

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES DELAWARE RIVER BASIN NAWQA PROJECT

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

NAWQA study units are divided into three groups that are studied intensively on a rotational basis. Three NAWQA studies have been active in the state of Pennsylvania. The Lower Susquehanna (LSUS) study unit conducted intensive sampling from 1993 through 1995 and is currently in a low-intensity phase. The Allegheny and Monongahela River Basins (ALMN) study unit conducted intensive sampling from 1996 through 1998 and is currently in a low-intensity phase. The Delaware River Basin (DELR) study unit started intensive sampling in 1999 and will complete this phase of the study in 2001. It will then enter the low-intensity phase and is scheduled to resume intensive sampling in 2008.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the world wide web at http://www.wrvares.er.usgs.gov/nawqa/nawqa_home.html.

Delaware River Basin (DELR) NAWQA fixed stations (fig. 10) are: Delaware River at Port Jervis, NY (01434000); Jordan Creek near Schnecksville, PA (01451800); Lehigh River at Glendon, PA (01454700); Delaware River at Trenton, NJ (01463500); Little Neshaminy Creek at Valley Rd. near Neshaminy, PA (01464907); Cooper River at Haddonfield, NJ (01467150); Tulpehocken Creek near Bernville, PA (01470779); (01472000); French Creek near Phoenixville, PA (01472157); Schuylkill River at Philadelphia, PA (01474500); and Raccoon Creek near Swedesboro, NJ (01477120) (Figure 10). Data from Pennsylvania fixed stations are published in the continuous-record section of this report. Additional data on bed sediment, fish tissue, fish community, and synoptic sampling sites can be found in the special-studies section of this report. A complete list of Delaware NAWQA data can be found in 'Water Resources Data, New Jersey, Water Year 1999', Water-Data Report NJ-99-3.

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Laboratory Measurements

Samples are analyzed at the U.S. Geological Survey Laboratory in Arvada, Colorado. Sediment samples are analyzed in the U.S. Geological Survey Laboratories in Iowa City, Iowa. All other samples are analyzed in the U.S. Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the U.S. Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

Analyses of pesticides in surface-water samples (schedule 2001)

Selected surface water samples from Delaware River Basin National Water-Quality Assessment Program (DELR NAWQA) study sites were analyzed for pesticides on schedule 2001 during the 1999 water year. This table lists the pesticides on the schedule, the unit of measure (micrograms per liter, µg/L), the U.S. Geological Survey National Water Information System parameter code, and the reporting level. **Only pesticides detected for one or more samples are listed in the water-quality tables.**

SCHEDULE DESCRIPTION.--Pesticides in filtered water extracted on C-18 Solid Phase Extraction (SPE) cartridge and analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).

SAMPLE REQUIREMENTS.--1 liter of water filtered through 0.7-micron glass-fiber depth filter, chilled at 4° C (packed in ice).

CONTAINER REQUIREMENTS.--1 liter baked amber glass bottle (GCC) from NWQL.

PCODE.--The USGS/EPA parameter code.

MRL.--Minimum reporting level.

PCode	Compound Name	MRL (µg/L)	PCode	Compound Name	MRL (µg/L)
82660	2,6-Diethylaniline	0.003	82667	Parathion-methyl	0.006
49260	Acetochlor	0.002	39415	Metolachlor	0.002
46342	Alachlor	0.002	82630	Metribuzin	0.004
34253	alpha-HCH	0.002	82671	Molinate	0.004
39632	Atrazine	0.001	82684	Napropamide	0.003
82673	Benfluralin	0.002	34653	p,p'-DDE	0.006
04028	Butylate	0.002	39542	Parathion	0.004
82680	Carbaryl	0.003	82669	Pebulate	0.004
82674	Carbofuran	0.003	82683	Pendimethalin	0.004
38933	Chlorpyrifos	0.004	82687	cis-Permethrin	0.005
04041	Cyanazine	0.004	82664	Phorate	0.002
82682	Dacthal	0.002	04037	Prometon	0.018
04040	Deethylatrazine	0.002	82676	Propyzamide	0.003
39572	Diazinon	0.002	04024	Propachlor	0.007
39381	Dieldrin	0.001	82679	Propanil	0.004
82677	Disulfoton	0.017	82685	Propargite	0.013
82668	EPTC	0.002	04035	Simazine	0.005
82663	Ethalfuralin	0.004	82670	Tebuthiuron	0.010
82672	Ethoprophos	0.003	82665	Terbacil	0.007
04095	Fonofos	0.003	82675	Terbufos	0.013
39341	Lindane	0.004	04022	Terbutylazine	0.1
82666	Linuron	0.002	82681	Thiobencarb	0.002
39532	Malathion	0.005	82678	Triallate	0.001
82686	Azinphos-methyl	0.001			

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
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Analyses of volatile organic compounds in surface-water samples (schedule 2020/2021)

Selected surface water samples from DELR NAWQA study sites were analyzed for volatile organic compounds (VOCs) in 1999. The National Water Quality Lab (NWQL) created a method for accurate determination of VOCs in water in the nanogram per liter range, schedules 2020/2021. The method described in USGS Open-File Report 97-829 (Connor and others) is similar to USEPA method 524-2 (Mund, 1995) and the method described by Rose and Schroeder (1995). Minor improvements to instrument operating conditions include the following: additional compounds, quantitation ions that are different from those recommended in USEPA Method 524.2 because of interferences from the additional compounds, and a data reporting strategy for measuring detected compounds extrapolated at less than the lowest calibration standard or measured at less than the reporting limit. The non-detection value (NDV) is introduced as a statistically defined reporting limit designed to limit false positives and false negatives to less than 1 percent.

This table lists the volatile organic compounds on the schedule, the unit of measure (micrograms per liter ($\mu\text{g/L}$)), the U.S. Geological Survey National Water Information System parameter code, the Union of Pure and Applied Chemistry (IUPAC) compound name, and the National Water Quality Laboratory compound name. Positive detections measured at less than NDV are reported as estimated concentrations (E) to alert the data user to decreased confidence in accurate quantitation. Values for analytes in the 2020/2021 schedules are preceded by an "E" in the following situations:

1. When the calculated concentration is less than the lowest calibration standard. The analyte meets all identification criteria to be positively identified, but the amount detected is below where it can be reliably quantified.
2. If a sample is diluted for any reason. The method reporting level is multiplied by the dilution factor to obtain the adjusted method reporting level. Values below the lowest calibration standard, multiplied by the dilution factor are qualified with an "E". For example, a value of 0.19 in a 1:2 dilution is reported as E0.1.
3. If the set spike has recoveries out of the specified range (60-140%).
4. If the analyte is also detected in the set blank. If the value in the sample is less than five times the blank value and greater than the blank value plus the long term method detection limit, the value is preceded by an "E" to indicate that the analyte is positively identified but not positively quantified because the analyte was also detected in the blank.

Only VOCs detected for one or more samples are listed in the water-quality tables.

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
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SCHEDULE DESCRIPTION.--The sample water is actively purged with helium to extract the volatile organic compounds. The volatile compounds are trapped onto a sorbent trap, thermally desorbed, separated by a megabore gas chromatographic capillary column, and finally determined by a full scan quadropole mass spectrometer. Compound identification is confirmed by the gas chromatographic retention time and by the resultant mass spectrum, typically identified by three unique ions.

SAMPLE REQUIREMENTS.--Water collected in vials placed in stainless steel VOC sampler. Hydrochloric acid is used for preservation. Chilled at 4°C (packed in ice).

CONTAINER REQUIREMENTS.--40 milliliter baked amber septum glass vial, from OCALA Quality Water Service Unit.

PCODE.--The EPA/USGS parameter code.

COMPOUND NAME.--IUPAC nomenclature.

NDV.--Non-detection value.

PCode	Compound Name	MRL (µg/L)	PCode	Compound Name	MRL (µg/L)
77041	Carbon disulfide	0.07	32101	Bromodichloromethane	0.048
34506	1,1,1-Trichloroethane	0.032	34668	Dichlorodifluoromethane	0.27
34516	1,1,2,2-Tetrachloroethane	0.09	81577	Diisopropyl ether	0.10
34511	1,1,2-Trichloroethane	0.06	77562	1,1,1,2-Tetrachloroethane	0.030
34496	1,1-Dichloroethane	0.066	34396	Hexachloroethane	0.19
34501	1,1-Dichloroethylene	0.04	81576	Diethyl ether	0.17
77168	1,1-Dichloropropene	0.026	50004	Ethyl tert-butyl ether	0.054
77443	1,2,3-Trichloropropane	0.16	50005	tert-Pentyl methyl ether	0.11
77651	1,2-Dibromoethane	0.036	34371	Ethylbenzene	0.030
32103	1,2-Dichloroethane	0.13	77652	1,1,2-Trichlorotrifluoroethane	0.06
34541	1,2-Dichloropropane	0.068	81607	Tetrahydrofuran	2.2
34546	trans-1,2-Dichloroethylene	0.032	39702	Hexachlorobutadiene	0.14
77170	2,2-Dichloropropane	0.05	50000	1,2,3,5-Tetramethylbenzene	0.20
73547	trans-1,4-Dichloro-2-butene	0.7	73570	Ethyl methacrylate	0.18
77103	2-Hexanone	0.7	81597	Methyl methacrylate	0.35
81552	Acetone	5	81593	Methyl acrylonitrile	0.6
34215	Acrylonitrile	1.2	77297	Bromochloromethane	0.044
77613	1,2,3-Trichlorobenzene	0.27	49991	Methyl acrylate	1.4
77221	1,2,3-Trimethylbenzene	0.12	77424	Methyl iodide	0.12
34551	1,2,4-Trichlorobenzene	0.19	78032	tert-Butyl methyl ether	0.17
77222	1,2,4-Trimethylbenzene	0.056	34413	Bromomethane	0.26
77226	1,3,5-Trimethylbenzene	0.044	34418	Chloromethane	0.5
34566	1,3-Dichlorobenzene	0.054	34423	Dichloromethane	0.38
34571	1,4-Dichlorobenzene	0.050	81595	2-Butanone	1.6
77223	Isopropylbenzene	0.032	78133	4-Methyl-2-pentanone	0.37
77342	Butylbenzene	0.19	85795	m- and p-Xylene	0.06
77224	n-Propylbenzene	0.042	34696	Naphthalene	0.25
34536	1,2-Dichlorobenzene	0.048	77275	2-Chlorotoluene	0.042
77350	sec-Butylbenzene	0.032	77135	o-Xylene	0.038
77353	tert-Butylbenzene	0.06	77356	4-Isopropyl-1-methylbenzene	0.07
34030	Benzene	0.035	49999	1,2,3,4-Tetramethylbenzene	0.23
81555	Bromobenzene	0.036	77173	1,3-Dichloropropane	0.12
50002	Bromoethene	0.10	78109	3-Chloropropene	0.20
32104	Bromoform	0.06	77128	Styrene	0.042
32102	Tetrachloromethane	0.06	34475	Tetrachloroethylene	0.10
34301	Chlorobenzene	0.028	77220	o-Ethyl toluene	0.06
32105	Dibromochloromethane	0.18	77277	4-Chlorotoluene	0.06
34311	Chloroethane	0.12	34010	Toluene	0.05
32106	Chloroform	0.052	34699	trans-1,3-Dichloropropene	0.09
77093	cis-1,2-Dichloroethylene	0.038	39180	Trichloroethylene	0.038
34704	cis-1,3-Dichloropropene	0.09	34488	Trichlorofluoromethane	0.09
82625	1,2-Dibromo-3-chloropropane	0.21	39175	Vinyl chloride	0.11
30217	Dibromomethane	0.050			

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Analyses of pesticide metabolites in surface-water samples (schedule LCAA)

Selected surface-water samples from Delaware River Basin National Water-Quality Assessment Program (DELR NAWQA) study sites were analyzed during the 1999 water year for pesticide metabolites on schedule LCAA (Hostetler and Thurman, 1999). Samples from the following sites were analyzed: 01470779 Tulpehocken Creek near Bernville, PA; 01474500 Schuylkill River at Philadelphia, PA; and 01470962 Tulpehocken Creek Water Plant Intake at Blue Marsh, PA. **Only metabolites detected in one or more samples are listed in the water-quality tables.**

PCode	Pesticide metabolite (OA, Oxanilic Acid; ESA, Ethanesulfonic Acid)	MRL (ug/L)	Metabolite parent compound (PCode)
61030	Acetochlor OA	0.05	Acetochlor (49260)
61029	Acetochlor ESA	0.05	Acetochlor (49260)
61031	Alachlor OA	0.05	Alachlor (46342)
50009	Alachlor ESA	0.05	Alachlor (46342)
61044	Metolachlor OA	0.05	Metolachlor (39415)
61043	Metolachlor ESA	0.05	Metolachlor (39415)

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STREAMBED SEDIMENTS AND FISH TISSUE**

TABLE 3.--Delaware River Basin NAWQA project site descriptions.

REMARKS.--The following table lists sites at which fish tissue and (or) stream bed sediments were collected during calendar years 1998 and 1999. The location of the stream gage is described if one is present at the site. Samples were collected throughout a section within several hundred meters upstream and (or) downstream of the stream gage, unless stated otherwise in the description.

Station Number	County, State	Hydrologic Unit	Site Name and description
01423000	Delaware, NY	02040101	West Branch Delaware River at Walton, NY lat 42°09'58", long 75°08'25", stream gage on left bank at west end of fairgrounds at Walton, and 100 ft downstream from West Brook.
01431500	Wayne, PA	02040103	Lackawaxen River at Hawley, PA lat 41°28'34", long 75°10'21", stream gage on left bank at bridge on Church Street in Hawley, 700 ft upstream from Wallenpaupack Creek, and 3,000 ft downstream from Middle Creek.
01434000	Pike, PA	02040104	Delaware River at Port Jervis, NY, lat 41°22'14", long 74°41'52", stream gage on right bank 250 ft downstream from bridge (on US Highways 6 and 209) between Port Jervis, NY and Matamoras, PA, 1.2 mi upstream from Neversink River, and 6.5 mi downstream from Mongaup River.
01435000	Sullivan, NY	02040104	Neversink River near Claryville, NY, lat 41°53'24", long 74°35'25", stream gage on left bank 50 ft downstream from covered bridge, 300 ft upstream from small tributary, 2.2 mi downstream from confluence of East and West Branches, and 2.2 mi southwest of Claryville.
01439500	Monroe, PA	02040104	Bush Kill at Shoemakers, PA lat 41°05'17", long 75°02'17", stream gage on right bank 30 ft downstream from bridge on township route 523, 0.1 mi downstream from Saw Creek, 0.7 mi northwest of Shoemakers, and 2.0 mi southwest of Bush Kill.
01439550	Monroe, PA	02040104	Bush Kill at Bushkill, PA lat 41°05'17", long 75°00'42", 1160 feet upstream from Sand Hill Creek and 1.6 mi upstream from the Delaware River.
01437500	Orange, NY	02040104	Neversink River at Godeffroy, NY lat 41°26'28", long 74°36'08", stream gage on right bank just upstream from highway bridge on Graham Road, 0.5 mi downstream from Basher Kill, 0.8 mi southeast of Godeffroy, 1.7 mi south of Cuddebackville, and 8.5 mi upstream from mouth.
01440000	Sussex, NJ	02040104	Flat Brook near Flatbrookville, NJ lat 41°06'24", long 74°57'09", stream gage on right bank 1.0 mi upstream from Flatbrookville, and 1.5 mi upstream from mouth.
01442110	Monroe, PA	02040104	Brodhead Creek at Stroudsburg, PA lat 40°59'14", long 75°11'02", downstream of McMichaels Creek, vicinity of State Route 80 overpass.
01442500	Monroe, PA	02040104	Brodhead Creek at Minisink Hills, PA lat 40°59'55", long 75°08'35", stream gage on left bank at end of township route 646 at Minisink Hills, 500 ft upstream from Marshall Creek, 0.8 mi upstream from mouth, and 3.0 mi southeast of East Stroudsburg.
01449000	Carbon, PA	02040106	Lehigh River at Lehighon, PA lat 40°49'45", long 75°42'20", stream gage on left bank 190 ft downstream from highway bridge at Lehighon, and 0.3 mi upstream from Mahoning Creek.
01451425	Lehigh, PA	02040106	Little Lehigh Creek near East Texas, PA. lat 40°32'34", long 75°33'47", vicinity of Willow Lane, 1.5 miles upstream of Swabia Creek, 0.3 miles south of East Texas, and 2 miles north of Macungie.
01451624	Lehigh, PA	02040106	Cedar Creek above Lake Muehlenburg at Allentown, PA lat 40°35'39", long 75°30'44", downstream of North Ott street crossing.
01451800	Lehigh, PA	02040106	Jordan Creek near Schnecksville, PA lat 40°39'42", long 75°37'38", stream gage on left bank 54 ft downstream from wooden covered bridge at Trexler-Lehigh County Game Preserve, 1.0 mi downstream from Mill Creek, and 1.1 mi southwest of Schnecksville.
01452500	Northampton, PA	02040106	Monocacy Creek at Bethlehem, PA lat 40°38'28", long 75°22'47", stream gage on right bank 40 ft downstream from highway bridge at entrance to Monocacy Park at Bethlehem, and 2.1 mi upstream from mouth.
01454700	Northampton, PA	02040106	Lehigh River at Glendon, PA. lat 40°40'09", long 75°14'12", stream gage on right bank 140 ft upstream from highway bridge in Hugh Moore Parkway at Glendon, 1.9 mi upstream from mouth, and 2.0 mi southwest of Easton.

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Station Number	County, State	Hydrologic Unit	Site Name and description
01463500	Mercer, NJ	02040105	Delaware River at Trenton, NJ. lat 40°13'18", long 74°46'42", stream gage on left bank 450 ft upstream from Calhoun Street Bridge at Trenton, 0.5 mi upstream from Assumpink Creek, and at mile 134.5
01464907	Bucks, PA	02040201	Little Neshaminy Creek at Valley Road nr Neshaminy, PA lat 40°13'45", long 70°07'12", stream gage on left bank at bridge on Valley Road, 1.0 mi east of Neshaminy, and 6.7 mi upstream from mouth.
01467000	Burlington, NJ	02040202	North Branch Rancocoas Creek at Pemberton, NJ lat 39°58'10", long 74°41'05", stream gage on right bank at downstream side of bridge on Hanover Street in Pemberton, 12 mi upstream from confluence with South Branch Rancocoas Creek. Samples were collected approximately 1/4 mi upstream of the stream gage in the vicinity of Coleman's Bridge Road.
01467040	Montgomery, PA	02040202	Pennypack Creek at Paper Mill, PA lat 40°08'24", long 75°04'28", vicinity of bridge at Paper Mill Road.
01467081	Camden, NJ	02040202	South Branch Pennsauken Creek at Cherry Hill, NJ lat 39°56'30", long 75°00'05", vicinity of South Lanola Road.
01467150	Camden, NJ	02040202	Cooper River at Haddonfield, NJ lat 39°54'11", long 75°01'19", stream gage on right bank of Wall worth Lake in Pennypacker Park, 200 ft upstream from bridge on State Highway 41 (Kings Highway) in Haddonfield, 0.6 mi upstream from North Branch Cooper River, and 7.7 mi upstream from mouth. Samples were collected downstream of King's Highway.
01470500	Berks, PA	02040203	Schuylkill River at Berne, PA lat 40°31'21", long 75°59'55", stream gage on right bank 50 ft upstream from bridge on Township Route 558 at Berne, 0.5 mi upstream from Mill Creek, and 6.5 mi downstream from little Schuylkill River.
01470779	Berks, PA	02040203	Tulpehocken Creek near Bernville, PA, lat 40°24'48", long 76°10'19", stream gage on left bank 30 ft downstream from Mill Road Bridge at Kricks Mill, 0.4 mi upstream from Mill Creek, and 3.5 mi west of Bernville
01471520	Berks, PA	02040203	Wyomissing Creek at West Reading, PA lat 40°19'41", long 75°56'41", upstream of Parkview Road.
01471668	Berks, PA	02040203	Hay Creek near Birdsboro, PA, lat 40°15'04", long 75°48'50", vicinity of State Route 82 crossing.
01471980	Berks, PA	02040203	Manatawny Creek near Pottstown, PA, lat 40°16'22", long 75°40'49", stream gage on left bank 180 ft upstream from bridge on Manatwany Street, 0.7 mi downstream from Ironstone Creek, 2.4 mi northwest of Pottstown, 3.1 mi upstream from mouth, and 4.7 mi southwest of Boyertown.
01472157	Chester, PA	02040203	French Creek near Phoenixville, PA lat 40°09'05", long 75°36'06", stream gage on right bank 70 ft downstream from two-span county bridge on French Creek Road, 4.5 mi northwest of Phoenixville, and 7.3 mi upstream from mouth.
01473990	Philadelphia, PA	02040203	Wissahickon Creek below Walnut Lane near Manayunk, PA lat 40°01'50", long 75°11'54", upstream of Monoshone Creek.
01474500	Philadelphia, PA	02040203	Schuylkill River at Philadelphia, PA lat 39°58'04", long 75°11'20", stream gage on right bank 150 ft upstream from Fairmont Dam, 1,500 ft upstream from bridge on Spring Garden Street in Philadelphia, and 8.7 mi upstream from mouth.
01475510	Delaware, PA	02040202	Darby Creek near Darby, PA lat 39°55'44", long 75°16'22", vicinity of Providence Road, 1.1 mi northwest of Upper Darby, 2.3 mi upstream from Cobbs Creek, and 8.4 mi upstream from the mouth.
01477120	Gloucester, NJ	02040202	Raccoon Creek near Swedesboro, NJ, lat 39°44'28", long 75°15'33", stream gage on right bank 25 ft downstream from County Bridge Route 607 on Gibbstown-Harrisonville Road (Tomlin Station Road), 1.8 mi west of Mullica Hill, and 2.8 mi east of Swedesboro.

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STREAMBED SEDIMENTS AND FISH TISSUE

STREAMBED SEDIMENTS

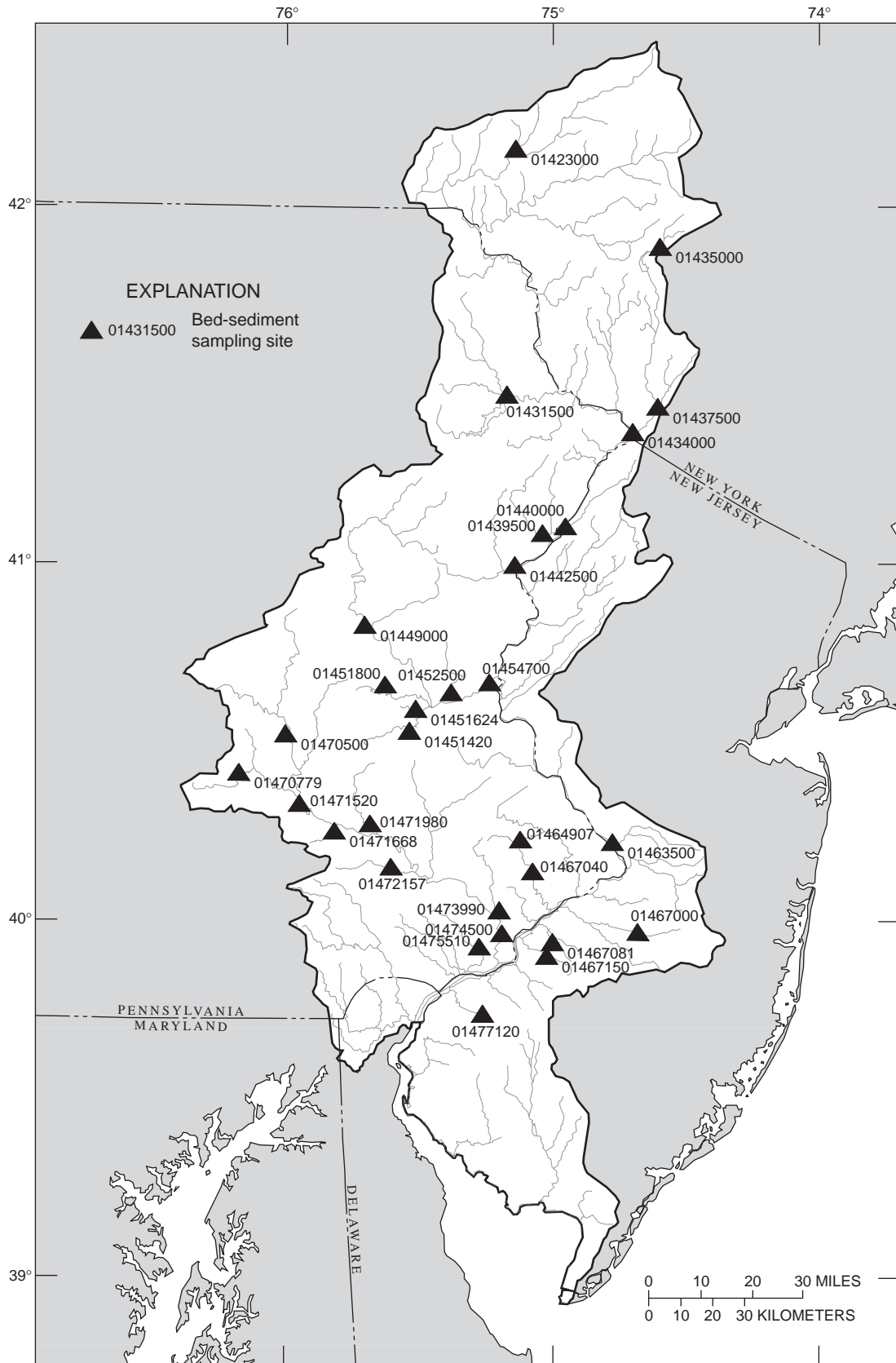


Figure 11.--Location of Delaware River Basin National Water-Quality Assessment Program bed-sediment sampling sites.

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STREAMBED SEDIMENTS--Continued

STREAMBED SEDIMENT PARAMETER NAMES FOR SEMI-VOLATILE ORGANIC COMPOUNDS

REMARKS.--Some parameter names for semi-volatile organic compounds (SVOCs) in streambed sediments are abbreviated in the streambed sediment table and station records. Full parameter names for these abbreviated SVOC names are provided in the table below. [PCide, USGS/EPA parameter code.]

PCode	Compound
49381	Di-n-butyl phthalate
49382	Di-n-octyl phthalate
49401	bis(2-Chloroethoxy)methane
49402	Naphthalene
49403	1,2-Dimethylnaphthalene
49404	1,6-Dimethylnaphthalene
49405	2,3,6-Trimethylnaphthalene
49406	2,6-Dimethylnaphthalene
49411	4H-cyclopenta[d,e,f]phenanthrene
49421	3,5-Dimethylphenol
49422	4-Chloro-3-methylphenol
49426	Bis(2-ethylhexyl) phthalate
49431	N-Nitrosodi-n-propylamine
49433	N-Nitrosodiphenylamine
49439	1,2-Dichlorobenzene
49441	1,3-Dichlorobenzene
49442	1,4-Dichlorobenzene
49446	Pentachloronitrobenzene
49448	Hexachlorobutadiene
49454	4-Bromophenylphenylether
49455	4-Chlorophenyl phenyl ether
49456	bis(2-Chloroethyl)ether
49457	bis(2-Chloroisopropyl)ether
49460	Pentachloroanisole
49461	Dibenz[a,h]anthracene
49468	Benzo[c]cinnoline
49489	Hexachlorocyclopentadiene

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STREAMBED SEDIMENTS--Continued

REMARKS.--Bed-sediment data were collected at 30 surface-water sites as part of the DELR NAWQA study. Streambed sediment samples were collected during low-flow conditions in the Delaware River Basin during July and August 1998, and June-August 1999 to determine concentrations of trace elements and hydrophobic organic compounds in stream bed sediments. Sites were located throughout the Delaware River Basin in New Jersey, New York, and Pennsylvania. Bed sediment samples at each site were composites of the top 1 to 2 centimeters of material from at least 5 different depositional areas within the stream reach. A subsample from the composite sample collected at each site was processed for particle-size analysis. Additionally, subsamples from the composite were: (1) processed using a 2.0- millimeter stainless-steel mesh sieve for preparation of material for organic contaminant analysis, and (2) processed using a 63-micrometer nylon-cloth sieve for preparation of material for trace element analysis. Specific details describing the guidelines used in collecting and in processing the streambed sediment samples can be found in Shelton and Capel, 1994, Guidelines for collecting and processing samples of streambed sediment for analysis of trace elements and organic contaminants for the National Water-Quality Assessment program: U.S. Geological Survey Open-File Report 94-458, 20 p.

STATION NUMBER	STATION NAME	DATE	TIME	MEDIUM CODE
01467000	BURLINGTON COUNTY, NJ NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ	06-21-99	1300	ENVIRONMENTAL
01467081	CAMDEN COUNTY, NJ SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ	06-22-99	1300	ENVIRONMENTAL
01467150	COOPER RIVER AT HADDONFIELD, NJ	06-22-99	0830	ENVIRONMENTAL
01467150	COOPER RIVER AT HADDONFIELD, NJ	06-22-99	0831	SPLIT REPLICATE
01477120	GLOUCESTER COUNTY, NJ RACCOON CREEK NEAR SWEDESBORO, NJ	08-17-98	1300	ENVIRONMENTAL
01463500	MERCER COUNTY, NJ DELAWARE RIVER AT TRENTON, NJ	07-20-98	1200	ENVIRONMENTAL
01440000	SUSSEX COUNTY, NJ FLAT BROOK NEAR FLATBROOKVILLE, NJ	06-16-99	1330	ENVIRONMENTAL
01423000	DELAWARE COUNTY, NY WEST BRANCH DELAWARE RIVER AT WALTON, NY	07-27-99	0900	ENVIRONMENTAL
01437500	ORANGE COUNTY, NY NEVERSINK RIVER AT GODEFFROY, NY	08-03-99	0830	ENVIRONMENTAL
01435000	SULLIVAN COUNTY, NY NEVERSINK RIVER NEAR CLARYVILLE, NY	07-27-99	1400	ENVIRONMENTAL
01470500	BERKS COUNTY, PA SCHUYLKILL RIVER AT BERNE, PA	08-02-99	1000	ENVIRONMENTAL
01470779	TULPEHOCKEN CR NR BERNVILLE, PA	08-20-98	1300	ENVIRONMENTAL
01471520	WYOMISSING CR. @ WEST READING, PA	06-17-99	1330	ENVIRONMENTAL
01471668	HAY CREEK NEAR BIRDSBORO, PA	08-19-98	1500	ENVIRONMENTAL
01471980	MANATAWNY CREEK NEAR POTTSTOWN, PA	08-19-98	1000	ENVIRONMENTAL
01471980	MANATAWNY CREEK NEAR POTTSTOWN, PA	08-19-98	1005	SPLIT REPLICATE
01464907	BUCKS COUNTY, PA LITTLE NESHAMINY C AT VALLEY ROAD NR NESHAMINY, PA	08-18-98	0900	ENVIRONMENTAL
01449000	CARBON COUNTY, PA LEHIGH RIVER AT LEHIGHTON, PA	08-02-99	1500	ENVIRONMENTAL
01472157	CHESTER COUNTY, PA FRENCH CREEK NEAR PHOENIXVILLE, PA	06-24-99	1430	ENVIRONMENTAL
01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA	06-24-99	1431	SPLIT REPLICATE
01475510	DELAWARE COUNTY, PA DARBY CREEK NEAR DARBY, PA	06-23-99	0830	ENVIRONMENTAL
01451425	LEHIGH COUNTY, PA LITTLE LEHIGH CREEK NEAR EAST TEXAS, PA	08-18-98	1400	ENVIRONMENTAL
01451624	CEDAR CREEK AB LAKE MUHLENBERG AT ALLENTOWN, PA	06-14-99	1530	ENVIRONMENTAL
01451800	JORDAN CREEK NEAR SCHNECKSVILLE, PA	06-17-99	0830	ENVIRONMENTAL
01439500	MONROE COUNTY, PA BUSH KILL AT SHOEMAKERS, PA	07-28-99	1400	ENVIRONMENTAL
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA	07-29-99	0900	ENVIRONMENTAL
01467040	MONTGOMERY COUNTY, PA PENNYPACK CREEK AT PAPER MILL, PA	06-24-99	1000	ENVIRONMENTAL
01452500	NORTHAMPTON COUNTY, PA MONOCACY CREEK AT BETHLEHEM, PA	06-14-99	1224	ENVIRONMENTAL
01454700	LEHIGH RIVER AT GLENDON, PA	07-14-98	1300	ENVIRONMENTAL
01473990	PHILADELPHIA COUNTY, PA WISSAHICKON CREEK BL WALNUT LANE NR MANAYUNK, PA	06-23-99	1400	ENVIRONMENTAL
01474500	SCHUYLKILL RIVER AT PHILADELPHIA, PA	07-21-98	1200	ENVIRONMENTAL
01434000	PIKE COUNTY, PA DELAWARE RIVER AT PORT JERVIS, NY	07-13-98	1200	ENVIRONMENTAL
01431500	WAYNE COUNTY, PA LACKAWAXEN RIVER AT HAWLEY, PA	07-28-99	0900	ENVIRONMENTAL

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STREAMBED SEDIMENTS--Continued

TRACE ELEMENTS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 AND 1999

STATION NUMBER	DATE	CALCIUM	MAGNE-	POTAS-	SODIUM	SULFUR	PHOS-	CARBON,	CARBON,	ALUM-	ANTI-		
		BOT MAT <63µ WS FIELD PERCENT (34830)	BOT MAT <63µ WS FIELD PERCENT (34900)	BOT MAT <63µ WS FIELD PERCENT (34940)	BOT MAT <63µ WS FIELD PERCENT (34960)	BOT MAT <63µ WS FIELD PERCENT (34970)	BOT MAT <63µ WS FIELD PERCENT (34935)	SED, BM WS, <63µ DW, REC (PER- CENT) (49269)	ORG + INORG, SED, BM WS, <63µ DW, REC PERCENT (49267)	BOT MAT <63µ WS FIELD PERCENT (34790)	BOT MAT <63µ WS FIELD (µG/G) (34795)		
01467000	06-21-99	.22	.19	BURLINGTON COUNTY, NJ		.76	.15	.37	.14	.11	11.6	4.2	1.6
				CAMDEN COUNTY, NJ									
01467081	06-22-99	.67	.58	1.4	.20	.24	.59	.11	6.62	5.7	2.8		
01467150	06-22-99	.51	.57	1.6	.19	.23	.59	.14	6.34	4.9	2.9		
01467150	06-22-99	--	--	--	--	--	--	--	--	--	--		
				GLOUCESTER COUNTY, NJ									
01477120	08-17-98	.61	.63	1.8	.13	.16	.60	.09	5.61	4.5	1.4		
				MERCER COUNTY, NJ									
01463500	07-20-98	.55	.76	1.8	.56	.14	.17	.08	5.54	6.0	1.4		
				SUSSEX COUNTY, NJ									
01440000	06-16-99	--	--	--	--	--	--	--	--	--	--		
				DELAWARE COUNTY, NY									
01423000	07-27-99	.28	.55	1.5	.52	.13	.17	.04	4.01	5.3	1.4		
				ORANGE COUNTY, NY									
01437500	08-03-99	.34	.41	1.2	.29	.20	.18	.03	7.40	4.1	.8		
				SULLIVAN COUNTY, NY									
01435000	07-27-99	.16	.46	1.6	.11	.09	.074	.02	4.85	4.6	.6		
				BERKS COUNTY, PA									
01470500	08-02-99	.39	.48	1.5	.26	.24	.20	.06	6.72	6.0	10		
01470779	08-20-98	2.2	1.1	2.1	.30	.07	.14	.63	3.42	6.1	.4		
01471520	06-17-99	2.8	1.4	2.2	.31	.22	.12	.95	6.69	5.5	2.0		
01471668	08-19-98	.42	.53	1.5	.39	.10	.11	.03	3.59	6.0	1.0		
01471980	08-19-98	.79	.80	1.7	.83	.09	.11	.06	4.06	6.8	.7		
01471980	08-19-98	--	--	--	--	--	--	--	--	--	--		
				BUCKS COUNTY, PA									
01464907	08-18-98	.46	.60	1.9	1.4	.06	.093	.02	1.84	7.5	.9		
				CARBON COUNTY, PA									
01449000	08-02-99	.34	.33	1.2	.15	.44	.21	.10	12.0	6.2	5.1		
				CHESTER COUNTY, PA									
01472157	06-24-99	.69	.68	1.4	.68	.11	.13	.03	4.31	6.5	.6		
01472157	06-24-99	.66	.66	1.3	.67	.10	.12	.02	4.00	6.6	.6		
				DELAWARE COUNTY, PA									
01475510	06-23-99	1.4	1.2	1.2	.51	.16	.16	.50	6.17	6.0	2.4		
				LEHIGH COUNTY, PA									
01451425	08-18-98	1.2	1.1	2.8	.33	.07	.12	.36	3.71	6.9	.7		
01451624	06-14-99	3.4	1.2	2.5	.22	.12	.11	1.17	5.41	5.9	1.1		
01451800	06-17-99	.34	.90	1.7	.37	.07	.075	.03	2.89	6.4	.6		
				MONROE COUNTY, PA									
01439500	07-28-99	.43	.41	1.1	.34	.21	.18	.03	8.74	4.5	1.6		
01442500	07-29-99	.35	.42	1.2	.34	.18	.14	.02	4.87	4.2	1.1		
				MONTGOMERY COUNTY, PA									
01467040	06-24-99	.60	.57	1.5	.86	.08	.22	.05	2.91	6.3	1.2		
				NORTHAMPTON COUNTY, PA									
01452500	06-14-99	2.3	1.0	2.2	.30	.10	.11	.73	4.35	6.0	.7		
01454700	07-14-98	1.8	1.3	2.5	.26	.13	.15	.75	5.69	5.8	2.0		
				PHILADELPHIA COUNTY, PA									
01473990	06-23-99	1.4	1.1	1.6	.64	.18	.25	.48	6.17	6.2	3.6		
01474500	07-21-98	1.0	1.1	2.0	.76	.15	.22	.25	5.05	7.6	1.9		
				PIKE COUNTY, PA									
01434000	07-13-98	.25	.57	1.7	.34	.11	.13	.03	5.49	5.2	.7		
				WAYNE COUNTY, PA									
01431500	07-28-99	.34	.51	1.6	.51	.18	.15	.01	5.18	5.4	.8		

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STREAMBED SEDIMENTS--Continued

TRACE ELEMENTS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 AND 1999

STATION NUMBER	DATE	ARSENIC	BARIUM	BERYL-	BISMUTH	CADMIUM	CERIUM	CHRO-	COBALT	COPPER	EURO-	
		BOT MAT <63µ WS FIELD (µG/G) (34800)	BOT MAT <63µ WS FIELD (µG/G) (34805)	LIUM BOT MAT <63µ WS FIELD (µG/G) (34810)	BOT MAT <180UWS FIELD (µG/G) (34816)	BOT MAT <63µ WS FIELD (µG/G) (34825)	BOT MAT <63µ WS FIELD (µG/G) (34835)	MIUM BOT MAT <63µ WS FIELD (µG/G) (34840)	BOT MAT <63µ WS FIELD (µG/G) (34845)	BOT MAT <63µ WS FIELD (µG/G) (34850)	BOT MAT <63µ WS FIELD (µG/G) (34855)	
01467000	06-21-99	13	280	BURLINGTON COUNTY, NJ								2
				1	<1	.7	87	57	6	60		
				CAMDEN COUNTY, NJ								
01467081	06-22-99	33	430	4	<1	2.2	120	140	20	76	2	
01467150	06-22-99	57	500	4	<1	3.0	110	150	20	69	2	
01467150	06-22-99	--	--	--	--	--	--	--	--	--	--	
				GLOUCESTER COUNTY, NJ								
01477120	08-17-98	42	520	3	<1	2.7	110	190	17	36	2	
				MERCER COUNTY, NJ								
01463500	07-20-98	13	500	4	<1	4.4	88	84	25	61	2	
				SUSSEX COUNTY, NJ								
01440000	06-16-99	--	--	--	--	--	--	--	--	--	--	
				DELAWARE COUNTY, NY								
01423000	07-27-99	15	440	2	<1	.8	81	66	14	150	1	
				ORANGE COUNTY, NY								
01437500	08-03-99	6.6	540	2	<1	1.6	57	42	14	43	1	
				SULLIVAN COUNTY, NY								
01435000	07-27-99	9.8	400	2	<1	.7	81	44	11	19	1	
				BERKS COUNTY, PA								
01470500	08-02-99	16	460	5	<1	2.2	81	66	200	85	2	
01470779	08-20-98	27	460	2	<1	.3	80	69	16	32	2	
01471520	06-17-99	8.5	440	2	<1	1.2	75	88	18	110	2	
01471668	08-19-98	10	550	3	<1	.5	97	63	18	48	2	
01471980	08-19-98	5.5	500	3	<1	.5	110	73	14	40	2	
01471980	08-19-98	--	--	--	--	--	--	--	--	--	--	
				BUCKS COUNTY, PA								
01464907	08-18-98	7.1	570	3	<1	.5	120	72	14	59	2	
				CARBON COUNTY, PA								
01449000	08-02-99	21	400	27	<1	6.3	140	78	220	180	3	
				CHESTER COUNTY, PA								
01472157	06-24-99	5.6	540	2	<1	.6	100	72	22	51	2	
01472157	06-24-99	5.3	540	2	<1	.6	100	72	20	49	2	
				DELAWARE COUNTY, PA								
01475510	06-23-99	10	520	2	<1	1.9	110	100	22	95	2	
				LEHIGH COUNTY, PA								
01451425	08-18-98	14	510	3	<1	.7	110	74	32	38	3	
01451624	06-14-99	12	400	2	<1	1.0	89	70	23	62	2	
01451800	06-17-99	8.2	440	2	<1	.5	86	70	20	38	2	
				MONROE COUNTY, PA								
01439500	07-28-99	8.0	390	2	<1	1.1	57	150	10	64	1	
01442500	07-29-99	8.4	320	2	<1	1.0	70	63	12	48	1	
				MONTGOMERY COUNTY, PA								
01467040	06-24-99	5.8	570	2	<1	1.0	110	66	15	55	2	
				NORTHAMPTON COUNTY, PA								
01452500	06-14-99	8.8	460	2	<1	.8	87	63	17	50	2	
01454700	07-14-98	13	550	5	<1	12	99	97	47	98	2	
				PHILADELPHIA COUNTY, PA								
01473990	06-23-99	6.9	520	2	<1	1.1	98	85	19	130	2	
01474500	07-21-98	13	570	3	<1	1.7	110	130	56	110	2	
				PIKE COUNTY, PA								
01434000	07-13-98	12	520	2	<1	1.0	84	55	16	33	2	
				WAYNE COUNTY, PA								
01431500	07-28-99	9.0	480	2	<1	1.6	91	52	12	34	1	

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STREAMBED SEDIMENTS--Continued

TRACE ELEMENTS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 AND 1999

STATION NUMBER	DATE	MOLYB-	NEODYM-	NICKEL	NIOBIUM	SCAN-	SELE-	SILVER	STRON-	TANTA-		
		DENUM BOT MAT <63µ WS FIELD (µG/G) (34915)	IUM BOT MAT <63µ WS FIELD (µG/G) (34920)	BOT MAT <63µ WS FIELD (µG/G) (34925)	BOT MAT <63µ WS FIELD (µG/G) (34930)	DIUM BOT MAT <63µ WS FIELD (µG/G) (34945)	NIUM BOT MAT <63µ WS FIELD (µG/G) (34950)	BOT MAT <63µ WS FIELD (µG/G) (34955)	BOT MAT <63µ WS FIELD (µG/G) (34965)	BOT MAT <63µ WS FIELD (µG/G) (34975)		
01467000	06-21-99	5	50	BURLINGTON COUNTY, NJ		12	25	8	1.9	2.2	54	2
				CAMDEN COUNTY, NJ								
01467081	06-22-99	3	56	36	11	10	1.3	1.2	110	<1		
01467150	06-22-99	3	49	43	13	8	1.4	1.0	83	<1		
01467150	06-22-99	--	--	--	--	--	--	--	--	--		
				GLOUCESTER COUNTY, NJ								
01477120	08-17-98	3	48	42	10	8	1.7	1.0	89	1		
				MERCER COUNTY, NJ								
01463500	07-20-98	2	45	47	14	11	1.4	1.2	70	1		
				SUSSEX COUNTY, NJ								
01440000	06-16-99	--	--	--	--	--	--	--	--	--		
				DELAWARE COUNTY, NY								
01423000	07-27-99	1	37	32	9	10	.6	.3	86	<1		
				ORANGE COUNTY, NY								
01437500	08-03-99	<1	29	25	7	7	.7	4.2	56	<1		
				SULLIVAN COUNTY, NY								
01435000	07-27-99	<1	36	20	9	8	.7	.2	42	<1		
				BERKS COUNTY, PA								
01470500	08-02-99	2	41	190	11	11	2.2	.7	90	<1		
01470779	08-20-98	1	43	35	10	10	1.0	.7	91	1		
01471520	06-17-99	2	42	43	9	10	1.6	.7	89	<1		
01471668	08-19-98	1	46	39	11	10	1.1	.6	72	1		
01471980	08-19-98	1	56	29	13	12	1.3	.7	98	2		
01471980	08-19-98	--	--	--	--	--	--	--	--	--		
				BUCKS COUNTY, PA								
01464907	08-18-98	1	55	29	14	12	.5	.8	100	2		
				CARBON COUNTY, PA								
01449000	08-02-99	3	70	180	8	10	4.0	.9	65	<1		
				CHESTER COUNTY, PA								
01472157	06-24-99	1	61	30	12	13	1.4	.6	100	1		
01472157	06-24-99	1	61	30	13	13	1.3	.6	100	1		
				DELAWARE COUNTY, PA								
01475510	06-23-99	2	58	48	15	12	1.6	1.2	100	1		
				LEHIGH COUNTY, PA								
01451425	08-18-98	1	69	47	11	11	1.4	.6	66	1		
01451624	06-14-99	1	52	36	8	10	1.5	.6	110	<1		
01451800	06-17-99	1	44	33	8	10	.7	.9	48	<1		
				MONROE COUNTY, PA								
01439500	07-28-99	2	28	34	8	8	1.1	.7	64	<1		
01442500	07-29-99	1	33	27	9	8	.9	2.2	53	<1		
				MONTGOMERY COUNTY, PA								
01467040	06-24-99	2	58	24	13	11	.9	.7	97	1		
				NORTHAMPTON COUNTY, PA								
01452500	06-14-99	1	50	33	8	10	1.8	.5	110	<1		
01454700	07-14-98	3	54	63	8	10	1.8	1.0	70	<1		
				PHILADELPHIA COUNTY, PA								
01473990	06-23-99	2	54	39	13	11	1.4	1.6	97	<1		
01474500	07-21-98	3	53	92	14	14	1.5	.9	110	2		
				PIKE COUNTY, PA								
01434000	07-13-98	<1	42	32	6	9	.8	.7	54	<1		
				WAYNE COUNTY, PA								
01431500	07-28-99	<1	44	22	19	9	1.0	.8	63	9		

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STREAMBED SEDIMENTS--Continued

TRACE ELEMENTS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 AND 1999

STATION NUMBER	DATE	TIN	TITA- NIUM, SED, BM	VANA- DIUM	YTTER- BIUM	YTTRIUM	ZINC	CARBON, ORGANIC SED, BM	THORIUM	URANIUM
		BOT MAT <63µ WS FIELD (µG/G) (34985)	WS, <63µ DRY WGT REC (49274)	BOT MAT <63µ WS FIELD (µG/G) (35005)	BOT MAT <63µ WS FIELD (µG/G) (35015)	BOT MAT <63µ WS FIELD (µG/G) (35010)	BOT MAT <63µ WS FIELD (µG/G) (35020)	WS, <63µ DW, REC (PER- CENT) (49266)	BOT MAT <63µ WS FIELD (µG/G) (34980)	BOT MAT <63µ WS FIELD (µG/G) (35000)
01467000	06-21-99	7	.930	BURLINGTON COUNTY, NJ			100	11.5	14	6.6
				71	3	35				
				CAMDEN COUNTY, NJ						
01467081	06-22-99	9	.350	130	3	31	480	6.51	14	4.9
01467150	06-22-99	10	.400	120	3	32	480	6.20	11	5.5
01467150	06-22-99	--	--	--	--	--	--	--	--	--
				GLOUCESTER COUNTY, NJ						
01477120	08-17-98	5	.531	120	3	30	300	5.52	10	7.5
				MERCER COUNTY, NJ						
01463500	07-20-98	9	.429	100	3	28	910	5.46	12	4.7
				SUSSEX COUNTY, NJ						
01440000	06-16-99	--	--	--	--	--	--	--	--	--
				DELAWARE COUNTY, NY						
01423000	07-27-99	16	.210	83	2	22	340	3.97	12	3.5
				ORANGE COUNTY, NY						
01437500	08-03-99	5	.150	55	2	17	320	7.37	9	3.7
				SULLIVAN COUNTY, NY						
01435000	07-27-99	3	.210	62	2	18	160	4.83	11	3.4
				BERKS COUNTY, PA						
01470500	08-02-99	10	.280	89	3	35	810	6.66	10	4.0
01470779	08-20-98	3	.433	86	3	33	150	2.79	10	2.7
01471520	06-17-99	9	.310	88	3	33	380	5.74	10	3.2
01471668	08-19-98	5	.446	78	3	26	170	3.56	13	4.5
01471980	08-19-98	5	.496	84	4	42	170	4.00	14	4.4
01471980	08-19-98	--	--	--	--	--	--	--	--	--
				BUCKS COUNTY, PA						
01464907	08-18-98	5	.540	86	3	26	160	1.82	17	6.9
				CARBON COUNTY, PA						
01449000	08-02-99	12	.180	85	5	62	1600	11.9	8	4.7
				CHESTER COUNTY, PA						
01472157	06-24-99	5	.480	100	5	53	200	4.28	13	3.8
01472157	06-24-99	5	.490	97	5	52	200	3.98	13	3.9
				DELAWARE COUNTY, PA						
01475510	06-23-99	11	.540	110	4	37	420	5.67	16	4.0
				LEHIGH COUNTY, PA						
01451425	08-18-98	4	.447	78	5	60	200	3.35	13	3.5
01451624	06-14-99	6	.250	82	4	43	300	4.24	11	3.3
01451800	06-17-99	4	.280	94	3	24	190	2.86	13	3.8
				MONROE COUNTY, PA						
01439500	07-28-99	10	.170	70	2	16	430	8.71	9	2.7
01442500	07-29-99	6	.260	70	2	18	280	4.85	10	3.8
				MONTGOMERY COUNTY, PA						
01467040	06-24-99	6	.440	75	3	31	270	2.86	16	5.3
				NORTHAMPTON COUNTY, PA						
01452500	06-14-99	5	.260	77	3	35	240	3.62	12	3.4
01454700	07-14-98	10	.420	94	4	38	2100	4.94	11	3.7
				PHILADELPHIA COUNTY, PA						
01473990	06-23-99	13	.430	81	4	37	340	5.69	15	4.8
01474500	07-21-98	10	.650	120	3	35	610	4.80	14	4.5
				PIKE COUNTY, PA						
01434000	07-13-98	5	.301	80	3	20	240	5.46	11	3.7
				WAYNE COUNTY, PA						
01431500	07-28-99	7	.240	70	2	23	190	5.17	13	4.2

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STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	CARBON, INORG, SED, <2MM DW, REC (G/KG) (49270)	CARBON, ORG + INORG, SED, <2MM DW, REC (G/KG) (49272)	CARBON, ORGANIC SED, <2MM DW, REC (G/KG) (49271)	2,2'-BI QUINO-LINE, SED, <2MM DW, REC (µG/KG) (49391)	3,5-XYLENOL, SED, <2MM DW, REC (µG/KG) (49421)	4-BROMO PHNPHNL ETHER, SED, <2MM DW, REC (µG/KG) (49454)	4CHLORO PHNPHN LETHER, SED, <2MM DW, REC (µG/KG) (49455)	4HCYPEN PHENAN THRENE, SED, <2MM DW, REC (µG/KG) (49411)	9,10-ANTHRA-QUINONE, SED, <2MM DW, REC (µG/KG) (49437)	9H-FLU-ORENE, 1METHYL SED, <2MM DW, REC (µG/KG) (49398)
01467000	06-21-99	<.200	26.0	26.0	<120	<120	<120	<120	E39	E30	<120
BURLINGTON COUNTY, NJ											
01467081	06-22-99	.300	18.0	18.0	<200	<200	<200	<200	420	1100	<200
01467150	06-22-99	.700	36.0	35.0	<130	<130	<130	<130	E130	260	<130
01467150	06-22-99	1.10	44.0	43.0	<150	<150	<150	<150	170	380	<150
CAMDEN COUNTY, NJ											
01477120	08-17-98	<.100	31.0	31.0	<50	<50	<50	<50	<50	<50	<50
GLOUCESTER COUNTY, NJ											
01463500	07-20-98	<.100	54.0	54.0	<50	<50	<50	<50	130	150	<50
MERCER COUNTY, NJ											
01440000	06-16-99	1.00	12.0	11.0	<50	<50	<50	<50	E24	<50	<50
SUSSEX COUNTY, NJ											
01423000	07-27-99	<.200	37.0	37.0	190	<50	<50	<50	1600	2700	E14
DELAWARE COUNTY, NY											
01437500	08-03-99	<.200	22.0	22.0	<100	<100	<100	<100	E97	E97	<100
ORANGE COUNTY, NY											
01435000	07-27-99	<.200	11.0	11.0	<50	<50	<50	<50	<50	91	<50
SULLIVAN COUNTY, NY											
01470500	08-02-99	.500	89.0	89.0	<100	<100	<100	<100	E61	180	<100
01470779	08-20-98	5.20	29.0	24.0	<50	<50	<50	<50	<50	<50	<50
01471520	06-17-99	10.0	77.0	67.0	<100	E39	<100	<100	440	600	E11
01471668	08-19-98	<.100	27.0	27.0	<50	<50	<50	<50	E26	58	<50
01471980	08-19-98	.400	38.0	38.0	<50	<50	<50	<50	E4.8	<50	<50
01471980	08-19-98	<.100	45.0	45.0	<50	<50	<50	<50	E11	61	<50
BERKS COUNTY, PA											
01464907	08-18-98	<.100	20.0	20.0	<50	<50	<50	<50	E25	50	<50
BUCKS COUNTY, PA											
01449000	08-02-99	.600	150	150	<200	<200	<200	<200	400	720	<200
CARBON COUNTY, PA											
01472157	06-24-99	.300	40.0	40.0	<140	<140	<140	<140	E24	E73	<140
01472157	06-24-99	--	--	--	--	--	--	--	--	--	--
CHESTER COUNTY, PA											
01475510	06-23-99	2.60	38.0	35.0	<180	<180	<180	<180	580	1200	<180
DELAWARE COUNTY, PA											
01451425	08-18-98	3.90	46.0	42.0	<50	<50	<50	<50	E8.9	50	<50
01451624	06-14-99	15.0	66.0	51.0	<100	<100	<100	<100	E78	410	<100
01451800	06-17-99	.400	29.0	29.0	<50	<50	<50	<50	66	E49	<50
LEHIGH COUNTY, PA											
01439500	07-28-99	.300	56.0	56.0	<50	<50	<50	<50	<50	<50	<50
01442500	07-29-99	<.200	19.0	19.0	<50	<50	<50	<50	E4.0	59	<50
MONROE COUNTY, PA											
01467040	06-24-99	.300	15.0	15.0	<150	<150	<150	<150	200	440	<150
MONTGOMERY COUNTY, PA											
01452500	06-14-99	7.50	53.0	46.0	<100	<100	<100	<100	E78	210	<100
01454700	07-14-98	4.30	100	96.0	<50	<50	<50	<50	140	150	<50
NORTHAMPTON COUNTY, PA											
01473990	06-23-99	2.70	38.0	35.0	<160	<160	<160	<160	360	700	<160
01474500	07-21-98	.900	120	120	<50	<50	<50	<50	120	220	<50
PHILADELPHIA COUNTY, PA											
01434000	07-13-98	<.100	48.0	48.0	<50	<50	<50	<50	97	150	<50
PIKE COUNTY, PA											
01431500	07-28-99	<.200	34.0	34.0	<50	<50	<50	<50	E24	81	<50
WAYNE COUNTY, PA											

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STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	9H-FLU- ORENE SED, BM WS, <2MM DW, REC (µG/KG) (49399)	ACENAPH THENE SED, BM WS, <2MM DW, REC (µG/KG) (49429)	ACENAPH THYLENE SED, BM WS, <2MM DW, REC (µG/KG) (49428)	ACRI- DINE SED, BM WS, <2MM DW, REC (µG/KG) (49430)	ALDRIN, SED, BM WS, <2MM DW, REC (µG/KG) (49319)	ALPHA- BHC, SED, BM WS, <2MM DW, REC (µG/KG) (49338)	ANTHRA- CENE, 2- METHYL- SED, BM WS, <2MM DW, REC (µG/KG) (49435)	ANTHRA- CENE SED, BM WS, <2MM DW, REC (µG/KG) (49434)	AZO- BENZENE SED, BM WS, <2MM DW, REC (µG/KG) (49443)							
		01467000	06-21-99	E22	E35	BURLINGTON COUNTY, NJ							E23	E18	<2.00	<2.00	<120
01467081	06-22-99	E140	E85	CAMDEN COUNTY, NJ							E83	390	<2.00	<2.00	E130	430	<200
01467150	06-22-99	E52	E29	E64	E68	<2.00	<2.00	E52	160	<130							
01467150	06-22-99	E68	E44	E67	E100	<2.00	<2.00	E50	180	<150							
01477120	08-17-98	<50	<50	GLOUCESTER COUNTY, NJ							E13	<50	<1.00	<1.20	<50	E15	<50
01463500	07-20-98	91	<50	MERCER COUNTY, NJ							120	E11	<1.00	<1.00	92	340	<50
01440000	06-16-99	<50	<50	SUSSEX COUNTY, NJ							E42	<50	<1.00	<1.00	E15	E22	<50
01423000	07-27-99	990	920	DELAWARE COUNTY, NY							130	380	<1.00	<1.00	330	2000	<50
01437500	08-03-99	E64	E31	ORANGE COUNTY, NY							E43	<100	<1.00	<1.00	E39	250	<100
01435000	07-27-99	E10	<50	SULLIVAN COUNTY, NY							E38	<50	<1.00	<1.00	<50	<50	<50
01470500	08-02-99	E23	<100	BERKS COUNTY, PA							E69	<100	<1.00	<1.00	E28	120	<100
01470779	08-20-98	<50	<50	E17	<50	<1.00	<1.00	<50	E36	<50							
01471520	06-17-99	200	150	130	270	<2.00	<2.00	E98	570	160							
01471668	08-19-98	<50	<50	110	E9.0	<1.00	<1.00	E39	100	<50							
01471980	08-19-98	<50	<50	E19	E6.9	<1.00	<1.00	<50	E27	<50							
01471980	08-19-98	<50	<50	E29	E7.1	<1.00	<1.00	E18	E33	<50							
01464907	08-18-98	E7.4	E8.7	BUCKS COUNTY, PA							E14	E16	<1.00	<1.00	E17	E39	<50
01449000	08-02-99	880	1200	CARBON COUNTY, PA							220	<200	<2.00	<2.00	E110	830	<200
01472157	06-24-99	<140	<140	CHESTER COUNTY, PA							E23	<140	<2.00	<2.00	<140	E24	<140
01472157	06-24-99	--	--	--	--	--	--	--	--	--							
01475510	06-23-99	260	220	DELAWARE COUNTY, PA							200	310	<2.00	<2.00	E160	800	<180
01451425	08-18-98	<50	<50	LEHIGH COUNTY, PA							E29	<50	<1.00	<1.00	<50	E41	<50
01451624	06-14-99	<100	<100	120	E34	<1.00	<1.00	<100	150	<100							
01451800	06-17-99	E21	E13	160	E14	<1.00	<1.00	E28	130	<50							
01439500	07-28-99	<50	<50	MONROE COUNTY, PA							<50	<50	<1.00	<1.00	<50	<50	<50
01442500	07-29-99	<50	<50	E49	<50	<1.00	<1.00	<50	E15	<50							
01467040	06-24-99	E95	E65	MONTGOMERY COUNTY, PA							E120	E94	<2.00	<2.00	E72	290	<150
01452500	06-14-99	E66	E47	NORTHAMPTON COUNTY, PA							330	<100	<1.00	<1.00	130	740	<100
01454700	07-14-98	87	57	190	E30	<1.00	<1.00	89	380	<50							
01473990	06-23-99	210	170	PHILADELPHIA COUNTY, PA							190	E130	<2.00	<2.00	E120	560	<160
01474500	07-21-98	67	E41	63	E41	<1.00	<1.00	59	210	<50							
01434000	07-13-98	E27	E15	PIKE COUNTY, PA							97	<50	<1.00	<1.00	54	180	<50
01431500	07-28-99	E17	<50	WAYNE COUNTY, PA							61	<50	<1.00	<1.00	E2.6	51	<50

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STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	BENZOB	BENZO(G	BENZO K	BENZOCI	BETA-	BIS2CHL	CARBA-	
		FLUOR- ANTHENE SED, BM WS, <2MM DW, REC (µG/KG) (49458)	HI)PERY LENE SED, BM WS, <2MM DW, REC (µG/KG) (49408)	FLUOR- ANTHENE SED, BM WS, <2MM DW, REC (µG/KG) (49397)	NNOLINE BED MAT WS <2MM DRY WGT REC (µG/KG) (49468)	BHC, BHC, SED, BM WS, <2MM DW, REC (µG/KG) (49339)	ETHYL ETHER SED, BM WS, <2MM DW, REC (µG/KG) (49456)	ZOLE ZOLE SED, BM WS, <2MM DW, REC (µG/KG) (49449)	
01467000	06-21-99	E96	E37	BURLINGTON COUNTY, NJ					
				E70	<120	<2.00	<120	E29	
01467081	06-22-99	3800	E1100	CAMDEN COUNTY, NJ					
01467150	06-22-99	990	E250	E3200	<200	<2.00	<200	480	
01467150	06-22-99	1400	E560	E780	<130	<2.00	<130	E100	
				1100	<150	<2.00	<150	160	
01477120	08-17-98	E43	E36	GLOUCESTER COUNTY, NJ					
				E46	<50	<1.00	--	<50	
01463500	07-20-98	780	E210	MERCER COUNTY, NJ					
				740	<50	<1.00	--	84	
01444000	06-16-99	E31	E33	SUSSEX COUNTY, NJ					
				E26	<50	<1.00	<50	E9.3	
01423000	07-27-99	6500	4800	DELAWARE COUNTY, NY					
				7100	<50	<1.00	<50	2200	
01437500	08-03-99	510	270	ORANGE COUNTY, NY					
				440	<100	<1.00	<100	E80	
01435000	07-27-99	130	52	SULLIVAN COUNTY, NY					
				120	<50	<1.00	<50	<50	
01470500	08-02-99	380	220	BERKS COUNTY, PA					
01470779	08-20-98	110	66	320	<100	<1.00	<100	E22	
01471520	06-17-99	3500	E920	100	<50	<1.00	--	<50	
01471668	08-19-98	240	140	2400	<100	<2.00	<100	480	
01471980	08-19-98	94	58	250	<50	<1.00	--	E18	
01471980	08-19-98	110	72	100	<50	<1.00	--	E12	
				120	<50	<1.00	--	E14	
01464907	08-18-98	160	100	BUCKS COUNTY, PA					
				170	<50	<1.00	--	E22	
01449000	08-02-99	2600	1100	CARBON COUNTY, PA					
				2300	<200	<2.00	<200	260	
01472157	06-24-99	E65	E30	CHESTER COUNTY, PA					
01472157	06-24-99	--	--	E55	<140	<2.00	<140	E20	
				--	--	--	--	--	
01475510	06-23-99	5200	E1300	DELAWARE COUNTY, PA					
				4700	<180	<2.00	<180	590	
01451425	08-18-98	130	74	LEHIGH COUNTY, PA					
01451624	06-14-99	1300	770	130	<50	<1.00	--	<50	
01451800	06-17-99	360	150	1000	<100	<1.00	<100	130	
				310	<50	<1.00	<50	E21	
01439500	07-28-99	120	E18	MONROE COUNTY, PA					
01442500	07-29-99	160	69	97	<50	<1.00	<50	<50	
				160	<50	<1.00	<50	<50	
01467040	06-24-99	1600	E550	MONTGOMERY COUNTY, PA					
				1400	<150	<2.00	<150	200	
01452500	06-14-99	1500	840	NORTHAMPTON COUNTY, PA					
01454700	07-14-98	1100	460	1100	<100	<1.00	<100	120	
				1000	<50	<1.00	--	100	
01473990	06-23-99	2700	E860	PHILADELPHIA COUNTY, PA					
01474500	07-21-98	860	520	2400	<160	<2.00	<160	300	
				860	<50	<1.00	--	110	
01434000	07-13-98	580	300	PIKE COUNTY, PA					
				360	<50	<1.00	--	E49	
01431500	07-28-99	280	120	WAYNE COUNTY, PA					
				170	<50	<1.00	<50	E2.6	

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STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	CHLORO-	CHRY-	CIS-	CIS-	CIS-	DCPA, SED, BM WS, <2MM DW, REC (µG/KG) (49322)	DIBENZ	DIEL-	DIPHNYL	
		NEB, SED, BM WS, <2MM DW, REC (µG/KG) (49322)	SENE SED, BM WS, <2MM DW, REC (µG/KG) (49450)	CHLOR- DANE, SED, BM WS, <2MM DW, REC (µG/KG) (49320)	NONA- CHLOR, SED, BM WS, <2MM DW, REC (µG/KG) (49316)	PER- METHRIN SED, BM WS, <2MM DW, REC (µG/KG) (49349)		(AH), AN THRACEN SED, BM WS, <2MM DW, REC (µG/KG) (49461)	DRIN, SED, BM WS, <2MM DW, REC (µG/KG) (49331)	AMINE, N NITROSO SED, BM WS, <2MM DW, REC (µG/KG) (49433)	
01467000	06-21-99	<10.0	120	BURLINGTON COUNTY, NJ			<10.0	<10.0	<120	<2.00	<120
				<2.00	<2.00	<10.0					
				CAMDEN COUNTY, NJ							
01467081	06-22-99	<10.0	3200	21.0	5.70	<10.0	<10.0	E380	24.0	<200	
01467150	06-22-99	<10.0	880	18.0	4.50	<10.0	<10.0	E98	6.10	<130	
01467150	06-22-99	<10.0	1300	29.0	6.50	<10.0	<10.0	200	8.10	<150	
				GLOUCESTER COUNTY, NJ							
01477120	08-17-98	<5.00	E47	<1.00	<1.00	<5.00	<5.00	<50	3.40	<50	
				<1.00	<1.00	<5.00	<5.00	<50	3.40	<50	
				MERCER COUNTY, NJ							
01463500	07-20-98	<5.00	740	<1.00	<1.00	<5.00	<5.00	E88	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	E88	<1.00	<50	
				SUSSEX COUNTY, NJ							
01440000	06-16-99	<5.00	62	<1.00	<1.00	<5.00	<5.00	E18	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	E18	<1.00	<50	
				DELAWARE COUNTY, NY							
01423000	07-27-99	<5.00	8300	<1.00	<1.00	<5.00	<5.00	1200	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	1200	<1.00	<50	
				ORANGE COUNTY, NY							
01437500	08-03-99	<5.00	500	<1.00	<1.00	<5.00	<5.00	76	<1.00	<100	
				<1.00	<1.00	<5.00	<5.00	76	<1.00	<100	
				SULLIVAN COUNTY, NY							
01435000	07-27-99	<5.00	150	<1.00	<1.00	<5.00	<5.00	<50	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	<50	<1.00	<50	
				BERKS COUNTY, PA							
01470500	08-02-99	<5.00	420	<1.00	<1.00	<5.00	<5.00	E37	<1.00	<100	
01470779	08-20-98	<5.00	99	<1.00	<1.00	<5.00	<5.00	<50	<1.00	<50	
01471520	06-17-99	<10.0	4300	13.0	3.50	<10.0	<10.0	460	2.10	<100	
01471668	08-19-98	<5.00	300	<1.00	<1.00	<5.00	<5.00	55	<1.00	<50	
01471980	08-19-98	<5.00	91	<1.00	<1.00	<5.00	<5.00	<50	1.10	<50	
01471980	08-19-98	<5.00	140	<1.00	<1.00	<5.00	<5.00	<50	1.20	<50	
				<1.00	<1.00	<5.00	<5.00	<50	1.20	<50	
				BUCKS COUNTY, PA							
01464907	08-18-98	<5.00	210	<1.00	<1.00	<5.00	<5.00	E32	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	E32	<1.00	<50	
				CARBON COUNTY, PA							
01449000	08-02-99	<10.0	2800	<2.00	<2.00	<10.0	<10.0	280	<2.00	<200	
				<2.00	<2.00	<10.0	<10.0	280	<2.00	<200	
				CHESTER COUNTY, PA							
01472157	06-24-99	<10.0	E82	<2.00	<2.00	<10.0	<10.0	<140	<2.00	<140	
01472157	06-24-99	--	--	--	--	--	--	--	--	--	
				<2.00	<2.00	<10.0	<10.0	<140	<2.00	<140	
				DELAWARE COUNTY, PA							
01475510	06-23-99	<10.0	4400	25.0	6.50	<10.0	<10.0	520	65.0	<180	
				25.0	6.50	<10.0	<10.0	520	65.0	<180	
				LEHIGH COUNTY, PA							
01451425	08-18-98	<5.00	160	<1.00	<1.00	<5.00	<5.00	<50	<1.00	<50	
01451624	06-14-99	<5.00	1400	3.20	<1.00	<5.00	<5.00	220	E1.00	<100	
01451800	06-17-99	<5.00	380	<1.00	<1.00	<5.00	<5.00	60	1.00	<50	
				<1.00	<1.00	<5.00	<5.00	60	1.00	<50	
				MONROE COUNTY, PA							
01439500	07-28-99	<5.00	99	<1.00	<1.00	<5.00	<5.00	<50	<1.00	<50	
01442500	07-29-99	<5.00	160	<1.00	<1.00	<5.00	<5.00	<50	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	<50	<1.00	<50	
				MONTGOMERY COUNTY, PA							
01467040	06-24-99	<10.0	1500	6.30	<2.00	<18.0	<10.0	180	5.40	<150	
				6.30	<2.00	<18.0	<10.0	180	5.40	<150	
				NORTHAMPTON COUNTY, PA							
01452500	06-14-99	<5.00	1800	1.10	<1.00	<5.00	<5.00	290	<1.00	<100	
01454700	07-14-98	<5.00	1200	<1.00	<1.00	<5.00	<5.00	200	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	200	<1.00	<50	
				PHILADELPHIA COUNTY, PA							
01473990	06-23-99	<10.0	2400	19.0	5.40	<10.0	<10.0	310	27.0	<160	
01474500	07-21-98	<5.00	920	1.20	<1.00	<5.00	<5.00	170	<1.00	<50	
				1.20	<1.00	<5.00	<5.00	170	<1.00	<50	
				PIKE COUNTY, PA							
01434000	07-13-98	<5.00	530	<1.00	<1.00	<5.00	<5.00	110	<1.00	<50	
				<1.00	<1.00	<5.00	<5.00	110	<1.00	<50	
				WAYNE COUNTY, PA							
01431500	07-28-99	<5.00	260	<1.00	<1.00	<5.00	<5.00	E40	<1.00	E5.2	
				<1.00	<1.00	<5.00	<5.00	E40	<1.00	E5.2	

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	DPROPYL	ENDO-			FLUOR-	HEPTA-	HEPTA-	INDENO			
		AMINE, N NITROSO SED, BM WS, <2MM DW, REC (µG/KG) (49431)	SULFAN I, SED, BM WS, <2MM DW, REC (µG/KG) (49332)	ENDRIN, SED, BM WS, <2MM DW, REC (µG/KG) (49335)	BED MAT DRY WGT REC (µG/KG) (49466)	ANTHENE EPOXIDE SED, BM WS, <2MM DW, REC (µG/KG) (49342)	CHLOR CHLOR, SED, BM WS, <2MM DW, REC (µG/KG) (49341)	PYRENE PYRENE SED, BM WS, <2MM DW, REC (µG/KG) (49390)	ISODRIN ISODRIN SED, BM WS, <2MM DW, REC (µG/KG) (49344)	ISOPHOR ONE SED, BM WS, <2MM DW, REC (µG/KG) (49400)		
01467000	06-21-99	<120	<2.00	BURLINGTON COUNTY, NJ		<4.00	210	<2.00	<2.00	E11	<2.00	<120
				CAMDEN COUNTY, NJ								
01467081	06-22-99	<200	<2.00	<4.00	6300	4.90	<2.00	E1600	<2.00	<200		
01467150	06-22-99	<130	<2.00	<4.00	1500	2.80	<2.00	E320	<2.00	<130		
01467150	06-22-99	<150	<4.00	<4.00	2200	3.90	<2.00	E820	<2.00	<150		
				GLOUCESTER COUNTY, NJ								
01477120	08-17-98	<50	<1.10	<2.00	68	<1.50	<1.00	E38	<1.00	<50		
				MERCER COUNTY, NJ								
01463500	07-20-98	<50	<1.00	<2.00	1400	<1.00	<1.00	E280	<1.00	<50		
				SUSSEX COUNTY, NJ								
01440000	06-16-99	<50	<1.00	<2.00	80	<1.00	<1.00	E4.4	<1.00	<50		
				DELAWARE COUNTY, NY								
01423000	07-27-99	<50	<1.00	<2.00	20000	<1.00	<1.00	5100	<1.00	<50		
				ORANGE COUNTY, NY								
01437500	08-03-99	<100	<1.00	<2.00	1000	<1.00	<1.00	300	<1.00	<100		
				SULLIVAN COUNTY, NY								
01435000	07-27-99	<50	<1.00	<2.00	280	<1.00	<1.00	91	<1.00	<50		
				BERKS COUNTY, PA								
01470500	08-02-99	<100	<1.00	<2.00	850	<1.00	<1.00	200	<1.00	<100		
01470779	08-20-98	<50	4.70	<2.00	160	<1.00	<1.00	76	<1.00	<50		
01471520	06-17-99	<100	<8.70	<4.00	8300	2.00	<2.00	1500	<2.00	<100		
01471668	08-19-98	<50	<1.00	<2.00	570	<1.00	<1.00	180	<1.00	<50		
01471980	08-19-98	<50	<1.00	<2.00	180	<1.00	<1.00	66	<1.00	<50		
01471980	08-19-98	<50	<1.00	<2.00	260	<1.10	<1.00	81	<1.00	<50		
				BUCKS COUNTY, PA								
01464907	08-18-98	<50	<1.00	<2.00	430	<1.00	<1.00	130	<1.00	<50		
				CARBON COUNTY, PA								
01449000	08-02-99	<200	<2.00	<4.00	6300	<2.00	<2.00	1200	<2.00	<200		
				CHESTER COUNTY, PA								
01472157	06-24-99	<140	<2.00	<4.00	140	<2.00	<2.00	E15	<2.00	<140		
01472157	06-24-99	--	--	--	--	--	--	--	--	--		
				DELAWARE COUNTY, PA								
01475510	06-23-99	<180	<6.80	<4.00	10000	6.20	<2.00	E1900	<2.00	<180		
				LEHIGH COUNTY, PA								
01451425	08-18-98	<50	<1.00	<2.00	330	<1.00	<1.00	120	<1.00	<50		
01451624	06-14-99	<100	<1.00	<2.00	2300	<1.00	<1.00	910	<1.00	<100		
01451800	06-17-99	<50	<1.00	<2.00	720	<1.00	<1.00	220	<1.00	<50		
				MONROE COUNTY, PA								
01439500	07-28-99	<50	<1.00	<2.00	E29	<1.00	<1.00	E46	<1.00	<50		
01442500	07-29-99	<50	<1.00	<2.00	250	<1.00	<1.00	110	<1.00	<50		
				MONTGOMERY COUNTY, PA								
01467040	06-24-99	<150	<3.00	<4.00	2800	<2.00	<2.00	820	<2.00	<150		
				NORTHAMPTON COUNTY, PA								
01452500	06-14-99	<100	<1.00	<2.00	2200	<1.00	<1.00	1000	<1.00	<100		
01454700	07-14-98	<50	<1.00	<2.00	1900	<1.00	<1.00	570	<1.00	<50		
				PHILADELPHIA COUNTY, PA								
01473990	06-23-99	<160	<2.00	<4.00	4100	3.60	<2.00	E1300	<2.00	<160		
01474500	07-21-98	<50	<1.00	<2.00	1700	<1.00	<1.00	530	<1.00	<50		
				PIKE COUNTY, PA								
01434000	07-13-98	<50	<1.00	<2.00	1100	<1.00	<1.00	310	<1.00	<50		
				WAYNE COUNTY, PA								
01431500	07-28-99	<50	<1.00	<2.00	460	<1.00	<1.00	140	<1.00	<50		

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	ISO-QUINO-	LINDANE	M-CRE-	METHANE	METHOXY	METHOXY	MIREX,	NAPHTHAL	NAPHTHAL		
		LINE, SED, BM WS, <2MM DW, REC (µG/KG) (49394)	SED, BM WS, <2MM DW, REC (µG/KG) (49345)	SOL, 4-CHLORO- SED, BM WS, <2MM DW, REC (µG/KG) (49422)	2CHLORO ETHOXY SED, BM WS, <2MM DW, REC (µG/KG) (49401)	CHLOR, O,P'-, SED, BM WS, <2MM DW, REC (µG/KG) (49347)	CHLOR P,P'-, SED, BM WS, <2MM DW, REC (µG/KG) (49346)	SED, BM WS, <2MM DW, REC (µG/KG) (49348)	ENE, 12 DIMETHYL SED, BM WS, <2MM DW, REC (µG/KG) (49403)	ENE, 16 DIMETHYL SED, BM WS, <2MM DW, REC (µG/KG) (49404)		
01467000	06-21-99	<120	<2.00	BURLINGTON COUNTY, NJ		<120	<120	<10.0	<10.0	<2.00	<120	<120
				CAMDEN COUNTY, NJ								
01467081	06-22-99	<200	<2.00	<200	<200	<10.0	<10.0	<2.00	<2.00	<200	<200	<200
01467150	06-22-99	<130	<2.00	<130	<130	<10.0	<10.0	<2.00	<2.00	<130	<130	E15
01467150	06-22-99	<150	<2.00	<150	<150	<10.0	<10.0	<2.00	<2.00	<150	<150	E22
				GLOUCESTER COUNTY, NJ								
01477120	08-17-98	<50	<1.50	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
				MERCER COUNTY, NJ								
01463500	07-20-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
				SUSSEX COUNTY, NJ								
01440000	06-16-99	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	E8.1
				DELAWARE COUNTY, NY								
01423000	07-27-99	E22	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	E34	<50	77
				ORANGE COUNTY, NY								
01437500	08-03-99	<100	<1.00	<100	<100	<5.00	<5.00	<1.00	<1.00	<100	<100	<100
				SULLIVAN COUNTY, NY								
01435000	07-27-99	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
				BERKS COUNTY, PA								
01470500	08-02-99	<100	<1.00	<100	<100	<5.00	<5.00	<1.00	<1.00	<100	<100	<100
01470779	08-20-98	<50	<1.00	<50	<50	<5.00	213	<1.00	<1.00	<50	<50	<50
01471520	06-17-99	E.3	<2.00	<100	<100	<10.0	<10.0	<2.00	<2.00	<100	<100	E27
01471668	08-19-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	E8.6
01471980	08-19-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
01471980	08-19-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
				BUCKS COUNTY, PA								
01464907	08-18-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
				CARBON COUNTY, PA								
01449000	08-02-99	<200	<2.00	<200	<200	<10.0	<10.0	<2.00	<2.00	E150	<200	E120
				CHESTER COUNTY, PA								
01472157	06-24-99	<140	<2.00	<140	<140	<10.0	<10.0	<2.00	<2.00	<140	<140	<140
01472157	06-24-99	--	--	--	--	--	--	--	--	--	--	--
				DELAWARE COUNTY, PA								
01475510	06-23-99	<180	<2.00	<180	<180	<10.0	<10.0	<2.00	<2.00	<180	<180	E38
				LEHIGH COUNTY, PA								
01451425	08-18-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
01451624	06-14-99	<100	<1.00	<100	<100	<5.00	<5.00	<1.00	<1.00	<100	<100	110
01451800	06-17-99	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	E11
				MONROE COUNTY, PA								
01439500	07-28-99	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
01442500	07-29-99	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
				MONTGOMERY COUNTY, PA								
01467040	06-24-99	<150	<2.00	<150	<150	<10.0	<10.0	<2.00	<2.00	<150	<150	E25
				NORTHAMPTON COUNTY, PA								
01452500	06-14-99	<100	<1.00	<100	<100	<5.00	<5.00	<1.00	<1.00	120	<100	140
01454700	07-14-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	E44
				PHILADELPHIA COUNTY, PA								
01473990	06-23-99	<160	<2.20	<160	<160	<10.0	<10.0	<2.00	<2.00	<160	<160	E44
01474500	07-21-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	E21
				PIKE COUNTY, PA								
01434000	07-13-98	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	<50
				WAYNE COUNTY, PA								
01431500	07-28-99	<50	<1.00	<50	<50	<5.00	<5.00	<1.00	<1.00	<50	<50	E22

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	NAPHTHAL ENE, 236 TRIMETH SED, BM WS, <2MM DW, REC (µG/KG) (49405)	NAPHTHAL ENE, 26 DIMETHL SED, BM WS, <2MM DW, REC (µG/KG) (49406)	NAPHTHAL ENE, 2- CHLORO- SED, BM WS, <2MM DW, REC (µG/KG) (49407)	NAPHTHAL ENE, 2- ETHYL- SED, BM WS, <2MM DW, REC (µG/KG) (49948)	NAPHTH- ALENE, SED, BM WS, <2MM DW, REC (µG/KG) (49402)	O, P'- DDD, DDE, DDT, SED, BM WS, <2MM DW, REC (µG/KG) (49325)	O, P'- DDE, DDT, SED, BM WS, <2MM DW, REC (µG/KG) (49327)	O, P'- DDT, SED, BM WS, <2MM DW, REC (µG/KG) (49329)
01467000	06-21-99	<120	E25	BURLINGTON COUNTY, NJ <120 <120		<120	<2.00	<2.00	<4.00
01467081	06-22-99	<200	E69	CAMDEN COUNTY, NJ <200 <200		<200	E17.0	<2.00	<4.00
01467150	06-22-99	<130	E52	<130 <130		<130	E4.30	<2.00	<4.00
01467150	06-22-99	<150	E68	<150 <150		<150	5.70	<2.00	<4.00
01477120	08-17-98	<50	E19	GLOUCESTER COUNTY, NJ <50 <50.0		<50	2.50	<1.70	<2.00
01463500	07-20-98	<50	55	MERCER COUNTY, NJ <50 <50.0		91	<1.00	<1.00	<2.00
01440000	06-16-99	<50	E31	SUSSEX COUNTY, NJ <50 <50.0		<50	<1.00	<1.00	<2.00
01423000	07-27-99	E44	86	DELAWARE COUNTY, NY <50 E29.8		<50	<8.00	<1.00	<4.90
01437500	08-03-99	<100	E30	ORANGE COUNTY, NY <100 <100		<100	<1.00	<1.00	<2.00
01435000	07-27-99	<50	<50	SULLIVAN COUNTY, NY <50 <50.0		<50	<1.00	<1.00	<2.00
01470500	08-02-99	<100	E36	BERKS COUNTY, PA <100 <100		<100	<1.00	<1.00	<2.00
01470779	08-20-98	<50	E28	<50 <50.0		<50	<1.00	<1.00	<2.00
01471520	06-17-99	<100	110	<100 E19.3		<100	8.10	13.0	<4.00
01471668	08-19-98	E2.4	E36	<50 <50.0		E6.2	<1.00	<1.00	<2.00
01471980	08-19-98	<50	65	<50 <50.0		<50	<1.00	<1.00	<2.00
01471980	08-19-98	<50	53	<50 <50.0		<50	<1.00	<1.00	<2.00
01464907	08-18-98	<50	E20	BUCKS COUNTY, PA <50 <50.0		<50	<1.00	<1.00	<2.00
01449000	08-02-99	E150	330	CARBON COUNTY, PA <200 E61.8		<200	<2.00	<2.00	<4.00
01472157	06-24-99	<140	E55	CHESTER COUNTY, PA <140 <135		<140	<2.00	<2.00	<4.00
01472157	06-24-99	--	--	-- --		--	--	--	--
01475510	06-23-99	<180	E120	DELAWARE COUNTY, PA <180 <185		<180	<2.00	<2.00	<4.00
01451425	08-18-98	<50	E30	LEHIGH COUNTY, PA <50 <50.0		<50	<1.00	<1.00	<2.00
01451624	06-14-99	<100	160	<100 <100		<100	<1.00	<1.00	<2.00
01451800	06-17-99	<50	E37	<50 <50.0		<50	<1.00	<1.00	<2.00
01439500	07-28-99	<50	54	MONROE COUNTY, PA <50 <50.0		<50	<1.00	<1.00	<2.00
01442500	07-29-99	<50	E33	<50 <50.0		<50	<1.00	<1.00	<2.00
01467040	06-24-99	<150	E80	MONTGOMERY COUNTY, PA <150 E20.1		<150	<2.00	<2.00	<4.00
01452500	06-14-99	E97	160	NORTHAMPTON COUNTY, PA <100 108		<100	<1.00	<1.00	<2.00
01454700	07-14-98	E26	84	<50 E14.2		300	<1.00	<1.00	<2.00
01473990	06-23-99	<160	E160	PHILADELPHIA COUNTY, PA <160 <165		<160	E6.10	<2.00	<4.00
01474500	07-21-98	E8.9	64	<50 E9.90		140	<1.00	<1.00	<2.00
01434000	07-13-98	<50	E44	PIKE COUNTY, PA <50 <50.0		E13	<1.00	<1.00	<2.00
01431500	07-28-99	E8.9	56	WAYNE COUNTY, PA <50 <50.0		<50	<1.00	<1.00	<2.00

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	OXY- CHLOR- DANE, SED, BM WS, <2MM DW, REC (µG/KG) (49318)	P, P'- DDD, SED, BM WS, <2MM DW, REC (µG/KG) (49326)	P, P'- DDE, SED, BM WS, <2MM DW, REC (µG/KG) (49328)	P, P'- DDT, SED, BM WS, <2MM DW, REC (µG/KG) (49330)	PCB, SED, BM WS, <2MM DW, REC (µG/KG) (49459)	P- CRESOL SED, BM WS, <2MM DW, REC (µG/KG) (49451)	PENTA- CHLORO- ANISOLE SED, BM WS, <2MM DW, REC (µG/KG) (49460)	PHENAN THRENE 1METHYL SED, BM WS, <2MM DW, REC (µG/KG) (49410)	PHENAN THRENE SED, BM WS, <2MM DW, REC (µG/KG) (49409)
		01467000	06-21-99	<2.00	E6.60	BURLINGTON COUNTY, NJ 4.90 E2.20 <100 E46 <2.0 E19 E100				
01467081	06-22-99	5.40	E48.0	CAMDEN COUNTY, NJ 24.0 44.0 74 E110 <2.0 210 2800						
01467150	06-22-99	3.60	E12.0	11.0 E5.80 E73 E45 <2.0 E85 690						
01467150	06-22-99	4.80	E17.0	15.0 18.0 98 E55 <2.0 E92 920						
01477120	08-17-98	<1.50	12.0	GLOUCESTER COUNTY, NJ 15.0 8.90 <50 <50 <1.0 <50 E29						
01463500	07-20-98	<1.00	<1.00	MERCER COUNTY, NJ 6.00 2.30 <50 380 <1.0 83 900						
01440000	06-16-99	<1.00	<1.00	SUSSEX COUNTY, NJ <1.00 <2.00 <50 73 <1.0 E27 70						
01423000	07-27-99	<1.00	<1.70	DELAWARE COUNTY, NY <1.00 <2.00 <50 270 <1.0 670 14000						
01437500	08-03-99	<1.00	E1.10	ORANGE COUNTY, NY <1.00 <2.00 <50 920 <1.0 E27 690						
01435000	07-27-99	<1.00	<1.00	SULLIVAN COUNTY, NY <1.00 <2.00 <50 190 <1.0 <50 98						
01470500	08-02-99	<1.00	E2.20	BERKS COUNTY, PA 2.10 E1.10 140 220 <1.0 E10 500						
01470779	08-20-98	<1.00	<1.00	<1.00 <2.00 <50 E38 <1.0 E8.4 E44						
01471520	06-17-99	3.60	8.10	16.0 16.0 220 2300 <2.0 240 4000						
01471668	08-19-98	<1.00	<1.00	<1.00 <2.00 <50 E31 <1.0 E31 170						
01471980	08-19-98	<1.00	<1.00	2.80 <2.00 <50 E40 <1.0 E12 54						
01471980	08-19-98	<1.10	2.20	4.00 2.40 <50 140 <1.0 E15 78						
01464907	08-18-98	<1.00	1.70	BUCKS COUNTY, PA 5.20 <2.00 100 <50 <1.0 E16 150						
01449000	08-02-99	<2.00	E5.80	CARBON COUNTY, PA 3.40 5.10 <100 4400 <2.0 E110 3300						
01472157	06-24-99	<2.00	<2.00	CHESTER COUNTY, PA <2.00 <4.00 <100 E55 <2.0 <140 E53						
01472157	06-24-99	--	--	-- -- -- -- -- -- --						
01475510	06-23-99	4.80	E9.30	DELAWARE COUNTY, PA 5.40 9.40 140 980 <2.0 280 4100						
01451425	08-18-98	<1.00	2.00	LEHIGH COUNTY, PA 5.00 <2.00 <50 <50 <1.0 E11 97						
01451624	06-14-99	<1.00	E2.90	8.40 E3.90 E36 1800 <1.0 E61 1000						
01451800	06-17-99	<1.00	1.80	5.20 E1.30 <50 E38 <1.0 E26 270						
01439500	07-28-99	<1.00	E.970	MONROE COUNTY, PA 1.10 <2.00 <50 980 <1.0 <50 <50						
01442500	07-29-99	<1.00	E2.40	E.690 <2.00 <50 200 <1.0 E13 110						
01467040	06-24-99	<2.00	E3.20	MONTGOMERY COUNTY, PA 3.50 3.90 130 E48 <2.0 E99 1200						
01452500	06-14-99	<1.00	E2.10	NORTHAMPTON COUNTY, PA 4.10 E1.90 E46 420 <1.0 E32 750						
01454700	07-14-98	<1.00	<1.00	2.50 <2.00 85 1200 <1.0 100 870						
01473990	06-23-99	5.10	E15.0	PHILADELPHIA COUNTY, PA 14.0 14.0 100 240 <2.0 200 2300						
01474500	07-21-98	<1.20	<1.00	5.30 <2.00 150 870 <1.0 94 880						
01434000	07-13-98	<1.00	<1.00	PIKE COUNTY, PA 1.30 <2.00 <50 3000 <1.0 70 550						
01431500	07-28-99	<1.00	E1.70	WAYNE COUNTY, PA E.850 <2.00 <50 150 <1.0 E20 230						

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	PHENAN-THRI-DINE SED, BM WS, <2MM DW, REC (µG/KG) (49393)	PHENOL C8-ALKYL-SED, BM WS, <2MM DW, REC (µG/KG) (49424)	PHENOL, 2CHLORO BED MAT WS <2MM DRY WGT REC (µG/KG) (49467)	PHENOL PENTA-CHLORO-SED, BM WS, <2MM DW, REC (µG/KG) (49425)	PHENOL SED, BM WS, <2MM DW, REC (µG/KG) (49413)	PHTHALA TE, BIS2 ETHHEXL SED, BM WS, <2MM DW, REC (µG/KG) (49426)	PHTHALA TEBUTYL BENZYL-SED, BM WS, <2MM DW, REC (µG/KG) (49427)	PHTHAL-ATE, DIBUTYL SED, BM WS, <2MM DW, REC (µG/KG) (49381)	PHTHAL-ATE, D IETHYL SED, BM WS, <2MM DW, REC (µG/KG) (49383)
01467000	06-21-99	<120	<120	BURLINGTON COUNTY, NJ		<120	190	130	E27	E11
				CAMDEN COUNTY, NJ						
01467081	06-22-99	390	<200	<200	--	<200	1700	290	E49	<200
01467150	06-22-99	<130	<130	<130	--	<130	980	180	E50	E17
01467150	06-22-99	<150	<150	<150	--	<150	1500	230	E49	E50
				GLOUCESTER COUNTY, NJ						
01477120	08-17-98	<50	<50	<50	--	E10	130	E20	E29	<50
				MERCER COUNTY, NJ						
01463500	07-20-98	<50	<50	<50	--	66	390	<50	58	<50
				SUSSEX COUNTY, NJ						
01440000	06-16-99	<50	<50	<50	--	<50	87	63	E15	E8.8
				DELAWARE COUNTY, NY						
01423000	07-27-99	410	<50	<50	--	E37	330	130	E34	E23
				ORANGE COUNTY, NY						
01437500	08-03-99	<100	<100	<100	--	E65	1200	E67	E34	E14
				SULLIVAN COUNTY, NY						
01435000	07-27-99	<50	<50	<50	--	<50	E43	E21	E38	E33
				BERKS COUNTY, PA						
01470500	08-02-99	<100	<100	<100	--	E24	220	E92	E66	E30
01470779	08-20-98	<50	<50	<50	--	E12	76	<50	53	<50
01471520	06-17-99	110	<100	<100	E180	120	2100	240	E93	E14
01471668	08-19-98	<50	<50	<50	--	<50	83	E23	E44	<50
01471980	08-19-98	<50	<50	<50	--	E21	86	E29	E49	E3.3
01471980	08-19-98	<50	<50	<50	--	E15	78	E24	E33	E4.4
				BUCKS COUNTY, PA						
01464907	08-18-98	<50	<50	<50	--	<50	87	E19	E21	E1.8
				CARBON COUNTY, PA						
01449000	08-02-99	<200	<200	<200	--	290	650	E180	E160	E77
				CHESTER COUNTY, PA						
01472157	06-24-99	<140	<140	<140	--	<140	E78	E110	E29	<140
01472157	06-24-99	--	--	--	--	--	--	--	--	--
				DELAWARE COUNTY, PA						
01475510	06-23-99	E110	<180	<180	--	E110	2600	300	E73	E43
				LEHIGH COUNTY, PA						
01451425	08-18-98	<50	<50	<50	--	E23	73	<50	52	<50
01451624	06-14-99	<100	<100	<100	--	160	1500	2800	500	<100
01451800	06-17-99	<50	<50	<50	--	E7.4	99	77	E22	E12
				MONROE COUNTY, PA						
01439500	07-28-99	<50	<50	<50	--	80	94	51	<50	<50
01442500	07-29-99	<50	<50	<50	--	E37	290	E41	E30	<50
				MONTGOMERY COUNTY, PA						
01467040	06-24-99	<150	<150	<150	--	<150	1100	220	E61	E91
				NORTHAMPTON COUNTY, PA						
01452500	06-14-99	<100	<100	<100	--	E97	340	E40	120	<100
01454700	07-14-98	<50	<50	<50	--	73	700	<50	E45	<50
				PHILADELPHIA COUNTY, PA						
01473990	06-23-99	<160	<160	<160	--	E41	2600	220	E68	E72
01474500	07-21-98	<50	<50	<50	--	E47	960	100	E40	<50
				PIKE COUNTY, PA						
01434000	07-13-98	<50	<50	<50	--	110	190	E40	E34	E11
				WAYNE COUNTY, PA						
01431500	07-28-99	<50	<50	<50	--	E22	160	52	E45	E18

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	PHTHAL- ATE, DI- METHYL SED, BM WS, <2MM DW, REC (µG/KG) (49384)	PHTHAL ATE, D IOCTYL SED, BM WS, <2MM DW, REC (µG/KG) (49382)	PYRENE, 1- METHYL, PYRENE, SED, BM WS, <2MM DW, REC (µG/KG) (49388)	PYRENE, SED, BM WS, <2MM DW, REC (µG/KG) (49387)	QUINO- LINE, SED, BM WS, <2MM DW, REC (µG/KG) (49392)	THIOPH ENE, DI- BENZO- SED, BM WS, <2MM DW, REC (µG/KG) (49452)	TOLUENE 2,4-DI- NITRO- SED, BM WS, <2MM DW, REC (µG/KG) (49395)	TOLUENE 2,6-DI- NITRO- SED, BM WS, <2MM DW, REC (µG/KG) (49396)
		01467000	06-21-99	<120	E29	BURLINGTON COUNTY, NJ <120 200		<120	<120
01467081	06-22-99	<200	E230	CAMDEN COUNTY, NJ E140 5100		<200	E95	<200	
01467150	06-22-99	<130	E93	E32	1200	<130	E4.0	<130	
01467150	06-22-99	<150	E100	E32	1700	<150	E11	<150	
01477120	08-17-98	<50	<50	GLOUCESTER COUNTY, NJ E7.2 67		<50	<50	<50	
01463500	07-20-98	<50	<50	MERCER COUNTY, NJ 60 1200		<50	E38	<50	
01440000	06-16-99	<50	<50	SUSSEX COUNTY, NJ <50 110		<50	<50	<50	
01423000	07-27-99	<50	86	DELAWARE COUNTY, NY 420 17000		E39	730	<50	
01437500	08-03-99	<100	<100	ORANGE COUNTY, NY E33 850		<100	<100	<100	
01435000	07-27-99	<50	<50	SULLIVAN COUNTY, NY <50 220		<50	E19	<50	
01470500	08-02-99	<100	<100	BERKS COUNTY, PA E30 680		<100	<100	<100	
01470779	08-20-98	<50	<50	<50	130	<50	<50	<50	
01471520	06-17-99	<100	E190	150	6700	E18	150	<100	
01471668	08-19-98	<50	<50	E35	460	<50	E14	<50	
01471980	08-19-98	E21	<50	<50	140	<50	<50	<50	
01471980	08-19-98	<50	<50	E9.2	200	<50	<50	<50	
01464907	08-18-98	<50	<50	BUCKS COUNTY, PA E16 340		<50	E8.7	<50	
01449000	08-02-99	<200	<200	CARBON COUNTY, PA E140 5400		<200	230	<200	
01472157	06-24-99	<140	<140	CHESTER COUNTY, PA <140 E110		<140	<140	<140	
01472157	06-24-99	--	--	--	--	--	--	--	
01475510	06-23-99	<180	E180	DELAWARE COUNTY, PA 220 7700		<180	190	<180	
01451425	08-18-98	<50	<50	LEHIGH COUNTY, PA <50 250		<50	<50	<50	
01451624	06-14-99	<100	E100	E37	1900	<100	E55	<100	
01451800	06-17-99	<50	<50	E9.0	600	<50	<50	<50	
01439500	07-28-99	<50	<50	MONROE COUNTY, PA <50 E23		<50	<50	<50	
01442500	07-29-99	<50	<50	<50	220	<50	<50	<50	
01467040	06-24-99	<150	E43	MONTGOMERY COUNTY, PA E61 2200		<150	E26	<150	
01452500	06-14-99	<100	<100	NORTHAMPTON COUNTY, PA E82 2100		<100	E53	<100	
01454700	07-14-98	<50	56	95	1800	<50	E40	<50	
01473990	06-23-99	<160	E160	PHILADELPHIA COUNTY, PA E130 3500		<160	E84	<160	
01474500	07-21-98	<50	55	65	1500	<50	E33	<50	
01434000	07-13-98	<50	<50	PIKE COUNTY, PA 61 940		<50	E19	<50	
01431500	07-28-99	<50	<50	WAYNE COUNTY, PA E4.4 390		<50	<50	<50	

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

STREAMBED SEDIMENTS--Continued

ORGANOCHLORINE AND SEMI-VOLATILE ORGANIC COMPOUNDS IN STREAMBED SEDIMENTS, CALENDAR YEARS 1998 and 1999

STATION NUMBER	DATE	TOXA- PHENE SED, BM WS, <2MM DW, REC (µG/KG) (49351)	TRANS- CHLOR- DANE, SED, BM WS, <2MM DW, REC (µG/KG) (49321)	TRANS- NONA- CHLOR, SED, BM WS, <2MM DW, REC (µG/KG) (49317)	TRANS- PER- METHRIN SED, BM WS, <2MM DW, REC (µG/KG) (49350)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)
01467000	06-21-99	<400	<2.00	2.00	<10.0	15
BURLINGTON COUNTY, NJ						
01467081	06-22-99	<400	19.0	12.0	<10.0	14
01467150	06-22-99	<400	14.0	9.30	<10.0	25
01467150	06-22-99	<400	22.0	15.0	<10.0	--
CAMDEN COUNTY, NJ						
01477120	08-17-98	<200	<1.00	<1.00	<5.00	27
GLOUCESTER COUNTY, NJ						
01463500	07-20-98	<200	<1.00	1.10	<5.00	40
MERCER COUNTY, NJ						
01440000	06-16-99	<200	<1.00	<1.00	<5.00	10
SUSSEX COUNTY, NJ						
01423000	07-27-99	<200	<1.00	<1.00	<5.00	16
DELAWARE COUNTY, NY						
01437500	08-03-99	<200	<1.00	<1.00	<5.00	17
ORANGE COUNTY, NY						
01435000	07-27-99	<200	<1.00	<1.00	<5.00	11
SULLIVAN COUNTY, NY						
01470500	08-02-99	<200	<1.00	<1.00	<6.30	17
01470779	08-20-98	<200	<1.00	1.10	<5.00	43
01471520	06-17-99	<400	12.0	8.60	<10.0	28
01471668	08-19-98	<200	1.30	1.10	<5.00	36
01471980	08-19-98	<200	<1.00	<1.00	<5.00	65
01471980	08-19-98	<200	1.10	<1.00	<5.00	--
BERKS COUNTY, PA						
01464907	08-18-98	<200	1.00	1.30	<5.00	48
BUCKS COUNTY, PA						
01449000	08-02-99	<400	<2.00	--	<23.0	36
CARBON COUNTY, PA						
01472157	06-24-99	<400	<2.00	<2.00	<10.0	65
01472157	06-24-99	--	--	--	--	--
CHESTER COUNTY, PA						
01475510	06-23-99	<400	22.0	15.0	<10.0	32
DELAWARE COUNTY, PA						
01451425	08-18-98	<200	<1.00	<1.00	<5.00	59
01451624	06-14-99	<200	2.40	2.20	<5.00	35
01451800	06-17-99	<200	<1.00	<1.00	<5.00	54
LEHIGH COUNTY, PA						
01439500	07-28-99	<200	<1.00	<1.00	<5.00	18
01442500	07-29-99	<200	<1.00	<1.00	<5.00	21
MONROE COUNTY, PA						
01467040	06-24-99	<400	6.00	4.50	<10.0	22
MONTGOMERY COUNTY, PA						
01452500	06-14-99	<200	E.970	E.920	<5.00	37
01454700	07-14-98	<200	<1.00	1.70	<5.00	32
NORTHAMPTON COUNTY, PA						
01473990	06-23-99	<400	18.0	13.0	<10.0	41
01474500	07-21-98	<200	1.40	1.60	<5.00	43
PHILADELPHIA COUNTY, PA						
01434000	07-13-98	<200	<1.00	1.10	<5.00	40
PIKE COUNTY, PA						
01431500	07-28-99	<200	<1.00	<1.00	<5.00	26
WAYNE COUNTY, PA						

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE

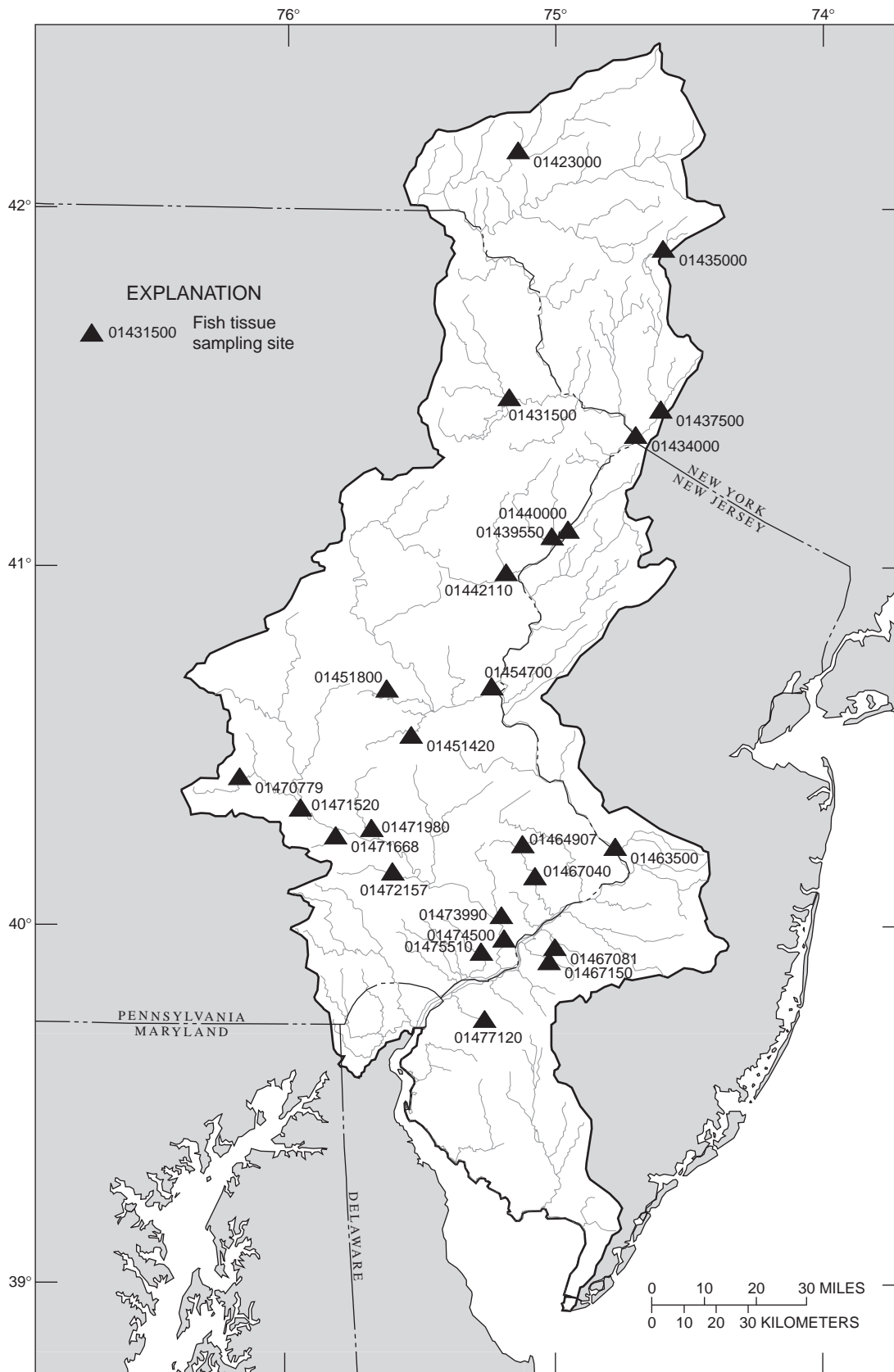


Figure 12.--Location of Delaware River Basin National Water-Quality Assessment Program fish-tissue sampling sites.

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Fish-tissue samples were collected at 25 surface-water sites as part of the DELR NAWQA study. The purpose of this survey was to assess the occurrence and distribution of trace metals and organochlorine compounds in fish tissue. Samples were collected from sites throughout the Delaware River Basin in New Jersey, New York, and Pennsylvania. The following species were collected: white sucker (*Catostomus commersoni*), common carp (*Cyprinus carpio*), and smallmouth bass (*Micropterus dolomieu*). More information regarding methods can be found in Crawford and Luoma, 1993, Guidelines for studies of contaminants in biological tissues for the National Water-Quality Assessment program: U.S. Geological Survey Open-File Report 92-494, 69 p.

Concentrations of trace elements in fish-liver composites, calendar years 1998 and 1999.

Each sample for trace elements analyses consisted of a composite of liver tissue from 5-10 fish. Laboratory procedures included (1) drying, (2) digestion, and (3) analysis by use of inductively coupled plasma emission spectrometry (for Al, Ba, B, Cr, Cu, Fe, Mn, Sr, and Zn), inductively coupled plasma mass spectrometry (for Sb, As, Be, Cd, CoPb, Mo, Ni Se, Ag, U, and V), and cold vapor atomic absorption (for Hg). Constituent concentrations are provided on a dry-weight (DW) basis.

STATION NUMBER	STATION NAME	DATE	TIME	MEDIUM CODE
	CAMDEN COUNTY, NJ			
01467150	COOPER RIVER AT HADDONFIELD, NJ	07-14-99	1545	ENVIRONMENTAL
01467150	COOPER RIVER AT HADDONFIELD, NJ	07-14-99	1550	ENVIRONMENTAL
	GLOUCESTER COUNTY, NJ			
01477120	RACCOON CREEK NEAR SWEDESBORO, NJ	09-02-98	1135	ENVIRONMENTAL
	MERCER COUNTY, NJ			
01463500	DELAWARE RIVER AT TRENTON, NJ	07-29-98	0900	ENVIRONMENTAL
01463500	DELAWARE RIVER AT TRENTON, NJ	07-29-98	1000	ENVIRONMENTAL
	DELAWARE COUNTY, NY			
01423000	WEST BRANCH DELAWARE RIVER AT WALTON, NY	08-16-99	1400	ENVIRONMENTAL
01423000	WEST BRANCH DELAWARE RIVER AT WALTON, NY	08-16-99	1445	SPLIT REPLICATE
	ORANGE COUNTY, NY			
01437500	NEVERSINK RIVER AT GODEFFROY, NY	08-17-99	1650	ENVIRONMENTAL
	SULLIVAN COUNTY, NY			
01435000	NEVERSINK RIVER NEAR CLARYVILLE, NY	08-17-99	1050	ENVIRONMENTAL
	BERKS COUNTY, PA			
01470779	TULPEHOCKEN CR NR BERNVILLE, PA	08-25-98	1105	ENVIRONMENTAL
01471520	WYOMISSING CR. @ WEST READING, PA	07-29-99	1100	ENVIRONMENTAL
01471668	HAY CREEK NEAR BIRDSBORO, PA	08-26-98	1405	ENVIRONMENTAL
01471980	MANATAWNY CREEK NEAR POTTSTOWN, PA	08-26-98	0905	ENVIRONMENTAL
01471980	MANATAWNY CREEK NEAR POTTSTOWN, PA	08-26-98	1005	SPLIT REPLICATE
	BUCKS COUNTY, PA			
01464907	LITTLE NESHAMINY C AT VALLEY ROAD NR NESHAMINY, PA	09-01-98	1405	ENVIRONMENTAL
	CHESTER COUNTY, PA			
01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA	07-20-99	1035	ENVIRONMENTAL
	DELAWARE COUNTY, PA			
01475510	DARBY CREEK NEAR DARBY, PA	07-28-99	1100	ENVIRONMENTAL
	LEHIGH COUNTY, PA			
01451425	LITTLE LEHIGH CREEK NEAR EAST TEXAS, PA	08-27-98	1005	ENVIRONMENTAL
01451800	JORDAN CREEK NEAR SCHNECKSVILLE, PA	07-16-99	0945	ENVIRONMENTAL
	MONROE COUNTY, PA			
01442110	BRODHEAD CREEK AT STROUDSBURG, PA	08-03-99	1430	ENVIRONMENTAL
	MONTGOMERY COUNTY, PA			
01467040	PENNYPACK CREEK AT PAPER MILL, PA	07-26-99	1526	ENVIRONMENTAL
	NORTHAMPTON COUNTY, PA			
01454700	LEHIGH RIVER AT GLENDON, PA	08-04-98	1115	ENVIRONMENTAL
01454700	LEHIGH RIVER AT GLENDON, PA	08-04-98	1415	ENVIRONMENTAL
	PHILADELPHIA COUNTY, PA			
01473990	WISSAHICKON CREEK BL WALNUT LANE NR MANAYUNK, PA	07-28-99	1850	ENVIRONMENTAL
01474500	SCHUYLKILL RIVER AT PHILADELPHIA, PA	07-28-98	1000	ENVIRONMENTAL
01474500	SCHUYLKILL RIVER AT PHILADELPHIA, PA	07-28-98	1400	ENVIRONMENTAL
	PIKE COUNTY, PA			
01434000	DELAWARE RIVER AT PORT JERVIS, NY	07-30-98	0815	ENVIRONMENTAL

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of trace elements in fish-liver composites, calendar years 1998 and 1999

STATION NUMBER	DATE	TIME	SPECIES	TOTAL LENGTH, TOTAL LENGTH,			WEIGHT, WEIGHT,			NUMBER IN COMPOSITE
				MEDIAN (MM)	MIN (MM)	MAX	MEDIAN (GM)	MIN (GM)	MAX	
CAMDEN COUNTY, NJ										
01467150	07-14-99	1545	COMMON CARP	442	383	503	1178	844	1739	6
01467150	07-14-99	1550	WHITE SUCKER	285	261	320	238	190	350	8
GLOUCESTER COUNTY, NJ										
01477120	09-02-98	1135	WHITE SUCKER	314	262	336	314	188	425	8
MERCER COUNTY, NJ										
01463500	07-29-98	0900	WHITE SUCKER	352	304	485	477	351	1039	8
01463500	07-29-98	1000	COMMON CARP	580	462	670	2525	1332	4200	8
DELAWARE COUNTY, NY										
01423000	08-16-99	1400	WHITE SUCKER	299	275	323	497	397	614	8
01423000	08-16-99	1445	WHITE SUCKER	368	338	417	478	391	696	8
ORANGE COUNTY, NY										
01437500	08-17-99	1650	WHITE SUCKER	432	394	486	901	572	1273	7
SULLIVAN COUNTY, NY										
01435000	08-17-99	1050	WHITE SUCKER	465	411	481	939	761	1114	6
BERKS COUNTY, PA										
01470779	08-25-98	1105	WHITE SUCKER	308	290	370	301	239	477	10
01471520	07-29-99	1100	WHITE SUCKER	297	273	345	283	207	455	8
01471668	08-26-98	1405	WHITE SUCKER	248	225	257	147	104	170	10
01471980	08-26-98	0905	WHITE SUCKER	393	364	465	646	503	1078	8
01471980	08-26-98	1005	WHITE SUCKER	381	332	504	620	425	1205	8
BUCKS COUNTY, PA										
01464907	09-01-98	1405	WHITE SUCKER	259	235	296	174	138	275	9
CHESTER COUNTY, PA										
01472157	07-20-99	1035	WHITE SUCKER	343	322	443	407	340	943	8
DELAWARE COUNTY, PA										
01475510	07-28-99	1100	WHITE SUCKER	341	289	405	446	284	858	8
LEHIGH COUNTY, PA										
01451425	08-27-98	1005	WHITE SUCKER	335	313	431	397	320	802	8
01451800	07-16-99	0945	WHITE SUCKER	385	323	446	573	322	905	8
MONROE COUNTY, PA										
01442110	08-03-99	1430	WHITE SUCKER	415	380	449	816	548	1069	6
MONTGOMERY COUNTY, PA										
01467040	07-26-99	1526	WHITE SUCKER	298	273	355	288	237	486	8
NORTHAMPTON COUNTY, PA										
01454700	08-04-98	1115	COMMON CARP	640	611	711	4435	3506	6081	5
01454700	08-04-98	1415	WHITE SUCKER	390	310	520	754	395	1559	8
PHILADELPHIA COUNTY, PA										
01473990	07-28-99	1850	WHITE SUCKER	293	288	302	331	276	346	4
01474500	07-28-98	1000	COMMON CARP	619	520	754	3139	2225	6200	8
01474500	07-28-98	1400	WHITE SUCKER	428	390	488	782	652	1284	8
PIKE COUNTY, PA										
01434000	07-30-98	0815	WHITE SUCKER	443	381	496	860	620	1200	8

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of trace elements in fish-liver composites, calendar years 1998 and 1999

STATION NUMBER	DATE	WATER, PRESENT BIO TIS DRY WGT REC	ALUMI- NUM, BIOTA, DRY WGT REC	ANTI- MONY, BIOTA, DRY WGT REC	ARSENIC BIOTA, TISSUE, DRY WGT REC	BARIUM, BIOTA, TISSUE, DRY WGT REC	BERYL- LIUM- BIOTA, TISSUE, DRY WGT REC	BORON, BIOTA, TISSUE, DRY WGT REC
		PERCENT (49273)	(µG/G) (49237)	(µG/G) (49246)	(µG/G) (49247)	(µG/G) (49238)	(µG/G) (49248)	(µG/G) (49239)
CAMDEN COUNTY, NJ								
01467150	07-14-99	78	22	<.2	.6	.3	<.2	1.2
01467150	07-14-99	69	1.6	<.2	.3	<.1	<.2	.9
GLOUCESTER COUNTY, NJ								
01477120	09-02-98	78	1.9	<1.0	<1.0	5.4	<1.0	.8
MERCER COUNTY, NJ								
01463500	07-29-98	66	2.4	<.3	<.3	<.1	<.3	.9
01463500	07-29-98	72	9.9	<.2	1.0	<.1	<.2	.3
DELAWARE COUNTY, NY								
01423000	08-16-99	74	2.0	<.3	.4	<.1	<.3	.7
01423000	08-16-99	78	2.5	<.3	.4	.1	<.3	.6
ORANGE COUNTY, NY								
01437500	08-17-99	71	3.9	<.2	.3	<.1	<.2	.5
SULLIVAN COUNTY, NY								
01435000	08-17-99	77	7.8	<.3	.4	.3	<.3	.7
BERKS COUNTY, PA								
01470779	08-25-98	77	1.4	<.2	.6	<.1	<.2	.7
01471520	07-29-99	80	1.3	<.3	.6	.2	<.3	2.4
01471668	08-26-98	81	2.1	<.4	.5	.3	<.4	1.6
01471980	08-26-98	73	<1.0	<.2	.4	4.0	<.2	.8
01471980	08-26-98	70	1.1	<.2	.4	3.2	<.2	.4
BUCKS COUNTY, PA								
01464907	09-01-98	80	1.9	<.3	.4	.2	<.3	.8
CHESTER COUNTY, PA								
01472157	07-20-99	71	1.1	<.3	.4	<.1	<.3	.3
DELAWARE COUNTY, PA								
01475510	07-28-99	75	<1.0	<.4	<.4	<.1	<.4	.9
LEHIGH COUNTY, PA								
01451425	08-27-98	75	<1.0	<.2	.5	1.9	<.2	.9
01451800	07-16-99	75	1.8	<.3	.4	<.1	<.3	1.1
MONROE COUNTY, PA								
01442110	08-03-99	74	1.8	<.2	.4	<.1	<.2	.6
MONTGOMERY COUNTY, PA								
01467040	07-26-99	76	2.0	<.3	.4	<.1	<.3	1.1
NORTHAMPTON COUNTY, PA								
01454700	08-04-98	64	13	<.1	.3	<.1	<.1	.2
01454700	08-04-98	55	1.4	<.2	<.2	<.1	<.2	.5
PHILADELPHIA COUNTY, PA								
01473990	07-28-99	75	4.1	<.3	<.3	.2	<.3	1.4
01474500	07-28-98	69	8.2	<.2	.6	5.1	<.2	.3
01474500	07-28-98	76	1.8	<.2	<.2	<.1	<.2	1.0
PIKE COUNTY, PA								
01434000	07-30-98	74	4.8	<.3	.3	<.1	<.3	.9

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of trace elements in fish-liver composites, calendar years 1998 and 1999

STATION NUMBER	DATE	CADMIUM	CHROM-	COBALT,	COPPER,	IRON,	LEAD,	MANGAN-	MERCURY
		BIOTA, TISSUE, DRY WGT REC (µG/G) (49249)	BIOTA, TISSUE, DRY WGT REC (µG/G) (49240)	BIOTA DRY WGT REC (µG/G) (49250)	BIOTA, TISSUE, DRY WGT REC (µG/G) (49241)	BIOTA, TISSUE, DRY WGT REC (µG/G) (49242)	BIOTA, TISSUE, DRY WGT REC (µG/G) (49251)	BIOTA, TISSUE, DRY WGT REC (µG/G) (49243)	BIOTA, TISSUE, DRY WGT REC (µG/G) (49258)
CAMDEN COUNTY, NJ									
01467150	07-14-99	5.1	<.5	1.1	140	1500	.3	4.9	.1
01467150	07-14-99	.3	<.5	.8	24	800	<.2	3.7	.1
GLOUCESTER COUNTY, NJ									
01477120	09-02-98	1.6	.5	<1.0	68	1500	<1.0	6.7	<.1
MERCER COUNTY, NJ									
01463500	07-29-98	3.2	<.5	.3	22	470	<.3	3.5	.07
01463500	07-29-98	16	<.5	.3	94	580	.3	3.1	.2
DELAWARE COUNTY, NY									
01423000	08-16-99	2.0	<.5	<.3	34	890	<.3	7.4	.4
01423000	08-16-99	1.5	<.5	<.3	36	<1.0	<.3	9.3	.3
ORANGE COUNTY, NY									
01437500	08-17-99	3.1	<.5	<.2	22	570	<.2	4.9	.3
SULLIVAN COUNTY, NY									
01435000	08-17-99	5.8	<.5	<.3	29	820	<.3	7.6	.3
BERKS COUNTY, PA									
01470779	08-25-98	.6	<.5	.4	80	1200	<.2	6.7	.0
01471520	07-29-99	.7	<.5	<.3	48	780	.4	9.2	.2
01471668	08-26-98	.7	.6	.4	56	840	<.4	13	<.4
01471980	08-26-98	.9	<.5	.2	30	680	<.2	4.3	<.2
01471980	08-26-98	1.5	<.5	.2	28	360	<.2	4.0	<.2
BUCKS COUNTY, PA									
01464907	09-01-98	.8	<.5	<.3	61	750	<.3	9.2	<.3
CHESTER COUNTY, PA									
01472157	07-20-99	2.1	<.5	.3	33	1000	<.3	5.3	.1
DELAWARE COUNTY, PA									
01475510	07-28-99	1.5	<.5	<.4	61	530	<.4	4.8	.2
LEHIGH COUNTY, PA									
01451425	08-27-98	1.1	.5	.4	27	440	<.2	6.2	<.2
01451800	07-16-99	1.8	<.5	.5	23	260	<.3	6.4	.2
MONROE COUNTY, PA									
01442110	08-03-99	1.6	<.5	<.2	28	960	<.2	5.1	.2
MONTGOMERY COUNTY, PA									
01467040	07-26-99	2.3	<.5	.4	76	2000	<.3	6.1	.2
NORTHAMPTON COUNTY, PA									
01454700	08-04-98	27	<.5	.2	86	140	.3	3.4	.2
01454700	08-04-98	.9	<.5	.3	17	190	<.2	2.2	.03
PHILADELPHIA COUNTY, PA									
01473990	07-28-99	<.3	<.5	<.3	43	480	.3	8.1	.1
01474500	07-28-98	5.3	<.5	.5	65	690	.4	3.6	.2
01474500	07-28-98	1.5	<.5	1.2	33	860	.4	3.9	.213
PIKE COUNTY, PA									
01434000	07-30-98	5.5	<.5	<.3	41	1300	<.3	7.3	.307

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of trace elements in fish-liver composites, calendar years 1998 and 1999

STATION NUMBER	DATE	MOLYB-	NICKEL,	SELEN-	SILVER,	STRON-	VANA-	ZINC,	URANIUM
		DENUM, BIOTA, TISSUE, DRY WGT REC ($\mu\text{G}/\text{G}$) (49252)	BIOTA, TISSUE, DRY WGT REC ($\mu\text{G}/\text{G}$) (49253)	IUM, BIOTA, TISSUE, DRY WGT REC ($\mu\text{G}/\text{G}$) (49254)	BIOTA, TISSUE, DRY WGT REC ($\mu\text{G}/\text{G}$) (49255)	TIUM, BIOTA, TISSUE, DRY WGT REC ($\mu\text{G}/\text{G}$) (49244)	DIUM, BIO TIS DRY WGT REC ($\mu\text{G}/\text{G}$) (49465)	BIOTA, TISSUE, DRY WGT REC ($\mu\text{G}/\text{G}$) (49245)	BIOTA, TISSUE, DRY WGT REC ($\mu\text{G}/\text{G}$) (49257)
CAMDEN COUNTY, NJ									
01467150	07-14-99	1.4	.5	8.9	1.5	.9	.8	1200	<.2
01467150	07-14-99	.7	.6	4.4	<.2	.4	<.2	65	<.2
GLOUCESTER COUNTY, NJ									
01477120	09-02-98	1.0	<1.0	6.6	<1.0	.3	<1.0	160	<1.0
MERCER COUNTY, NJ									
01463500	07-29-98	.5	.4	2.0	<.3	.1	<.3	64	<.3
01463500	07-29-98	.8	<.2	4.3	1.0	.3	.5	1000	<.2
DELAWARE COUNTY, NY									
01423000	08-16-99	.8	1.0	5.2	.3	.1	<.3	83	<.3
01423000	08-16-99	.9	<.3	4.5	.5	.3	<.3	87	<.3
ORANGE COUNTY, NY									
01437500	08-17-99	.7	<.2	4.0	.3	.2	<.2	70	<.2
SULLIVAN COUNTY, NY									
01435000	08-17-99	.8	.4	6.0	<.3	.4	<.3	83	<.3
BERKS COUNTY, PA									
01470779	08-25-98	1.2	.5	8.5	<.2	.2	.6	140	<.2
01471520	07-29-99	1.1	<.3	11	<.3	.5	<.3	110	<.3
01471668	08-26-98	1.4	.7	9.2	<.4	.3	.7	130	<.4
01471980	08-26-98	.8	.4	5.5	<.2	.2	.8	81	<.2
01471980	08-26-98	.8	<.2	6.0	<.2	.2	.9	73	<.2
BUCKS COUNTY, PA									
01464907	09-01-98	1.2	<.3	7.3	.6	1.0	1.4	160	<.3
CHESTER COUNTY, PA									
01472157	07-20-99	.7	<.3	7.2	<.3	.2	.3	80	<.3
DELAWARE COUNTY, PA									
01475510	07-28-99	1.1	<.4	8.1	<.4	.4	.9	130	<.4
LEHIGH COUNTY, PA									
01451425	08-27-98	1.1	<.2	7.3	<.2	.1	.5	91	<.2
01451800	07-16-99	.9	.4	8.0	<.3	.3	<.3	91	<.3
MONROE COUNTY, PA									
01442110	08-03-99	.8	<.2	4.6	.3	.3	<.2	67	<.2
MONTGOMERY COUNTY, PA									
01467040	07-26-99	1.5	<.3	9.2	.6	.4	.8	170	<.3
NORTHAMPTON COUNTY, PA									
01454700	08-04-98	.9	.2	5.6	2.1	.1	.4	370	<.1
01454700	08-04-98	.5	.2	2.6	<.2	<.1	<.2	50	<.2
PHILADELPHIA COUNTY, PA									
01473990	07-28-99	.9	<.3	6.7	.6	.4	<.3	89	<.3
01474500	07-28-98	.9	<.2	6.5	.8	.4	1.2	880	<.2
01474500	07-28-98	.9	.4	5.0	<.2	.2	.7	92	<.2
PIKE COUNTY, PA									
01434000	07-30-98	.7	.4	4.2	.5	.1	.4	90	<.3

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of organochlorine compounds in whole fish, calendar years 1998 and 1999.

Each sample for organochlorine analyses consisted of a composite of 5-10 whole fish (4 at 1 site). Laboratory procedures included (1) homogenization, (2) extraction by use of methylene chloride in a soxhlet apparatus, (3) clean-up by use of gel permeation chromatography, (4) fractionation by use of alumina/silica gel, and (5) analysis by gas chromatography with two dissimilar capillary columns coupled with an electron capture detector. Constituent concentrations are provided on a wet weight (WW) basis. Constituent concentrations are provided on a wet-weight (WW) basis. Constituent names are abbreviated as follows: DDD, dichlorodiphenyldichloroethane; DDE, dichlorodipenyldichloroethene; DCPA, dimethyl tetrachloroterephthalate; DDT, dichlorodiphenyl-trichloroethane; HCH, hexachlorocyclohexane; PCB, polychlorinated biphenyls.

STATION NUMBER	STATION NAME	DATE	TIME	MEDIUM CODE
	CAMDEN COUNTY, NJ			
01467081	SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ	07-27-99	1745	ENVIRONMENTAL
01467150	COOPER RIVER AT HADDONFIELD, NJ	07-14-99	1535	ENVIRONMENTAL
01467150	COOPER RIVER AT HADDONFIELD, NJ	07-14-99	1540	ENVIRONMENTAL
	GLOUCESTER COUNTY, NJ			
01477120	RACCOON CREEK NEAR SWEDESBORO, NJ	09-02-98	1130	ENVIRONMENTAL
	MERCER COUNTY, NJ			
01463500	DELAWARE RIVER AT TRENTON, NJ	07-29-98	0905	ENVIRONMENTAL
01463500	DELAWARE RIVER AT TRENTON, NJ	07-29-98	1005	ENVIRONMENTAL
	SUSSEX COUNTY, NJ			
01440000	FLAT BROOK NEAR FLATBROOKVILLE, NJ	07-22-99	1410	ENVIRONMENTAL
	DELAWARE COUNTY, NY			
01423000	WEST BRANCH DELAWARE RIVER AT WALTON, NY	08-16-99	1430	ENVIRONMENTAL
01423000	WEST BRANCH DELAWARE RIVER AT WALTON, NY	08-16-99	1415	SPLIT REPLICATE
	ORANGE COUNTY, NY			
01437500	NEVERSINK RIVER AT GODEFFROY, NY	08-17-99	1645	ENVIRONMENTAL
	SULLIVAN COUNTY, NY			
01435000	NEVERSINK RIVER NEAR CLARYVILLE, NY	08-17-99	1045	ENVIRONMENTAL
	BERKS COUNTY, PA			
01470779	TULPEHOCKEN CR NR BERNVILLE, PA	08-25-98	1100	ENVIRONMENTAL
01471520	WYOMISSING CR. @ WEST READING, PA	07-29-99	1015	ENVIRONMENTAL
01471668	HAY CREEK NEAR BIRDSBORO, PA	08-26-98	1400	ENVIRONMENTAL
01471980	MANATAWNY CREEK NEAR POTTSTOWN, PA	08-26-98	0900	ENVIRONMENTAL
01471980	MANATAWNY CREEK NEAR POTTSTOWN, PA	08-26-98	1000	SPLIT REPLICATE
	BUCKS COUNTY, PA			
01464907	LITTLE NESHAMINY C AT VALLEY ROAD NR NESHAMINY, PA	09-01-98	1400	ENVIRONMENTAL
01464907	LITTLE NESHAMINY C AT VALLEY ROAD NR NESHAMINY, PA	09-01-98	1410	ENVIRONMENTAL
	CHESTER COUNTY, PA			
01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA	07-20-99	1030	ENVIRONMENTAL
	DELAWARE COUNTY, PA			
01475510	DARBY CREEK NEAR DARBY, PA	07-28-99	0930	ENVIRONMENTAL
	LEHIGH COUNTY, PA			
01451425	LITTLE LEHIGH CREEK NEAR EAST TEXAS, PA	08-27-98	1000	ENVIRONMENTAL
01451800	JORDAN CREEK NEAR SCHNECKSVILLE, PA	07-16-99	0930	ENVIRONMENTAL
	MONROE COUNTY, PA			
01439550	BUSH KILL AT BUSHKILL, PA	08-04-99	1130	ENVIRONMENTAL
01442110	BRODHEAD CREEK AT STROUDSBURG, PA	08-03-99	1425	ENVIRONMENTAL
	MONTGOMERY COUNTY, PA			
01467040	PENNYPACK CREEK AT PAPER MILL, PA	07-26-99	1449	ENVIRONMENTAL
	NORTHAMPTON COUNTY, PA			
01454700	LEHIGH RIVER AT GLENDON, PA	08-04-98	1100	ENVIRONMENTAL
01454700	LEHIGH RIVER AT GLENDON, PA	08-04-98	1400	ENVIRONMENTAL
	PHILADELPHIA COUNTY, PA			
01473990	WISSAHICKON CREEK BL WALNUT LANE NR MANAYUNK, PA	07-28-99	1830	ENVIRONMENTAL
01474500	SCHUYLKILL RIVER AT PHILADELPHIA, PA	07-28-98	1005	ENVIRONMENTAL
01474500	SCHUYLKILL RIVER AT PHILADELPHIA, PA	07-28-98	1405	ENVIRONMENTAL
	PIKE COUNTY, PA			
01434000	DELAWARE RIVER AT PORT JERVIS, NY	07-30-98	0800	ENVIRONMENTAL
01434000	DELAWARE RIVER AT PORT JERVIS, NY	07-30-98	1100	ENVIRONMENTAL
	WAYNE COUNTY, PA			
01431500	LACKAWAXEN RIVER AT HAWLEY, PA	08-02-99	1615	ENVIRONMENTAL

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CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of organochlorine compounds in whole fish, calendar years 1998 and 1999

STATION NUMBER	DATE	TIME	SPECIES	TOTAL LENGTH, TOTAL LENGTH,			WEIGHT, WEIGHT,			NUMBER IN COMPOSITE
				MEDIAN (MM)	MIN (MM)	MAX	MEDIAN (GM)	MIN (GM)	MAX	
CAMDEN COUNTY, NJ										
01467081	07-27-99	1745	WHITE SUCKER	211	185	320	102	72	357	7
01467150	07-14-99	1535	COMMON CARP	455	365	569	1500	1100	2900	6
01467150	07-14-99	1540	WHITE SUCKER	321	272	359	371	231	485	7
GLOUCESTER COUNTY, NJ										
01477120	09-02-98	1130	WHITE SUCKER	316	262	392	314	183	589	8
MERCER COUNTY, NJ										
01463500	07-29-98	0905	WHITE SUCKER	318	265	487	394	220	1311	8
01463500	07-29-98	1005	COMMON CARP	583	551	681	2812	2208	5000	8
SUSSEX COUNTY, NJ										
01440000	07-22-99	1410	WHITE SUCKER	382	201	415	512	87	678	5
DELAWARE COUNTY, NY										
01423000	08-16-99	1430	WHITE SUCKER	369	346	423	487	427	824	8
01423000	08-16-99	1415	WHITE SUCKER	368	338	384	490	408	616	8
ORANGE COUNTY, NY										
01437500	08-17-99	1645	WHITE SUCKER	413	383	435	786	655	999	7
SULLIVAN COUNTY, NY										
01435000	08-17-99	1045	WHITE SUCKER	402	385	421	626	580	739	6
BERKS COUNTY, PA										
01470779	08-25-98	1100	WHITE SUCKER	310	291	429	310	206	701	10
01471520	07-29-99	1015	WHITE SUCKER	298	270	399	289	216	740	7
01471668	08-26-98	1400	WHITE SUCKER	278	267	310	174	142	259	8
01471980	08-26-98	0900	WHITE SUCKER	401	379	433	625	610	845	8
01471980	08-26-98	1000	WHITE SUCKER	408	357	444	675	482	965	8
BUCKS COUNTY, PA										
01464907	09-01-98	1400	WHITE SUCKER	280	254	331	224	168	420	10
01464907	09-01-98	1410	COMMON CARP	625	522	634	3683	1991	3976	5
CHESTER COUNTY, PA										
01472157	07-20-99	1030	WHITE SUCKER	358	318	400	471	342	668	8
DELAWARE COUNTY, PA										
01475510	07-28-99	0930	WHITE SUCKER	343	303	368	468	332	622	8
LEHIGH COUNTY, PA										
01451425	08-27-98	1000	WHITE SUCKER	365	334	442	516	361	824	8
01451800	07-16-99	0930	WHITE SUCKER	359	278	412	437	212	644	8
MONROE COUNTY, PA										
01439550	08-04-99	1130	WHITE SUCKER	191	181	202	80	65	101	8
01442110	08-03-99	1425	WHITE SUCKER	422	391	512	772	583	1455	7
MONTGOMERY COUNTY, PA										
01467040	07-26-99	1449	WHITE SUCKER	292	272	340	294	246	397	9
NORTHAMPTON COUNTY, PA										
01454700	08-04-98	1100	COMMON CARP	608	550	650	2933	2548	3857	5
01454700	08-04-98	1400	WHITE SUCKER	418	395	475	830	696	1223	8
PHILADELPHIA COUNTY, PA										
01473990	07-28-99	1830	WHITE SUCKER	292	272	389	263	243	766	4
01474500	07-28-98	1005	COMMON CARP	588	545	630	2828	2298	3554	8
01474500	07-28-98	1405	WHITE SUCKER	394	305	473	548	322	1000	8
PIKE COUNTY, PA										
01434000	07-30-98	0800	WHITE SUCKER	443	389	492	887	624	1096	8
WAYNE COUNTY, PA										
01431500	08-02-99	1615	WHITE SUCKER	242	194	261	160	87	214	6

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CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of organochlorine compounds in whole fish, calendar years 1998 and 1999

STATION NUMBER	DATE	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	ALDRIN, BIOTA, WH ORG WH, REC (µG/KG) (49353)	ALPHA- BHC, BIOTA, WH ORG WH, REC (µG/KG) (49366)	BENZENE	BETA-
						HEXA- CHLORO- WH ORG WH, REC (µG/KG) (49367)	BHC, BIOTA, WH ORG WH, REC (µG/KG) (49365)
CAMDEN COUNTY, NJ							
01467081	07-27-99	80020	1028	<5.00	<5.00	<5.00	<5.00
01467150	07-14-99	80020	1028	<5.00	<5.00	<5.00	<5.00
01467150	07-14-99	80020	1028	<5.00	<5.00	<5.00	<5.00
GLOUCESTER COUNTY, NJ							
01477120	09-02-98	80020	1028	<5.00	<5.00	<5.00	<5.00
MERCER COUNTY, NJ							
01463500	07-29-98	80020	1028	<5.00	<5.00	<5.00	<5.00
01463500	07-29-98	80020	1028	<5.00	<5.00	<5.00	<5.00
SUSSEX COUNTY, NJ							
01440000	07-22-99	80020	1028	<5.00	<5.00	<5.00	<5.00
DELAWARE COUNTY, NY							
01423000	08-16-99	80020	1028	<5.00	<5.00	<5.00	<5.00
01423000	08-16-99	80020	1028	<5.00	<5.00	<5.00	<5.00
ORANGE COUNTY, NY							
01437500	08-17-99	80020	1028	<5.00	<5.00	<5.00	<5.00
SULLIVAN COUNTY, NY							
01435000	08-17-99	80020	1028	<5.00	<5.00	<5.00	<5.00
BERKS COUNTY, PA							
01470779	08-25-98	80020	1028	<5.00	<5.00	<5.00	<5.00
01471520	07-29-99	80020	1028	<5.00	<5.00	<5.00	<5.00
01471668	08-26-98	80020	1028	<5.00	<5.00	<5.00	<5.00
01471980	08-26-98	80020	1028	<5.00	<5.00	<5.00	<5.00
01471980	08-26-98	80020	1028	<5.00	<5.00	<5.00	<5.00
BUCKS COUNTY, PA							
01464907	09-01-98	80020	1028	<5.00	<5.00	<5.00	<5.00
01464907	09-01-98	80020	1028	<5.00	<5.00	<5.00	<5.00
CHESTER COUNTY, PA							
01472157	07-20-99	80020	1028	<5.00	<5.00	<5.00	<5.00
DELAWARE COUNTY, PA							
01475510	07-28-99	80020	1028	<5.00	<5.00	<5.00	<5.00
LEHIGH COUNTY, PA							
01451425	08-27-98	80020	1028	<5.00	<5.00	<5.00	<5.00
01451800	07-16-99	80020	1028	<5.00	<5.00	<5.00	<5.00
MONROE COUNTY, PA							
01439550	08-04-99	80020	1028	<5.00	<5.00	<5.00	<5.00
01442110	08-03-99	80020	1028	<5.00	<5.00	<5.00	<5.00
MONTGOMERY COUNTY, PA							
01467040	07-26-99	80020	1028	<5.00	<5.00	<5.00	<5.00
NORTHAMPTON COUNTY, PA							
01454700	08-04-98	80020	1028	<5.00	<5.00	8.90	<5.00
01454700	08-04-98	80020	1028	<5.00	<5.00	18.0	<5.00
PHILADELPHIA COUNTY, PA							
01473990	07-28-99	80020	1028	<5.00	<5.00	<5.00	<5.00
01474500	07-28-98	80020	1028	<5.00	<5.00	5.40	<5.00
01474500	07-28-98	80020	1028	<5.00	<5.00	<5.00	<5.00
PIKE COUNTY, PA							
01434000	07-30-98	80020	1028	<5.00	<5.00	<5.00	<5.00
WAYNE COUNTY, PA							
01431500	08-02-99	80020	1028	<5.00	<5.00	<5.00	<5.00

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of organochlorine compounds in whole fish, calendar years 1998 and 1999

STATION NUMBER	DATE	P, P' -	P, P' -	PCB,	PENTA	TOXA-	TRANS-	TRANS-
		DDE, BIOTA, WH ORG WW, REC (µG/KG) (49372)	DDT, BIOTA, WH ORG WW, REC (µG/KG) (49376)	BIOTA, WH ORG WW, REC (µG/KG) (49354)	CHLORO ANISOLE WH ORG WW, REC (µG/KG) (49356)	PHENE, BIOTA, WH ORG WW, REC (µG/KG) (49355)	CHLOR- DANE, BIOTA, WH ORG WW, REC (µG/KG) (49379)	NONA- CHLOR, BIOTA, WH ORG WW, REC (µG/KG) (49358)
CAMDEN COUNTY, NJ								
01467081	07-27-99	140	34.0	200	<5.00	<200	28.0	29.0
01467150	07-14-99	88.0	<5.00	320	<5.00	<200	15.0	23.0
01467150	07-14-99	240	14.0	590	<5.00	<200	29.0	44.0
GLOUCESTER COUNTY, NJ								
01477120	09-02-98	140	11.0	91.0	<5.00	<200	<5.00	5.40
MERCER COUNTY, NJ								
01463500	07-29-98	90.0	E19.0	260	<5.00	<200	<5.00	20.0
01463500	07-29-98	810	12.0	1100	<5.00	<200	6.00	37.0
SUSSEX COUNTY, NJ								
01440000	07-22-99	39.0	<5.00	70.0	<5.00	<200	<5.00	<5.00
DELAWARE COUNTY, NY								
01423000	08-16-99	9.80	<5.00	75.0	<5.00	<200	<5.00	<5.00
01423000	08-16-99	E4.50	<5.00	E49.0	<5.00	<200	<5.00	<5.00
ORANGE COUNTY, NY								
01437500	08-17-99	27.0	E4.00	84.0	<5.00	<200	<5.00	<5.00
SULLIVAN COUNTY, NY								
01435000	08-17-99	7.50	<5.00	<50.0	<5.00	<200	<5.00	<5.00
BERKS COUNTY, PA								
01470779	08-25-98	60.0	6.70	130	<5.00	<200	<5.00	24.0
01471520	07-29-99	48.0	17.0	76.0	<5.00	<200	9.70	14.0
01471668	08-26-98	13.0	<5.00	89.0	<5.00	<200	<5.00	7.70
01471980	08-26-98	110	24.0	340	<5.00	<200	<5.00	13.0
01471980	08-26-98	79.0	13.0	270	<5.00	<200	<5.00	11.0
BUCKS COUNTY, PA								
01464907	09-01-98	74.0	15.0	240	<5.00	<200	5.50	22.0
01464907	09-01-98	E310	<5.00	570	5.00	<200	18.0	E87.0
CHESTER COUNTY, PA								
01472157	07-20-99	15.0	<5.00	82.0	<5.00	<200	<5.00	E3.80
DELAWARE COUNTY, PA								
01475510	07-28-99	56.0	19.0	360	<5.00	<200	33.0	62.0
LEHIGH COUNTY, PA								
01451425	08-27-98	98.0	7.60	150	<5.00	<200	<5.00	6.90
01451800	07-16-99	130	14.0	<50.0	<5.00	<200	<5.00	5.30
MONROE COUNTY, PA								
01439550	08-04-99	<5.00	<5.00	<50.0	<5.00	<200	<5.00	<5.00
01442110	08-03-99	29.0	E3.50	96.0	<5.00	<200	<5.00	E4.60
MONTGOMERY COUNTY, PA								
01467040	07-26-99	16.0	5.10	130	9.80	<200	9.60	15.0
NORTHAMPTON COUNTY, PA								
01454700	08-04-98	E400	<5.00	900	<5.00	<200	13.0	38.0
01454700	08-04-98	130	17.0	640	<5.00	<200	8.30	30.0
PHILADELPHIA COUNTY, PA								
01473990	07-28-99	80.0	E34.0	470	<5.00	<200	26.0	53.0
01474500	07-28-98	E790	5.20	4000	<5.00	<200	53.0	200
01474500	07-28-98	140	E44.0	890	<5.00	<200	28.0	51.0
PIKE COUNTY, PA								
01434000	07-30-98	62.0	E6.20	140	<5.00	<200	<5.00	<5.00
WAYNE COUNTY, PA								
01431500	08-02-99	<5.00	<5.00	<50.0	<5.00	<200	<5.00	<5.00

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of organochlorine compounds in smallmouth bass filets, calendar year 1998.

Each sample for organochlorine analyses consisted of a composite of filets with skin on from 4-5 fish. Laboratory procedures included (1) homogenization, (2) extraction by use of methylene chloride in a soxhlet apparatus, (3) clean-up by use of gel permeation chromatography, (4) fractionation by use of alumina/silica gel, and (5) analysis by gas chromatography with two dissimilar capillary columns coupled with an electron capture detector. Constituent concentrations are provided on a wet weight (WW) basis. Constituent concentrations are provided on a wet-weight (WW) basis. Constituent names are abbreviated as follows: DDD, dichlorodiphenyldichloroethane; DDE, dichlorodiphenyldichloroethene; DCPA, dimethyl tetrachloroterephthalate; DDT, dichlorodiphenyltrichloroethane; HCH, hexachlorocyclohexane; PCB, polychlorinated biphenyls.

STATION NUMBER	STATION NAME	DATE	TIME	TOTAL LENGTH, (MM)		WEIGHT, MEDIAN (GM)	WEIGHT, MIN MAX (GM)	NUMBER IN COMPOSITE
01463500	MERCER COUNTY, NJ DELAWARE RIVER AT TRENTON, NJ	07-29-98	1100					
01454700	NORTHAMPTON COUNTY, PA LEHIGH RIVER AT GLENDON, PA	08-04-98	1200					
01473990	PHILADELPHIA COUNTY, PA WISSAHICKON CREEK BL WALNUT LANE NR MANAYUNK, PA	07-28-99	1830					
01434000	PIKE COUNTY, PA DELAWARE RIVER AT PORT JERVIS, NY	07-30-98	1100					
STATION NUMBER	DATE	TIME	SPECIES	TOTAL LENGTH, MEDIAN (MM)	TOTAL LENGTH, MIN MAX (MM)	WEIGHT, MEDIAN (GM)	WEIGHT, MIN MAX (GM)	NUMBER IN COMPOSITE
01463500	07-29-98	1100	SMALLMOUTH BASS	400	292 446	795	310 1209	5
01454700	08-04-98	1200	SMALLMOUTH BASS	297	272 326	357	259 444	5
01474500	07-28-98	1030	SMALLMOUTH BASS	305	294 325	324	280 354	5
01434000	07-30-98	1100	SMALLMOUTH BASS	281	254 290	279	252 368	4
STATION NUMBER	DATE	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	AGENCY COL-LECTING SAMPLE NUMBER (00027)	ALDRIN, BIOTA, FILLET (µG/KG) (49353)	ALPHA-BHC, BIOTA, FILLET (µG/KG) (49366)	BENZENE HEXA-CHLORO-BIOTA, FILLET (µG/KG) (49367)	BETA-BHC, BIOTA, FILLET (µG/KG) (49365)	
01463500	07-29-98	80020	1028	<5.00	<5.00	<5.00	<5.00	
01454700	08-04-98	80020	1028	<5.00	<5.00	<5.00	<5.00	
01474500	07-28-98	80020	1028	<5.00	<5.00	<5.00	<5.00	
01434000	07-30-98	80020	1028	<5.00	<5.00	<5.00	<5.00	

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

CONCENTRATIONS OF TRACE ELEMENTS AND ORGANOCHLORINE COMPOUNDS IN FISH TISSUE--Continued

Concentrations of organochlorine compounds in smallmouth bass filets, calendar year 1998

STATION NUMBER	DATE	CIS-CHLOR-DANE, BIOTA, FILLET	CIS-NONA-CHLOR, BIOTA, FILLET	DCPA, BIOTA, FILLET	DELTA-BHC, BIOTA, FILLET	DIEL-DRIN, BIOTA, FILLET	ENDRIN, BIOTA, FILLET	HEPTA-CHLOR EPOXIDE, BIOTA, FILLET	HEPTA-CHLOR, BIOTA, FILLET	LINDANE, BIOTA, FILLET	
		WW, REC (µG/KG) (49380)	WW, REC (µG/KG) (49359)	WW REC (µG/KG) (49378)	WW, REC (µG/KG) (49364)	WW, REC (µG/KG) (49371)	WW, REC (µG/KG) (49370)	WW, REC (µG/KG) (49368)	WW, REC (µG/KG) (49369)	WW, REC (µG/KG) (49363)	
		MERCER COUNTY, NJ									
01463500	07-29-98	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	
		NORTHAMPTON COUNTY, PA									
01454700	08-04-98	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	
		PHILADELPHIA COUNTY, PA									
01474500	07-28-98	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	
		PIKE COUNTY, PA									
01434000	07-30-98	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	
STATION NUMBER	DATE	METHOXY LIPIDS, BIOTA, FILLET	METHOXY CHLOR, O,P'-, BIOTA, FILLET	METHOXY CHLOR, P,P'-, BIOTA, FILLET	MIREX, BIOTA, FILLET	O,P'-DDD, BIOTA, FILLET	O,P'-DDE, BIOTA, FILLET	O,P'-DDT, BIOTA, FILLET	OXY-CHLOR DANE, BIOTA, FILLET	P,P'-DDD, BIOTA, FILLET	
		PERCENT (49289)	WW, REC (µG/KG) (49362)	WW, REC (µG/KG) (49361)	WW, REC (µG/KG) (49360)	WW, REC (µG/KG) (49374)	WW, REC (µG/KG) (49373)	WW, REC (µG/KG) (49377)	WW, REC (µG/KG) (49357)	WW, REC (µG/KG) (49375)	
		MERCER COUNTY, NJ									
01463500	07-29-98	1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	22.0	
		NORTHAMPTON COUNTY, PA									
01454700	08-04-98	1.70	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	
		PHILADELPHIA COUNTY, PA									
01474500	07-28-98	1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	
		PIKE COUNTY, PA									
01434000	07-30-98	1.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	
STATION NUMBER	DATE	P,P'-DDE, BIOTA, FILLET	P,P'-DDT, BIOTA, FILLET	PCB, BIOTA, FILLET	PENTA-CHLORO ANISOLE, BIOTA, FILLET	TOXA-PHENE, BIOTA, FILLET	TRANS-CHLOR-DANE, BIOTA, FILLET	TRANS-NONA-CHLOR, BIOTA, FILLET			
		WW, REC (µG/KG) (49372)	WW, REC (µG/KG) (49376)	WW, REC (µG/KG) (49354)	WW, REC (µG/KG) (49356)	WW, REC (µG/KG) (49355)	WW, REC (µG/KG) (49379)	WW, REC (µG/KG) (49358)			
		MERCER COUNTY, NJ									
01463500	07-29-98	89.0	6.90	370	<5.00	<200	<5.00	9.10			
		NORTHAMPTON COUNTY, PA									
01454700	08-04-98	14.0	<5.00	83.0	<5.00	<200	<5.00	<5.00			
		PHILADELPHIA COUNTY, PA									
01474500	07-28-98	22.0	<5.00	250	<5.00	<200	<5.00	6.00			
		PIKE COUNTY, PA									
01434000	07-30-98	<5.00	<5.00	<50.0	<5.00	<200	<5.00	<5.00			

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT

FISH COLLECTION RESULTS

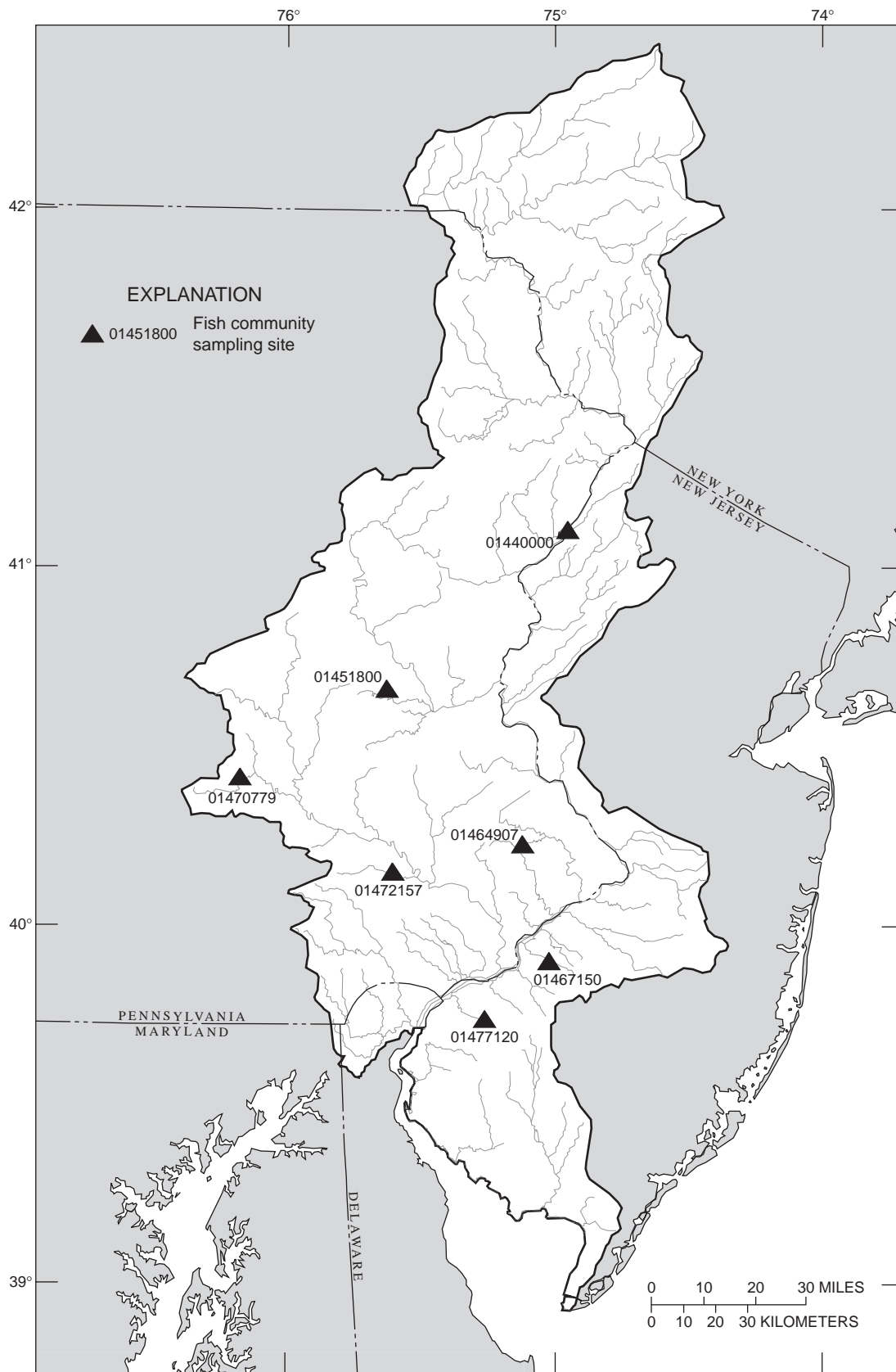


Figure 13.--Location of Delaware River Basin National Water-Quality Assessment Program fish-community sampling sites.

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

FISH COLLECTION RESULTS--Continued

Fish-community surveys were conducted at 6 stream sites in the Delaware River basin during 1999. Sites were located in New Jersey and Pennsylvania. Fish were collected by electrofishing with pulsed-DC current in a representative 157 to 300 meter long reach at each stream site. Two electrofishing passes were conducted at each reach, except for stations 01440000 and 01464907, at which one pass was conducted. Kick seining was done briefly in riffles after completion of electrofishing. One-quarter inch mesh was used for the kick seine and the dip nets. Fish were identified, measured, weighed, and checked for anomalies such as parasites, lesions, and skeletal deformities. Most individuals were returned to the stream after processing. More details regarding collection methods can be found in Meador and others, 1993, Methods for sampling fish communities as part of the National Water-Quality Assessment program: U.S. Geological Survey Open-File Report 93-104, 40 p. Additional surface-water and/or water-quality data for these sites can be found in the continuous record station section of this report. Contact the New Jersey District Office of the U.S. Geological Survey for additional information. Family names are in uppercase, scientific names are in italics, and common names follow. Minimum and maximum total lengths (in mm) are in parenthesis below abundance.

SITE LOCATIONS

Station Number	Station name	Collection Date
01440000	FLAT BROOK NEAR FLATBROOKVILLE, NJ	07-22-99
01451800	JORDAN CREEK NEAR SCHNECKSVILLE, PA	07-16-99
01464907	LITTLE NESHAMINY C AT VALLEY ROAD NR NESHAMINY, PA	07-13-99
01470779	TULPEHOCKEN CR NR BERNVILLE, PA.	07-21-99
01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA.	07-20-99
01477120	RACCOON CREEK NEAR SWEDESBORO, NJ	07-15-99

Fish species, numbers, minimum and maximum total lengths (in mm), collected during 1999

	01440000	01451800	01464907	01470779	01472157	01477120
PETROMYZONTIDAE						
<i>Lampetra appendix</i> , American brook lamprey	0	0	0	0	0	58 (94-182)
<i>Petromyzon marinus</i> , sea lamprey	2 (110-115)	0	0	0	0	3 (146-161)
ANGUILLIDAE						
<i>Anguilla rostrata</i> , American eel	132 (135-580)	16 (180-720)	22 (83-650)	0	4 (375-820)	50 (99-760)
CLUPEIDAE						
<i>Alosa sapidissima</i> , American shad	0	0	0	0	0	4 (55-62)
ESOCIDAE						
<i>Esox americanus</i> , redbfin pickerel	0	0	0	0	0	1 (79-79)
<i>E. niger</i> , chain pickerel	0	0	0	0	0	1 (52-52)
CYPRINIDAE						
<i>Cyprinella analostana</i> , satinfin shiner	0	31 (45-73)	172 (51-101)	0	14 (46-76)	16 (52-92)
<i>C. spiloptera</i> , spotfin shiner	0	0	44 (45-95)	5 (61-91)	0	0
<i>Cyprinus carpio</i> , common carp	0	0	0	73 (299-603)	0	0
<i>Exoglossum maxillingua</i> , cutlips minnow	160 (49-125)	85 (28-109)	0	97	171 (66-129)	0 (23-138)
<i>Luxilus cornutus</i> , common shiner	13 (27-73)	57 (27-65)	5 (75-127)	0	28 (29-83)	22 (68-116)
<i>Notemigonus crysoleucas</i> , golden shiner	0	0	6 (78-180)	0	0	2 (88-164)
<i>Notropis amoenus</i> , comely shiner	0	0	0	0	0	1 (34-34)
<i>N. hudsonius</i> , spottail shiner	0	0	431 (35-105)	28 (35-112)	17 (32-93)	0
<i>N. procne</i> , swallowtail shiner	6 (45-62)	0	1594 (49-72)	0	1 (39-39)	0
<i>Pimephales notatus</i> , bluntnose minnow	0	70 (21-73)	0	22 (43-71)	0	0
<i>Rhinichthys atratulus</i> , blacknose dace	590 (27-68)	284 (32-77)	2 (36-67)	146 (32-82)	54 (28-73)	0
<i>R. cataractae</i> , longnose dace	49 (32-126)	75 (28-88)	0	136 (36-119)	46 (30-100)	0
<i>Semotilus atromaculatus</i> , creek chub	0	0	2 (93-100)	9 (44-162)	0	0
<i>S. corporalis</i> , fallfish	0	0	0	0	119 (42-302)	74 (31-220)

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

FISH COLLECTION RESULTS--Continued

Fish species, numbers, minimum and maximum total lengths (in mm), collected during 1999

	01440000	01451800	01464907	01470779	01472157	01477120
CATOSTOMIDAE						
<i>Catostomus commersoni</i> , white sucker	97 (32-152)	1975 (34-406)	229 (30-264)	472 (35-332)	140 (32-443)	56 (45-387)
<i>Hypentelium nigricans</i> , northern hog sucker	7 (75-187)	0	0	0	0	0
ICTALURIDAE						
<i>Ameiurus natalis</i> , yellow bullhead	0	0	2 (30-32)	0	1 (146-146)	0
<i>A. nebulosus</i> , brown bullhead	0	0	1	3	0	2 (288-288)
<i>Ictalurus catus</i> , white catfish	0	0	0 (201-201)	0 (266-292)	0	1 (140-150)
<i>I. punctatus</i> , channel catfish	0	0	0	2 (429-597)	0	0
<i>Noturus insignis</i> , margined madtom	1 (80-80)	204 (28-137)	0	0	28 (71-151)	0
APHREDODERIDAE						
<i>Aphredoderus sayanus</i> , pirate perch	0	0	0	0	0	4 (79-99)
CYPRINODONTIDAE						
<i>Fundulus diaphanus</i> , banded killifish	0	23 (57-83)	845 (17-86)	0	0	0
PERCICHTHYIDAE						
<i>Morone americana</i> , white perch	0	0	0	0	0	1 (158-158)
<i>M. saxatilis</i> , striped bass	0	0	0	0	0	2 (136-158)
CENTRARCHIDAE						
<i>Ambloplites rupestris</i> , rock bass	1 (162-162)	41 (25-163)	9 (130-160)	34 (66-223)	85 (21-200)	0
<i>Lepomis sp.</i>	0	1 (22-22)	0	0	0	0
<i>L. auritis</i> , redbreast sunfish	0	28 (70-137)	325 (51-182)	0	3 (60-120)	12 (70-131)
<i>L. cyanellus</i> , green sunfish	0	0	2 (106-120)	12 (64-135)	16 (69-160)	0
<i>L. gibbosus</i> , pumpkinseed	0	0	1 (102-102)	4 (95-110)	1 (102-102)	18 (50-130)
<i>L. macrochirus</i> , bluegill	0	0	3 (72-79)	2 (117-144)	0	7 (50-90)
<i>Micropterus dolomieu</i> , smallmouth bass	2 (50-50)	56 (48-192)	0	0	86 (35-419)	0
<i>M. salmoides</i> , largemouth bass	0	0	4 (61-69)	2 (70-70)	0	1 (120-120)
<i>Pomoxis nigromaculatus</i> , black crappie	0	0	1 (160-160)	0	0	0
PERCIDAE						
<i>Etheostoma olmstedi</i> , tessellated darter	61 (26-72)	18 (24-65)	54 (30-70)	46 (30-80)	44 (27-75)	34 (35-74)
<i>Percina peltata</i> , shield darter	29 (47-86)	0	0	0	33 (47-93)	0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT

SURFACE WATER SYNOPTIC SURVEY



Figure 14.--Location of Delaware River Basin National Water-Quality Assessment Program synoptic sites.

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

**SURFACE WATER SYNOPTIC SURVEY--Continued
May 3-18, and August 30 - September 15, 1999**

Water quality data presented in this table were collected by the Delaware River Basin National Water Quality Assessment Program (NAWQA) as part of two basin-wide synoptic surveys of nutrients, pesticides, major ions, and organic carbon; the first survey was May 3-18, 1999, and the second was August 30-September 15, 1999. Data were collected at 24 sites as part of this synoptic. Data from Pennsylvania stations are published in this report. A complete list of Delaware NAWQA data can be found in 'Water Resources Data, New Jersey', Water-Data Report NJ-99-3. Data for one sample at station 01432000, Wallenpaupack Creek at Wilsonville, PA, were collected on June 17, 1999. Selected samples were analyzed for pesticides on schedule 2001 (listed with minimum reporting levels on page 431); only pesticides identified by the analyses in one or more samples are listed in the water-quality tables. Fish tissue, bed sediment, and fish community data for some of these sites are presented on pages 433-471.

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	1630	146	744	122	10.8	8.1	95	23.0	20.0	28	9.1
SEP											
01...	1720	31	743	155	12.7	10.0	137	26.0	24.0	36	12
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	1210	1410	730	57	5.6	6.9	96	16.5	14.5	23	7.5
SEP											
14...	1520	771	740	60	5.4	6.9	104	29.5	19.0	25	8.1
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	1150	125	748	109	10.6	6.7	52	23.0	16.0	14	3.7
SEP											
02...	0830	5.6	755	98	9.3	7.3	85	20.0	17.5	25	6.7
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	0830	246	752	102	10.3	7.4	146	14.5	14.5	37	12
SEP											
02...	1130	46	756	83	7.5	7.8	240	25.5	19.5	71	23
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	1600	E4320	755	112	10.2	8.0	161	28.5	19.5	48	13
SEP											
15...	0800	E2020	758	92	7.6	7.8	179	24.5	24.5	54	14
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	0920	416	754	105	10.4	7.1	101	22.0	15.5	23	5.4
SEP											
02...	0830	170	750	--	--	6.9	120	19.5	18.5	30	7.2
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	0820	25	757	100	9.5	7.6	196	17.5	17.5	56	13
SEP											
15...	1130	2.8	756	107	9.6	8.0	261	23.0	20.5	80	18
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	1520	90	759	125	11.7	7.9	415	16.0	18.0	110	27
AUG											
30...	0910	90	765	--	--	7.3	318	18.5	--	94	24
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	1230	312	759	111	10.5	7.7	309	20.5	18.0	99	20
SEP											
01...	1210	45	756	--	--	8.2	472	29.5	21.0	140	28
01472000	SCHUYLKILL RIVER AT POTTSTOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	1050	1010	762	87	8.4	7.8	377	21.0	17.0	130	33
AUG											
31...	1450	290	763	--	--	8.4	541	24.5	--	180	45

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**SURFACE WATER SYNOPTIC SURVEY--Continued
May 3-18, and August 30 - September 15, 1999**

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	1.1	.9	5.4	18	22	--	9.2	<.1	1.8	8.1	.04
SEP 01...	1.6	1.4	11	--	--	--	15	<.1	1.6	8.6	<.02
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	1.0	.7	7.7	12	15	--	13	<.1	.94	7.2	.11
SEP 14...	1.1	.7	7.7	17	21	--	14	<.1	1.0	6.5	.20
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	1.2	.3	3.2	6	8	--	4.8	<.1	2.7	7.2	<.02
SEP 02...	1.9	.7	5.8	13	16	--	8.0	<.1	2.5	9.1	<.02
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	2.0	.6	11	21	26	--	19	<.1	3.2	12	.06
SEP 02...	2.9	1.5	19	47	57	--	27	<.1	2.2	21	<.02
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	3.7	.9	9.3	32	39	--	15	<.1	2.0	13	.12
SEP 15...	4.5	1.3	12	36	43	--	16	<.1	1.5	18	<.02
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	2.3	.5	6.9	4	5	--	12	<.1	3.2	17	<.02
SEP 02...	3.0	.8	7.8	6	7	--	15	<.1	3.7	18	<.02
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	5.7	1.9	13	33	40	--	21	<.1	.55	18	.08
SEP 15...	8.7	3.0	18	56	68	--	26	<.1	2.9	24	<.02
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	10	4.5	30	73	89	--	53	<.1	2.6	34	.04
AUG 30...	8.5	4.4	21	65	79	--	28	.1	8.3	35	.03
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	12	1.7	15	22	27	--	18	<.1	5.4	82	.07
SEP 01...	17	3.0	32	29	35	--	36	<.1	1.9	120	<.02
01472000	SCHUYLKILL RIVER AT POTTSWOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	12	2.5	18	67	82	--	23	.1	6.2	55	.26
AUG 31...	16	3.9	37	104	136	1	49	.2	6.2	70	<.02

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
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**SURFACE WATER SYNOPTIC SURVEY--Continued
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DATE	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	.1	.4	.29	.17	.57	.01	.035	.03	.054	57	48
SEP 01...	.3	.4	--	<.05	--	<.01	.10	.08	.12	78	--
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	.3	.4	.45	.10	.53	<.01	.005	<.01	.013	55	47
SEP 14...	.4	.6	--	<.05	--	<.01	.023	.01	.042	65	51
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	.2	.2	.33	.16	.31	<.01	.034	.03	.039	--	28
SEP 02...	.1	.1	.98	.83	.98	<.01	.18	.16	.18	51	47
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	.1	.2	.55	.41	.59	<.01	.051	.12	.06	--	73
SEP 02...	.1	.3	.63	.49	.79	.02	.15	.2	.26	139	128
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	.6	.3	2.5	1.8	2.1	<.01	.016	.05	.033	92	84
SEP 15...	.2	.2	.72	.52	.70	<.01	.027	.02	.029	97	90
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	<.1	.1	--	.15	.28	<.01	<.004	.01	.01	57	51
SEP 02...	.1	E.09	.30	.20	--	<.01	<.004	<.01	.01	64	60
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	.3	.5	.62	.28	.74	<.01	.013	.02	.026	112	95
SEP 15...	.4	.4	1.2	.74	1.1	.01	.022	.01	.038	146	137
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	.5	.5	2.6	2.2	2.7	.05	.22	.19	.312	249	216
AUG 30...	.3	.6	2.5	2.2	2.8	.01	.20	.18	.23	187	178
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	.2	.3	1.3	1.1	1.5	.03	.021	.02	.068	193	173
SEP 01...	.2	.3	1.9	1.7	1.9	<.01	.037	.02	.043	278	260
01472000	SCHUYLKILL RIVER AT POTTSTOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	.5	.7	3.0	2.5	3.2	.11	.14	.12	.16	231	202
AUG 31...	.4	.7	3.7	3.3	4.0	<.01	.310	.25	.30	316	312

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**SURFACE WATER SYNOPTIC SURVEY--Continued
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DATE	TUR- BID- ITY FIELD WATER UNFLTRD (NTU) (61028)	BORON, DIS- SOLVED AS B) (01020)	IRON, DIS- SOLVED AS FE) (01046)	MANGA- NESE, DIS- SOLVED AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED AS C) (00681)	CARBON, ORGANIC SUS- PENDEDED TOTAL AS C) (00689)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 µ GF, REC (82660)	ACETO- CHLOR, WATER FLTRD REC (49260)	ALA- CHLOR, WATER, DISS, REC, (46342)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	2	<16.0	83	33	3.1	--	1.1	3	<.003	<.002	<.002
SEP											
01...	1	19.9	36	13	3.7	.3	.56	6.7	<.003	<.002	<.002
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	4	<16.0	34	180	2.8	.4	8.4	2	<.003	<.002	<.002
SEP											
14...	3	E8.8	860	590	3.2	.4	7.7	4	<.003	<.002	<.002
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	2	<16.0	28	<3	3.3	.2	8.6	26	<.003	<.002	<.002
SEP											
02...	.200	22.4	11	8	1.5	.2	.01	.900	<.003	<.002	<.002
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	2	E11.5	30	16	1.6	.3	1.5	2	<.003	<.002	<.002
SEP											
02...	2	48.1	38	23	5.0	.9	.17	1	<.003	<.002	<.002
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	2	E9.2	25	8	2.3	.3	--	4	<.003	<.002	<.002
SEP											
15...	1	E12.9	18	5	2.3	.2	--	2	<.003	<.002	<.002
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	1	E7.9	11	62	1.3	.3	1.6	1	<.003	<.002	<.002
SEP											
02...	--	16.4	10	29	1.1	.5	.37	.800	<.003	<.002	<.002
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	10	36.1	39	10	5.1	.2	.17	2	<.003	<.002	<.002
SEP											
15...	1	42.1	23	9	5.0	.2	.02	2	<.003	<.002	<.002
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	3	80.1	28	20	4.3	.2	.41	2	<.003	<.002	<.002
AUG											
30...	--	57.2	19	21	5.1	.3	1.4	6	<.003	<.002	<.002
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	6	17.9	53	210	1.6	.6	3.9	5	<.003	.0051	E.0023
SEP											
01...	--	33.6	30	25	1.8	<.2	.92	8	<.003	<.002	<.002
01472000	SCHUYLKILL RIVER AT POTTSTOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	3	28.5	33	80	2.2	.3	14	5	<.003	<.002	<.002
AUG											
31...	--	80.8	19	44	3.5	.2	2.8	4	<.003	<.002	<.002

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**SURFACE WATER SYNOPTIC SURVEY--Continued
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DATE	ALPHA BHC DIS- SOLVED ($\mu\text{G/L}$) (34253)	ATRA- ZINE, WATER, DISS, REC ($\mu\text{G/L}$) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 μ GF, REC ($\mu\text{G/L}$) (82673)	BUTYL- ATE, WATER, DISS, REC ($\mu\text{G/L}$) (04028)	CAR- BARYL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82680)	CARBO- FURAN WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82674)	CHLOR- PYRIFOS DIS- SOLVED ($\mu\text{G/L}$) (38933)	CYANA- ZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04041)	DCPA WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04040)	DI- AZINON, DIS- SOLVED ($\mu\text{G/L}$) (39572)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	<.002	.0057	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0037	<.002
SEP											
01...	<.002	.0076	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0065	<.002
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	<.002	.0085	<.002	<.002	E.0153	<.003	<.004	<.004	<.002	<.002	<.002
SEP											
14...	<.002	.0090	E.0017	<.002	<.003	<.003	<.004	<.004	<.002	E.0055	<.002
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	<.002	<.001	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.002	<.002
SEP											
02...	<.002	<.001	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.002	<.002
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	<.002	E.0035	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0024	<.002
SEP											
02...	<.002	.0041	E.0015	<.002	<.003	--	<.004	<.004	<.002	E.0049	<.002
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	<.002	.0089	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0089	<.002
SEP											
15...	<.002	.0192	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0178	<.002
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	<.002	E.0033	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0030	<.002
SEP											
02...	<.002	E.0036	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0043	<.002
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	<.002	.0771	<.002	<.002	<.003	<.003	<.004	.0163	<.002	E.0244	<.002
SEP											
15...	<.002	.0532	<.002	<.002	<.003	<.003	<.004	.0159	<.002	E.0248	<.002
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	<.002	.0445	<.002	<.002	E.0236	<.003	<.004	<.0100	<.002	E.0316	.0072
AUG											
30...	<.002	.0648	<.002	<.002	E.0894	<.003	<.004	<.004	<.002	E.0169	.0711
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	<.002	.0184	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0114	<.002
SEP											
01...	<.002	.0114	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0075	<.002
01472000	SCHUYLKILL RIVER AT POTTSTOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	<.002	.0664	<.002	<.002	<.003	<.003	<.004	<.004	E.0038	E.0398	<.002
AUG											
31...	<.002	.0485	<.002	<.002	<.003	<.003	<.004	<.004	<.002	E.0582	.0055

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DATE	DI- ELDRIN DIS- SOLVED ($\mu\text{G/L}$) (39381)	DISUL- FOTON WATER FLTRD GF, REC ($\mu\text{G/L}$) (82677)	EPTC WATER FLTRD GF, REC ($\mu\text{G/L}$) (82668)	ETHAL- FLUR- ALIN WAT FLT GF, REC ($\mu\text{G/L}$) (82663)	ETHO- PROP WATER FLTRD GF, REC ($\mu\text{G/L}$) (82672)	FONOFOS WATER REC ($\mu\text{G/L}$) (04095)	LINDANE DIS- SOLVED ($\mu\text{G/L}$) (39341)	LIN- URON WATER FLTRD GF, REC ($\mu\text{G/L}$) (82666)	MALA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39532)	METHYL AZIN- PHOS WAT FLT GF, REC ($\mu\text{G/L}$) (82686)	METHYL PARA- THION WAT FLT GF, REC ($\mu\text{G/L}$) (82667)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
01...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
14...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
02...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
02...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
15...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
02...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.0200	<.006
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
15...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
AUG											
30...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
SEP											
01...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01472000	SCHUYLKILL RIVER AT POTTSTOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
AUG											
31...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006

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DATE	METO- LACHLOR WATER DISSOLV ($\mu\text{G/L}$) (39415)	METRI- BUZIN SENCOR WATER DISSOLV ($\mu\text{G/L}$) (82630)	MOL- INATE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82684)	P, P' DDE DISSOLV ($\mu\text{G/L}$) (34653)	PARA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39542)	PEB- ULATE WATER FILTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82669)	PENDI- METH- ALIN WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82683)	PER- METHRIN CIS WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82687)	PHORATE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82664)	PRO- METON, WATER, DISS, REC ($\mu\text{G/L}$) (04037)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	.0056	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
SEP											
01...	.0067	<.004	<.004	<.003	E.0018	<.004	<.004	<.004	<.005	<.002	E.0080
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	.0050	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
SEP											
14...	E.0036	<.004	<.004	<.003	E.0028	<.004	<.004	<.004	<.005	<.002	<.018
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	<.002	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
SEP											
02...	<.002	<.004	<.004	<.003	E.0016	<.004	<.004	<.004	<.005	<.002	<.018
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	<.002	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
SEP											
02...	<.002	<.004	<.004	<.003	E.0021	<.004	<.004	<.004	<.005	<.002	<.018
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	.0050	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
SEP											
15...	.0098	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	.0047	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
SEP											
02...	<.002	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	<.018
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	.0491	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	E.0068
SEP											
15...	.0432	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	.0246
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	.0290	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	.0211
AUG											
30...	.0791	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	.0588
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	.0250	<.004	<.004	<.015	<.006	<.004	<.004	<.004	<.005	<.002	E.0051
SEP											
01...	.0095	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	.0689
01472000	SCHUYLKILL RIVER AT POTTSTOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	.0747	<.004	<.004	<.003	<.006	<.004	<.004	<.010	<.005	<.002	E.0091
AUG											
31...	.0163	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	.0462

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DATE	PRON-AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82676)	PROP-CHLOR, WATER, FLTRD DISS, REC (µG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 µ GF, REC (µG/L) (82685)	SI-MAZINE, WATER, FLTRD DISS, REC (µG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 µ GF, REC (µG/L) (82670)	TER-BACIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 µ GF, REC (µG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 µ GF, REC (µG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82661)
01431500	LACKAWAXEN RIVER AT HAWLEY PA (LAT 41 28 34N LONG 075 10 21W)										
MAY 1999											
17...	<.003	<.007	<.004	<.013	E.0039	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
01...	<.003	<.007	<.004	<.013	.0059	<.010	<.007	<.013	<.002	<.001	<.002
01432000	WALLENPAUPACK CREEK AT WILSONVILLE, PA. (LAT 41 27 33N LONG 075 11 08W)										
JUN 1999											
17...	<.003	<.007	<.004	<.013	.0104	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
14...	<.003	<.007	<.004	<.013	.0105	<.010	<.007	<.013	<.002	<.001	<.002
01439500	BUSH KILL AT SHOEMAKERS, PA. (LAT 41 05 17N LONG 075 02 17W)										
MAY 1999											
13...	<.003	<.007	<.004	<.013	<.005	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
02...	<.003	<.007	<.004	<.013	E.0027	<.010	<.007	<.013	<.002	<.001	<.002
01442500	BRODHEAD CREEK AT MINISINK HILLS, PA. (LAT 40 59 55N LONG 075 08 35W)										
MAY 1999											
13...	<.003	<.007	<.004	<.013	E.0039	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
02...	<.003	<.007	<.004	<.013	.0065	<.010	<.007	<.013	<.002	<.001	<.002
01447000	DELAWARE R AT NORTHAMPTON ST AT EASTON PA (LAT 40 41 30N LONG 075 12 15W)										
MAY 1999											
12...	<.003	<.007	<.004	<.013	E.0037	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
15...	<.003	<.007	<.004	<.013	.0116	<.010	<.007	<.013	<.002	<.001	<.002
01449000	LEHIGH RIVER AT LEHIGHTON (LAT 40 49 45N LONG 075 42 20W)										
MAY 1999											
18...	<.003	<.007	<.004	<.013	E.0035	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
02...	<.003	<.007	<.004	<.013	.0052	<.010	<.007	<.013	<.002	<.001	<.002
01459500	TOHICKON CREEK NEAR PIPERSVILLE, PA. (LAT 40 26 01N LONG 075 07 01W)										
MAY 1999											
12...	<.003	<.007	<.004	<.013	.171	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
15...	<.003	<.007	<.004	<.013	.0188	<.010	<.007	<.013	<.002	<.001	<.002
01465500	NESHAMINY CREEK NEAR LANGHORNE, PA. (LAT 40 10 26N LONG 074 57 26W)										
MAY 1999											
12...	<.003	<.007	<.004	<.013	.284	E.0092	<.007	<.013	<.002	<.001	<.002
AUG											
30...	<.003	<.007	<.004	<.013	.0785	.0389	<.007	<.013	<.002	<.001	<.002
01470500	SCHUYLKILL RIVER AT BERNE, PA. (LAT 40 31 21N LONG 075 59 55W)										
MAY 1999											
11...	<.003	<.007	<.004	<.013	E.0045	<.010	<.007	<.013	<.002	<.001	E.0031
SEP											
01...	<.003	<.007	<.004	<.013	.0077	<.010	<.007	<.013	<.002	<.001	<.002
01472000	SCHUYLKILL RIVER AT POTTSTOWN, PA. (LAT 40 14 30N LONG 075 39 05W)										
MAY 1999											
10...	<.003	<.007	<.004	<.013	.0098	E.0097	<.007	<.013	<.002	<.001	E.0034
AUG											
31...	<.003	<.007	<.004	--	.0236	E.0066	<.007	<.013	<.002	<.001	<.002

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DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
01473000 PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)												
MAY 1999												
10...	1550	175	759	127	11.3	8.5	322	22.5	20.5	93	24	
AUG												
31...	1110	116	764	--	--	8.0	307	24.5	21.0	95	24	
01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)												
MAY 1999												
13...	1200	47	759	110	10.5	7.8	583	18.0	17.5	160	36	
SEP												
13...	1320	49	765	101	9.2	8.0	480	29.0	20.0	140	33	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
01473000 PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)												
MAY 1999												
10...	8.2	6.8	19	57	68	.960	34	.1	5.0	27	.06	
AUG												
31...	8.5	3.6	20	62	76	--	29	<.1	5.7	27	<.02	
01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)												
MAY 1999												
13...	18	5.7	41	111	136	--	75	.1	5.5	42	.08	
SEP												
13...	15	4.9	34	106	129	--	51	.1	9.1	40	.04	
DATE		NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
01473000 PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)												
MAY 1999												
10...	.3	.4	1.9	1.6	2.0	.01	.067	.12	.08	192	167	
AUG												
31...	.3	.3	2.2	1.9	2.2	<.01	.14	.11	.14	175	163	
01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)												
MAY 1999												
13...	.5	.6	5.4	4.9	5.5	.08	.74	.70	.756	345	315	
SEP												
13...	.5	.5	3.9	3.4	3.9	.01	.52	.49	.57	278	268	

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DATE	TUR- BID- ITY FIELD WATER UNFLTRD (NTU) (61028)	BORON, DIS- SOLVED AS B) (01020)	IRON, DIS- SOLVED AS FE) (01046)	MANGA- NESE, DIS- SOLVED AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED AS C) (00681)	CARBON, ORGANIC SUS- PENDEDED TOTAL (MG/L) (00689)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 µ (µG/L) (82660)	ACETO- CHLOR, WATER FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)
01473000 PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)											
MAY 1999											
10...	2	57.5	39	8	3.2	.2	.33	.700	<.003	<.002	<.002
AUG											
31...	--	71.1	23	9	3.0	.3	1.4	5	<.003	<.002	<.002
01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)											
MAY 1999											
13...	3	93.3	28	23	4.4	.2	.43	3	<.003	<.002	<.002
SEP											
13...	4	75.8	25	24	4.9	.2	.38	3	<.003	<.002	<.002
01473000 PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)											
MAY 1999											
10...	<.002	.0214	<.002	<.002	E.0036	<.003	<.004	<.004	<.002	E.0348	E.0028
AUG											
31...	<.002	.0651	<.002	<.002	E.0041	<.003	<.004	.0072	<.002	E.0378	<.05
01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)											
MAY 1999											
13...	<.002	.0370	E.0026	<.002	E.0988	<.003	.0047	.0086	<.002	E.0254	.0073
SEP											
13...	<.002	.0141	<.002	<.002	E.0234	<.003	<.004	<.004	E.0019	E.0154	.0742
01473000 PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)											
MAY 1999											
10...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
AUG											
31...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006
01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)											
MAY 1999											
13...	<.001	<.017	<.002	<.004	<.003	<.003	<.004	<.002	.0118	<.001	<.006
SEP											
13...	<.0050	<.017	<.002	<.004	<.003	<.003	<.004	<.002	<.005	<.001	<.006

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
DELAWARE RIVER BASIN NAWQA PROJECT**

**SURFACE WATER SYNOPTIC SURVEY--Continued
May 3-18, and August 30 - September 15, 1999**

DATE	METO- LACHLOR WATER DISSOLV (µG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µG/L) (82630)	MOL- INATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82684)	P, P' DDE DISSOLV (µG/L) (34653)	PARA- THION, DIS- SOLVED (µG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 µ GF, REC (µG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 µ GF, REC (µG/L) (82687)	PHORATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82664)	PRO- METON, WATER, DISS, REC (µG/L) (04037)
01473000	PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)										
MAY 1999											
10...	.0107	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	E.0155
AUG											
31...	.0667	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	E.0163
01474000	WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)										
MAY 1999											
13...	.0156	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	.0313
SEP											
13...	.0099	<.004	<.004	<.003	<.006	<.004	<.004	<.004	<.005	<.002	.0484
	PRON- AMIDE WATER FLTRD 0.7 µ GF, REC (82676)	PROP- CHLOR, WATER, DISS, REC (µG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 µ GF, REC (µG/L) (82685)	SI- MAZINE, WATER, DISS, REC (µG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 µ GF, REC (82670)	TER- BACIL WATER FLTRD 0.7 µ GF, REC (82665)	TER- BUFOS WATER FLTRD 0.7 µ GF, REC (82675)	THIO- BENCARB WATER FLTRD 0.7 µ GF, REC (82681)	TRIAL- LATE WATER FLTRD 0.7 µ GF, REC (82678)	TRI- FLUR- ALIN WAT FLT 0.7 µ GF, REC (82661)
01473000	PERKIOMEN CREEK AT GRATERFORD, PA. (LAT 40 13 46N LONG 075 27 07W)										
MAY 1999											
10...	<.003	<.007	<.004	<.013	.0883	<.010	<.007	<.013	<.002	<.001	<.002
AUG											
31...	<.003	<.007	<.004	--	.0572	E.0046	<.007	<.013	<.002	<.001	<.002
01474000	WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 04 45N LONG 075 13 43W)										
MAY 1999											
13...	<.003	<.007	<.004	<.013	.0247	.0134	<.007	<.013	<.002	<.001	E.0026
SEP											
13...	<.003	<.007	<.004	<.013	.0288	E.0147	<.007	<.013	<.002	<.001	<.002