ by township in early 1970s	twpag70sp	USGS – Eric Vowinkel	2002	Eric Vowinkel
All Basins	allbasins	USGS		
All Recreation Areas	allrec	New Jersey Department of Environmental Protection (NJDEP), Division of Science, Research and Technology (DSRT)		
Bedrock Geology of New Jersey	geology	New Jersey Department of Environmental Protection (NJDEP), New Jersey Geologic Survey (NJGS)	1999	
Cemeteries	Cemeteries	New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)	1987	
Census Blocks	nynj_cenblk	Environmental Systems Research Institute, Inc. (ESRI)		
Chrome	chrome			
Class B Recycling Facilities	class_b	New Jersey Department of Environmental Protection (NJDEP), Solid Waste and Hazardous Waste Facilities	199206	
Classification Exception Areas (CEA)	ceapoly	New Jersey Department of Environmental Protection (NJDEP), Site Remediation Program (SRP)	2001	
Combined Sewer Overflows	cso	New Jersey Department of Environmental Protection (NJDEP), Bureau of Safe Drinking Water (BSDW)	2001	

Data-Set Title	Data-Set Name	Originator	Publication Date	Modified By
Compost Facilities	compost	New Jersey Department of Environmental Protection (NJDEP), Solid Waste and Hazardous Waste Facilities		
Currently Known Extents (CKE)	ckepoly	New Jersey Department of Environmental Protection (NJDEP), Site Remediation Program (SRP)	2001	
Dams	dams	New Jersey Department of Environmental Protection (NJDEP), Dam Safety	20000516	
Delaware and Raritan Canal	newcanal	USGS	1995	
Delaware and Raritan Canal Drainage Basin	d_rbasin	USGS and NJWSA	1995	
Delaware River Basin Land Use	delr_lusp83	USGS - National Land Cover Data (NLCD)		
Delaware River Basin Physiographic Provinces	delrphsp83	USGS - Delaware River NAWQA		
Delaware River Drainage Basin HUC11	drbhuc11	Delaware River Drainage Commission (DRBC)		
Delaware River NJ American intake River Reach File	RRF04404	USGS and EPA	19990930	
Delaware River Trenton intake River Reach File	RRF02902	USGS and EPA	19990930	
Discharge Prevention and Countermeasures Plans and Discharge Cleanup and Removal Plans (DPCC) Facilities	dpcc	New Jersey Department of Environmental Protection (NJDEP), Bureau of Safe Drinking Water (BSDW)	2001	
Hydrologic Unit Code 14	huc14	USGS	1994	
Known Contaminated Sites 2001	kcsi2001	New Jersey Department of Environmental Protection (NJDEP), Site Remediation Program (SRP)	20020507	
New Jersey Streams	strm_24k	USGS and NJ Department of Environmental Protection (NJDEP), BGSA		
New Jersey/New York Land Use	njny_lusp83	USGS - National Land Cover Data (NLCD)		

Data-Set Title	Data-Set Name	Originator	Publication Date	Modified By
New York Streams Delaware River Basin	nyhyd	Delaware River Drainage Commission (DRBC)		
NJ Golf Courses	njgolf	Division of Science, Research and Technology (DSRT)	20011109	
NJ Lakes	njlakecov	New Jersey Department of Environmental Protection (NJDEP), Division of Landuse Management, Water Monitoring & Standards, Bureau of Freshwater Biological Monitoring (BFBM)	2003	
NJ Reservoirs	wsma	New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)	1990	
NJ Streams	njstreams	New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)	19981101	
NJDOT Major Roads	dotmajrd	New Jersey Department of Transportation (NJDOT), New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)	1995/1996	
NJDOT Roads	dotrds	New Jersey Department of Transportation (NJDOT), New Jersey Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information and Analysis (BGIA)	1998	
NJPDES-Discharge to Groundwater Permits	njpdes_dgw	New Jersey Department of Environmental Protection (NJDEP), New Jersey Pollutant Discharge Elimination System	20020912	
NJPDES-Discharge to Surface Water Permits	njpdes_dsw	New Jersey Department of Environmental Protection (NJDEP), New Jersey Pollutant Discharge Elimination System	20020912	
NJPDES-Storm Water Permits	njpdes_storm	New Jersey Department of Environmental Protection (NJDEP), New Jersey Pollutant Discharge Elimination System	2002	
Pennsylvania Streams Delaware River Basin	pahyd	Delaware River Drainage Commission (DRBC)		
Physiographic Provinces in New Jersey	physnj_sp83	USGS	1964	
Population Density	cenps_sp83	U.S. Bureau of Census 1990	1990	

Data-Set Title	Data-Set Name	Originator	Publication Date	Modified By
Potable Water Surface Water Intakes	swint_02e	New Jersey Department of Environmental Protection (NJDEP), Bureau of Safe Drinking Water (BSDW)	2002	
Railroads	railr	TIGER	1990	NJDEP
Septic Tank Density	cenps_sp83	U.S. Bureau of Census 1990	1990	
Sewerage Treatment Plants	stploc	New Jersey Department of Environmental Protection (NJDEP), Bureau of Safe Drinking Water (BSDW)	2001	
Soils in New Jersey and New York	bestsoil	U.S. Department of Agriculture, Natural Resources Conservation Service	1995	Leon Kauffman
Solid Waste Landfills	swl	New Jersey Department of Environmental Protection (NJDEP), Solid Waste and Hazardous Waste Facilities		
Solid Waste Resource Recovery Facilities	swrrf	New Jersey Department of Environmental Protection (NJDEP), Solid Waste and Hazardous Waste Facilities		
Solid Waste Transfer Facilities	swtf200011	NJDEP/Solid Waste and Hazardous Waste Facilities		
State Pollutant Discharge Elimination Systems - Ramapo, New York	nyrams83	NY State Department of Environmental Conservation (NYSDEC)/ Division of Water - Region 3		
Surficial Geology of New Jersey	surfgeo_nj	New Jersey Department of Environmental Protection (NJDEP), New Jersey Geologic Survey (NJGS)		
Underground StorageTank (UST) Permits	ust	New Jersey Department of Environmental Protection (NJDEP), Bureau of Safe Drinking Water (BSDW)	2001	
Waste-water Treatment Sites – Rockland County, New York	rkldwws83	USGS - NJ District		
Watersheds	wtrshdr_sp83	USGS New Jersey District	Unknown	
Watersheds	wtrshd_a	USGS New Jersey District	Unknown	

Table 3: Preliminary Surface Water Explanatory Variables

Developed by USGS, describes the explanatory variables used in the surface water modeling.

Constituent/Variable	Pesticides	Nitrate	Volatiles	DBPs	Pathogens	SOCs	Inorganics	Algae/PO4	Radionuclides
INTENSITY VARIABLES									
LAND USE/LAND CLASSIFICATION									
Agriculture	x	x	x				x	x	
a. crop type	x	x						x	
b. animal feed lot		x			x			x	
c. other livestock		x			x			x	
Residential	x	x	x	x	x		x	x	
Commercial	x	x	x	x		x	x	x	
Industrial	x		x	x		x	x		
Wetlands				x	x				
Forest				x	x				
Golf (#)	x	x			x			x	
OPEN SPACE									
a. parks				x	x				
b. other					x				
Open water	x								
a. Lakes					x				
b. Lakes/motorboats									
Rights of way	x								
mi. of 2 lane Rds/mi2							x		
ATTRIBUTES									
Soil loss potential	x	x						x	
Soil leach potential	x	x						x	x
Soil organic content	x								
Soil Ph	x								
Water PH	x								
Water temp	x								
Dissolved Oxygen	x								
Population	x	x	x		x		x	x	
Ag. Fertilizer Appl.		x						x	
Com. Fer.Sales/County		x						x	
Septic/sewered		x			x			x	
Pesticide Appl	x								
Geology									x
POINT SOURCES									
Municipal STPs		x	x	x	x		x	x	
Industrial TP			x			x	x		
Hazardous Waste			x			x	x		x
Landfills			x			x	x		
Storage sites			x			x			x
Disposal sites			x			x			x
Composting			x	x	x			x	
SENSITIVITY VARIABLES									
Reservoir Storage									
Stream Intake									
Size of watershed									
Average slope									
Purveyor-owned land									

Table 4: Preliminary Groundwater Explanatory Variables

Developed by USGS, describes the explanatory variables used in the groundwater modeling.

Constituent/Variable	<i>Pesticides</i>	Nitrates	<i>VOCs</i>	DBPs	<i>Pathogens</i>	SOCs	<i>Inorganics</i>	Radionuclides
INTENSITY VARIABLES								
LAND USE/LAND CLASSIFICATION								
Agriculture	x	x	x	x			x	x
a. crop type	x	x					x	
b. animal feed lot		x			x		x	
c. other livestock		x			x		x	
Residential	x	x	x	x	x	x	x	x
Commercial	x	x	x	x	x	x	x	x
Industrial	x	x	x	x	x	x	x	x
Wetlands		x	x	x			x	
Forest		x	x	x			x	
Golf courses, gas stations, cemeteries, military bases, mines	x	x	x	x	x	x	x	x
OPEN SPACE								
a. parks & schools, b. other	x	x	x	x	x	x	x	
Open Water				x	x	x		
a. Lakes, b. Lakes w. motorboats	x		x			x		
Rights of way	x		x			x	x	
Roads (2 lane rd/mi. ²)	x		x			x	x	
Population	x	x	x		x	x	x	
Pesticide Application (Urb/Ag/Ind – Fert/Herb/Ins)	x	x						
Com. Fer.Sales/Co.	x	x						x
Septic/sewered		x	x		x		x	
Distance from:								
a. Roads	x	x	x				x	
b. Golf courses	x	x	x					
c. Land - use - agri/urban (res - comm)/undevel	x	x	x		x			x
d. Septic			x			x		
e. Rights of way	x	x	x					
f. gas stations	x	x	x					
POINT SOURCES								
Hazardous Waste			x		x	x	x	x
Landfills			x	x	x	x	x	
Storage sites	x		x			x	x	x
Disposal sites	x		x			x	x	
Compost facilities	x		x	x	x	x	x	
Underground storage tanks			x			x	x	
Distance from point source	x		x		x	x	x	x
Permitted discharges	x		x		x	x		
SENSITIVITY VARIABLES								
Geology	x		x		x	x	x	x
Confined/Unconfined	x	x	x	x	x	x	x	x
Hydraulic conductivity	x	x	x	x	x	x	x	x

Constituent/Variable	<i>Pesticides</i>	Nitrates	<i>VOCs</i>	DBPs	<i>Pathogens</i>	SOCs	<i>Inorganics</i>	Radionuclides
Surficial Geology	x	x	x	x	x	x	x	x
Soil leach/loss potential	x	x	x	x		x	x	x
Soil organic content	x	x	x	x		x	x	x
Soil pH	x		x	x		x	x	x
Average slope (elev.)	x	x						
Distance from:	x	x	x	x	x	x	x	x
a. Surface water	x	x	x	x	x	x	x	x
b. Outcrop	x	x	x	x	x	x	x	x
c. Areal divides	x		x					
Purveyor owned land								
Well Construction								
a. Well Depth	x	x	x	x	x	x		
b. Depth to Open Int.	x	x	x	x	x	x		x
c. Depth of screen below WT	x	x	x	x	x	x		
WATER QUALITY CONSTITUENTS								
Water pH	x		x					x
Water Temp	x		x					
Diss. Oxygen	x	x						
Other wq constit (incl. Mn, Fe, N, NH3, F, alk.)	x	x						x

PCSI Data-set Descriptions

1970 GIRAS

Description

GIRAS Land use/land cover data. This land-use/land-cover data was developed from air photos taken in the late 60's, early 70's. The mapping was done at a scale of 1:250,000. U.S. Geological Survey, 1986, Land use and Land cover digital data from 1:250,000- and 1:100,000-scale maps. National Mapping Program Technical Instructions, Data Users Guide 4. 36 p.

1986 Land Use/Land Classification

Description

Land use/land cover from NJDEP 1986 ITU. Statewide coverage was created by appending county coverages. The data layers were created by combining two separate data sets, the land use/land cover layers from the Integrated Terrain Unit Maps (ITUM) and the freshwater wetlands (FWW) layers generated under the New Jersey Freshwater Wetlands Mapping Program. While the mapping specifications and intents of these two mapping programs were different, the data generated by these efforts are often used together to more fully characterize the land use/land cover of New Jersey. For those not familiar with the two data sets, the use of them together can result in some confusion. To eliminate this confusion and make these extremely important data sets as useful as possible, the NJDEP Bureau of Geographic Information and Analysis has digitally combined the two separate data layers for each county into single integrated county land use/land cover (LULC) coverages. Land use/land cover interpreted from 1986 JSS CIR (1:58000) photos. Geology recompiled from 1906 (1:63360) Atlas Sheet. Soils recompiled from 1966 SCS Soil Survey. Floodprone areas recompiled from paper USGS flood maps. Land use/land cover mapped using modified Anderson et al. (1976) classification system. Other sources rescaled to 1:24000 and recompiled to 1986 photoquads based on coincident features. There are no soil inclusions.

1995/97 Land Use/Land Classification

Description

Land use from NJDEP for 1995-97. State coverage created by merging shapefiles in ARCVIEW, turning to coverage, and projecting. The shapefile was created by comparing the 1986 land use/land cover (LU/LC) layer from NJ DEP's geographical information systems (GIS) database to 1995/97 color infrared (CIR) imagery and delineating areas of change. LU/LC changes were captured by adding new line work and attribute data for the 1995/97 land use directly to the base data layer. The classification system used was a modified Anderson et al., classification system. An impervious surface (IS) code was also assigned to each LU/LC polygon based on the percentage of impervious surface within each polygon as of 1995/97. The 1986 baseline data layer was composed of two originally separate layers – the LU/LC from the Integrated Terrain Unit Mapping (ITUM) project and the Freshwater Wetlands (FWW) data from the New Jersey Freshwater Wetlands Mapping Project. NJDEP integrated the two themes into one coverage in 1996. Included in the baseline LU/LC data set, as part of the original land use layer from the ITUM mapping, were the statewide hydrology boundaries for areas below the Upper Wetlands Boundary (UWB) line. Digital images were created from 1:40000 scale NAPP CIR images by USGS, referenced in UTM, NAD83. These images were then projected to New Jersey State Plane Feet Coordinates (NJSPF), NAD83, and compressed to JPEG images files. These NJSPF compressed files were used in the development of this data set.

20' Elevation Contours

Description

This dataset is a graphical representation of New Jersey's statewide elevation contours with twenty foot intervals. It was created from the USGS DEM 100 meter lattice.

Agricultural Land in NJ by Township in 1986

Description

This coverage was created by reselecting agricultural land use from the 1986 NJDEP ITU coverage. This coverage was then intersected with the twp_24k coverage in the USGS GIS library.

Agricultural Land in NJ by Township in 1995

Description

This coverage was created by reselecting agricultural land use from the 1995 NJDEP ITU coverage. This coverage was then intersected with the twp_24k coverage in the USGS GIS library.

Agricultural Land in NJ by Township in early 1970s

Description

This coverage was created by reselecting agricultural land use from the USGS GIRAS coverage. This coverage was then intersected with the twp_24k coverage in the USGS GIS library.

Allbasins

Description

GIS data-set containing the HUC14s and mapped sub-watersheds.

All Recreation Areas

Description

This spatially accurate data was created from the 1995/1997 LULC coverage created by the NJDEP. Recreational lands were selected from the original data-set and exported to create the new data-set.

Cemeteries

Description

Point data-set of point coverage of place names and features found on USGS 7.5' topoquad series, cemeteries in New Jersey.

Chrome

Description

Chromium contamination sites in New Jersey.

Class B Recycling Facilities

Description

N.J.A.C. 7:26A-1.3 (Appendix L) "Class B recyclable material" means a source separated recyclable material which is subject to Department approval prior to receipt, storage, processing or transfer at a recycling center in accordance with N.J.S.A. 13:1E-99.34b, and which includes, but is not limited to, the following: 1. Source separated, non-putrescible, waste concrete, asphalt, brick, block, asphalt-based roofing scrap and wood waste; 2. Source separated, non-putrescible, waste materials other than metal, glass, paper, plastic containers, corrugated and other cardboard resulting from construction, remodeling, repair and demolition operations on houses, commercial buildings, pavements and other structures; 3. Source separated whole trees, tree trunks, tree parts, tree stumps, brush and leaves provided that they are not composted; 4. Source separated scrap tires; and 5. Source separated petroleum contaminated soil.

Classification Exception Areas (CEA)

Description

This data layer identifies those Known Contaminated Sites or sites on the Site Remediation Program (SRP) Comprehensive Site List where groundwater contamination has been identified and, where appropriate, the NJDEP has established a Classification Exception Area (CEA). CEAs are institutional controls in geographically defined areas within which the New Jersey Ground Water Quality Standards (NJGWQS) for specific contaminants have been exceeded. When a CEA is designated for an area, the constituent standards and designated aquifer uses are suspended for the term of the CEA.

Combined Sewer Overflows (CSO)

Description

Combined Sewer Overflows (CSOs) are designed to carry both sanitary sewage and stormwater at all times. When it rains these systems sometimes lack the necessary capacity to carry all of the sewage and stormwater, causing an overflow into a water body. The overflow may contain pathogens, floatable debris, toxic metals, settleable solids, toxic organic chemicals, nutrients, and organic contaminants. There are approximately 280 individual CSO discharge points affecting 10 different watersheds (Hudson River, Passaic River, Second River, Hackensack River, Elizabeth River, Rahway River, Delaware River, Arthur Kill, Raritan River, and the Elizabeth Channel). SWAP acquired a listing of CSOs from Ram Pyrarilal/Environmental Regulation (4/2000) which included latitude and longitude coordinates for the outfalls. The coordinates were converted into State Plane, NAD83. A database was built from the information in order to display this data in a GIS format.

Compost Facilities

Description

N.J.A.C. 7:26A-1.3 (Appendix L) "Class C recyclable material" means a source separated compostable material which is subject to Department approval prior to the receipt, storage, processing or transfer at a recycling center in accordance with N.J.S.A. 13:1E-99.34b, and which includes, but is not limited to, organic materials such as: 1. Source separated food waste; 2. Source separated vegetative food waste; and 3. Source separated yard trimmings.

Currently Known Extents (CKE)

Description

This data layer contains information about areas in the state which are specified as the Currently Known Extent (CKE) of ground water pollution. CKE areas are geographically defined areas within which the local ground water resources are known to be compromised because the water quality exceeds drinking water and ground water quality standards for specific contaminants. Historically, a number of the CKEs have also been identified as Well Restriction Areas (WRAs). The regulatory authority for developing CKEs is in N.J.A.C. 7:1J, entitled Processing of Damage Claims Pursuant to the Spill Compensation and Control Act. CKEs are used by NJDEP staff, water purveyors, and local officials to make decisions concerning appropriate treatment and/or replacement of contaminated drinking water supplies.

Dams

Description

Dams in New Jersey.

Delaware and Raritan Canal

Description

This is a coverage of the center-line of the Delaware and Raritan Canal in New Jersey. Historically, the canal was used for transportation, and now is a water supply conduit. The canal starts on the Delaware River north of Bulls Island and heads south towards Trenton and then northeast to its end in New

Brunswick. The coverage was digitized on screen using infrared and black&white digital orthophoto quarter quads (doqqs) in the background.

Delaware and Raritan Canal Drainage Basin

Description

This is a coverage created by Don Rice, of drainage basins that are influent to the Delaware and Raritan Canal. It was edited from the 1:24,000 basins coverage from USGS district GIS library.

Delaware River Basin Land Use

Description

This Delaware River Basin land use coverage was clipped from the USGS National Land Cover Data Set by the USGS Delaware River NAWQA.

Delaware River Basin Physiographic Province

Description

This physiographic province coverage of the Delaware River Basin came from the USGS Delaware River NAWQA.

Delaware River Drainage Basin HUC11

Description

Delaware River Basin hydrologic unit code 11 (HUC11) polygon dataset obtained by NJ SWAP from the Delaware River Basin Commission (2001).

Delaware River NJ American Intake River Reach File

Description

The spatial data coverage ERF1DW was modified from the ERF1 digital coverage of river reaches in the conterminous United States (Alexander and others, 1999). The ERF1DW coverage is designed to support the CD-ROM publication of selected characteristics of the source-water areas of 525 surface-water intakes operated by the largest 437 public water suppliers in the conterminous United States (i.e., suppliers that serve populations greater than 10,000 with intakes in watersheds larger than 1,000 square kilometers). Separate digital coverages (i.e., subsets of ERF1DW) that define the source-water area for each of the 525 drinking water intakes are contained on the CD-ROM. The ERF1DW coverage includes the ERF1 enhancements to the U.S. Environmental Protection Agency's River Reach File 1 designed to ensure the hydrologic integrity of the digital reach traces and to quantify the time of travel of river reaches and reservoirs see U.S.EPA (1996) for a description of the original RF1].

Delaware River Trenton Intake River Reach File

Description

The spatial data coverage ERF1DW was modified from the ERF1 digital coverage of river reaches in the conterminous United States (Alexander and others, 1999). The ERF1DW coverage is designed to support the CD-ROM publication of selected characteristics of the source-water areas of 525 surface-water intakes operated by the largest 437 public water suppliers in the conterminous United States (i.e., suppliers that serve populations greater than 10,000 with intakes in watersheds larger than 1,000 square kilometers). Separate digital coverages (i.e., subsets of ERF1DW) that define the source-water area for each of the 525 drinking water intakes are contained on the CD-ROM. The ERF1DW coverage includes the ERF1 enhancements to the U.S. Environmental Protection Agency's River Reach File 1 designed to ensure the hydrologic integrity of the digital reach traces and to quantify the time of travel of river reaches and reservoirs see U.S.EPA (1996) for a description of the original RF1].

Discharge Prevention and Countermeasures Plans and Discharge Cleanup and Removal Plans Facilities (DPCC)

Description

This data was originally developed by New Jersey Department of Environmental Protection - Bureau of Geographic Information and Analysis (20000128) and represents point sites regulated by NJDEP under one or more regulatory permitting programs. The NJDEP Department Integrated Facility File (DIFF) served as the database that supplied the list of sites that were captured using differential (mostly post processed) GPS. Permitting programs included in DIFF were: Contaminated Site Listing, Discharge Prevention (DPCC), NJ Pollution Discharge Elimination System (NJPDES), Emissions Monitoring (Air), Emergency Response, Landfill Billing, Hazardous Waste Manifest, Land Use, Right To Know, Solid Waste, Toxic Catastrophe Prevention, Underground Storage Tanks, and Solid Waste Haulers. For the purposes of SWAP the data-set was modified by SWAP personnel. All DPCC sites were reselected, exported, and a statewide coverage of DPCC sites created.

Hydrologic Unit Code 14 (HUC14)

Description

Sub-Watersheds (HUC14): The watersheds shown in this layer are the smallest watersheds mapped by the NJDEP and the USGS, with each covering only approximately 3,000 acres. The USGS calls the watersheds Hydrologic Units. Each basic unit is a unique feature, and is given a unique Hydrologic Unit Code (HUC), which is 14 digits long. The HUC is hierarchical. Larger and larger watersheds can be defined using different portions of the 14 digit code to define the watershed boundaries. These HUC14 watersheds form the basis for the other watershed layers.

Known Contaminated Sites 2001 (KCSL)

Description

The Known Contaminated Sites List for New Jersey 2001 are those sites and properties within the state where contamination of soil or ground water has been identified or where there has been, or there is suspected to have been, a discharge of contamination. This list of Known Contaminated Sites may include sites where remediation is either currently under way, required but not yet initiated or has been completed. The data included here dates from 2001. It is important to note that some of the cases listed may have been fully remediated and should no longer be listed as known contaminated sites. Additionally new contaminated sites have been identified since the creation of this list and are not included here. For further information contact NJDEP's Site Remediation Programs (SRP) lead program, which are identified with each site listed in this data base. Contact information for SRPs lead program can be acquired at www.state.nj.us/dep/srp.

- DEP's Site Remediation Program is responsible for governing the following laws:
 - Federal Superfund Program
 - Federal Resource Conservation and Recovery Act (RCRA) Corrective Action Program
 - New Jersey's Industrial Site Recovery Act (ISRA)
 - New Jersey's Hazardous Discharge Site Remediation Act
 - New Jersey's Underground Storage of Hazardous Substances Act (UST)
 - New Jersey's Spill Compensation and Control Act
 - New Jersey's Solid Waste Management Act
 - New Jersey's Water Pollution Control Act
- As of December 31, 1998 the CSL database contained more than 30,000 sites in NJ.
 - 9,235 sites "assigned to a program"
 - 2,202 sites "awaiting assignment"
 - 18,636 sites that are considered "No Further Action" (NFA). NFAs are not in the KCSL GIS coverage.

As of December 1998 there were 31,804 active underground storage tanks (UST), of these only known or suspected leaking tanks will be on the CSL.

New Jersey/New York Land Use

Description

This New Jersey/New York land use coverage was clipped from the USGS National Land Cover Data Set by the USGS Delaware River NAWQA.

New York Streams Delaware River Basin

Description

Streams in the Delaware River Drainage Basin in the state of New York line data-set obtained by NJ SWAP from the Delaware River Basin Commission (2001).

NJ Golf Courses

Description

The shapefile represents the fairway, green and tee areas of all the golf courses in New Jersey. It was created by selecting all recreation polygons from the 1995/97 NJDEP land use/land cover (LU/LC) file. All recreation polygons were then compared to the 1995 digital aerial photographs to confirm the presence or absence of a golf course. Golf course parcels were retained for the golf file. Following this the Golf Digest Places to Play Travel Planner (DeLorme, 2000) software digest was compared to the golf courses parcels identified and names were added to each course. Over 5 individual sources were examined to compile a complete listing of courses in New Jersey (public, private, regulation, executive size, etc.) . The draft file was sent to Curtis Brown (Pesticide Regulation, NJDEP) for comparison against the pesticide permit files. Several additions or corrections were made based on these NJDEP records, confirmed with telephone calls to the course in question. Finally, all parcels were dissolved based on the course name. There are 256 courses identified and 553 polygons (Many courses show as discontinuous polygons because fairways/green/tee zones are separated by tracts of wetland, forest or other land covers. The purpose of the file is to determine course acreage to assist estimating the amount of pesticide, fertilizer, and herbicide used on an annual basis. Therefore substantial (1 acre or more) tracts of forest or wetlands are not included in a course's polygons, although these areas may be owned by the Golf Course.

NJ Lakes

Description

This spatially accurate data was created from the 1995/1997 LULC coverage created by the NJDEP. Natural and artificial lakes were selected from the coverage and then dissolved. Name attributes from the spatially inaccurate USGS coverage (lake) were attached via a centroid coverage. Other sources of lake names include non-digital lake monitoring data, atlases, digital datasets, and a NJ dams coverage.

NJ Reservoirs

Description

This data is a graphical representation of water supply management areas which include- existing and proposed reservoirs, adjacent purveyor owned property, and well fields +50 acres large.

NJ Streams

Description

Hydrography line (network) coverages for NJ counties.

NJDOT Major Roads

Description

This data is a graphical representation showing NJDOT statewide-based major roads. The major road network for NJ was originally digitized from USGS 7.5 minute paper quadrangles and corrected to digital orthophotography (1991). Automation date: 1985-1989; corrected to 1991/92 digital orthophotography (refer to 1991 digital orthophotography metadata text), circa 1995/96.

NJDOT Roads

Description

This data is a graphical representation of the various roads in New Jersey. The final data was produced from USGS 7.5 Minute Quadrangles. Data was automated from 1985-1989; corrected to 1991/92 digital orthophotography (refer to 1991 digital orthophotography metadata text), circa 1995/96. The road data were delivered to DEP by NJDOT in September 1998 as dgn's. The road layers were selected out of the .dgn files and converted to shapefiles for use by the NJDEP. Please note that there are no street name attributes associated with line features in this data.

New Jersey Pollutant Discharge Elimination System-Discharge to Groundwater Permits (NJPDES-DGW)

Description

New Jersey Pollutant Discharge Elimination System (NJPDES) ground water discharge pipe GIS point coverage compiled from GPSed locations, NJPDES databases, and permit applications. This coverage contains the ground water discharge points for the active as well as terminated pipes.

Types of activities include: surface impoundments, infiltration/percolation lagoons, overland flow systems, and spray irrigation systems. NJPDES/DGW also includes underground injection control (UIC) permits.

Some permitted activities would include:

- Sanitary septic systems which do not conform to the “Standards for Construction of Individual Subsurface Sewage Disposal Systems.” These types of UICs typically are considered not to “conform” because they serve more than one dwelling.
- Any septic system receiving industrial wastewater.
- True wastewater injection wells.
- Subsurface trench systems.
- Dry wells.
- Seepage pits.

New Jersey Pollutant Discharge Elimination System-Discharge to Surface Water Permits (NJPDES-DSW)

Description

New Jersey Pollutant Discharge Elimination System (NJPDES) surface water discharge pipe GIS point coverage compiled from GPSed locations, NJPDES databases, and permit applications. This coverage contains the surface water discharge points and the receiving waters coordinates for the active as well as terminated pipes. There data-set includes several permit types:

- Industrial Minor/Major – Based on type of activities at each site not necessarily contaminants or flow.
- Municipal Minor/Major – Cutoff is at 1 MGD.

New Jersey Pollutant Discharge Elimination System -Storm Water Permits (NJPDES-Storm)

Description

New Jersey Pollutant Discharge Elimination System (NJPDES) Storm Water Permits. Examples of permitted facilities are:

- Junk yards
- Animal feed Lots
- Composting Facilities
- Salt piles

Pennsylvania Streams Delaware River Basin

Description

Streams in the Delaware River Drainage Basin in the state of Pennsylvania line data-set obtained by NJ SWAP from the Delaware River Basin Commission (2001).

Population Density

Description

This coverage came from the 1990 U.S. Bureau of Census coverage that was in the NJ District GIS Library. The coverage that was selected to compute the demographic data was the Census Block Group. The septic tank density was calculated by dividing the number of people by the area of the census block group. The septic tank density was calculated by dividing the number of private sewers by the area of the census block group.

Potable Water Surface Water Intakes

Description

This data set contains the Potable Surface Water Intakes for Community and Non-Community Drinking Water Systems in the State of New Jersey. The data set includes intakes on rivers, reservoirs, and finished water reservoirs.

Railroads

Description

Railroads in New Jersey mapped from TIGER data.

Septic Tank Density

Description

This coverage came from the 1990 U.S. Bureau of Census coverage that was in the NJ District GIS Library. The coverage that was selected to compute the demographic data was the Census Block Group. The septic tank density was calculated by dividing the number of people by the area of the census block group. The septic tank density was calculated by dividing the number of private sewers by the area of the census block group.

Sewerage Treatment Plants (STP)

Description

SWAP staff compiled a list of currently operating STPs, (EPA Envirofacts, NJDEP/Environmental Regulation, Julio Collazo) as of 5/30/2001. This list, related to the GIS coverage for NJPDES/DSW permits, provides coordinates to map the STPs, which includes the outfalls.

Solid Waste Landfills (SWL)

Description

This data represents solid waste landfills in New Jersey. The points delineated in this data were taken from original paper topoquads marked by field scientists. These delineations were completed by employees of the Division of Solid Waste. At a later date seven more sites were added by recompiling data to mylar topoquads and digitizing polygons into the GIS.

Solid Waste Resource Recovery Facilities (SWRRF)

Description

N.J.A.C. 7:26 1-4 (Appendix K) Resource recovery facility means any place, equipment, device or plan designed and/or operated to separate or process solid or liquid waste into usable secondary materials, including fuel and energy.

Solid Waste Transfer Facilities (SWTF)

Description

N.J.A.C. 7:26 1-4 (Appendix K) "Transfer station" means a solid waste facility at which solid waste is transferred from one solid waste vehicle to another solid waste vehicle, including a rail car, for transportation to an off-site solid waste facility, except that a "transfer station" shall not include any solid waste facility at which solid waste is received for onsite transfer and processing or disposal utilizing facility-owned or operated equipment and vehicles operated therefore a transfer station may not perform any material recovery operations.

State Pollutant Discharge Elimination Systems-Ramapo, New York

Description

This is a coverage of State Pollutant Discharge Elimination Systems (SPDES) for the Ramapo area of NY. Several points are outside of the Ramapo area.

Underground Storage Tank Permits (UST)

Description

This data was originally developed by New Jersey Department of Environmental Protection - Bureau of Geographic Information and Analysis (20000128) and represents point sites regulated by NJDEP under one or more regulatory permitting programs. The NJDEP Department Integrated Facility File (DIFF) served as the database that supplied the list of sites that were captured using differential (mostly post processed) GPS. Permitting programs included in DIFF were: Contaminated Site Listing, Discharge Prevention (DPCC), NJ Pollution Discharge Elimination System (NJPDES), Emissions Monitoring (Air), Emergency Response, Landfill Billing, Hazardous Waste Manifest, Land Use, Right To Know, Solid Waste, Toxic Catastrophe Prevention, Underground Storage Tanks, and Solid Waste Haulers. For the purposes of SWAP the data-set was modified by SWAP personnel. All UST sites were reselected, exported, and a statewide coverage of UST sites created.

Wastewater Treatment Sites-Rockland County, New York

Description

This is a coverage of waste-water treatment sites in Rockland County, NY. This coverage was only used to view locations and was created using latitude/longitude of a site with the Arc command 'createpoint'

Table 5: List of Preliminary Variables

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	1PLU70	Predominant Land-use Level 1 within delineation, 1970 Land-use
GW	Intensity	1PLU70_1	Predominant Land-use Level 1 within delineation, 1970 Land-use, Tier 1
GW	Intensity	1PLU86	Predominant Land-use Level 1 within delineation, 1986 Land-use
GW	Intensity	1PLU86_1	Predominant Land-use Level 1 within delineation, 1986 Land-use, Tier 1
GW	Intensity	1PLU95_1	Predominant Land-use Level 1 within delineation, 1995-1997 Land-use, Tier 1
GW	Intensity	1PLU70_2	Predominant Land-use Level 1 within delineation, 1970 Land-use, Tier 2
GW	Intensity	1PLU86_2	Predominant Land-use Level 1 within delineation, 1986 Land-use, Tier 2
GW	Intensity	1PLU95_2	Predominant Land-use Level 1 within delineation, 1995-1997 Land-use, Tier 2
GW	Intensity	1PLU70_3	Predominant Land-use Level 1 within delineation, 1970 Land-use, Tier 3
GW	Intensity	1PLU86_3	Predominant Land-use Level 1 within delineation, 1986 Land-use, Tier 3
GW	Intensity	1PLU95_3	Predominant Land-use Level 1 within delineation, 1995-1997 Land-use, Tier 3
GW	Intensity	AG_SqMi	Agricultural Land within delineation, in Square Miles, 1995-1997 Land-use
GW	Intensity	ALACHLOR_1	Amount of Alachlor applied within delineation, Tier 1, in pounds
GW	Intensity	ALACHLOR_2	Amount of Alachlor applied within delineation, Tier 2, in pounds
GW	Intensity	ALACHLOR_3	Amount of Alachlor applied within delineation, Tier 3, in pounds
GW	Intensity	ATRAZINE_1	Amount of Atrazine applied within delineation, Tier 1, in pounds
GW	Intensity	ATRAZINE_2	Amount of Atrazine applied within delineation, Tier 2, in pounds
GW	Intensity	ATRAZINE_3	Amount of Atrazine applied within delineation, Tier 3, in pounds
GW	Intensity	BARREN_SqMi	Barren Land within delineation, in Square Miles, 1995-1997 Land-use
GW	Intensity	CARBOFURAN_1	Amount of Carbofuran applied within delineation, Tier 1, in pounds
GW	Intensity	CARBOFURAN_2	Amount of Carbofuran applied within delineation, Tier 2, in pounds
GW	Intensity	CARBOFURAN_3	Amount of Carbofuran applied within delineation, Tier 3, in pounds
GW	Intensity	CSI_SqMi_1	Number of Contaminant Source Inventory sites per Square Mile within delineation, Tier 1
GW	Intensity	CSI_SqMi_2	Number of Contaminant Source Inventory sites per Square Mile within delineation, Tier 2
GW	Intensity	CSI_SqMi_3	Number of Contaminant Source Inventory sites per Square Mile within delineation, Tier 3
GW	Intensity	DevUndev_1	Predominant Land-use within delineation: Developed Land (Urban & Agricultural) or Undeveloped Land (Barren, Forest, Water, & Wetlands), Tier 1
GW	Intensity	DevUndev_2	Predominant Land-use within delineation: Developed Land (Urban & Agricultural) or Undeveloped Land (Barren, Forest, Water, & Wetlands), Tier 2
GW	Intensity	DevUndev_3	Predominant Land-use within delineation: Developed Land (Urban & Agricultural) or Undeveloped Land (Barren, Forest, Water, & Wetlands), Tier 3

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	FOREST_SqMi	Forested Land within delineation, in Square Miles, 1995-1997 Land-use
GW	Intensity	LINDANE_1	Amount of Lindane applied within delineation, Tier 1, in pounds
GW	Intensity	LINDANE_2	Amount of Lindane applied within delineation, Tier 2, in pounds
GW	Intensity	LINDANE_3	Amount of Lindane applied within delineation, Tier 3, in pounds
GW	Intensity	n_CEA_1	Number of Classified Exemption Areas within delineation, Tier 1
GW	Intensity	n_CEA_2	Number of Classified Exemption Areas within delineation, Tier 2
GW	Intensity	n_CEA_3	Number of Classified Exemption Areas within delineation, Tier 3
GW	Intensity	n_CEMETERIES_1	Number of Cemeteries within delineation, Tier 1
GW	Intensity	n_CEMETERIES_2	Number of Cemeteries within delineation, Tier 2
GW	Intensity	n_CEMETERIES_3	Number of Cemeteries within delineation, Tier 3
GW	Intensity	n_CKE_1	Number of Currently Known Extent within delineation, Tier 1
GW	Intensity	n_CKE_2	Number of Currently Known Extent within delineation, Tier 2
GW	Intensity	n_CKE_3	Number of Currently Known Extent within delineation, Tier 3
GW	Intensity	n_compost_1	Number of Class C Compost Facilities within delineation, Tier 1
GW	Intensity	n_compost_2	Number of Class C Compost Facilities within delineation, Tier 2
GW	Intensity	n_compost_3	Number of Class C Compost Facilities within delineation, Tier 3
GW	Intensity	n_cso_1	Number of Combined Sewer Overflow within delineation, Tier 1
GW	Intensity	n_cso_2	Number of Combined Sewer Overflow within delineation, Tier 2
GW	Intensity	n_cso_3	Number of Combined Sewer Overflow within delineation, Tier 3
GW	Intensity	n_dams_1	Number of Dams within delineation, Tier 1
GW	Intensity	n_dams_2	Number of Dams within delineation, Tier 2
GW	Intensity	n_dams_3	Number of Dams within delineation, Tier 3
GW	Intensity	n_dpcc_1	Number of Discharge Prevention and Countermeasure Plan and Cleanup & Removal Plan Sites within delineation, Tier 1
GW	Intensity	n_dpcc_2	Number of Discharge Prevention and Countermeasure Plan and Cleanup & Removal Plan Sites within delineation, Tier 2
GW	Intensity	n_dpcc_3	Number of Discharge Prevention and Countermeasure Plan and Cleanup & Removal Plan Sites within delineation, Tier 3
GW	Intensity	n_kcsi2001_1	Number of Known Contaminant Sites within delineation, 2001, Tier 1
GW	Intensity	n_kcsi2001_2	Number of Known Contaminant Sites within delineation, 2001, Tier 2
GW	Intensity	n_kcsi2001_3	Number of Known Contaminant Sites within delineation, 2001, Tier 3
GW	Intensity	n_njpdcs_dgw_1	Number of NJPDES Discharge to Ground Water sites within delineation, Tier 1

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	n_njpdcs_dgw_2	Number of NJPDES Discharge to Ground Water sites within delineation, Tier 2
GW	Intensity	n_njpdcs_dgw_3	Number of NJPDES Discharge to Ground Water sites within delineation, Tier 3
GW	Intensity	n_njpdcs_dsw_1	Number of NJPDES Discharge to Surface Water sites within delineation, Tier 1
GW	Intensity	n_njpdcs_dsw_2	Number of NJPDES Discharge to Surface Water sites within delineation, Tier 2
GW	Intensity	n_njpdcs_dsw_3	Number of NJPDES Discharge to Surface Water sites within delineation, Tier 3
GW	Intensity	n_njpdcs_storm_1	Number of NJPDES Storm Water Discharge sites within delineation, Tier 1
GW	Intensity	n_njpdcs_storm_2	Number of NJPDES Storm Water Discharge sites within delineation, Tier 2
GW	Intensity	n_njpdcs_storm_3	Number of NJPDES Storm Water Discharge sites within delineation, Tier 3
GW	Intensity	n_STPloc_1	Number of Sewerage Treatment Plant locations within delineation, Tier 1
GW	Intensity	n_STPloc_2	Number of Sewerage Treatment Plant locations within delineation, Tier 2
GW	Intensity	n_STPloc_3	Number of Sewerage Treatment Plant locations within delineation, Tier 3
GW	Intensity	n_swf_1	Number of Solid Waste Landfills within delineation, Tier 1
GW	Intensity	n_swf_2	Number of Solid Waste Landfills within delineation, Tier 2
GW	Intensity	n_swf_3	Number of Solid Waste Landfills within delineation, Tier 3
GW	Intensity	n_swtf200011_1	Number of Solid Waste Transfer Facilities within delineation, 11/2000, Tier 1
GW	Intensity	n_swtf200011_2	Number of Solid Waste Transfer Facilities within delineation, 11/2000, Tier 2
GW	Intensity	n_swtf200011_3	Number of Solid Waste Transfer Facilities within delineation, 11/2000, Tier 3
GW	Intensity	n_TotalCSI_1	Number of Contaminant Source Inventory Sites within delineation, Tier 1
GW	Intensity	n_TotalCSI_2	Number of Contaminant Source Inventory Sites within delineation, Tier 2
GW	Intensity	n_TotalCSI_3	Number of Contaminant Source Inventory Sites within delineation, Tier 3
GW	Intensity	n_ust_1	Number of Underground Storage Tanks within delineation, Tier 1
GW	Intensity	n_ust_2	Number of Underground Storage Tanks within delineation, Tier 2
GW	Intensity	n_ust_3	Number of Underground Storage Tanks within delineation, Tier 3
GW	Intensity	p_1PLU70	% Predominant Land-use Level 1 within delineation, 1970 Land-use
GW	Intensity	p_1PLU70_1	% Predominant Land-use Level 1 within delineation, 1970 Land-use, Tier 1
GW	Intensity	p_1PLU86	% Predominant Land-use Level 1 within delineation, 1986 Land-use
GW	Intensity	p_1PLU86_1	% Predominant Land-use Level 1 within delineation, 1986 Land-use, Tier 1
GW	Intensity	p_1PLU95_1	% Predominant Land-use Level 1 within delineation, 1995-1997 Land-use, Tier 1
GW	Intensity	p_1PLU70_2	% Predominant Land-use Level 1 within delineation, 1970 Land-use, Tier 2
GW	Intensity	p_1PLU86_2	% Predominant Land-use Level 1 within delineation, 1986 Land-use, Tier 2
GW	Intensity	p_1PLU95_2	% Predominant Land-use Level 1 within delineation, 1995-1997 Land-use, Tier 2
GW	Intensity	p_1PLU70_3	% Predominant Land-use Level 1 within delineation, 1970 Land-use, Tier 3

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	p_1PLU86_3	% Predominant Land-use Level 1 within delineation, 1986 Land-use, Tier 3
GW	Intensity	p_1PLU95_3	% Predominant Land-use Level 1 within delineation, 1995-1997 Land-use, Tier 3
GW	Intensity	p_AG_70	% Agricultural Land in delineation within delineation, 1970 Land-Use
GW	Intensity	p_AG_70_1	% Agricultural Land in delineation within delineation, Tier 1, 1970 Land-Use
GW	Intensity	p_AG_70_2	% Agricultural Land in delineation within delineation, Tier 2, 1970 Land-Use
GW	Intensity	p_AG_70_3	% Agricultural Land in delineation within delineation, Tier 3, 1970 Land-Use
GW	Intensity	p_AG_86	% Agricultural Land in delineation within delineation, 1986 Land-Use
GW	Intensity	p_AG_86_1	% Agricultural Land in delineation within delineation, Tier 1, 1986 Land-Use
GW	Intensity	p_AG_86_2	% Agricultural Land in delineation within delineation, Tier 2, 1986 Land-Use
GW	Intensity	p_AG_86_3	% Agricultural Land in delineation within delineation, Tier 3, 1986 Land-Use
GW	Intensity	p_AG_95_1	% Agricultural Land in delineation within delineation, Tier 1, 1995-1997 Land-Use
GW	Intensity	p_AG_95_2	% Agricultural Land in delineation within delineation, Tier 2, 1995-1997 Land-Use
GW	Intensity	p_AG_95_3	% Agricultural Land in delineation within delineation, Tier 3, 1995-1997 Land-Use
GW	Intensity	p_BARREN_70	% Barren Land in delineation within delineation, 1970 Land-Use
GW	Intensity	p_BARREN_70_1	% Barren Land in delineation within delineation, Tier 1, 1970 Land-Use
GW	Intensity	p_BARREN_70_2	% Barren Land in delineation within delineation, Tier 2, 1970 Land-Use
GW	Intensity	p_BARREN_70_3	% Barren Land in delineation within delineation, Tier 3, 1970 Land-Use
GW	Intensity	p_BARREN_86	% Barren Land in delineation within delineation, 1986 Land-Use
GW	Intensity	p_BARREN_86_1	% Barren Land in delineation within delineation, Tier 1, 1986 Land-Use
GW	Intensity	p_BARREN_86_2	% Barren Land in delineation within delineation, Tier 2, 1986 Land-Use
GW	Intensity	p_BARREN_86_3	% Barren Land in delineation within delineation, Tier 3, 1986 Land-Use
GW	Intensity	p_BARREN_95_1	% Barren Land in delineation within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_BARREN_95_2	% Barren Land in delineation within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_BARREN_95_3	% Barren Land in delineation within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_COMM_IND_type2_1	% Commercial/Industrial Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_COMM_IND_type2_2	% Commercial/Industrial Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_COMM_IND_type2_3	% Commercial/Industrial Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_Dev_1	% Developed (Urban & Agricultural) Land within delineation, Tier 1, 1995-1997 Land-Use
GW	Intensity	p_Dev_2	% Developed (Urban & Agricultural) Land within delineation, Tier 2, 1995-1997 Land-Use
GW	Intensity	p_Dev_3	% Developed (Urban & Agricultural) Land within delineation, Tier 3, 1995-1997 Land-Use
GW	Intensity	p_FOREST_70	% Forest Land within delineation, 1970 Land-Use
GW	Intensity	p_FOREST_70_1	% Forest Land within delineation, Tier1, 1970 Land-Use

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	p_FOREST_70_2	% Forest Land within delineation, Tier1, 1970 Land-Use
GW	Intensity	p_FOREST_70_3	% Forest Land within delineation, Tier1, 1970 Land-Use
GW	Intensity	p_FOREST_86	% Forest Land within delineation, 1986 Land-Use
GW	Intensity	p_FOREST_86_1	% Forest Land within delineation, Tier1, 1986 Land-Use
GW	Intensity	p_FOREST_86_2	% Forest Land within delineation, Tier1, 1986 Land-Use
GW	Intensity	p_FOREST_86_3	% Forest Land within delineation, Tier1, 1986 Land-Use
GW	Intensity	p_FOREST_95_1	% Forest Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_FOREST_95_2	% Forest Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_FOREST_95_3	% Forest Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_GolfAreaName_1	% Golf Area within delineation, Tier 1
GW	Intensity	p_GolfAreaName_2	% Golf Area within delineation, Tier 2
GW	Intensity	p_GolfAreaName_3	% Golf Area within delineation, Tier 3
GW	Intensity	p_ImpSurf_1	% Impervious Surface within delineation, Tier 1
GW	Intensity	p_ImpSurf_2	% Impervious Surface within delineation, Tier 2
GW	Intensity	p_ImpSurf_3	% Impervious Surface within delineation, Tier 3
GW	Intensity	p_IND_Level2_1	% Industrial Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_IND_Level2_2	% Industrial Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_IND_Level2_3	% Industrial Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_Resid_type2_1	% Residential Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_Resid_type2_2	% Residential Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_Resid_type2_3	% Residential Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_UnDev_1	% Undeveloped (Barren, Forest, Water, & Wetlands) Land within delineation, Tier 1, 1995-1997 Land-Use
GW	Intensity	p_UnDev_2	% Undeveloped (Barren, Forest, Water, & Wetlands) Land within delineation, Tier 2, 1995-1997 Land-Use
GW	Intensity	p_UnDev_3	% Undeveloped (Barren, Forest, Water, & Wetlands) Land within delineation, Tier 3, 1995-1997 Land-Use
GW	Intensity	p_Urb_Rec_type2_1	% Urban/Recreational Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_Urb_Rec_type2_2	% Urban/Recreational Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_Urb_Rec_type2_3	% Urban/Recreational Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_URBAN_70	% Urban Land within delineation, 1970 Land-Use
GW	Intensity	p_URBAN_70_1	% Urban Land within delineation, Tier1, 1970 Land-Use

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	p_URBAN_70_2	% Urban Land within delineation, Tier1, 1970 Land-Use
GW	Intensity	p_URBAN_70_3	% Urban Land within delineation, Tier1, 1970 Land-Use
GW	Intensity	p_URBAN_86	% Urban Land within delineation, 1986 Land-Use
GW	Intensity	p_URBAN_86_1	% Urban Land within delineation, Tier1, 1986 Land-Use
GW	Intensity	p_URBAN_86_2	% Urban Land within delineation, Tier1, 1986 Land-Use
GW	Intensity	p_URBAN_86_3	% Urban Land within delineation, Tier1, 1986 Land-Use
GW	Intensity	p_URBAN_95_1	% Urban Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_URBAN_95_2	% Urban Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_URBAN_95_3	% Urban Land within delineation, Tier1, 1995-1997 Land-Use
GW	Intensity	p_WATER_70	% Water within delineation, 1970 Land-Use
GW	Intensity	p_WATER_70_1	% Water within delineation, Tier 1, 1970 Land-Use
GW	Intensity	p_WATER_70_2	% Water within delineation, Tier 2, 1970 Land-Use
GW	Intensity	p_WATER_70_3	% Water within delineation, Tier 3, 1970 Land-Use
GW	Intensity	p_WATER_86	% Water within delineation, 1986 Land-Use
GW	Intensity	p_WATER_86_1	% Water within delineation, Tier 1, 1986 Land-Use
GW	Intensity	p_WATER_86_2	% Water within delineation, Tier 2, 1986 Land-Use
GW	Intensity	p_WATER_86_3	% Water within delineation, Tier 3, 1986 Land-Use
GW	Intensity	p_WATER_95_1	% Water within delineation, Tier 1, 1995-1997 Land-Use
GW	Intensity	p_WATER_95_2	% Water within delineation, Tier 1, 1995-1997 Land-Use
GW	Intensity	p_WATER_95_3	% Water within delineation, Tier 1, 1995-1997 Land-Use
GW	Intensity	p_WETLANDS_70	% Wetlands within delineation, 1970 Land-Use
GW	Intensity	p_WETLANDS_70_1	% Wetlands within delineation, Tier 1, 1970 Land-Use
GW	Intensity	p_WETLANDS_70_2	% Wetlands within delineation, Tier 2, 1970 Land-Use
GW	Intensity	p_WETLANDS_70_3	% Wetlands within delineation, Tier 3, 1970 Land-Use
GW	Intensity	p_WETLANDS_86	% Wetlands within delineation, 1986 Land-Use
GW	Intensity	p_WETLANDS_86_1	% Wetlands within delineation, Tier 1, 1986 Land-Use
GW	Intensity	p_WETLANDS_86_2	% Wetlands within delineation, Tier 2, 1986 Land-Use
GW	Intensity	p_WETLANDS_86_3	% Wetlands within delineation, Tier 3, 1986 Land-Use
GW	Intensity	p_WETLANDS_95_1	% Wetlands within delineation, Tier 1, 1995-1997 Land-Use
GW	Intensity	p_WETLANDS_95_2	% Wetlands within delineation, Tier 2, 1995-1997 Land-Use
GW	Intensity	p_WETLANDS_95_3	% Wetlands within delineation, Tier 3, 1995-1997 Land-Use
GW	Intensity	SIMAZINE_1	Amount of Simazine applied within delineation, Tier 1, in pounds

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	SIMAZINE_2	Amount of Simazine applied within delineation, Tier 2, in pounds
GW	Intensity	SIMAZINE_3	Amount of Simazine applied within delineation, Tier 3, in pounds
GW	Intensity	URBAN_SqMi	Urban Land within delineation, in Square Miles, 1995-1997 Land-use
GW	Intensity	WATER_SqMi	Water within delineation, in Square Miles, 1995-1997 Land-use
GW	Intensity	WETLANDS_SqMi	Wetlands within delineation, in Square Miles, 1995-1997 Land-use
GW	Intensity	SepDen_2_SqMi	Septic Density per Square Mile within delineation, Tier 2
GW	Intensity	SepDen_3_SqMi	Septic Density per Square Mile within delineation, Tier 3
GW	Intensity	PopDen_2_SqMi	Population per Square Mile within delineation, Tier 2
GW	Intensity	PopDen_3_SqMi	Population per Square Mile within delineation, Tier 3
GW	Intensity	L_dotmajrd_1	Length of DOT Major Roads within delineation, Tier 1, in feet
GW	Intensity	L_dotmajrd_3	Length of DOT Major Roads within delineation, Tier 3, in feet
GW	Intensity	L_dotmajrd_2	Length of DOT Major Roads within delineation, Tier 2, in feet
GW	Intensity	L_dotrds_1	Length of DOT Roads within delineation, Tier 1, in feet
GW	Intensity	L_dotrds_2	Length of DOT Roads within delineation, Tier 2, in feet
GW	Intensity	L_dotrds_3	Length of DOT Roads within delineation, Tier 3, in feet
GW	Intensity	L_railr_1	Length of Rail Roads within delineation, Tier 1, in feet
GW	Intensity	L_railr_2	Length of Rail Roads within delineation, Tier 2, in feet
GW	Intensity	L_railr_3	Length of Rail Roads within delineation, Tier 3, in feet
GW	Intensity	L_strm_1	Length of streams within delineation, Tier 1, in feet, 1:24000 GIS coverage
GW	Intensity	L_strm_2	Length of streams within delineation, Tier 2, in feet, 1:24000 GIS coverage
GW	Intensity	L_strm_3	Length of streams within delineation, Tier 3, in feet, 1:24000 GIS coverage
GW	Intensity	p_GolfArea_1	% Golf Area within delineation, Tier 1
GW	Intensity	p_GolfArea_2	% Golf Area within delineation, Tier 2
GW	Intensity	p_GolfArea_3	% Golf Area within delineation, Tier 3
GW	Intensity	n_class_b_1	Number of Class B Recycling Facilities within delineation, Tier 1
GW	Intensity	n_class_b_2	Number of Class B Recycling Facilities within delineation, Tier 2
GW	Intensity	n_class_b_3	Number of Class B Recycling Facilities within delineation, Tier 3
GW	Intensity	n_swrrf_1	Number of Resource Recovery Facilities within delineation, Tier1
GW	Intensity	n_swrrf_3	Number of Resource Recovery Facilities within delineation, Tier3
GW	Intensity	STP_2_SqMi	Number of Sewerage Treatment Plants per Square Mile within delineation, Tier 2
GW	Intensity	STP_3_SqMi	Number of Sewerage Treatment Plants per Square Mile within delineation, Tier 3
GW	Intensity	Golf_1	Yes/No is a golf course present within delineation, Tier 1

Medium	Variable Type	Variable Name	Variable Description
GW	Intensity	Golf_2	Yes/No is a golf course present within delineation, Tier 2
GW	Intensity	Golf_3	Yes/No is a golf course present within delineation, Tier 3
GW	Intensity	n_swrrf_2	Number of Resource Recovery Facilities within delineation, Tier2
GW	Sensitivity	Area_1_SqMi	Area of delineation, Tier 1, in Square Miles
GW	Sensitivity	AWC_r_1	Average available water capacity of soil within delineation, Tier 1, in centimeters of water per centimeter of soil
GW	Sensitivity	AWC_r_2	Average available water capacity of soil within delineation, Tier 2, in centimeters of water per centimeter of soil
GW	Sensitivity	AWC_r_3	Average available water capacity of soil within delineation, Tier 3, in centimeters of water per centimeter of soil
GW	Sensitivity	COASTAL_PL_1	Percent of delineation in Coastal Plain Physiographic Province, Tier 1
GW	Sensitivity	COASTAL_PL_2	Percent of delineation in Coastal Plain Physiographic Province, Tier 2
GW	Sensitivity	COASTAL_PL_3	Percent of delineation in Coastal Plain Physiographic Province, Tier 3
GW	Sensitivity	DU_awc_1	Average available water capacity of soil within delineation, for disturbed and undisturbed areas, Tier 1, in centimeters of water per centimeter of soil
GW	Sensitivity	DU_awc_2	Average available water capacity of soil within delineation, for disturbed and undisturbed areas, Tier 2, in centimeters of water per centimeter of soil
GW	Sensitivity	DU_awc_3	Average available water capacity of soil within delineation, for disturbed and undisturbed areas, Tier 3, in centimeters of water per centimeter of soil
GW	Sensitivity	DU_clay_r_1	Average clay content of soil within delineation, Tier 1, in percent
GW	Sensitivity	DU_clay_r_2	Average clay content of soil within delineation, Tier 2, in percent
GW	Sensitivity	DU_clay_r_3	Average clay content of soil within delineation, Tier 3, in percent
GW	Sensitivity	DU_kffact_1	Average soil erodibility factor within delineation, Tier 1, less than 2 millimeter fraction of soil only, no units
GW	Sensitivity	DU_kffact_2	Average soil erodibility factor within delineation, Tier 2, less than 2 millimeter fraction of soil only, no units
GW	Sensitivity	DU_kffact_3	Average soil erodibility factor within delineation, Tier 3, less than 2 millimeter fraction of soil only, no units
GW	Sensitivity	DU_ksat_ave_1	Average saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, Tier 1, in micrometers per second
GW	Sensitivity	DU_ksat_ave_2	Average saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, Tier 2, in micrometers per second
GW	Sensitivity	DU_ksat_ave_3	Average saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, Tier 3, in micrometers per second

Medium	Variable Type	Variable Name	Variable Description
GW	Sensitivity	DU_ksat_min_1	Minimum vertical saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, Tier 1, in micrometers per second
GW	Sensitivity	DU_ksat_min_2	Minimum vertical saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, Tier 2, in micrometers per second
GW	Sensitivity	DU_ksat_min_3	Minimum vertical saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, Tier 3, in micrometers per second
GW	Sensitivity	DU_kwfact_1	Average soil erodibility factor within delineation, Tier 1, whole soil, no units
GW	Sensitivity	DU_kwfact_2	Average soil erodibility factor within delineation, Tier 2, whole soil, no units
GW	Sensitivity	DU_kwfact_3	Average soil erodibility factor within delineation, Tier 3, whole soil, no units
GW	Sensitivity	DU_OM_1	Average organic matter of soil within delineation, for disturbed and undisturbed areas, in percent, Tier 1
GW	Sensitivity	DU_OM_2	Average organic matter of soil within delineation, for disturbed and undisturbed areas, in percent, Tier 2
GW	Sensitivity	DU_OM_3	Average organic matter of soil within delineation, for disturbed and undisturbed areas, in percent, Tier 3
GW	Sensitivity	DU_pH_1	Average pH of soil within delineation, for disturbed and undisturbed areas, in standard units, Tier 1
GW	Sensitivity	DU_pH_2	Average pH of soil within delineation, for disturbed and undisturbed areas, in standard units, Tier 2
GW	Sensitivity	DU_pH_3	Average pH of soil within delineation, for disturbed and undisturbed areas, in standard units, Tier 3
GW	Sensitivity	DU_slope_1	Average slope of soil within delineation, for disturbed and undisturbed areas, Tier 1, in degrees
GW	Sensitivity	DU_slope_2	Average slope of soil within delineation, for disturbed and undisturbed areas, Tier 2, in degrees
GW	Sensitivity	DU_slope_3	Average slope of soil within delineation, for disturbed and undisturbed areas, Tier 3, in degrees
GW	Sensitivity	GeoBed_1	Predominant geologic unit within delineation, Tier 1
GW	Sensitivity	GeoBed_2	Predominant geologic unit within delineation, Tier 2
GW	Sensitivity	GeoBed_3	Predominant geologic unit within delineation, Tier 3
GW	Sensitivity	hydgrp_1	Predominant soil hydrologic group within delineation, Tier 1, no units
GW	Sensitivity	hydgrp_2	Predominant soil hydrologic group within delineation, Tier 2, no units
GW	Sensitivity	hydgrp_3	Predominant soil hydrologic group within delineation, Tier 3, no units
GW	Sensitivity	Ksat_r_ave_1	Average saturated hydraulic conductivity of soil within delineation, Tier 1, in micrometers per second
GW	Sensitivity	Ksat_r_ave_2	Average saturated hydraulic conductivity of soil within delineation, Tier 2, in micrometers per second

Medium	Variable Type	Variable Name	Variable Description
GW	Sensitivity	Ksat_r_ave_3	Average saturated hydraulic conductivity of soil within delineation, Tier 3, in micrometers per second
GW	Sensitivity	muwathelcl_1	Predominant map unit water highly erodibility land designation, Tier 1, no units
GW	Sensitivity	muwathelcl_2	Predominant map unit water highly erodibility land designation, Tier 2, no units
GW	Sensitivity	muwathelcl_3	Predominant map unit water highly erodibility land designation, Tier 3, no units
GW	Sensitivity	NEW_ENG_1	Percent of delineation in New England Physiographic Province, Tier 1
GW	Sensitivity	NEW_ENG_2	Percent of delineation in New England Physiographic Province, Tier 2
GW	Sensitivity	NEW_ENG_3	Percent of delineation in New England Physiographic Province, Tier 3
GW	Sensitivity	OM_r_1	Average organic matter of soil within delineation, in percent, Tier 1
GW	Sensitivity	OM_r_2	Average organic matter of soil within delineation, in percent, Tier 2
GW	Sensitivity	OM_r_3	Average organic matter of soil within delineation, in percent, Tier 3
GW	Sensitivity	p_GeoBed_1	Percent of predominant geologic unit within delineation, Tier 1
GW	Sensitivity	p_GeoBed_2	Percent of predominant geologic unit within delineation, Tier 2
GW	Sensitivity	p_GeoBed_3	Percent of predominant geologic unit within delineation, Tier 3
GW	Sensitivity	p_Predom_Phys_1	Percent of predominant Physiographic Province within delineation, Tier 1
GW	Sensitivity	p_Predom_Phys_2	Percent of predominant Physiographic Province within delineation, Tier 2
GW	Sensitivity	p_Predom_Phys_3	Percent of predominant Physiographic Province within delineation, Tier 3
GW	Sensitivity	pH_r_1	Average pH of soil within delineation, in standard units, Tier 1
GW	Sensitivity	pH_r_2	Average pH of soil within delineation, in standard units, Tier 2
GW	Sensitivity	pH_r_3	Average pH of soil within delineation, in standard units, Tier 3
GW	Sensitivity	Phys_Prov_1	Predominant Physiographic Province within delineation, Tier 1
GW	Sensitivity	Phys_Prov_2	Predominant Physiographic Province within delineation, Tier 2
GW	Sensitivity	Phys_Prov_3	Predominant Physiographic Province within delineation, Tier 3
GW	Sensitivity	PIED_1	Percent of delineation in Piedmont Physiographic Province, Tier 1
GW	Sensitivity	PIED_2	Percent of delineation in Piedmont Physiographic Province, Tier 2
GW	Sensitivity	PIED_3	Percent of delineation in Piedmont Physiographic Province, Tier 3
GW	Sensitivity	SARP_1	Soil adsorbed runoff potential, Tier 1, no units
GW	Sensitivity	SARP_2	Soil adsorbed runoff potential, Tier 2, no units
GW	Sensitivity	SARP_3	Soil adsorbed runoff potential, Tier 3, no units
GW	Sensitivity	SLP_1	Soil leaching potential, Tier 1, no units
GW	Sensitivity	SLP_2	Soil leaching potential, Tier 2, no units
GW	Sensitivity	SLP_3	Soil leaching potential, Tier 3, no units

Medium	Variable Type	Variable Name	Variable Description
GW	Sensitivity	SSRP_1	Soil solution runoff potential, Tier 1, no units
GW	Sensitivity	SSRP_2	Soil solution runoff potential, Tier 2, no units
GW	Sensitivity	SSRP_3	Soil solution runoff potential, Tier 3, no units
GW	Sensitivity	VALLEY_RI_1	Percent of delineation in Valley and Ridge Physiographic Province, Tier 1
GW	Sensitivity	VALLEY_RI_2	Percent of delineation in Valley and Ridge Physiographic Province, Tier 2
GW	Sensitivity	VALLEY_RI_3	Percent of delineation in Valley and Ridge Physiographic Province, Tier 3
GW	Sensitivity	NJGS_TOI	Depth to Top of Open Interval, in feet, NJGS
GW	Sensitivity	NJGS_BOI	Depth to Bottom of Open Interval, in feet, NJGS
GW	Sensitivity	NJGS_LENGTH_OPEN	Length of Open Interval, in feet, NJGS
GW	Sensitivity	Area_2_SqMi	Area of delineation, Tier 2, in Square Miles
GW	Sensitivity	Area_3_SqMi	Area of delineation, Tier 3, in Square Miles
GW	Sensitivity	Hydronum	Hydronum from NJGS
GW	Sensitivity	Hydroabb	Hydroabb from NJGS
GW	Sensitivity	Hydroname	Hydroname from NJGS
GW	Sensitivity	Geonum	Geonum from NJGS
GW	Sensitivity	Geoabb	Geoabb from NJGS
GW	Sensitivity	Geoname	Geoname from NJGS
GW/SW	Intensity	_1PLU95	Predominant Land-use Level 1 within delineation, 1995-1997 Land-use
GW/SW	Intensity	ALACHLOR_123	Amount of Alachlor applied within delineation, in pounds
GW/SW	Intensity	ATRAZINE_123	Amount of Atrazine applied within delineation, in pounds
GW/SW	Intensity	CARBOFURAN_123	Amount of Carbofuran applied within delineation, in pounds
GW/SW	Intensity	CSI_SqMi	Number of Contaminant Source Inventory sites per Square Mile within delineation
GW/SW	Intensity	d_AGRICULTURE	Distance to nearest Agricultural Land within delineation, in feet, 1995-1997 Land-use
GW/SW	Intensity	d_BARREN	Distance to nearest Barren Land within delineation, in feet, 1995-1997 Land-use
GW/SW	Intensity	d_ceapoly	Distance to nearest Classified Exemption Area polygon within delineation, in feet
GW/SW	Intensity	d_CEMETERIES	Distance to nearest Cemetery within delineation, in feet
GW/SW	Intensity	d_ckeppoly	Distance to nearest Currently Known Extent polygon within delineation, in feet
GW/SW	Intensity	d_class_b	Distance to nearest Class B Recycling Facilities within delineation, in feet
GW/SW	Intensity	d_compost	Distance to nearest Class C Compost Facilities within delineation, in feet
GW/SW	Intensity	d_cso	Distance to nearest Combined Sewer Overflow within delineation, in feet
GW/SW	Intensity	d_dams	Distance to nearest Dam within delineation, in feet
GW/SW	Intensity	d_dotmajrd	Distance to nearest DOT Major Road within delineation, in feet

Medium	Variable Type	Variable Name	Variable Description
GW/SW	Intensity	d_dotrds	Distance to nearest DOT Road within delineation, in feet
GW/SW	Intensity	d_dpcc	Distance to nearest Discharge Prevention and Countermeasure Plan and Cleanup & Removal Plan Site within delineation, in feet
GW/SW	Intensity	d_FOREST	Distance to nearest Forested Land within delineation, in feet, 1995-1997 Land-use
GW/SW	Intensity	d_kcsl2001	Distance to nearest Known Contaminant Site within delineation, in feet, 2001
GW/SW	Intensity	d_njgolf	Distance to nearest Golf Course within delineation, in feet
GW/SW	Intensity	d_njpdes_dgw	Distance to nearest NJPDES Discharge to Ground Water site within delineation, in feet
GW/SW	Intensity	d_njpdes_dsw	Distance to nearest NJPDES Discharge to Surface Water site within delineation, in feet
GW/SW	Intensity	d_njpdes_storm	Distance to nearest NJPDES Storm Water Discharge site within delineation, in feet
GW/SW	Intensity	d_railr	Distance to nearest Rail Road within delineation, in feet
GW/SW	Intensity	d_stploc	Distance to nearest Sewerage Treatment Plant location within delineation, in feet
GW/SW	Intensity	d_strm_24k	Distance to nearest Stream within delineation, in feet, 1:24000 GIS coverage
GW/SW	Intensity	d_swf	Distance to nearest Solid Waste Landfill within delineation, in feet
GW/SW	Intensity	d_swrrf	Distance to nearest Resource Recovery Facility within delineation, in feet
GW/SW	Intensity	d_swtf200011	Distance to nearest Solid Waste Transfer Facility within delineation, in feet, 11/2000
GW/SW	Intensity	d_URBAN	Distance to nearest Urban Land, 1995-1997 Land-use within delineation, in feet
GW/SW	Intensity	d_ust	Distance to nearest Underground Storage Tank within delineation, in feet
GW/SW	Intensity	d_WATER	Distance to nearest Water within delineation, in feet, 1995-1997 Land-use
GW/SW	Intensity	d_WETLANDS	Distance to nearest Wetlands within delineation, in feet, 1995-1997 Land-use
GW/SW	Intensity	DevUndev	Predominant Land-use within delineation: Developed Land (Urban & Agricultural) or Undeveloped Land (Barren, Forest, Water, & Wetlands)
GW/SW	Intensity	Golf	Yes/No is a golf course present within delineation
GW/SW	Intensity	L_dotmajrd	Length of DOT Major Roads within delineation, in feet
GW/SW	Intensity	L_dotrds	Length of DOT Roads within delineation, in feet
GW/SW	Intensity	L_railr	Length of Rail Roads within delineation, in feet
GW/SW	Intensity	L_strm	Length of streams within delineation, in feet, 1:24000 GIS coverage
GW/SW	Intensity	LINDANE_123	Amount of Lindane applied within delineation, in pounds
GW/SW	Intensity	n_CEA	Number of Classified Exemption Areas within delineation
GW/SW	Intensity	n_CEMETERIES	Number of Cemeteries within delineation
GW/SW	Intensity	n_CKE	Number of Currently Known Extent within delineation
GW/SW	Intensity	n_class_b	Number of Class B Recycling Facilities within delineation
GW/SW	Intensity	n_compost	Number of Class C Compost Facilities within delineation

Medium	Variable Type	Variable Name	Variable Description
GW/SW	Intensity	n_cso	Number of Combined Sewer Overflow within delineation
GW/SW	Intensity	n_dams	Number of Dams within delineation
GW/SW	Intensity	n_dpcc	Number of Discharge Prevention and Countermeasure Plan and Cleanup & Removal Plan Sites within delineation
GW/SW	Intensity	n_kcsi2001	Number of Known Contaminant Sites within delineation, 2001
GW/SW	Intensity	n_njpdes_dgw	Number of NJPDES Discharge to Ground Water sites within delineation
GW/SW	Intensity	n_njpdes_dsw	Number of NJPDES Discharge to Surface Water sites within delineation
GW/SW	Intensity	n_njpdes_storm	Number of NJPDES Storm Water Discharge sites within delineation
GW/SW	Intensity	n_STPloc	Number of Sewerage Treatment Plant locations within delineation
GW/SW	Intensity	n_swf	Number of Solid Waste Landfills within delineation
GW/SW	Intensity	n_swrrf	Number of Resource Recovery Facilities within delineation
GW/SW	Intensity	n_swtf200011	Number of Solid Waste Transfer Facilities within delineation, 11/2000
GW/SW	Intensity	n_TotalCSI	Number of Contaminant Source Inventory Sites within delineation
GW/SW	Intensity	n_ust	Number of Underground Storage Tanks within delineation
GW/SW	Intensity	p_1PLU95	% Predominant Land-use Level 1 within delineation, 1995-1997 Land-use
GW/SW	Intensity	p_AG_95	% Agricultural Land in delineation within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_BARREN_95	% Barren Land in delineation within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_COMM_IND_type2	% Commercial/Industrial Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_Dev	% Developed (Urban & Agricultural) Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_FOREST_95	% Forest Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_GolfArea	% Golf Area within delineation
GW/SW	Intensity	p_GolfAreaName	% Golf Area within delineation
GW/SW	Intensity	p_ImpSurf	% Impervious Surface within delineation
GW/SW	Intensity	p_IND_Level2	% Industrial Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_RESID_type2	% Residential Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_UnDev	% Undeveloped (Barren, Forest, Water, & Wetlands) Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_URB_REC_type2	% Urban/Recreational Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_URBAN_95	% Urban Land within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_WATER_95	% Water within delineation, 1995-1997 Land-Use
GW/SW	Intensity	p_WETLANDS_95	% Wetlands within delineation, 1995-1997 Land-Use
GW/SW	Intensity	PopDen_1_SqMi	Population per Square Mile within delineation, Tier 1

Medium	Variable Type	Variable Name	Variable Description
GW/SW	Intensity	PopDen_SqMi	Population per Square Mile within delineation
GW/SW	Intensity	SepDen_1_SqMi	Septic Density per Square Mile within delineation, Tier 1
GW/SW	Intensity	SepDen_SqMi	Septic Density per Square Mile within delineation
GW/SW	Intensity	SIMAZINE_123	Amount of Simazine applied within delineation, in pounds
GW/SW	Intensity	STP_1_SqMi	Number of Sewerage Treatment Plants per Square Mile within delineation, Tier 1
GW/SW	Intensity	STP_SqMi	Number of Sewerage Treatment Plants per Square Mile within delineation
GW/SW	Intensity	Well No	Well Identification Number
GW/SW	Intensity	Bin1	number of Bin 1 sites in delineation
GW/SW	Intensity	Bin2	number of Bin 2 sites in delineation
GW/SW	Intensity	Bin3	number of Bin 3 sites in delineation
GW/SW	Intensity	Bin4	number of Bin 4 sites in delineation
GW/SW	Intensity	Bin5	number of Bin 5 sites in delineation
GW/SW	Intensity	Bins12	number of Bins 1 & 2 sites in delineation
GW/SW	Intensity	Bins13	number of Bins 1 & 3 sites in delineation
GW/SW	Intensity	Bins14	number of Bins 1 & 4 sites in delineation
GW/SW	Intensity	Bins15	number of Bins 1 & 5 sites in delineation
GW/SW	Intensity	Bins23	number of Bins 2 & 3 sites in delineation
GW/SW	Intensity	Bins24	number of Bins 2 & 4 sites in delineation
GW/SW	Intensity	Bins25	number of Bins 2 & 5 sites in delineation
GW/SW	Intensity	Bins34	number of Bins 3 & 4 sites in delineation
GW/SW	Intensity	Bins35	number of Bins 3 & 5 sites in delineation
GW/SW	Intensity	Bins45	number of Bins 4 & 5 sites in delineation
GW/SW	Intensity	Bins123	number of Bins 1, 2, & 3 sites in delineation
GW/SW	Intensity	Bins124	number of Bins 1, 2, & 4 sites in delineation
GW/SW	Intensity	Bins125	number of Bins 1, 2, & 5 sites in delineation
GW/SW	Intensity	Bins234	number of Bins 2, 3, & 4 sites in delineation
GW/SW	Intensity	Bins235	number of Bins 2, 3, & 5 sites in delineation
GW/SW	Intensity	Bins245	number of Bins 2, 4, & 5 sites in delineation
GW/SW	Intensity	Bins134	number of Bins 1, 3, & 4 sites in delineation
GW/SW	Intensity	Bins135	number of Bins 1, 3, & 5 sites in delineation
GW/SW	Intensity	Bins145	number of Bins 1, 4, & 5 sites in delineation
GW/SW	Intensity	Bins345	number of Bins 3, 4, & 5 sites in delineation

Medium	Variable Type	Variable Name	Variable Description
GW/SW	Intensity	Bins1234	number of Bins 1, 2, 3, & 4 sites in delineation
GW/SW	Intensity	Bins1345	number of Bins 1, 3, 4, & 5 sites in delineation
GW/SW	Intensity	Bins1245	number of Bins 1, 2, 4, & 5 sites in delineation
GW/SW	Intensity	Bins1235	number of Bins 1, 2, 3, & 5 sites in delineation
GW/SW	Intensity	Bins2345	number of Bins 2, 3, 4, & 5 sites in delineation
GW/SW	Intensity	Bins12345	number of Bins 1, 2, 3, 4, & 5 sites in delineation
GW/SW	Intensity	DenBin1	Density of Bin 1: number of Bin 1 sites per square mile of delineation
GW/SW	Intensity	DenBin2	Density of Bin 2: number of Bin 2 sites per square mile of delineation
GW/SW	Intensity	DenBin3	Density of Bin 3: number of Bin 3 sites per square mile of delineation
GW/SW	Intensity	DenBin4	Density of Bin 4: number of Bin 4 sites per square mile of delineation
GW/SW	Intensity	DenBin5	Density of Bin 5: number of Bin 5 sites per square mile of delineation
GW/SW	Intensity	DenBins12	Density of Bins 1 & 2: number of Bins 1 & 2 sites per square mile of delineation
GW/SW	Intensity	DenBins13	Density of Bins 1 & 3: number of Bins 1 & 3 sites per square mile of delineation
GW/SW	Intensity	DenBins14	Density of Bins 1 & 4: number of Bins 1 & 4 sites per square mile of delineation
GW/SW	Intensity	DenBins15	Density of Bins 1 & 5: number of Bins 1 & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins23	Density of Bins 2 & 3: number of Bins 2 & 3 sites per square mile of delineation
GW/SW	Intensity	DenBins24	Density of Bins 2 & 4: number of Bins 2 & 4 sites per square mile of delineation
GW/SW	Intensity	DenBins25	Density of Bins 2 & 5: number of Bins 2 & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins34	Density of Bins 3 & 4: number of Bins 3 & 4 sites per square mile of delineation
GW/SW	Intensity	DenBins35	Density of Bins 3 & 5: number of Bins 3 & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins45	Density of Bins 4 & 5: number of Bins 4 & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins123	Density of Bins 1, 2, & 3: number of Bins 1, 2, & 3 sites per square mile of delineation
GW/SW	Intensity	DenBins124	Density of Bins 1, 2, & 4: number of Bins 1, 2, & 4 sites per square mile of delineation
GW/SW	Intensity	DenBins125	Density of Bins 1, 2, & 5: number of Bins 1, 2, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins234	Density of Bins 2, 3, & 4: number of Bins 2, 3, & 4 sites per square mile of delineation
GW/SW	Intensity	DenBins235	Density of Bins 2, 3, & 5: number of Bins 2, 3, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins245	Density of Bins 2, 4, & 5: number of Bins 2, 4, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins134	Density of Bins 1, 3, & 4: number of Bins 1, 3, & 4 sites per square mile of delineation
GW/SW	Intensity	DenBins135	Density of Bins 1, 3, & 5: number of Bins 1, 3, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins145	Density of Bins 1, 4, & 5: number of Bins 1, 4, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins345	Density of Bins 3, 4, & 5: number of Bins 3, 4, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins1234	Density of Bins 1, 2, 3, & 4: number of Bins 1, 2, 3, & 4 sites per square mile of delineation

Medium	Variable Type	Variable Name	Variable Description
GW/SW	Intensity	DenBins1345	Density of Bins 1, 3, 4, & 5: number of Bins 1, 3, 4, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins1245	Density of Bins 1, 2, 4, & 5: number of Bins 1, 2, 4, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins1235	Density of Bins 1, 2, 3, & 5: number of Bins 1, 2, 3, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins2345	Density of Bins 2, 3, 4, & 5: number of Bins 2, 3, 4, & 5 sites per square mile of delineation
GW/SW	Intensity	DenBins12345	Density of Bins 1, 2, 3, 4, & 5: number of Bins 1, 2, 3, 4, & 5 sites per square mile of delineation
GW/SW	Sensitivity	Area_SqMi	Area of delineation, in Square Miles
GW/SW	Sensitivity	AWC_r	Average available water capacity of soil within delineation, in centimeters of water per centimeter of soil
GW/SW	Sensitivity	COASTAL_PL	Percent of delineation in Coastal Plain Physiographic Province
GW/SW	Sensitivity	DU_AWC	Average available water capacity of soil within delineation, for disturbed and undisturbed areas, in centimeters of water per centimeter of soil
GW/SW	Sensitivity	DU_Clay_r	Average clay content of soil within delineation, in percent
GW/SW	Sensitivity	DU_KFact	Average soil erodibility factor within delineation, less than 2 millimeter fraction of soil only, no units
GW/SW	Sensitivity	DU_Ksat_ave	Average saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, in micrometers per second
GW/SW	Sensitivity	DU_Ksat_min	Minimum vertical saturated hydraulic conductivity of soil within delineation, for disturbed and undisturbed areas, in micrometers per second
GW/SW	Sensitivity	DU_KWfact	Average soil erodibility factor within delineation, whole soil, no units
GW/SW	Sensitivity	DU_OM	Average organic matter of soil within delineation, for disturbed and undisturbed areas, in percent
GW/SW	Sensitivity	DU_pH	Average pH of soil within delineation, for disturbed and undisturbed areas, in standard units
GW/SW	Sensitivity	DU_slope	Average slope of soil within delineation, for disturbed and undisturbed areas, in degrees
GW/SW	Sensitivity	GeoBed	Predominant geologic unit within delineation
GW/SW	Sensitivity	HUC8	Predominant hydrologic unit within delineation
GW/SW	Sensitivity	hydgrp	Predominant soil hydrologic group within delineation, no units
GW/SW	Sensitivity	Ksat_r_ave	Average saturated hydraulic conductivity of soil within delineation, in micrometers per second
GW/SW	Sensitivity	muwathelcl	Predominant map unit water highly erodibility land designation, no units
GW/SW	Sensitivity	NEW_ENG	Percent of delineation in New England Physiographic Province
GW/SW	Sensitivity	OM_r	Average organic matter of soil within delineation, in percent
GW/SW	Sensitivity	p_GeoBed	Percent of predominant geologic unit within delineation
GW/SW	Sensitivity	p_HUC	Percent of predominant hydrologic unit within delineation
GW/SW	Sensitivity	p_Predom_Phys	Percent of predominant Physiographic Province within delineation

Medium	Variable Type	Variable Name	Variable Description
GW/SW	Sensitivity	p_watershed	Percent of predominant watershed within delineation
GW/SW	Sensitivity	pH_r	Average pH of soil within delineation, in standard units
GW/SW	Sensitivity	Phys_Prov	Predominant Physiographic Province within delineation
GW/SW	Sensitivity	PIED	Percent of delineation in Piedmont Physiographic Province
GW/SW	Sensitivity	SARP	Soil adsorbed runoff potential, no units
GW/SW	Sensitivity	SLP	Soil leaching potential, no units
GW/SW	Sensitivity	SSRP	Soil solution runoff potential, no units
GW/SW	Sensitivity	VALLEY_RI	Percent of delineation in Valley and Ridge Physiographic Province
GW/SW	Sensitivity	WtrShd	Predominant watershed within delineation