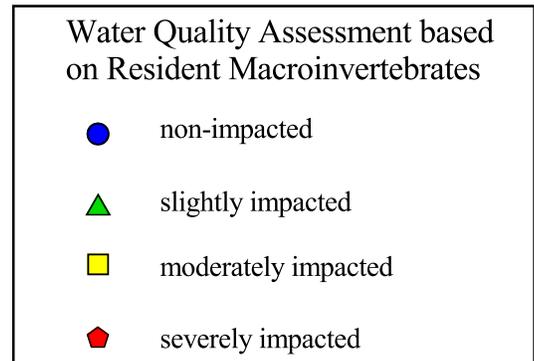
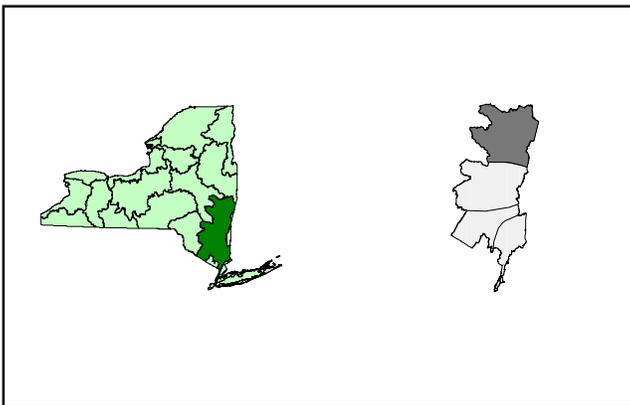
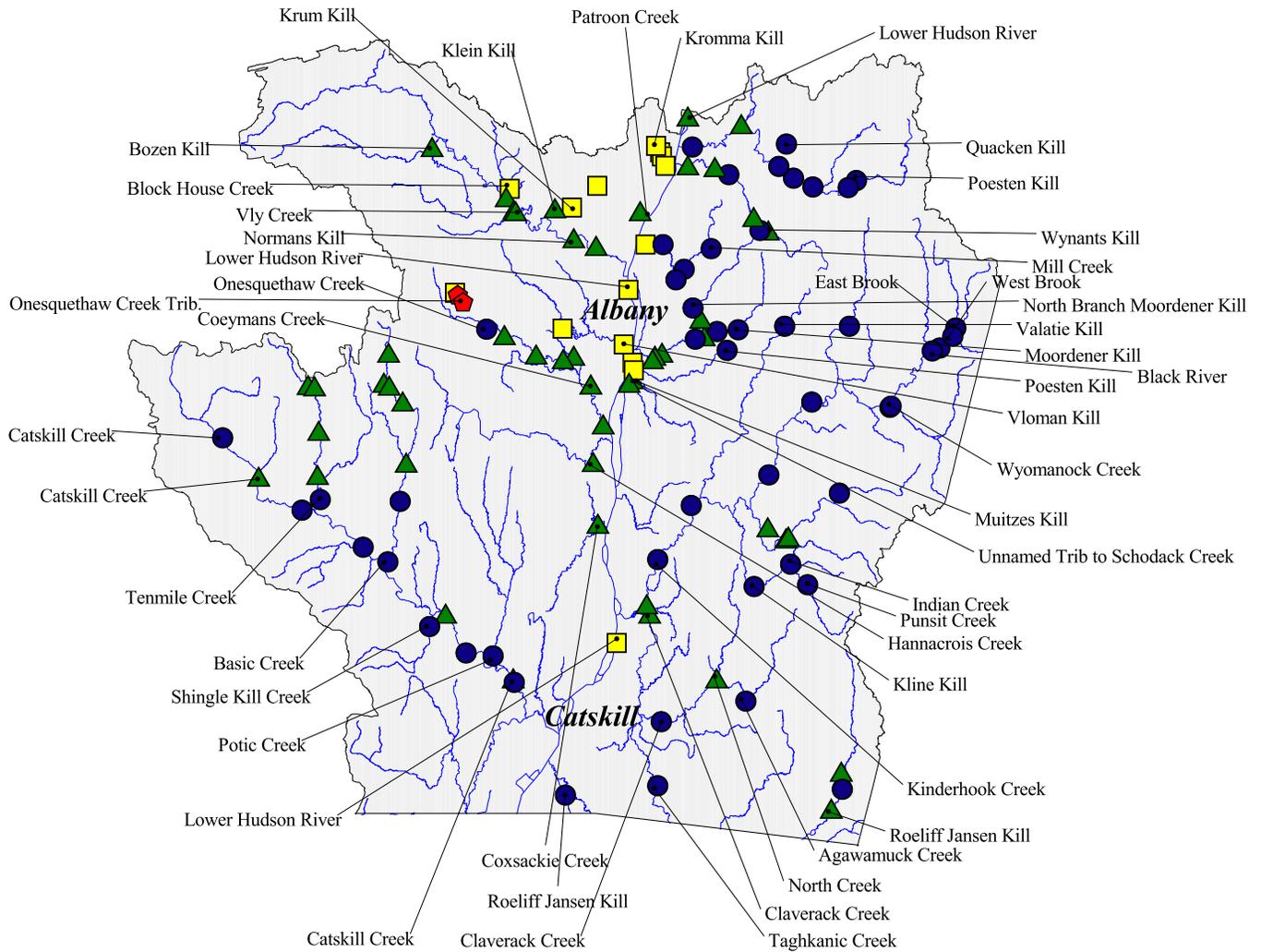
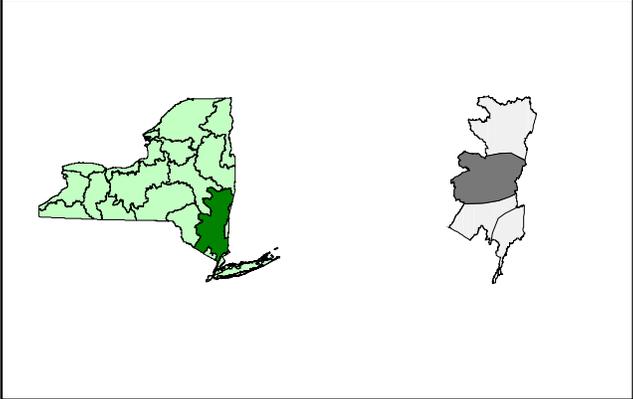
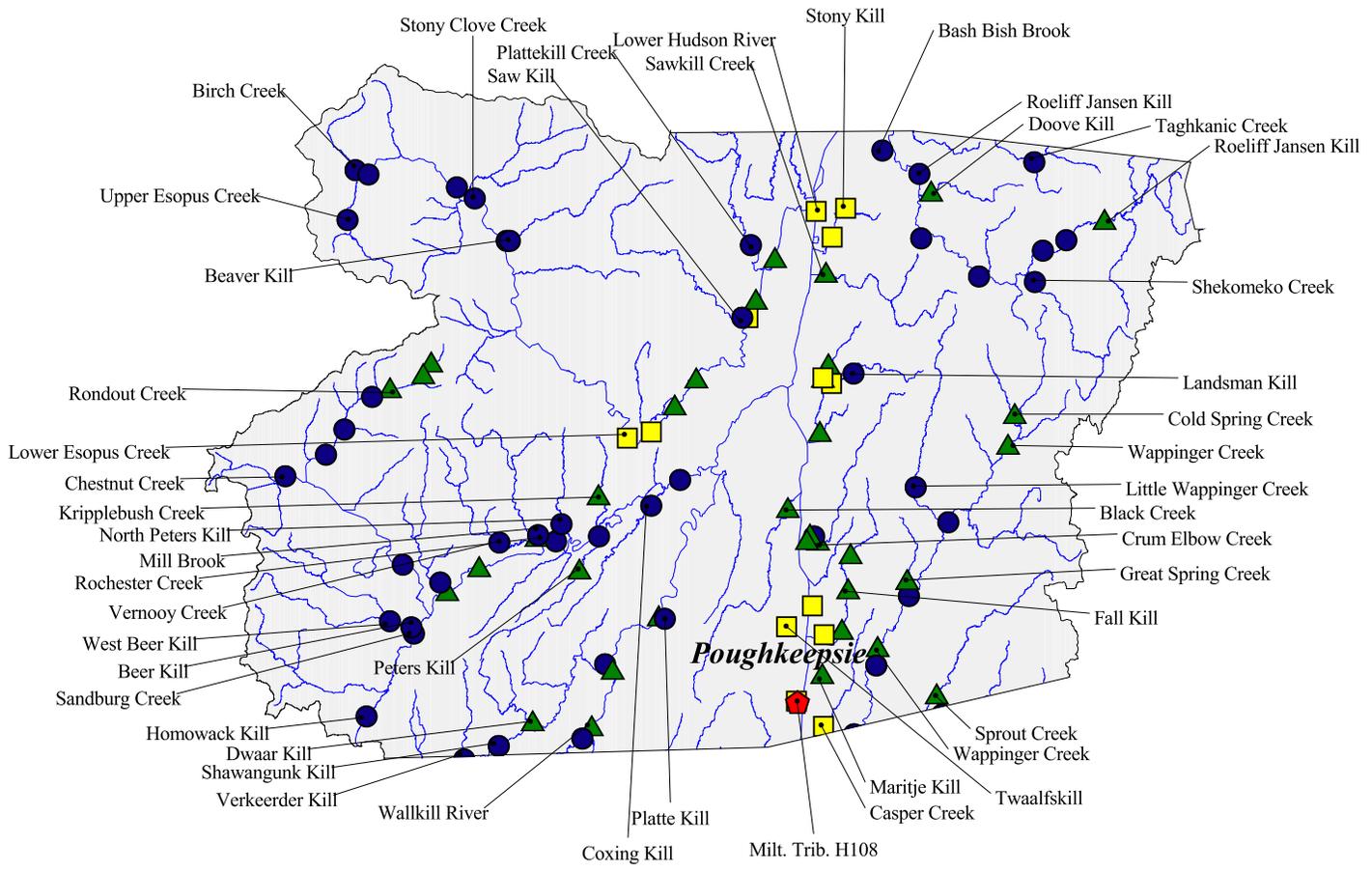


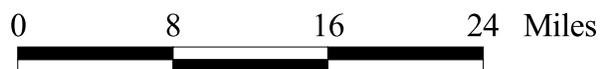
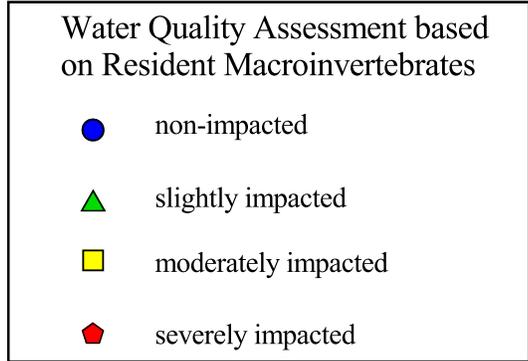
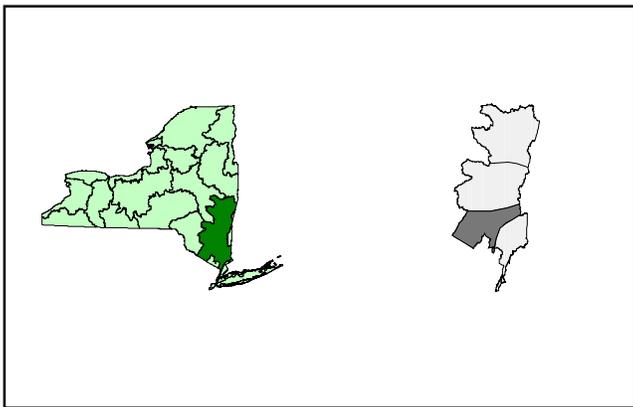
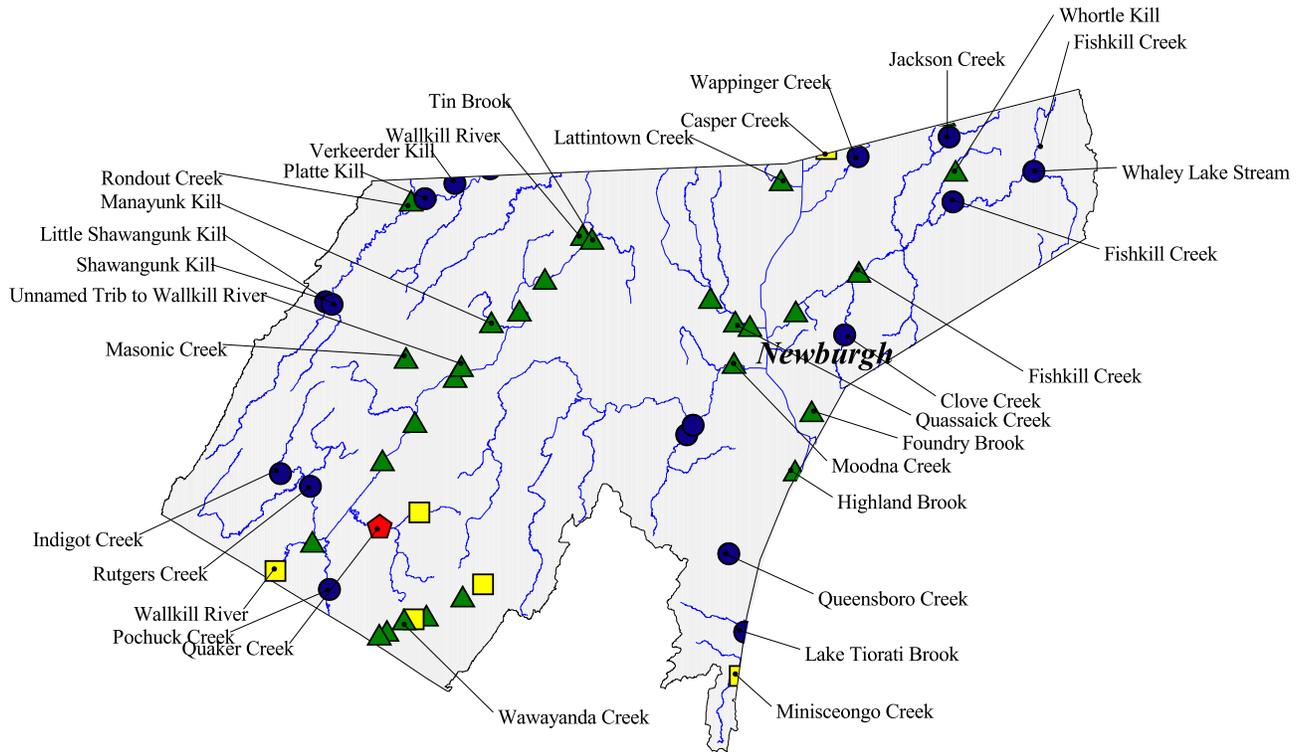
Lower Hudson River Drainage Basin (North)



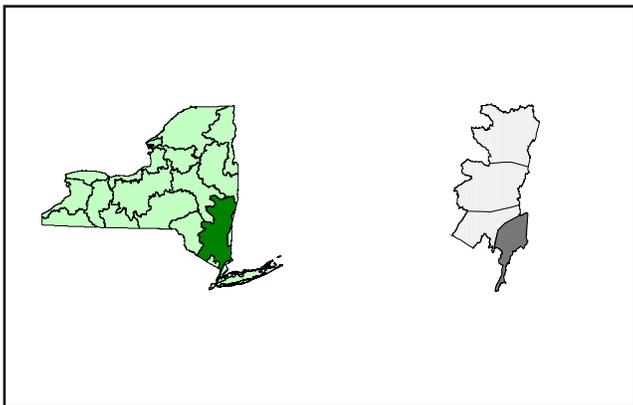
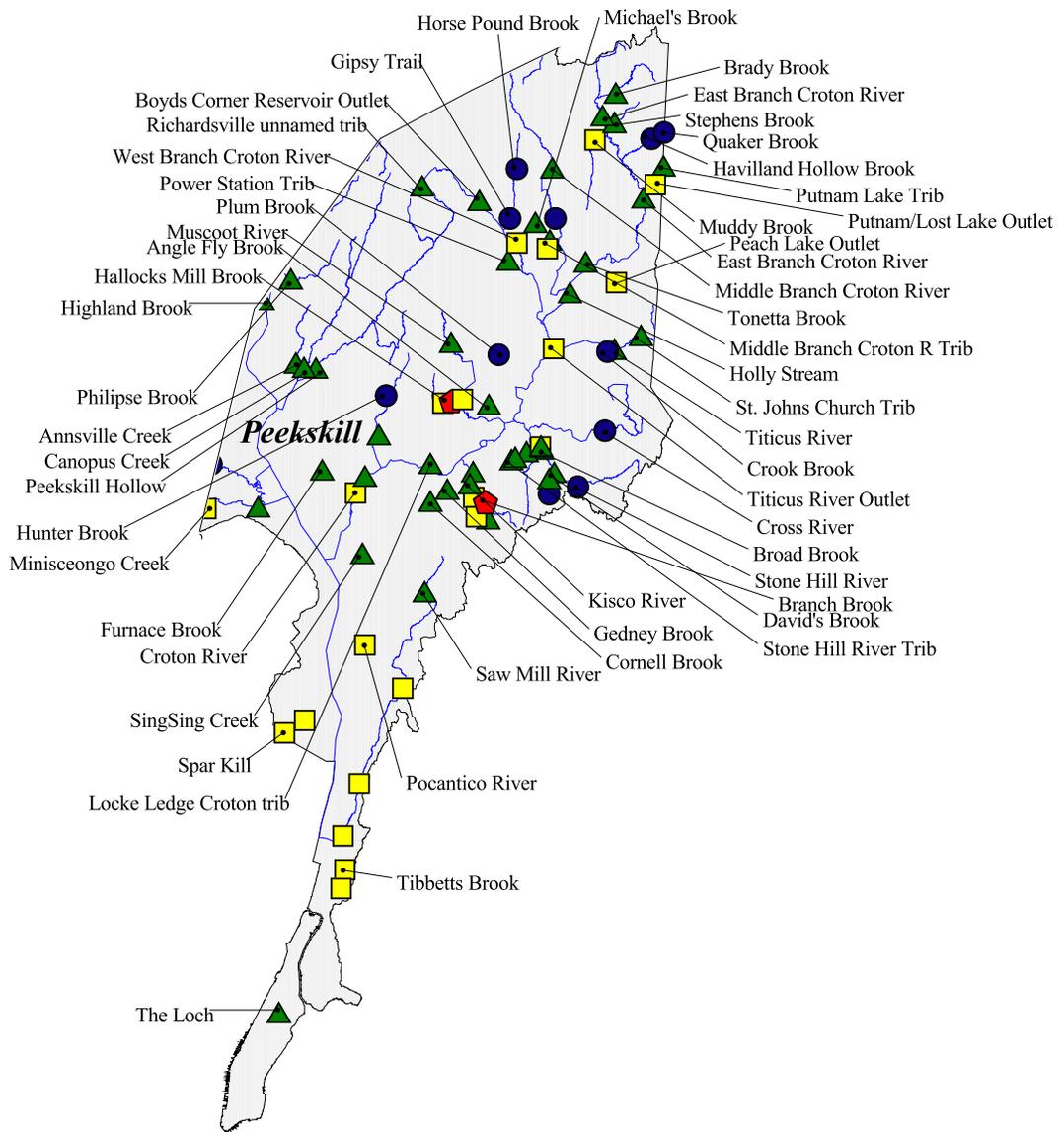
Lower Hudson River Drainage Basin (Central)



Lower Hudson River Drainage Basin (South)



Lower Hudson River Drainage Basin (Primarily Croton)



Water Quality Assessment based on Resident Macroinvertebrates

- non-impacted
- ▲ slightly impacted
- moderately impacted
- ◆ severely impacted



LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>	
AGAWAMUCK CREEK (AGAW)			
01	Above Philmont, above Stevers Crossing Rd bridge		02
ANGLE FLY BROOK (AFLY)			
01	Somers, above Rt. 35 bridge	98	00
ANNSVILLE CREEK (ANNS)			
01	Annsville, below Rte 9 bridge, above Westchester Lake		02
BASH BISH BROOK (BASH)			
01	Copake Falls, below Valley View Rd bridge		02
BASIC CREEK (BASC)			
01	Ford Corners, below culvert at Richardson farm	95	
02	Westerlo, below culvert under May Rd.	95	
03	Westerlo, below Co Rte 1 bridge	95	
04	Westerlo, below Lobdell Mill Rd. bridge	95	
05	South Westerlo, at Rte 405 bridge	95	
06	West Greenville, above Rte 81 bridge	95	
07	Freehold, above Co. Rte 67 bridge	95	
BEAVER KILL (BEVE)			
01	Mt Tremper, below CR 40 bridge		02
BEER KILL (BEER)			
01	Ellenville, below Rte 209 bridge		02
BIRCH CREEK (BRCH)			
01	Big Indian, above Lasher Rd. bridge	95	99
BLACK CREEK (BLKH)			
01	Esopus, above Rte 9W bridge		02
BLACK RIVER (BLAG)			
01	Garfield, below CR 28 bridge		02
BLOCKHOUSE CREEK (BLOK)			
01	Westmere, above culvert under State Farm Rd	93	
BOYDS CORNER RESERVOIR OUTLET (BOYD)			
01	Carmel, below Rte. 301 bridge		00
BOZEN KILL (BOZN)			
02	Altamont, below Rte 158 bridge	93	97
BRADY BROOK (BRAD)			
01	Pawling, above Rte. 22		00

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>
BRANCH BROOK (KISC)		
B	Mount Kisco, Lexington Avenue	01 02
BROAD BROOK (BVRD)		
B	Bedford Hills, above confluence with Beaver Dam Brook	01 02
BROWNS CREEK (QKER)		
01	Florida, off Rt. 94	94 95
CANOPUS CREEK (CNOP)		
01	Annsville, Sprout Brook Rd	02
CASPER CREEK (CASP)		
01	Knapps Corner, above Camelot Rd bridge	02
CATSKILL CREEK (CATS)		
01	Livingstonville, off Rt.145 at DEC fishing access;below Rt.19A	97
02	Preston Hollow, off Rt. 145; below West Winds Diner	97
03	Oak Hill, below Rt. 22 bridge	97
04	East Durham, below Co. Rt. 67A bridge	97
05	Cairo, below Lakes Mills bridge;off Warren Stein Rd	97
06	South Cairo, off Co. Rt. 23B; above Ira Vail Rd. bridge	97
07	Leeds, above Rt. 23B bridge	97 98
08	Leeds, below Rt.23B bridge;off Gilfeather Park Rd.	97
CHESTNUT CREEK (CHES)		
01	Grahamsville, below Rte 42 bridge	98 02
CLAVERACK CREEK (CLAV)		
01	Claverack, above Rte 9H bridge (NAWQA site)	97
02	Stockport, above Co. Rt. 25 bridge	98 02
CLOVE CREEK (CLVC)		
01	Fishkill, Mill Road pull-off	02
COEYMANS CREEK (COEY)		
01A	Feura Bush, Rte 55	84
02	Jericho Bridge, Rte 53	84 87
03	South Albany, Elm St	84
06	Bethlehem Heights, Rte 396	84 87 98
09	Selkirk, Old Ravena Rd bridge	87 98
10	Coeymans, above Route 144 bridge	87 98 02
COLD SPRING CREEK (CLDS)		
01	McIntyre, below Homan Rd	02
CORNELL BROOK (CORN)		
01	Millwood, above bridge @ Cornell Woods develop, Rte 100	00

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>
COXING KILL (COXI)		
01	High Falls, above School Hill Rd bridge	02
COXSACKIE CREEK (COXS)		
01	Otter Hook, off Co.Rt. 61;above Sickle Creek confluence	98
CROOK BROOK (CROK)		
01	Salem Center, Turkey Hill Rd	00
CROSS RIVER (CROS)		
01	Cross River, below bridge in Ward Pound Ridge Reservation	00 01 02
CROTON RIVER (CROT)		
00	Croton, below outlet	01
01	Croton, above Old Quaker Rd. bridge	98
CROTON RIVER, EAST BRANCH (EBCR)		
00	Patterson, below Rt. 311 bridge	01
01	Putnam Lake, below CR 65bridge	98 99 01
CROTON RIVER, MIDDLE BRANCH (MBCR)		
01	Maynard Corners, below Rt. 311 bridge	98
02	Carmel, Rte 57	00
CROTON RIVER, WEST BRANCH (WBCR)		
01	Carmel, below Rte. 6 outlet	00
CRUM ELBOW CREEK (CRUM)		
01	Hyde Park, below Market St. bridge; at USGS gage	95
02	Hyde Park, off Howard Blvd.; downstream of Station 1	95
02A	Hyde Park, immediately east of Rt. 9; edge of pond	95
03	Hyde Park, below Rt. 9 bridge	95
04	Hyde Park, off Co.Rt. 41; at coach house service road bridge	95 98 02
DAVID'S BROOK (DAVE)		
01	Bedford Center, off Clinton Rd	02
03	Bedford Center, below Harris Rd	01 02
DOOVE KILL (DOVE)		
01	Manorton, above CR 19 bridge	02
DWAAR KILL (DWAA)		
01	Dwaarkill, below Red Mills Rd bridge	02
DWAAR KILL (DWAR)		
01	Near Wallkill, above Bates Rd bridge	02

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>			
EAST BROOK (EABR)					
01	Stephentown, above Rte 22 bridge				02
ESOPUS CREEK, UPPER (USOP)					
01	Oliverea, below McKinley Hollow Rd. bridge	95			00
02	Big Indian, below Co. Rt. 47 bridge	95	96		00
03	Shandaken, above Rt. 28 bridge	95			00
04	above Phoenicia, DOT access off Rt. 28	95	96		00
05	Mount Pleasant, above confluence with Beaver Kill	95			00
06	Boiceville, at Rte 28A bridge	93	95	96	00
ESOPUS CREEK, LOWER (ESOP)					
01	Above Marbletown, below Lomontville Road bridge	93			
02	Marbletown, below ford at Fording Place Rd.	93			
03	Below Marbletown, behind property of 624 Creekside Rd.	93			
04	Hurley, below Rte 29A bridge	93			99
05	Below Kingston, at STP, Fording Place Rd.	93			
06	Lake Katrina, below Leggs Mill Road bridge	93		97	
07	Glenerie, off Rt. 9, above Glasco Turnpike bridge	91	93		98 99 02
FALL KILL (FKIL)					
02	Hyde Park, at Haviland Rd. bridge			97	
03	Poughkeepsie, above East Dorsey Rd. (Co. Rt. 40) bridge			97	
04	Poughkeepsie, below Smith St. bridge			97	99
05	Poughkeepsie, below Garden St. bridge			97	98 99 02
FISHKILL CREEK (FISH)					
01	Clove Valley, above Dorn Road bridge	91			
03	Hopewell Junction, below Augusta Drive	91			
05	Fishkill, above Rte 9 bridge	91			99
07	Beacon, above Main Street bridge	91		97	98 99 02
FOUNDRY BROOK (FDRY)					
01	Cold Spring, below Rte 9D bridge				02
FURNACE BROOK (FURN)					
01	Crugers, Furnace Dock Rd at pulloff				02
GEDNEY BROOK (GEDY)					
01	Millwood, 7 Bridges Rd.				00
GIPSY TRAIL (GIPS)					
01	Carmel, below Gipsy Trail Rd. bridge				00
GREAT SPRING CREEK (GRSP)					
01	Pleasant Valley, above CR 73				02
GUILDERSLEEVE BROOK (GILD)					
01A	East Fishkill, above Limekiln Rd		89		

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>					
GUILDERSLEEVE BROOK (GILD) cont'd.							
01	East Fishkill, below Limekiln Rd	87					
02	East Fishkill, bridge near IBM Building 30	87	89				
03	East Fishkill, above main IBM discharge	87	89				
05	East Fishkill, below main IBM discharge	87	89				
06	East Fishkill, Lake Ave		89				
HALLOCKS MILL BROOK (HLKS)							
01	Amawalk, below Greenwood St. bridge				98		
02	Yorktown, above Pinesbridge Rd bridge, below STP				99	00	
HANNACROIS CREEK (CROI)							
01	Ravena, above New Baltimore Rd. bridge				98		
HAVILLAND HOLLOW BROOK (HAVI)							
01	Brewster, below Brimstone Rd. bridge					00	
HIGHLAND BROOK (HIGH)							
01	Highland Falls, below Main St bridge						02
HOLLY STREAM (HOLY)							
01	Brewster, above Rte. 202 bridge					00	
HOMOWACK KILL (HOMW)							
01	Phillipsport, below closed bridge on Doolittle Rd						02
HORSE POUND BROOK (HORS)							
01	Lake Carmel, above gage					00	
HUDSON RIVER, LOWER (LHUD)							
01	Troy, Buoy 79, below Troy Dam	73	77	83	91	97	02
02	Troy, below Green Island bridge	73					
03	Above Albany, below I-90 bridge	73	83				
04	Glenmont, below Rte 9 bridge	73			91	92	97
05	Van Wies Point, Buoy 63	73	83				
06	Castleton, Buoy 55	73	77	83	91	97	02
07	Below Castleton, Buoy 48	73	83				
08	Below New Baltimore, Buoy 39	73	83				
09	Coxsackie, Buoy 15	73	83				
10	Above Hudson, Buoy 83	73	83		91	97	02
11	Below Hudson, Buoy 76	73	83				
12	Below Catskill, Buoy 65	73	83				
13	Below Cementon, Buoy 47	73	83				
14	Saugerties, Buoy 39	73	77	83	91	97	02
15	Above Kingston, Buoy 22	73	83				
16	Below Kingston, Buoy 16	73	83				
17	Indian Kill, Esopus Isl N. Shoal buoy	73	77	83			
18	Poughkeepsie, Buoy 2	73			91	97	98

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>			
HUDSON RIVER, LOWER (LHUD) cont'd.					
19	Below Poughkeepsie, Buoy B	73	83		
20	Below Milton, Diamond Reef buoy	73	83		
21	New Hamburg, Buoy 40	73			
22	Below Beacon, Buoy 36	73			
23	Below West Point, Buoy 25	73			
24	Peekskill, Buoy 19	73			
25	Below Verplanck Point, Buoy 16	73			
26	Below Croton Point, Buoy 5	73			
HUNTER BROOK (HUNT)					
00	Yorktown, Strang Blvd.				01
01	Yorktown, Old Crompond Road		98	00	01
02	Yorktown, Hunter Brook Rd.		98		02
INDIAN CREEK (DIAN)					
01	Chatham, below Rte 203 bridge				02
INDIGOT CREEK (IDGO)					
01	Millsburg, above Millsburg Rd				02
JACKSON CREEK (JCKS)					
01	LaGrangeville, above Rte 33 bridge				02
KINDERHOOK CREEK (KIND)					
01	Garfield, below Presbyterian Hill Road	91	97	00	02
02	West Lebanon, Rte 20 Fishing access			00	
03	Brainard, Rte 20; below bridge			00	
06	Chatham, Spangler Rd. bridge			00	
08	Kinderhook, below Rte 9H bridge, thru cornfield			99	00
09	Stuyvesant, above bridge; below falls @Town Park			00	
10	Rossman, below Van Buren Rd. and Rt. 25 intersection	91	97	98	99 00 02
KISCO RIVER (KISC)					
A	Mt. Kisco, above Radio Circle cul-de-sac			00	01 02
00	Mt. Kisco, above Byram Lake Rd. bridge			99	02
01	Mt. Kisco, below Rt. 133 bridge		98	99	
2A	Mt. Kisco, above Cross River Rd. bridge				01
02	Mt. Kisco, above Nitra Yeshiva Rd bridge			99	00 01 02
KLEIN KILL (KLEN)					
01	Linlithgo, Wire Rd bridge				02
KLINE KILL (KLIN)					
01	Chatham, above Merwin Rd bridge				02
KRIPPLEBUSH CREEK (KRIP)					
01	Kripplebush, above Rte 209 bridge				02

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>					
KROMMA KILL (KROM)							
A	Watervliet, opposite AlTech landfill	87					
01	Watervliet, Grenada Terrace, above Spring St. bridge	87	91			99	
02	Watervliet, Lincoln St., above main discharge	87	91				
03	Watervliet, above Route 32 bridge	87	91		97	98	99 02
KRUM KILL (KRUM)							
01	Albany, below Russel Rd. bridge			93		97	
LAKE TIORATI BROOK (TIOR)							
01	Stony Point, above Rte 210 bridge @Cedar Flats Rd						02
LANDSMAN KILL (LAND)							
02	Rhinebeck, above Violet Hill Road bridge			92			
03	Rhinebeck, below Route 9 bridge			92		98	
04	Staatsburg, above Mill Road			92		98	02
LATTINTOWN CREEK (LATT)							
01	Marlboro, Prospect St bridge						02
LITTLE SHAWANGUNK KILL (LGUN)							
01	Maple Glen, above Timothy Collard Rd bridge						02
LITTLE WAPPINGER CREEK (LWAP)							
01	Salt Point, above Halstead Rd						02
MANAYUNK KILL (MANY)							
01	Kaisertown, below VanAmburg & Kaisertown Rd bridge						02
MARITJE KILL (MARI)							
01	Hyde Park, CR 40A bridge						02
MASONIC CREEK (MASO)							
01	Middletown, intersection of Mud Mills Rd/ Silver Lake Scotchtown Rd						02
MICHAEL'S BROOK (MICH)							
00	Carmel, above Fair St						01
01	Carmel, below Kelly Rd. bridge						00 01 02
MILL BROOK (MIBK)							
01	Mill Hook, above bridge in Roundout Valley Resort						02

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>		<u>YEAR SAMPLED</u>	
MILL CREEK (MILL)				
00	Best, above Best Rd bridge			01
01	East Greenbush, above Michaels Road bridge	88 89	99	01
02	East Greenbush, Rte. 4; above bridge. Access Mother's Bar			01
04	East Greenbush, above Barrack Rd (Rt. 151) Walk from cemetery			01
05	Rensselaer, above South St. RR bridge		99	01 02
MINISCEONGO CREEK (MNGO)				
00	Thiells, @ Thiells Mt. Ivy Rd bridge at golf course			02
01	West Haverstraw, at Sampsondale Ave. bridge		98	
MONHAGEN BROOK (MONH)				
00	Middletown, above conduit, California Ave	86		
01	Middletown, above STP discharge	86	92	
02	Middletown, below Dolsontown Rd bridge	86	92	
03	Middletown, above McVeigh Road bridge	86	92	
04	Middletown, above Golf Links Road bridge	86	92	
MOODNA CREEK (MOOD)				
01	Cornwall, above Route 9W bridge		92 97 98	02
MOORDENER KILL (MORD)				
01	East Schodack, below Nassau Lake Rd bridge			99
02	Schodack, above Rte. 150 bridge; near Curtis Trailer Park			99
03	Schodack, Rte 150 @ gravel pit	88 89		99
06	Schodack, below Rte 150 bridge, near I-90			99
07	Brookview, below Brookview Station Rd. bridge		97 98 99	02
08	Castleton, @ Fire pump station			99
09	Castleton, Rte. 150, downstream of spillway			99
MOORDENER KILL, NORTH BRANCH (MORD)				
05	Schodack, above Kraft Rd bridge		99	02
MUDDY BROOK (MDDY)				
01	Towners, Cornwall Hill Rd., near Kessman Landfill		98	00
MUITZES KILL (MUIT)				
01	Castleton, above Rt. 9J; behind Agway		98	
MUSCOOT RIVER (MUSC)				
01	Baldwin Place, below Mahopac Ave. bridge		98	00
02	Yorktown, Rt. 35; outlet of Amawalk Reservoir			00

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>												
NORMANS KILL (NORM)														
04	Westmere, above State Farm Rd bridge									93				
05	Voorheesville, below Normans Kill Rd									93				
09	Albany, Albany Municipal Golf Course; opp 14th hole									93				
10	Delmar, above Delaware Ave bridge	91	92	93				97	98			02		
NORTH CREEK (NORC)														
01	Mellenville, below Rte 217 bridge											02		
NORTH LAKE OUTLET (NRTH)														
01	North Lake Campground, 15 m above STP discharge									90				
02	North Lake Campground, 15 m below STP discharge									90				
03	North Lake Campground, 150 m below STP discharge									90				
04	North Lake Campground, 300 m below STP discharge									90				
NORTH PETERS KILL (NPET)														
01	Whitfield, below Canyon Lake Rd bridge											02		
ONESQUETHAW CREEK (ONES)														
02	below Clarksville, above Rt. 32 bridge										98			
03	below Clarksville, above Onesquethaw Creek Rd. bridge										98			
04	Spawn Hollow; Hollyhock Sanctuary off Rarick Rd.;above Audubon parking lot										98			
05	South Bethlehem, below Rt. 53 bridge	84		87							98			
PATROON CREEK (PATS)														
04	Albany, above I-90 pond, Central Ave.							94			99	00		
05A	Albany, below Tivoli Lake					91								
06	Albany, Pleasant Street						93	94		97	98	99	00	02
07	Albany, at mouth					91								
PEACH LAKE OUTLET (PEAC)														
01	Brewster, above Cobb Rd. bridge											00	01	02
PEEKSKILL HOLLOW (PEEK)														
01	Van Cortlandtville, below Pump House Rd. bridge										98			
PETERS KILL (PETK)														
01	St. Josen, above Rock Hill Rd bridge													02
PHILIPSE BROOK (PHLP)														
01	Garrison, below Rte 9D bridge													02
PLATTE KILL (PKIL) (Ulster County)														
01	Jeninstown, above Rte 208 bridge													02
PLATTE KILL (PLAK) (Sullivan County)														
01	Burlingham, below CR 61													02

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>			
PLATTEKILL CREEK (PLCK) (Ulster County)					
01	Mt. Marion, above Glasco Turnpike Bridge				02
PLUM BROOK (PLUM)					
00	Lake Lincolndale, end of Brookside Avenue				01
01	Lincolndale, Krystal Drive			00	01
POCANTICO RIVER (POCA)					
01	Sleepy Hollow Manor, Dell St				02
POCHUCK CREEK (POCH)					
01	Newport, below Newport Bridge Rd bridge				02
POESTEN KILL (POST)					
01	Above East Poestenkill, Route 40	92			01
02	East Poestenkill, above bridge @inters of Co Rt 40 & 44				01
03	Barberville, Route 79	92			01
05	Poestenkill, above Rte 351 bridge		99		01
06	above Poestenkill, above Garfield Rd bridge				01
08	above Eagle Mills, below Co Rt 134 bridge				01
09	Troy, above Country Club Rd bridge				01
10	Troy, above Spring Ave. bridge		98		01 02
POTIC CREEK (POTC)					
01	Near Leeds, above Shady Lane Rd bridge				02
PUNSIT CREEK (PUNS)					
01	Spencertown, above Rte 203 bridge before Beale Rd				02
PUTNAM LAKE OUTLET (POUT)					
01	Putnam Lake, above Lake Shore Drive bridge			00	01 02
QUACKEN KILL (QUAC)					
01	Below Brunswick, above Dearstyne Rd bridge				02
QUAKER BROOK (QUAK)					
01	Brewster, above Rte 68 bridge			00	
QUAKER CREEK (QKER)					
02	Florida, Pumpkin Swamp Rd., at Jessup Switch Rd. bridge	94	95		
03	Snufftown, below Rt. 6 bridge	94	95		
QUASSAICK CREEK (QUAS)					
01	Newburgh, above Brookside Rd bridge	87			
02	Newburgh, below Walsh Rd bridge	87		99	
03	Newburgh, above River Rd bridge	87	92	97 98 99	02
04S	Newburgh, below River Rd bridge, south side	87			
04N	Newburgh, below River Rd bridge, north side	87			

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>				
QUEENSBORO CREEK (QBRC)						
01	near Bear Mountain, above Seven Lakes Drive bridge					02
RHINEBECK KILL (RHIN)						
01	Ways Corners, below Rte 9G bridge			92		
03	Rhinebeck, below Hog Bridge, Montgomery St. ext.			92		
04A	Rhinebeck, above Rte 308			92		
04B	Rhinebeck, below Rte 308			92		
ROCHESTER CREEK (ROCH)						
01	Mill Hook, above Mettakahonts Rd bridge					02
ROELIFF JANSEN KILL (ROLF)						
A	Below Hillsdale, below Rte 22 bridge		93	94	97	
B	Below Hillsdale, above Black Grocery Rd bridge				97	
D	Below Hillsdale, below Overlook Rd bridge		93	94	97	
01	Above Ancram, below Wiltsie Bridge Rd bridge	91	92			
02	Below Ancram, above Hall Hill Rd bridge	91	92			
03	Gallatinville, below Mill Hill Rd bridge	91	92			
04	Jackson Corners, below Academy Hill Rd bridge		92			
05	Elizaville, below Rte 2 bridge		92			
06	Above Blue Store, below Buckwheat Ln bridge		92			
07	above Linlithgo, above Dales Bridge Rd bridge	91	92		97 98	02
RONDOUT CREEK (ROND)						
A	above Peekamoose, above confluence with Rondout		89			
01	above Peekamoose, headwaters, above Pickett Brook		89			
02	above Peekamoose, above Caretaker's Lodge		89			
03	Peekamoose, opposite Caretaker's Lodge	89	90			02
04	Peekamoose, above Buttermilk Creek		90			
05	Bull Run, above Bearhole Brook		90			02
07	Sundown, at Mountain Rd. bridge		90			02
07A	Sundown, below East Mt. Rd. bridge	91	92			02
08	Lackawack, above Sportsmen Rd bridge					02
08A	Wawarsing, below Port Ben Rd					02
09	Kerhonkson, above Rt 44					02
10	Accord, above Rochester Ck confluence					02
11	Alligerville, above bridge					02
12	Rosendale, above Rte 213 bridge	91	92		97 98	02
RUTGERS CREEK (RUTG)						
01	Johnson, above Ridgebury Rd bridge					02
SALT KILL (SALT)						
01	Cohoes, Rte 32			92		

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>			
SANDBURG CREEK (SBRG)					
01	Ellenville, below Canal St				02
SAWKILL CREEK (SAWK)					
01	Annandale-on-Hudson, below falls	91		98	
SAW KILL (SKIL)					
01	Sawkill, below Sawkill Rd bridge			97	
SAW MILL RIVER (SAW)					
01	Pleasantville, above Bedford Rd bridge	92			
03	Elmsford, below Rte 119 bridge	92			
04	Nepera Park, at Tompkins Ave	92		99	
05	Yonkers, Center St.; 1 block north of USGS gaging station	92		98 99	02
SHAWANGUNK KILL (GUNK)					
A	Maple Glen, @Meyer Rd closed bridge				02
00	Pine Bush, just below Hardenburg Rd bridge				02
01	Ganahgote, below Co. Rt. 9 bridge	94	97		02
SHEKOMEKO CREEK (SHEK)					
01	Pine Plains, @bridge on farm road off Rudd Rd				02
SHINGLE KILL CREEK (SHIN)					
01	Cairo, @CR 23B bridge				02
SINGSING CREEK (SNGS)					
01	Ossining, below Rte 9 bridge				02
SPAR KILL (SPAR)					
00	Sparkill, belowbelow Washington Ave bridge @ Tappen Mem Park			99	02
01	Sparkill, below Valentine St. bridge			98 99	02
SPROUT CREEK (SPRO)					
01	Freedom Plains, above Todd Hill Rd				02
02	Swartoutville, above Rte 82 bridge				02
STEPHENS BROOK (SEPH)					
01	Pawlings, above Rte. 22 bridge				00
STONE HILL RIVER (BVRD)					
01	Bedford Center, above Old Post Rd.				01 02
02	Bedford Center, above Cantitoe Rd bridge				01 02
03	Bedford Hills, above Beaver Dam Rd. bridge				00 01 02
04	Bedford Hills, below confluence with Broad Bk				01 02

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>		
STONY CLOVE CREEK (STOC)				
01	Phoenicia, above Rte 214 bridge			02
STONY KILL (STNY)				
A	above Tivoli, above Rte. 9 bridge		99	
01	Tivoli, below Kidd Lane bridge	91	98 99	02
STONY KILL (STON)				
00	East Chatham, Rte 295, where stream is close to road	90		
01	Chatham, above Hartigan Rd bridge	89		
01A	Chatham, above Columbia Corp. discharge	89	90	
02A	Chatham, below Columbia Corp. discharge- above Sta. 2	89		
02	Chatham, below Columbia Corp. discharge	89		
TACKAWASICK CREEK (TACK)				
01	Hoag Corners, above CR 21 bridge			02
TAGHKANIC CREEK (TAGH)				
01	New Forge, above New Forge Rd bridge			02
02	below Linlithgo Mills, above Water Rd bridge			02
TENMILE CREEK (TMIL)				
01	Rensselaerville, above bridge; Huyck preserve		97	
01A	Rensselaerville, below bridge; rd. opposite from town park		97	
02	below Rensselaerville, below McColloch Cross Rd. bridge		97	
03	Medusa, below Rt. 351 bridge		97	
04	Oak Hill, above Saybrook Valley Rd. bridge		97	
TIN BROOK (TINW)				
01	Walden, above Rte 52 bridge			02
TITICUS RIVER (TICU)				
01	Salem Center, above June Rd bridge			00
02	Purdys, above above Rte 116 bridge			00
TONETTA BROOK (TONE)				
01	Brewster, County Rte. 56, 100 m below Rte. 6		98 99 00	
TWAALFSKILL CREEK (TWLF)				
01	Highland, above Van Wagner Rd bridge			02
VALATIE KILL (VLAT)				
04	Nassau, below Mead Rd bridge		97	
VERKEERDER KILL (VERK)				
01	Ulsterville, just above Ulsterville Rd bridge			02
VERNOOY KILL (NOOY)				
01	Wawarsing, @Rte 209 bridge			02

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>			
VLOCKIE KILL (VLOK)					
01	Castleton, above Rte 9J bridge				02
VLOMAN KILL (VLOM)					
01	Selkirk, below Rt. 144 bridge			98	
VLY CREEK (VLY4)					
01	below Voorheesville, below covered bridge on private rd. off Normans Kill Rd		93		
WALLKILL RIVER (WALK)					
01	Liberty Corners, off Oil City Rd. on farm road		94		
02	Pine Island, at Pine Island Rd. bridge		94		
03	Pellets Island, at bridge		94		
04	New Hampton, at Echo Lake Rd. bridge		94		
05	Crystal Run, above Scotchtown Rd. bridge		94		
06	above Montgomery, below Rt. 211 bridge		94		
07	Montgomery, below Rt. 17K bridge		94		
08	Walden, below Oak St. bridge		94	99	
09	Galeville, above bridge		94		
10	Gardiner, Lazy River campground-above Shawangunk confl.		94		
11	above New Paltz, Libertyville Rd., above Rt. 299 bridge	91	94	98 99	02
WAPPINGER CREEK (WAPP)					
01	Stanfordville, above Depot Lane bridge				02
02	Salt Point, Hibernia Rd	91			02
03	Timothy Heights, behind Town Hall				02
04	Manchester Bridge, below Rte. 55 bridge				02
04A	Poughkeepsie, above De Garmo Rd bridge	91			
05	Poughkeepsie, above Jackson Rd. bridge			97 98	02
WAWAYANDA CREEK (WAWA)					
A	below Wickham Lake, above State School Rd bridge	89			
00	Wisner, below Wisner Rd bridge	89			
01	Warwick, above River St bridge	89	94 95		
03	below Warwick, below Pelton Road	89	94 95		
04	below Warwick, below Sanfordville Rd bridge	89	94 95		
06	above New Milford, at Covered Bridge Rd	89	94 95		02
07	New Milford, below Ryerson Rd bridge	89	94 95 97		02
WEST BEER KILL (WBK)					
01	Ellenville, above where Old Greenfield Rd goes under Rt 52				02
WEST BROOK (WSBK)					
01	Stephentown, above Rte 43 bridge				02

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>
WHALEY LAKE STREAM (WHAL)		
01	Poughquag, CR 7, above bridge	02
WHORTLE KILL (WHRT)		
01	Hopewell Junction, below Rte 82	02
WOODBURY CREEK (WOOD)		
01	Highland Mills, above sewage outfall pipe	87
02	Quaker Meeting House, Rte 32 below outfall pipe	87
03	Mountainville, Star Expansion Rd., off Rt. 32	87
04	Mountainville, above Moodna Ck confluence	87
WYNANTS KILL (WYNT)		
01	West Sand Lake, Rte 143, opp. Werger Rd	01
02	West Sand Lake, Rte 43 @ 43 Mall, below bridge	01
03	Snyders Corners, above Stop 13 Rd bridge	01
05	Wynantskill, below Rte 136, access at Creek Lane	95 01
07	Troy, below Winter St. br., below old wood dam	99 01
10	Troy, below Rte 4 bridge	99 01 02
WYOMANOCK CREEK (WYOM)		
01	West Lebanon, below Adams Crossing Rd bridge	02
UNNAMED CROTON TRIB AT LOCKE LEDGE (LOCK)		
01	Croton Heights, above Rte 118 bridge	00
UNNAMED MIDDLE BRANCH CROTON RIVER TRIBUTARY (CENT)		
01	Carmel, Rte. 6; below Centennial Links golf course; above culvert	00 01
UNNAMED MILTON TRIB (MILT)		
01	Milton, above Brooklyn Bottling Co. discharge	01 02
02	Milton, above Watson Ave.; corner of Dock Rd.	01 02
UNNAMED MUITZES KILL TRIB (SDAK)		
01	Castleton, above Rte 9J bridge	02
UNNAMED ONESQUETHAW CREEK TRIB (NESQ)		
01	Clarksville, above Stove Pipe Rd. culvert	96
02	Clarksville, below Upper Flat Rock Rd. culvert	96
03	Clarksville, at Helderburg Siding Co., 160 North Rd.	96
UNNAMED POWER STATION TRIB (POWR)		
01	Crafts, Drewville Rd.	00
UNNAMED PUTNAM LAKE TRIB (PNAM)		
01	Putnam Lake, north of Lakeshore at Harmon	00
UNNAMED RICHARDSVILLE TRIB (RICH)		
01	Richardsville, below Richardsville Rd.	00

LOWER HUDSON RIVER DRAINAGE BASIN SAMPLING SITES, 1972-2002

<u>STATION</u>	<u>LOCATION</u>	<u>YEAR SAMPLED</u>				
UNNAMED ST. JOHNS CHURCH TRIB (STJO)						
01	North Salem, St. Johns Church Rd.					00
UNNAMED STONE HILL RIVER TRIB (BEDF)						
A	Bedford Hills, Haines Rd; above Sawmill River Pkwy entrance					01
00	Bedford Hills, opposite police station					01 02
01	Bedford Hills, above Railroad Ave bridge	98	99	00	01	02
UNNAMED WALLKILL RIVER TRIB (UNWK)						
01	Michigan Corners, Stony Ford Rd @bridge					02

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Agawamuck Creek, above Philmont	non-impacted	no prior data
Angle Fly Brook, Somers	slightly impacted	no prior data
Annsville Creek, Annsville	slightly impacted	no prior data
Bash Bish Brook, Copake Falls	non-impacted	no prior data
Basic Creek, Ford Corners	slightly impacted	no prior data
Basic Creek, Westerlo, May Rd.	slightly impacted	no prior data
Basic Creek, Westerlo, below CR 1	slightly impacted	no prior data
Basic Creek, below Westerlo	slightly impacted	no prior data
Basic Creek, South Westerlo	slightly impacted	no prior data
Basic Creek, West Greenville	non-impacted	no prior data
Basic Creek, Freehold	non-impacted	no prior data
Beaver Kill, Mt Tremper	non-impacted	no prior data
Beer Kill, Ellenville	non-impacted	no prior data
Birch Creek, Big Indian	non-impacted	no prior data
Black Creek, Esopus	slightly impacted	no prior data
Black River, Garfield	non-impacted	no prior data
Block House Creek, Westmere	moderately impacted	no prior data
Boyd's Corner Reservoir Outlet, Carmel	slightly impacted	no prior data
Bozen Kill, Altamont	slightly impacted	no prior data
Brady Brook, Pawling	slightly impacted	no prior data
Branch Br., Mt. Kisco, Lexington Ave	severely impacted	no prior data
Broad Brook, Bedford Hills	moderately impacted	no prior data
Browns Creek, Florida	non-impacted	no prior data
Canopus Creek, Annsville	slightly impacted	no prior data
Casper Creek, Knapps Corner	moderately impacted	no prior data
Catskill Creek, Livingstonville	non-impacted	no prior data
Catskill Creek, Preston Hollow	slightly impacted	no prior data
Catskill Creek, Oak Hill	non-impacted	no prior data
Catskill Creek, East Durham	non-impacted	no prior data
Catskill Creek, Cairo	slightly impacted	no prior data
Catskill Creek, South Cairo	non-impacted	no prior data
Catskill Creek, Leeds, above Rt. 23B	slightly impacted	no prior data
Catskill Creek, Leeds, off Gilfeather Park Rd	slightly impacted	no prior data
Chestnut Creek, Grahamsville	non-impacted	no prior data

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Claverack Creek, Claverack	non-impacted	no prior data
Claverack Creek, Stockport	slightly impacted	no prior data
Clove Creek, Fishkill	non-impacted	no prior data
Coeymans Creek, Bethlehem Heights	slightly impacted	DECLINED
Coeymans Creek, Selkirk	slightly impacted	no change
Coeymans Creek, Coeymans	slightly impacted	no change
Cold Spring Creek, McIntyre	slightly impacted	no prior data
Cornell Brook, Millwood	slightly impacted	no prior data
Coxing Kill, High Falls	non-impacted	no prior data
Coxsackie Creek, Otter Hook	slightly impacted	no prior data
Crook Brook, Salem Center	non-impacted	no prior data
Cross River, Cross River	non-impacted	no prior data
Croton River, Croton, below outlet	slightly impacted	no prior data
Croton River, Croton, above Old Quaker Rd	moderately impacted	no prior data
Croton River, East Branch, Patterson	slightly impacted	no prior data
Croton River, East Branch, Putnam Lake	slightly impacted	no prior data
Middle Branch Croton River, Maynard Corners	slightly impacted	no prior data
Middle Branch Croton River, Carmel	non-impacted	no prior data
Croton River, West Branch, Carmel	moderately impacted	no prior data
Crum Elbow Creek, Hyde Park, below Market St.	slightly impacted	no prior data
Crum Elbow Creek, Hyde Park, off Howard Blvd	non-impacted	no prior data
Crum Elbow Creek, Hyde Park, pond east of Rt. 9	non-impacted	no prior data
Crum Elbow Cr., Hyde Park, below Rt. 9	slightly impacted	no prior data
Crum Elbow Creek, Hyde Park, off Co.Rt. 41	slightly impacted	no prior data
David's Br., Bedford Ctr, Clinton Rd	non-impacted	no prior data
David's Brook, Bedford Center, below Harris Rd	slightly impacted	no prior data

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Doove Kill, Manorton	slightly impacted	no prior data
Dwaar Kill, Dwaarkill	slightly impacted	no prior data
Dwaar Kill, near Wallkill	non-impacted	no prior data
East Brook, Stephentown	non-impacted	no prior data
Esopus Creek, Upper, Oliverea	non-impacted	no prior data
Esopus Creek, Upper, Big Indian	non-impacted	no prior data
Esopus Creek, Upper, Shandaken	non-impacted	no prior data
Esopus Creek, Upper, above Phoenicia	non-impacted	no prior data
Esopus Creek, Upper, Mount Pleasant	slightly impacted	no prior data
Esopus Creek, Upper, Boiceville	non-impacted	no prior data
Esopus Cr. Lower, above Marbletown	moderately impacted	no prior data
Esopus Creek, Lower, Marbletown	moderately impacted	no prior data
Esopus Creek, Lower, below Marbletown	slightly impacted	no prior data
Esopus Creek, Lower, Hurley	slightly impacted	no prior data
Esopus Creek, Lower, below Kingston	moderately impacted	no prior data
Esopus Creek, Lower, Lake Katrina	slightly impacted	no prior data
Esopus Creek, Lower, Glenerie	slightly impacted	no change
Fall Kill, Hyde Park, at Haviland Rd.	slightly impacted	no prior data
Fall Kill, Hyde Park, above East Dorsey Rd.	slightly impacted	no prior data
Fall Kill, Poughkeepsie, below Smith St.	slightly impacted	no prior data
Fall Kill, Poughkeepsie, below Garden St.	moderately impacted	no prior data
Fishkill Creek, Fishkill	slightly impacted	no change
Fishkill Creek, Beacon	slightly impacted	no change
Foundry Brook, Cold Spring	slightly impacted	no prior data
Furnace Brook, Crugers	slightly impacted	no prior data
Gedney Brook, Millwood	slightly impacted	no prior data
Gipsy Trail, Carmel	non-impacted	no prior data
Great Spring Creek, Pleasant Valley	slightly impacted	no prior data
Hallocks Mill Brook, Amawalk	moderately impacted	no prior data
Hallocks Mill Brook, Yorktown Heights	severely impacted	no prior data
Hannacrois Creek, Ravena	slightly impacted	no prior data

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Havilland Hollow Brook, Brewster	non-impacted	no prior data
Highland Brook, Highland Falls	slightly impacted	no prior data
Holly Stream, Brewster	slightly impacted	no prior data
Homowack Kill, Phillipsport	non-impacted	no prior data
Horse Pound Brook, Lake Carmel	non-impacted	no prior data
Hudson River, Lower, Troy	slightly impacted	no change
Hudson River, Lower, Glenmont	moderately impacted	no change
Hudson River, Lower, Castleton	moderately impacted	DECLINED
Hudson River, Lower, Hudson	moderately impacted	DECLINED
Hudson River, Lower, Saugerties	moderately impacted	no change
Hudson River, Lower, Poughkeepsie	moderately impacted	no change
Hunter Brook, Yorktown Heights	slightly impacted	no prior data
Hunter Brook, Yorktown, Old Crompond Road	slightly impacted	no prior data
Hunter Brook, Yorktown, Hunter Brook Rd.	slightly impacted	no prior data
Indian Creek, Chatham	non-impacted	no prior data
Indigot Creek, Millsburg	non-impacted	no prior data
Jackson Creek, LaGrangeville	non-impacted	no prior data
Kinderhook Creek, Garfield	non-impacted	no change
Kinderhook Creek, West Lebanon	non-impacted	no prior data
Kinderhook Creek, Brainard	non-impacted	no prior data
Kinderhook Creek, Chatham Center	non-impacted	no prior data
Kinderhook Creek, Kinderhook	non-impacted	no prior data
Kinderhook Creek, Stuyvesant Falls	non-impacted	no prior data
Kinderhook Creek, Rossman	slightly impacted	DECLINED
Kisco River, Mt. Kisco, above Radio Circle	moderately impacted	no prior data
Kisco River, Mt. Kisco, Byram Lake Rd	slightly impacted	no prior data
Kisco River, Mt. Kisco, below Rt. 133	moderately impacted	no prior data
Kisco River, Mt. Kisco, Cross River Rd	slightly impacted	no prior data
Kisco River, Mt. Kisco, Nitra Yeshiva Rd	slightly impacted	no prior data
Klein Kill, Linlithgo	slightly impacted	no prior data
Kline Kill, Chatham	non-impacted	no prior data
Kripplebush Creek, Kripplebush	slightly impacted	no prior data
Kromma Kill, Watervliet, above Spring St.	moderately impacted	DECLINED
Kromma Kill, Watervliet, upstream of Rt.32	moderately impacted	no change

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Krum Kill, Albany	moderately impacted	no prior data
Lake Tiorati Brook, Stony Point	non-impacted	no prior data
Landsman Kill, Rhinebeck	moderately impacted	DECLINED
Landsman Kill, Staatsburg, Mill Road	slightly impacted	no change
Lattintown Creek, Marlboro	slightly impacted	no prior data
Little Shawangunk Kill, Maple Glen	non-impacted	no prior data
Little Wappinger Creek, Salt Point	non-impacted	no prior data
Manayunk Kill, Kaisertown	slightly impacted	no prior data
Maritje Kill, Hyde Park	slightly impacted	no prior data
Masonic Creek, Middletown	slightly impacted	no prior data
Michael's Brook, Carmel, Fair St	slightly impacted	no prior data
Michael's Brook, Carmel, below Kelly Rd.	moderately impacted	no prior data
Mill Brook, Mill Hook	slightly impacted	no prior data
Mill Creek, Best	non-impacted	no prior data
Mill Creek, East Greenbush, above Michaels Rd.	non-impacted	no prior data
Mill Creek, East Greenbush, Rte. 4	non-impacted	no prior data
Mill Creek, East Greenbush, above Barrack Rd	non-impacted	no prior data
Mill Creek, Rensselaer	moderately impacted	no prior data
Minisceongo Creek, Thiells	moderately impacted	no prior data
Minisceongo Creek, West Haverstraw	slightly impacted	no prior data
Moodna Creek, Cornwall	slightly impacted	no change
Moordener Kill, East Schodack	non-impacted	no prior data
Moordener Kill, Schodack, Rte. 150, near Curtis Trailer Park	non-impacted	no prior data
Moordener Kill, Schodack Center	non-impacted	no prior data
Moordener Kill, Schodack, below Rte 150 bridge, near I-90	non-impacted	no prior data
Moordener Kill, Brookview	slightly impacted	no prior data
Moordener Kill, Castleton, @ Fire pump station	slightly impacted	no prior data
Moordener Kill, Castleton, Rte. 150	slightly impacted	no prior data
Moordener Kill, North Branch, Schodack, Kraft Rd	slightly impacted	no prior data

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Muddy Brook, Towners	moderately impacted	no prior data
Muitzes Kill, Castleton	slightly impacted	no prior data
Muscot River, Baldwin Place	slightly impacted	no prior data
Muscot River, Yorktown	moderately impacted	no prior data
Normans Kill, Westmere	slightly impacted	no prior data
Normans Kill, Voorheesville	slightly impacted	no prior data
Normans Kill, Albany, Albany Municipal Golf Course	slightly impacted	no prior data
Normans Kill, Delmar, Delaware Ave.	slightly impacted	no change
North Creek, Mellenville	slightly impacted	no prior data
North Peters Kill, Whitfield	non-impacted	no prior data
Onesquethaw Creek, below Clarksville, above Rt. 32	non-impacted	no prior data
Onesquethaw Creek, below Clarksville, above Onesquethaw Creek Rd.	slightly impacted	no prior data
Onesquethaw Creek, Spawn Hollow;	slightly impacted	no prior data
Onesquethaw Creek, South Bethlehem	slightly impacted	DECLINED
Patroon Creek, Albany, above I-90 pond	moderately impacted	no prior data
Patroon Creek, Albany, Pleasant St	slightly impacted	no prior data
Peach Lake Outlet, Brewster	moderately impacted	no prior data
Peekskill Hollow, Van Cortlandtville	slightly impacted	no prior data
Peters Kill, St. Josen	slightly impacted	no prior data
Philipse Brook, Garrison	slightly impacted	no prior data
Platte Kill, Jenkinstown	non-impacted	no prior data
Platte Kill, Burlingham	non-impacted	no prior data
Plattekill Creek, Mt. Marion	non-impacted	no prior data
Plum Brook, Lake Lincolndale	slightly impacted	no prior data
Plum Brook, Lincolndale	slightly impacted	no prior data
Pocantico River, Sleepy Hollow Manor	moderately impacted	no prior data
Pochuck Creek, Newport	non-impacted	no prior data
Poesten Kill, East Poestenkill, at SR 40 bridge	non-impacted	IMPROVED
Poesten Kill, East Poestenkill, intersection of Co Rt 40 & 44	non-impacted	no prior data
Poesten Kill, Barberville	non-impacted	no change

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Poesten Kill, Poestenkill	non-impacted	no prior data
Poesten Kill, above Poestenkill	non-impacted	no prior data
Poesten Kill, above Eagle Mills	non-impacted	no prior data
Poesten Kill, Troy Country Club	non-impacted	no prior data
Poesten Kill, Troy	slightly impacted	no prior data
Potic Creek, near Leeds	non-impacted	no prior data
Punsit Creek, Spencertown	non-impacted	no prior data
Putnam Lake Outlet, Putnam Lake	moderately impacted	no prior data
Quacken Kill, Brunswick	non-impacted	no prior data
Quaker Brook, Brewster	non-impacted	no prior data
Quaker Creek, Florida	moderately impacted	no prior data
Quaker Creek, Snufftown	severely impacted	no prior data
Quassaick Creek, Newburgh, above River Rd.	slightly impacted	no change
Quassaick Creek, Newburgh	slightly impacted	no change
Queensboro Creek, near Bear Mtn	non-impacted	no prior data
Rochester Creek, Mill Hook	non-impacted	no prior data
Roeliff Jansen Kill, below Hillsdale, below Rt. 22	slightly impacted	no prior data
Roeliff Jansen Kill, below Hillsdale, Black Grocery Rd	non-impacted	no prior data
Roeliff Jansen Kill, below Hillsdale, below Overlook Rd	slightly impacted	no prior data
Roeliff Jansen Kill, above Linlithgo	non-impacted	no change
Rondout Creek, Peekamoose	slightly impacted	no prior data
Rondout Creek, Bull Run	non-impacted	no prior data
Rondout Creek, Sundown, at Mountain Rd.	non-impacted	no prior data
Rondout Creek, Sundown, below East Mt. Rd.	non-impacted	no prior data
Rondout Creek, Lackawack	non-impacted	no prior data
Rondout Creek, Wawarsing	slightly impacted	no prior data
Rondout Creek, Kerhonkson	slightly impacted	no prior data
Rondout Creek, Accord	non-impacted	no prior data
Rondout Creek, Alligerville	non-impacted	no prior data
Rondout Creek, Rosendale	non-impacted	IMPROVED
Rutgers Creek, Johnson	non-impacted	no prior data

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Sandburg Creek, Ellenville	non-impacted	no prior data
Sawkill Creek, Annandale-on-Hudson	slightly impacted	no change
Saw Kill, Sawkill	non-impacted	no prior data
Saw Mill River, Nepera Park	moderately impacted	no change
Saw Mill River, Yonkers	moderately impacted	IMPROVED
Shawangunk Kill, Maple Glen	non-impacted	no prior data
Shawangunk Kill, Pine Bush	non-impacted	no prior data
Shawangunk Kill, Ganahgote	non-impacted	no prior data
Shekomeko Creek, Pine Plains	non-impacted	no prior data
Shingle Kill Creek, Cairo	non-impacted	no prior data
SingSing Creek, Ossining	slightly impacted	no prior data
Spar Kill, Sparkill, below Washington Ave	moderately impacted	no prior data
Spar Kill, Sparkill, below Valentine St	moderately impacted	no prior data
Sprout Creek, Freedom Plains	slightly impacted	no prior data
Sprout Creek, Swartoutville	slightly impacted	no prior data
Stephens Brook, Pawling	slightly impacted	no prior data
Stone Hill River, Bedford Center, Old Post Rd.	non-impacted	no prior data
Stone Hill River, Bedford Center, Cantitoe Rd	slightly impacted	no prior data
Stone Hill River, Bedford Hills, above Beaver Dam Rd.	slightly impacted	no prior data
Stone Hill River, Bedford Hills, below confluence with Broad Bk	slightly impacted	no prior data
Stony Clove Creek, Phoenicia	non-impacted	no prior data
Stony Kill, above Tivoli	moderately impacted	no prior data
Stony Kill, below Tivoli	moderately impacted	DECLINED
Tackawasick Creek, Hoag Corners	non-impacted	no prior data
Taghkanic Creek, New Forge	non-impacted	no prior data
Taghkanic Creek, below Linlithgo Mills	non-impacted	no prior data
Tenmile Creek, Rensselaerville, Huyck preserve	slightly impacted	no prior data
TenmileCreek,Rensselaerville,opposite from town park	slightly impacted	no prior data

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Tenmile Creek, below Rensselaerville	slightly impacted	no prior data
Tenmile Creek, Medusa	slightly impacted	no prior data
Tenmile Creek, Oak Hill	non-impacted	no prior data
Tin Brook, Walden	slightly impacted	no prior data
Titicus River, Salem Center	slightly impacted	no prior data
Titicus River, Purdys	moderately impacted	no prior data
Tonetta Brook, Brewster	slightly impacted	no prior data
Twaalfskill Creek, Highland	moderately impacted	no prior data
Valatie Kill, Nassau	non-impacted	no prior data
Verkeerder Kill, Ulsterville	non-impacted	no prior data
Vernooy Kill, Wawarsing	non-impacted	no prior data
Vlockie Kill, Castleton	moderately impacted	no prior data
Vloman Kill, Selkirk	moderately impacted	no prior data
Vly Creek, below Voorheesville	slightly impacted	no prior data
Wallkill River, Liberty Corners	moderately impacted	no prior data
Wallkill River, Pine Island	slightly impacted	no prior data
Wallkill River, Pellets Island	slightly impacted	no prior data
Wallkill River, New Hampton	slightly impacted	no prior data
Wallkill River, Crystal Run	slightly impacted	no prior data
Wallkill River, above Montgomery	slightly impacted	no prior data
Wallkill River, Montgomery	slightly impacted	no prior data
Wallkill River, Walden	slightly impacted	no prior data
Wallkill River, Galeville	slightly impacted	no prior data
Wallkill River, Gardiner	slightly impacted	no prior data
Wallkill River, above New Paltz	slightly impacted	no prior data
Wappinger Creek, Stanfordville	slightly impacted	no prior data
Wappinger Creek, Salt Point	non-impacted	no prior data
Wappinger Creek, Timothy Heights	non-impacted	no prior data
Wappinger Creek, Manchester Bridge	non-impacted	no prior data
Wappinger Creek, Poughkeepsie, Jackson Rd.	non-impacted	IMPROVED
Wawayanda Creek, Warwick	slightly impacted	no change

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Wawayanda Creek, below Warwick, Pelton Rd.	moderately impacted	IMPROVED
Wawayanda Creek, below Warwick, Sanfordville Rd.	slightly impacted	IMPROVED
Wawayanda Creek, above New Milford	slightly impacted	no change
Wawayanda Creek, New Milford	slightly impacted	DECLINED
West Beer Kill, Ellenville	non-impacted	no prior data
West Brook, Stephentown	non-impacted	no prior data
Whaley Lake Stream, Poughquag	non-impacted	no prior data
Whortle Kill, Hopewell Junction	slightly impacted	no prior data
Wynants Kill, West Sand Lake, opp. Werger Rd	slightly impacted	no prior data
Wynants Kill, West Sand Lake, Rte 43 @ 43 Mall	non-impacted	no prior data
Wynants Kill, Snyders Corners	slightly impacted	no prior data
Wynants Kill, Wynantskill	non-impacted	no prior data
Wynants Kill, Troy, below Winter St	slightly impacted	no prior data
Wynants Kill, Troy, below Rte 4	slightly impacted	no prior data
Wyomanock Creek, West Lebanon	non-impacted	no prior data
Unnamed Locke Ledge Croton Trib, Croton Heights	slightly impacted	no prior data
Unnamed Middle Branch Croton River Tributary, Carmel	slightly impacted	no prior data
Unnamed Milt Trib, Milton, above Brooklyn Bottling Co	moderately impacted	no prior data
Unnamed Milt Trib, Milton, above Watson Ave	severely impacted	no prior data
Unnamed Muitzes Kill trib, Castleton	slightly impacted	no prior data
Unnamed Onesquethaw Creek Tributary, Clarksville, above Stove Pipe Rd	moderately impacted	no prior data
Unnamed Onesquethaw Cr. tributary, Clarksville, below Upper Flat Rock Rd	severely impacted	no prior data
Unnamed Onesquethaw Creek Tributary, Clarksville, North Rd.	severely impacted	no prior data
Unnamed Power Station Trib, Crafts	slightly impacted	no prior data

ASSESSMENTS OF WATER QUALITY OF STREAMS IN THE LOWER HUDSON RIVER DRAINAGE
 BASIN, BASED ON MACROINVERTEBRATE COMMUNITIES

<u>Site/Reach</u>	<u>Water Quality Assessment</u>	<u>Change from 1992</u>
Unnamed Putnam Lake trib, Putnam Lake	slightly impacted	no prior data
Unnamed Richardsville trib, Richardsville	slightly impacted	no prior data
Unnamed St. Johns Church trib, North Salem	slightly impacted	no prior data
Unnamed Stone Hill River trib, Bedford Hills, Haines Rd	slightly impacted	no prior data
Unnamed Stone Hill River trib, Bedford Hills, opposite police station	slightly impacted	no prior data
Unnamed Stone Hill River trib, Bedford Hills, above Railroad Ave	slightly impacted	no prior data
Unnamed Wallkill R. trib, Michigan Corners, Stony Ford Road	slightly impacted	no prior data

REPORTS OF MACROINVERTEBRATE SURVEYS WITHIN THE LOWER HUDSON RIVER
WATERSHED

STREAM	YEAR OF SURVEY	REPORT
Basic Creek	1995	SBU,1996
Bozen Kill	1974	AVON
Catskill Creek	1997	SBU,1998
Claverack Creek	1973	AVON
Coeymans Creek	1984	SBU,1985
Coeymans Creek	1987	SBU,1987
Crum Elbow Creek	1995	SBU,1995
Esopus Creek, Lower	1993	SBU,1993
Esopus Creek, Upper	1995	SBU,1995
Esopus Creek	1996	SBU,1996
Esopus Creek, Upper	2000	SBU,2001
Fall Kill	1997	SBU,1998
Fishkill Creek	1973	AVON
Fishkill Creek	1991	SBU,1991
Guildersleeve Brook	1987	SBU,1987
Guildersleeve Brook	1989	SBU,1989
Kinderhook Creek	2000	SBU,2001
Kisco River	1999	SBU,1999
Kromma Kill	1987	SBU,1987
Kromma Kill	1991	SBU,1991
Landsman Kill	1992	SBU,1993
Lower Hudson River	1973	DOH
Lower Hudson River	1983	DOH
Lower Hudson River	1984	DOH
Mill Creek	2001	SBU,2002
Monhagen Brook	1986	DOH,1986
Monhagen Brook	1992	SBU,1993
Moodna Brook	1972	AVON
Moordener Kill	1975	AVON
Moordener Kill	1999	SBU,2000
Normans Kill	1974	AVON
Normans Kill	1993	SBU,1993
North Lake Outlet	1990	SBU,1990
NYC water supply	1994-1998	DEP,2000
Onesquethaw Creek	1998	SBU,1998
Patroon Creek	1994	SBU,1995
Poesten Kill	2001	SBU,2002
Quassaick Creek	1987	SBU,1987
Rhinebeck Kill	1992	SBU,1993
Rhinebeck Township Streams	1986-1990	CAC
Roeliff-Jansen Kill	1992	SBU,1993
Rutgers Creek	2001	HBRW

Saw Mill River	1992	SBU,1993
Sparkill	2002	HBRW
Stone Hill River	2001	SBU,2002
Stony Kill	1989	SBU,1990
Stony Kill	1990	SBU,1991
Tenmile Creek	1997	SBU,1998
Vloman Kill	2001	HBRW
Wallkill River	1972	AVON
Wallkill River	1994	SBU,1995
Wappinger Creek	1973	AVON
Wappinger Creek	2002	SBU,2003
Wawayanda Creek	1989	SBU,1990
Wawayanda Creek	1994	SBU,1994
Wawayanda Creek	1995	SBU,1996
Wickers Creek	2001	SC Inc.
Woodbury Creek	1987	SBU,1987
Wynants Kill	2001	SBU,2002
Watershed Streams	1991-1992	RIBS,1994

AVON	Avon Pollution Investigations Unit, Div. of Fish & Wildlife, NYS DEC
CAC	Conservation Advisory Council, Town of Rhinebeck, NY
DEP	Department of Environmental Protection, Division of Drinking Water Quality Control
DOH	New York State Department of Health
HBRW	Hudson Basin River Watch, Rapid Watershed Assessment Program
RIBS	Rotating Intensive Basin System, Statewide Waters Assessment Section, NYS DEC
SBU	Stream Biomonitoring Unit, Division of Water, NYS DEC
SC Inc.	Sovereign Consulting Inc.

Agawamuck Creek

This tributary of Claverack Creek was sampled above Philmont for macroinvertebrates in 2002. The site was field-assessed as non-impacted, and the sample was processed to family-level. No prior data were available for the stream.

Angle Fly Brook

Water quality assessments for Angle Fly Brook have ranged from non-impacted to slightly impacted. The most recent assessment, in 2000, was of slight impact, although clean-water mayflies, stoneflies, and caddisflies were still present. Nonpoint source nutrient enrichment is the likely stressor. A 1998 macroinvertebrate sampling of the stream found excellent water quality.

Annsville Creek

This Hudson River tributary was sampled upstream of Westchester Lake in 2002. Although the macroinvertebrate fauna contained many stoneflies and hellgrammites, it was heavily dominated by filter-feeding caddisflies. ISD strongly indicated nonpoint source nutrient enrichment, and the metrics denoted slightly impacted water quality. No prior data were available for the stream.

Bash Bish Brook

This stream was sampled at Copake Falls, approximately one mile downstream of Bash Bish Falls, in 2002. Lower reaches of the stream near Copake were dry in 2002. The Copake Falls site was field-assessed as non-impacted, and the sample processed to family-level. No prior data were available for the stream.

Basic Creek

The water quality of Basic Creek ranges from non-impacted to slightly impacted, based on macroinvertebrate sampling at 7 sites in 1995. The reach from Fords Corners to South Westerlo was assessed as slightly impacted by nonpoint source nutrient enrichment. The reach from West Greenville to Freehold was assessed as non-impacted.

Beaver Kill

Non-impacted water quality was assessed for this site, based on macroinvertebrate sampling at Mt. Tremper in 2002. The site was field-assessed, and the sample was processed to family-level. No prior data were available for the stream.

Beer Kill

This tributary of Sandburg Creek was sampled for macroinvertebrates at Ellenville in 2002. Water quality was field-assessed as non-impacted, and the sample has not yet been processed. No prior data were available for the stream.

Birch Creek

This stream was sampled for macroinvertebrates in 1995 and 1999 at Big Indian, approximately 0.5 miles upstream of its confluence with Esopus Creek. Water quality was assessed as non-impacted, with many clean-water mayflies, stoneflies, and caddisflies. Macroinvertebrate biomass was very high, and heavy algal growth in the stream indicated elevated levels of nutrients.

Black Creek

This Hudson River tributary was sampled for macroinvertebrates at Esopus in 2002. Water quality was assessed as slightly impacted by nonpoint source nutrient enrichment. Clean-water mayflies, stoneflies, and hellgrammites were found, but the fauna was dominated by filter-feeding caddisflies. The stream had very low flow at the time of sampling, and this may have had a dampening effect on the fauna. No prior data were available for the stream.

Black River

Non-impacted water quality was assessed for this tributary of Kinderhook Creek, based on macroinvertebrate sampling near Garfield in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Blockhouse Creek

Water quality of this small tributary of the Normans Kill is assessed as moderately impacted, based on macroinvertebrate sampling in Westmere in 1993. The impact is likely due to complex stressors of unknown source. The stream was previously sampled by Preddice in 1974, and was assessed as having “fairly poor water quality” due to the discharge from a small sewage treatment plant. This plant no longer operates, but water quality remains poor.

Boyds Corner Reservoir Outlet

Slightly impacted water quality was indicated for this stream, based on macroinvertebrate sampling in 2000. The causes of impact were primarily impoundment effects and siltation. No prior data were available for the stream.

Bozen Kill

Macroinvertebrate sampling in Guilderland in 1997 resulted in an assessment of slight impact. The fauna was dominated by filter-feeding midges and caddisflies, and rocks were covered with dense growths of filamentous algae. Impact Source Determination indicated sewage and municipal/industrial inputs as the likely sources of impact. This site is downstream of the effluent discharge of the Altamont (V) Sewage Treatment Plant. Similar conditions were found at this site in 1993 sampling. A 1974 sampling of the Bozen Kill by the DEC Avon team found a more impacted macroinvertebrate community, dominated by tolerant black flies. The plant was upgraded in 1990, and the upgrade is likely responsible for the improved fauna.

Brady Brook

Water quality in Brady Brook is assessed as slightly impacted by nonpoint source nutrient enrichment. A site in Pawling was sampled for macroinvertebrates in 2000. Clean-water mayflies and stoneflies were present, but the fauna was dominated by tolerant black fly larvae.

Branch Brook

This tributary of the Kisco River was assessed as severely impacted in 2001 and 2002, even using criteria for slow sandy streams. The fauna was dominated by sewage-tolerant midges, worms, and snails. Waterfowl contribute to the organic loading in this stream.

Broad Brook

This tributary of the Stone Hill River in Bedford Hills was assessed as moderately impacted, likely by organic wastes. The site sampled in 2001 was a short distance downstream of the Taconic State Correctional Facility, which discharges wastes into the stream. Specific conductance in the stream was 1375 $\mu\text{mhos/cm}$.

Browns Creek

This stream is a primary tributary of Quaker Creek. Water quality was assessed as non-impacted in 1994 and 1995, based on macroinvertebrate sampling in the village of Florida. Some metrics were within the range of slight impact, but these were judged to be due to headwater effects and impoundment effects from Glenmere Lake. Clean-water caddisflies and mayflies dominated the samples.

Canopus Creek

This Hudson River tributary was sampled for macroinvertebrates at Annsville in 2002. The fauna was diverse and included many clean-water mayflies, stoneflies, and hellgrammites, but was heavily dominated by filter-feeding caddisflies. The metrics indicated slight impact from nonpoint source nutrient enrichment. Impoundment effects from an upstream pond were likely also involved.

Casper Creek

Moderately impacted water quality was assessed for this Hudson River tributary, based on macroinvertebrate sampling at Knapps Corners in 2002. The fauna had a very low diversity, and was dominated by filter-feeding caddisflies. ISD denoted nonpoint source nutrient enrichment as the primary stressor. Poor habitat may also have been a factor at this site, as the substrate was primarily gravel and silt. No prior data were available for the stream.

Catskill Creek

Current water quality in Catskill Creek ranges from non-impacted to slightly impacted. Macroinvertebrate sampling was conducted on Catskill Creek in 1997 at 8 sites from Livingstonville to Leeds. Water quality was assessed as slightly impacted at Preston Hollow and Cairo, and non-impacted at all other sites. Non-point sources contributing nutrients and silt to the stream were indicated at all sampling sites. The site at Leeds was sampled again in 1998 and 2002 and was assessed as slightly impacted. Raw sewage discharged into the stream at Leeds, downstream of the sampling site, was documented in the 1997 study.

Chestnut Creek

Non-impacted water quality is assessed for this tributary of Rondout Reservoir, based on macroinvertebrate sampling in 1998 and 2002. The 1998 sample was initially assessed as slightly impacted, but this was upgraded to non-impacted using a headwater correction factor. The 2002 sample was field-assessed as non-impacted, and the sample was processed to family level.

Claverack Creek

Current water quality in Claverack Creek ranges from non-impacted to slightly impacted. Based on 1997 macroinvertebrate sampling at Claverack, water quality was assessed as non-

impacted. The sample appeared diverse and well-balanced. Macroinvertebrate sampling downstream at Stockport in 1998 indicated slight impact, likely from nonpoint sources.

Clove Creek

This tributary of Fishkill Creek was sampled south of Fishkill for macroinvertebrates in 2002. The site was field-assessed as non-impacted, and the sample was processed to family level. No prior data were available for the stream.

Coeymans Creek

Water quality in Coeymans Creek from Bethlehem Heights to Coeymans is assessed as slightly impacted, based on macroinvertebrate sampling in 1998. Probable stressors are nonpoint source nutrient enrichment, municipal/industrial inputs, and siltation. The Bethlehem Heights assessment represents an apparent decline in water quality compared to non-impacted conditions documented in 1987.

Cold Spring Creek

This tributary of Wappinger Creek was sampled for macroinvertebrates at McIntyre in 2002. Although the fauna contained many clean-water mayflies, stoneflies, and hellgrammites, it was dominated by filter-feeding caddisflies. Water quality was assessed as slightly impacted by nonpoint source nutrient enrichment. An unidentified white flocculent was abundant in the stream at the time of sampling. No prior data were available for the stream.

Cornell Brook

Water quality was assessed as slightly impacted for this stream, based on macroinvertebrate sampling in 2000. ISD denoted nonpoint source nutrient enrichment as the primary stressor. Impact was minor, as clean-water mayflies, stoneflies, and caddisflies were represented.

Coxing Kill

This tributary of Rondout Creek was sampled for macroinvertebrates in High Falls in 2002. Water quality was assessed as non-impacted, with many clean-water mayflies, stoneflies, caddisflies, and hellgrammites. No prior data were available for the stream.

Coxsackie Creek

Water quality in Coxsackie Creek was slightly impacted by nonpoint sources, based on macroinvertebrate sampling at Otter Hook in 1998. The fauna was heavily dominated by filter-feeding caddisflies. Substrate in the stream was predominantly bedrock.

Crook Brook

Macroinvertebrate sampling in Salem Center in 2000 determined water quality to be non-impacted. Minor effects of nonpoint source nutrient enrichment and siltation were also evident. A high diversity of clean-water mayflies was found.

Cross River

Excellent water quality is assessed for the Cross River. It was sampled at Ward Pound Ridge

in 2000, 2001, and 2002. The habitat was excellent, and a diversity of clean-water mayflies, stoneflies, and caddisflies was found. Minor nonpoint source nutrient enrichment was indicated. The 2000 assessment was within the range of slight impact, but the 2001 assessment showed non-impacted conditions.

Croton River

Water quality directly below the reservoir is assessed as slightly impacted, based on macroinvertebrate sampling in 2001. Impoundment effects contributed to this assessment. The fauna was dominated by filter-feeding caddisflies and midges. Sampling one mile downstream at Quaker Bridge in 1998 yielded an assessment of moderate impact due to impoundment effects. Poor habitat at this site also contributed to the limited fauna.

The East Branch of the Croton River, sampled at Patterson and near Putnam Lake, was assessed as slightly impacted in 2001. Nonpoint source nutrient enrichment was the primary stressor. The Middle Branch of the Croton River, sampled near Carmel in 2000, was assessed as non-impacted. ISD also denoted minor effects of nonpoint source nutrient enrichment. The macroinvertebrate fauna contained many clean-water mayflies, stoneflies, and caddisflies. The West Branch of the Croton River, sampled at Carmel in 2000, was assessed as moderately impacted. The site was a short distance downstream of the reservoir release, and the assessment reflected impoundment effects rather than poor water quality.

Crum Elbow Creek

Water quality of Crum Elbow Creek in Hyde Park ranges from non-impacted to slightly impacted. Four sites were sampled for macroinvertebrates in 1995. Of these, one was non-impacted and the others were slightly impacted. The lower sites were affected mostly by impoundment effects from two ponds. The most downstream site was also sampled in 1998, and was similarly assessed as slightly impacted.

No major water quality problems are present in the stream.

Dauids Brook

This tributary of the Stone Hill River is assessed as slightly impacted at the most downstream site, based on 2002 macroinvertebrate sampling. The fauna was dominated by filter-feeding caddisflies, largely reflecting impoundment effect from the ponded area upstream. Samples from the stream in June included abundant stoneflies, and an upstream site accessed by a horse path was assessed as non-impacted. Sandy stream criteria were used to evaluate the data from the upper site. High levels of simazine in the stream have been documented in recent studies by the USGS (Pat Phillips, USGS, pers. comm.).

Doove Kill

Slightly impacted water quality was assessed for this small tributary of the Roeliff Jansen Kill, based on macroinvertebrate sampling at Manorton in 2002. The fauna was dominated by filter-feeding caddisflies, and ISD denoted nonpoint source nutrient enrichment as the primary stressor. No prior data were available for the stream.

Dwaar Kill (tributary of Shawangunk Kill)

This stream was sampled for macroinvertebrates at Dwaarkill in 2002. The fauna had many sewage-tolerant worms, but also many mayflies, and water quality was assessed as slightly impacted by organic wastes. Numerous cattle seen upstream were the likely source. Water level was low at the time of sampling, likely exacerbating the situation.

Dwaar Kill (tributary of Wallkill River)

Water quality was assessed as non-impacted was assessed for this stream, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

East Brook

Non-impacted water quality was assessed for this tributary of Kinderhook Creek, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Esopus Creek

Upper Esopus Creek water quality currently ranges from non-impacted to slightly impacted. Macroinvertebrate sampling was conducted at several sites in 1995, 1996, and 2000. Most sites have been assessed as non-impacted. The 2000 sampling found slight impact from siltation at Mount Pleasant. Diatom collections coordinated with this sampling showed impact from enrichment downstream of the Birch Creek confluence and siltation downstream of the Shandaken Portal. Increased turbidity of water released from the Shandaken Portal since 1996 continues to be a cause of concern in Esopus Creek. A previous macroinvertebrate survey of upper Esopus Creek in 1995 found non-impacted water quality at all sites.

Water quality in lower Esopus Creek ranges from slightly impacted to moderately impacted. Continuing monitoring has been conducted at Hurley and Glenerie. Both sites were assessed as slightly impacted in 1999. The Hurley site indicated possible effects of complex stressors, and the Glenerie site was likely impacted by nonpoint source nutrient enrichment. The Glenerie site was similarly assessed as slightly impacted in 1991. A site at Lake Katrine was assessed as slightly impacted in 1997 macroinvertebrate sampling. This impact was due in part to impoundment effects. The community was dominated by midges and fingernail clams. Macroinvertebrate sampling downstream of Kingston in 1993 found moderate impact that was apparently assignable to the discharge of the Ulster County Sewer Improvement Area. The slow-moving nature of the stream in this reach precluded drawing more definite conclusions about the impact.

Fall Kill

Water quality in the Fall Kill ranges from slightly impacted to moderately impacted, declining steadily downstream. Macroinvertebrate sampling was conducted in 1997 at 4 sites in the reach from Hyde Park to Poughkeepsie. Hyde Park received nutrient additions, and the Poughkeepsie sites were impacted by municipal/industrial sources, urban runoff, and trash deposition in the stream. Additional macroinvertebrate sampling in 1998 and 1999 also found moderately impacted water quality influenced by municipal/industrial sources. The 1999 study showed the zone of increased impact to begin where the stream entered the city of Poughkeepsie.

Fishkill Creek

Current water quality is assessed as slightly impacted from Fishkill to Beacon. Water quality at Beacon was assessed as slightly impacted in macroinvertebrate sampling in 1997, 1998, and 1999. The fauna was dominated by *Hydropsyche betteni*, a tolerant filter-feeding caddisfly, as in 1991 sampling. Impact Source Determination indicated both nonpoint nutrient enrichment, and possible toxic municipal/industrial inputs as the sources of impact.

Foundry Brook

This Hudson River tributary was sampled for macroinvertebrates in Cold Spring in 2002. Water quality was provisionally assessed as slightly impacted by nonpoint source nutrient enrichment. The unique stream habitat of bedrock, boulders, and plunge pools undoubtedly affected the fauna. Species richness was limited, and the dominant organism was Peltoperlidae, a clean-water stonefly. The site was judged to be a poor candidate for biological monitoring.

Furnace Brook

This Hudson River tributary was sampled for macroinvertebrates near Crugers in 2002. It was 0.1 miles downstream of Furnace Brook Lake, and impoundment effects apparently controlled the fauna. Water quality was assessed as slightly impacted, but is not thought to reflect water quality problems.

Gedney Brook

Water quality is assessed as slightly impacted, based on macroinvertebrate sampling at Millwood in 2000. The fauna was likely influenced by headwater effects and wetland effects, with only minor water quality impact. No prior data were available for the stream.

Gipsy Trail

Non-impacted water quality was documented for this stream in 2000 macroinvertebrate sampling near the mouth. The diverse fauna included many clean-water mayflies, stoneflies, caddisflies, riffle beetles, and hellgrammites.

Great Spring Creek

This small tributary of Wappinger Creek was sampled near Pleasant Valley in 2002. The fauna contained a few mayflies and stoneflies, but was dominated by algal-feeding riffle beetles. Water quality was assessed as slightly impacted by nonpoint source nutrient enrichment.

Hallocks Mill Brook

Severely impacted water quality was documented for this stream in 2000 macroinvertebrate sampling. The site was downstream of the Yorktown Heights Wastewater Treatment Facility, and the fauna clearly reflected impacts of organic wastes, exhibiting a reduced fauna of tolerant midges, worms, and leeches. Very high ammonia levels have also been documented at this site (DEC unpublished data). A site upstream of the sewage discharge was assessed as moderately impacted in 1998. ISD indicated the primary stressors to be toxicity and nutrient enrichment, pointing to urban runoff.

Hannacrois Creek

Macroinvertebrate sampling at Ravena in 1998 resulted in an assessment of slight impact, although very close to the range of non-impacted conditions. The fauna was diverse and well-balanced, and had highest affinity to natural communities. Lowered metrics may have been caused by the prevailing bedrock habitat.

Haviland Hollow Brook

Water quality for this stream was assessed as non-impacted, based on macroinvertebrate sampling at Brewster in 2000. The fauna was dominated by clean-water caddisflies and mayflies, and all metrics were within the range of non-impacted water quality.

Highland Brook

This Hudson River tributary was sampled for macroinvertebrates in Highland Falls in 2002. The streambed was highly embedded, and much refuse was present. The fauna was dominated by facultative midges and caddisflies, indicative of nonpoint source urban runoff, and water quality was assessed as slightly impacted. No prior data were available for the stream.

Holly Stream

Water quality for this stream is assessed as slightly impacted by nonpoint source nutrient enrichment. The site at Brewster was sampled in 2000 upstream of Route 202. The macroinvertebrate fauna was diverse but dominated by facultative midges.

Homowack Kill

Non-impacted water quality was assessed for this tributary of Sandburg Creek in the Rondout Creek watershed, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Horsepound Brook

Water quality was assessed as non-impacted for this stream, based on macroinvertebrate sampling in 2000. The fauna was diverse and well balanced, and no water quality problems were indicated.

Hudson River

Multiplate sampling at Troy in 1997 and 2002 yielded an assessment of slightly impacted water quality at this site. Stoneflies were found in the samples in 1997 and 2002, a first record for the Lower Hudson River. Water quality had similarly been assessed as slightly impacted in 1977, 1983, and 1991, but the steady increase in EPT richness from 1977 to 2002 shows gradually improving water quality at this site (Figure 13-1).

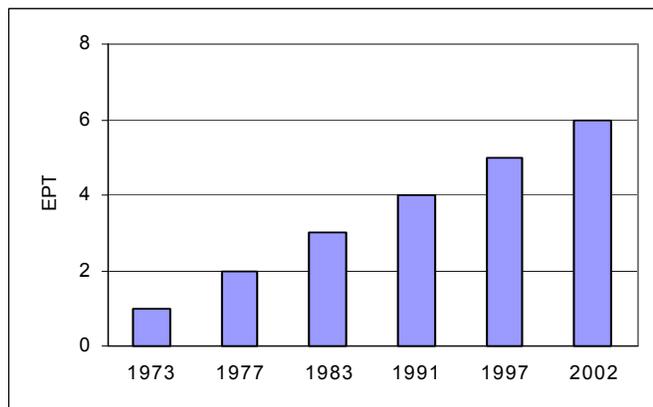


Figure 13-1. EPT trends (sensitive mayflies, stoneflies, and caddisflies) in the Hudson River at Troy, 1973-2002.

Water quality from Albany to Hudson showed an apparent decline from 1991 to 2002 (Figure 13-2). This reach was assessed as slightly impacted in 1991 multiplate sampling, and moderately impacted in the 1997 and 2002 multiplate samplings. This trend is unexplained. Ponar sampling at Glenmont in July, 1997, resulted in an assessment of moderate impact. Multiplate sampling at Castleton in 1997 and 2002 yielded assessments of moderately impacted water quality. Water

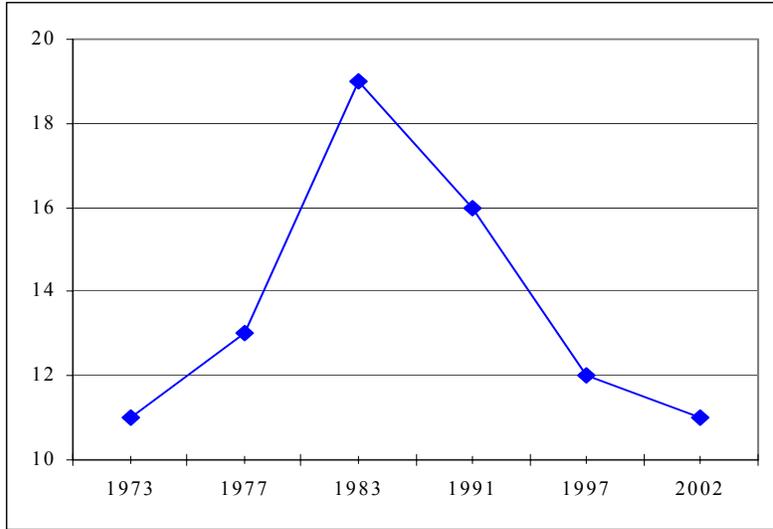


Figure 13-2. Species richness in the Hudson River below Albany, 1973-2002.

quality had previously been assessed as slightly impacted in 1983 and 1991. Multiplate sampling at Hudson in 1997 and 2002 also indicated moderate impact. Water quality at this site had previously been assessed as slightly impacted in 1983 and 1991.

Multiplate sampling at Saugerties in 1997 and 2002 yielded assessments of moderately impacted water quality. Water quality had similarly been assessed as moderately impacted in 1991. Ponar sampling at Poughkeepsie in September, 1997, resulted in an assessment of moderate impact. Water quality indices initially indicated severe impact, but this was modified based on substrate particle size considerations. The sample was dominated by tolerant worms. No change in water quality was indicated compared to previous samplings.

Zebra mussels were first found in the Hudson River in 1991, and have caused a 57% reduction in the biomass of other benthic animals in the river (Strayer and Smith, 2001).



Figure 13-3. Zebra mussels have changed the Hudson River ecosystem.

Hunter Brook

All Hunter Brook sites are currently assessed as slightly impacted. Macroinvertebrate sampling was conducted at 1-3 sites in the Yorktown area from 1998 to 2002. Most sampling was done downstream of Old Crompond Road, where a variety of urban refuse, iron bacteria, and siltation are continuing problems. Most impacts are assignable to urban runoff and nutrient enrichment.

Indian Creek

Non-impacted water quality was assessed for Indian Creek in Chatham, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Indigot Creek

Water quality was assessed as non-impacted for this tributary of Rutgers Creek, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Jackson Creek

This small tributary of Sprout Creek was sampled for macroinvertebrates near Lagrangeville in 2002. Although the substrate was largely gravel, the fauna was dominated by clean-water mayflies, and water quality was assessed as non-impacted, based on the metrics. No prior data were available for the stream.

Kinderhook Creek

Water quality in Kinderhook Creek is considered non-impacted for most of its length. Seven sites were sampled for macroinvertebrates in 2000, from Garfield to Rossman. Based on macroinvertebrate communities all sites were assessed as non-impacted except the most downstream site at Rossman, which was slightly impacted. The impact was likely from nonpoint source nutrient enrichment. Water quality at Rossman was previously assessed as slightly impacted in 1997 and non-impacted in 1998 and 1999, based on macroinvertebrate sampling. Prior to this it was assessed as non-impacted in 1991.

In the 2000 survey, hellgrammites collected from Kinderhook Creek at Kinderhook and Stuyvesant contained body burdens of PCBs, presumably from the Valatie Kill. PCB levels were elevated, but were below provisional levels of concern.

The site at Garfield, although assessed as non-impacted, showed indications of nutrient enrichment. Analysis of diatom communities from this site in 2000 indicated definite nutrient enrichment (reported in the 2000 study), and ISD of the macroinvertebrate community also showed nutrient influences. Continued sampling of this site is recommended to monitor this situation.

Kisco River

Current water quality assessments for the Kisco River range from slightly impacted to moderately impacted. Moderate impact has been well documented at the Main Street, Mount Kisco site in 1999 and 2001. The mid-day dissolved oxygen level was 3.6 ppm in 1999, and the macroinvertebrate fauna of caddisflies and riffle beetles indicated municipal/industrial inputs. Sampling of the three tributaries in 2001 showed organic wastes contributed from Branch Brook, likely predominantly waterfowl wastes, and probable toxic stressors contributed from the unnamed tributary accessed from Radio Circle. The upstream main stem site at Byram Lake Road displayed

only slight impact. The downstream site at Nitra-Yeshiva Road has been assessed as slightly impacted in all samplings. ISD for this site indicates nonpoint source nutrient enrichment as the primary stressor.

Klein Kill

Water quality was assessed as slightly impacted by nonpoint source nutrient enrichment for this stream, sampled for macroinvertebrates at Linlithgo in 2002. The fauna contained some clean-water mayflies, but was heavily dominated by filter-feeding caddisflies. No prior data were available for the stream.

Kline Kill

Non-impacted water quality was assessed for this stream, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Kripplebush Creek

This tributary of Rondout Creek was sampled for macroinvertebrates at Kripplebush in 2002. The habitat was considered poor, with negligible current and a substrate composed largely of gravel. The processed sample, although sparse, was dominated by clean-water mayflies, and was assessed as slightly impacted based on the metrics. The assessment is considered to reflect poor habitat rather than actual water quality impact. No substantial water quality problems are evident.

Kromma Kill

Based on macroinvertebrate sampling the Kromma Kill in Menands in 1997, 1998 and 1999, water quality was assessed as moderately impacted. The fauna was very limited, and dominated by toxic-tolerant midges. Water quality at this site was also assessed as moderately impacted in 1991, and impacts were attributed primarily to the Altech operations. Although the plant has now closed, metals in the stream are an ongoing concern.

Krum Kill

Based on macroinvertebrate sampling in 1997, water quality was assessed as moderately impacted. This fauna was similar to that found in 1993 sampling. Impact Source Determination indicated municipal/industrial sources, and urban runoff is a likely source. The stream receives the drainage from Crossgates Mall.

Lake Tiorati Brook

Water quality for this stream is assessed as non-impacted, based on macroinvertebrate sampling at Stony Point in 2002. Algae was abundant in the stream at the time of sampling, but the macroinvertebrate fauna was diverse and well-balanced. Many clean-water mayflies, stoneflies, and caddisflies were present.

Landsman Kill

The site in Rhinebeck was assessed as moderately impacted, based on 1998 macroinvertebrate sampling. Impact Source Determination pointed to toxicity as the type of impact. An apparent decline in water quality is indicated, as this site had been assessed as slightly impacted in the 1992 survey. A site sampled near the mouth in 1998 was assessed as slightly impacted, similar to the 1998 survey.

Lattintown Creek

Water quality was assessed as slightly impacted by nonpoint source nutrient enrichment for this small stream, sampled for macroinvertebrates at Marlboro in 2002. The fauna was heavily dominated by filter-feeding caddisflies and contained few mayflies. No prior data were available for the stream.

Little Shawangunk Kill

Water quality was assessed as non-impacted for this stream, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Little Wappinger Creek

This tributary of Wappinger Creek was sampled for macroinvertebrates upstream of Salt Point in 2002. The stream appeared sluggish and silty, but the fauna was dominated by clean-water mayflies. Water quality was assessed as non-impacted based on the metrics. No prior data were available for the stream.

Manayunk Kill

This small tributary of the Wallkill River was assessed is slightly impacted, based on macroinvertebrate sampling in Kaisertown in 2002. Flow was very low at the time of sampling, but the fauna was dominated by clean-water mayflies. The assessment for this site may mostly reflect the headwater nature of the stream.

Maritje Kill

Water quality for this stream was assessed as slightly impacted by nonpoint source nutrient enrichment, based on sampling near Hyde Park in 2002. The stream was very small and sluggish, and the metrics likely reflect some degree of headwater effects. No prior data were available for the stream.

Masonic Creek

Masonic Creek is a small tributary of the Wallkill River in Middletown. Macroinvertebrate sampling in 2002 assessed water quality as slightly impacted, with the fauna heavily dominated by facultative midges. The stream contained much silt-laden filamentous algae. ISD denoted toxicity as the primary stressor.

Michaels Brook

Moderately impacted water quality is assessed for Michaels Brook. Macroinvertebrate sampling has mostly been conducted at Kelly Road in Carmel, and also upstream at Fair Street. The upstream site was impacted by urban runoff, while the downstream site was impacted by sewage wastes. The Carmel (T) Sewer District #2 Wastewater Treatment Facility discharge enters the

stream above this site.

Mill Brook (Ulster County)

Based on macroinvertebrate sampling of Mill Brook at Mill Hook in 2002, water quality is assessed as slightly impacted by nonpoint source nutrient enrichment. The fauna contained many clean-water mayflies, but was dominated by filter-feeding caddisflies. No prior data were available for the stream.

Mill Creek (Rensselaer County)

Water quality in Mill Creek is mostly assessed as non-impacted, with the lower mile assessed as moderately impacted. Macroinvertebrate sampling at 5 sites was conducted in 2001. The greatest decline in water quality occurred in the reach where the creek enters the city of Rensselaer, likely due to urban runoff. Sampling at this site in 2002 indicated moderate impact from municipal/industrial inputs. High turbidity that occurred in the lower reach of Mill Creek in 2001 was investigated and traced to a construction site. Subsequent action by DEC Region 4 required the construction company to obtain a SPDES permit and install erosion and sedimentation control measures to prevent further siltation. The company later obtained a stormwater permit and submitted plans for a stormwater pond and other erosion control measures. In previous sampling of the Rensselaer site in 1998 and 1999, water quality was also assessed as moderately impacted by urban runoff. Previous sampling of the Michaels Road site in 1988, 1989, and 1999 indicated non-impacted conditions, similar to the 2001 survey.

Minisceongo Creek

Sampling in Minisceongo Creek at Thiells in 2002 revealed moderate impact, with a greatly reduced macroinvertebrate community, indicative of organic wastes. The likely source of impact was a composting facility on the South Branch of the creek. The dissolved oxygen level at the time of sampling was only 3.2 mg/l, and the stream bottom was covered with brown flocculent algal growth. DEC Region 3 personnel are investigating this problem. Water quality downstream at West Haverstraw was previously assessed as slightly impacted in 1998, attributed to nonpoint runoff.

Moodna Creek

Current water quality is assessed as slightly impacted, as in 1992. Water quality in Cornwall was assessed as moderately impacted in 1997 and slightly impacted in 1998 and 2002, based on macroinvertebrate sampling. These differing assessments may be caused by lower flows in 1997. The fauna has been strongly dominated by filter-feeding caddisflies in all years. Impact Source Determination has indicated nutrient enrichment and possible sewage inputs. Hellgrammites collected at this site in 1997 were analyzed for PAHs, and three were found at levels greatly exceeding the levels of concern: pyrene, benzo (a) anthracene, and chrysene.

Moordener Kill

Based on the most recent sampling, the Moordener Kill is considered mostly non-impacted, with the lower two miles of stream being assessed as slightly impacted. A macroinvertebrate survey in 1999 sampled 8 sites, including 2 sites on the North Branch. A fish survey was coordinated with the macroinvertebrate survey. Most sites exhibited excellent water quality, and a healthy population of brown trout was documented. The site at Brookview was assessed as slightly impacted by nonpoint nutrient enrichment and siltation in 1999 and 2002. This site was previously sampled for macroinvertebrates in 1997 and 1998. Both samples were dominated by midges and filter-feeding

caddisflies, and indicated nonpoint nutrient enrichment and siltation, although the 1997 assessment was slightly impacted and the 1998 assessment was non-impacted. Fish sampling at a lower site at Route 150 in Castleton in 2001 also indicated slight impact. The North Branch of the Moordener Kill at Kraft Road in Schodack was assessed as slightly impacted by nonpoint source nutrient enrichment, based on sampling in 1999 and 2002. A long-standing sewage discharge from a trailer park at Route 150 in Schodack was rectified in 1999. A new sewage treatment plant was constructed and is now in compliance with its permit limits.

Muddy Brook

Moderate impact is assessed for this tributary of the East Branch Croton River, based on macroinvertebrate sampling in 1998 and 2000. The habitat resembled a wetland more than a stream, and metrics were calculated for slow sandy streams. ISD denoted organic wastes as the probable stressor. The fauna was dominated by tolerant sowbugs and midges.

Muitzes Kill

Macroinvertebrate sampling in Castleton in 1998 resulted in an assessment of slight impact. The fauna was dominated by filter-feeding caddisflies, and Impact Source Determination indicated both nonpoint sources and municipal/industrial inputs as possible sources of impact. Immature blue crabs were collected in the stream in the 1998 sampling.

Muscoot River

Water quality ranges from slightly to moderately impacted in the Muscoot River, based on macroinvertebrate sampling in 2000. Sampling at Baldwin Place indicated slight impact from nonpoint source nutrient enrichment. A downstream sampling site at Amawalk indicated moderate impact, though some of this impact was due to impoundment effects.

Normans Kill

The overall assessment of water quality for the Normans Kill is slightly impacted. Four mainstem sites were sampled from Westmere to Albany in 1993, and determined to be slightly impacted. Nonpoint source nutrient enrichment and siltation are the primary stressors. Macroinvertebrate sampling at the downstream site in 1991, 1992, 1997, and 1998 also showed similar impacts.

North Creek

North Creek, a tributary of Claverack Creek, was sampled in Mellenville in 2002. Water quality was assessed as slightly impacted by nonpoint source nutrient enrichment. The macroinvertebrate fauna was dominated by filter-feeding caddisflies. No prior data were available for the stream.

North Peters Kill

This small tributary of Rondout Creek was sampled for macroinvertebrates near Whitfield in 2002. Despite a sluggish flow, the fauna was dominated by clean-water mayflies, and water quality was assessed as non-impacted, based on the metrics. Stoneflies, caddisflies, hellgrammites, and riffle beetles were also present. No prior data were available for the stream.

Onesquethaw Creek

As noted in the report of the 1998 survey, the name Onesquethaw Creek correctly applies

only to the portion of stream up to the confluence with Coeymans Creek in South Bethlehem. Most of Onesquethaw Creek is assessed as slight impacted, with the exception of the upper portion of the creek in the Clarksville area. Macroinvertebrates were sampled at four sites from Clarksville to Bethlehem Heights in 1998. Nonpoint source nutrient enrichment is considered to be the primary stressor in Onesquethaw Creek. The determination of slight impact at the South Bethlehem site represents an apparent decline compared to non-impacted conditions documented in 1987. Most of the Onesquethaw Creek watershed is in a karst region of porous limestone, and much surface flow in the creek is lost through fractures in the limestone. As a result, some portions of the stream experience dry periods during the summer, exerting a negative effect on resident invertebrate populations.

Patroon Creek

Following initial indication of severe sewage impacts in lower Patroon Creek in 1991, biological sampling was conducted in 1993 and 1994, further documenting severely impacted conditions. The cause of the impact was tracked to a long-standing sewage by-pass that was discharging raw sewage; this discharge was stopped in July, 1995. In order to monitor recovery in the stream, the downstream site was sampled annually from 1997 to 2000. Additional sewage inputs were discovered in 1999, but presently all known sewage inputs have been removed.

Compared to data from 1993 and 1994 at this site, all indices from the 1997-2002 samples show improvement (Figure 13-4). The most outstanding manifestation of improved water quality has been the appearance of caddisflies, mayflies, beetles, and most recently, a stonefly at this site. Qualitative electro-fishing was also performed at this site by Karen Murray of the U.S. Geological Survey in 1997. This sampling collected 22 fathead minnows; in a previous attempt at this site in 1994, no live fish were collected or observed.

The 1999 and 2000 macroinvertebrate results were somewhat poorer than those of 1998, apparently reflecting ongoing point source inputs. Results of the 2002 sampling show continued improvement in Patroon Creek, with the final assessment being only slight impact.

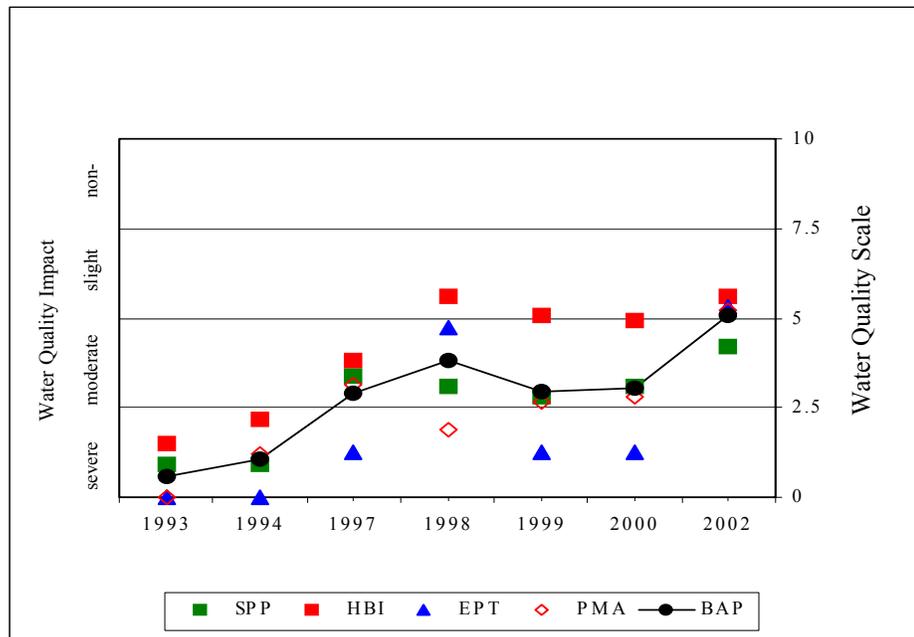


Figure 13-4. Water quality in Patroon Creek, 1993-2002. SPP= species richness, HBI= Hilsenhoff biotic index, EPT= richness of mayflies, stoneflies, and caddisflies, PMA- Percent Model Affinity, BAP= Biological Assessment Profile value.

Peach Lake Outlet

Moderately impacted water quality is assessed for this

stream, based on macroinvertebrate sampling in 2000 and 2001. The primary stressors are indicated

to be organic wastes and impoundment effect. The site sampled was approximately 0.7 miles downstream of Peach Lake. The fauna is limited, although it does include a species of clean-water stonefly.

Peekskill Hollow Brook

The Van Cortlandtville site was sampled for macroinvertebrates in 1998. The overall water quality assessment was slightly impacted. Impact Source Determination indicated nutrient enrichment and siltation. Clean-water stoneflies were very numerous at this site.

Peters Kill

This tributary of Rondout Creek was sampled for macroinvertebrates near St. Josen in 2002. Based on the metrics, water quality is provisionally assessed as slightly impacted. Although clean-water mayflies, stoneflies, and caddisflies were present, the fauna was dominated by facultative midge larvae. Rather than reflecting actual impacts, the assessment for this site was likely due to the abundant moss on the rocks of the riffle sampled. Moss is known to harbor many midge species, resulting in a skewed biological sample.

Philipse Brook

Slightly impacted water quality was assessed for this small Hudson River tributary, based on macroinvertebrate sampling near Garrison in 2002. The fauna was dominated by algal-feeding riffle beetles and filter-feeding caddisflies, indicating effects of nonpoint source nutrient enrichment. Stoneflies and mayflies were present by sparse. No prior data were available for the stream.

Platte Kill (Ulster County)

Water quality was assessed as non-impacted for this tributary of the Wallkill River, based on macroinvertebrate sampling near Jenkinstown in 2002. The site was field-assessed, and the sample has been processed to family level. No prior data were available for the stream.

Platte Kill (Sullivan County)

Non-impacted water quality was assessed for this tributary of the Shawangunk Kill, based on macroinvertebrate sampling near Burlingham in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Plattekill Creek

Water quality was assessed as non-impacted for this tributary of Esopus Creek, based on macroinvertebrate sampling near Mt. Marion in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Plum Brook

Water quality in Plum Brook is assessed as slightly impacted, based on macroinvertebrate sampling in 2000 and 2001. Much of the impact is likely due to impoundment effects, since the sampling site is immediately downstream of the lake. A site upstream of the lake also assessed as slightly impacted in 2001 sampling, likely due to poor habitat.

Pocantico River

This Hudson River tributary was sampled for macroinvertebrates in Sleepy Hollow in 2002. The alternate stream name Gory Brook appears on some maps. Based on the single sampling, water quality is assessed as moderately impacted. Nonpoint source nutrient enrichment is the likely stressor, although impoundment effects from upstream reservoirs may also be involved. The fauna was heavily dominated by filter-feeding caddisflies.

Pochuck Creek

Non-impacted water quality was assessed for this tributary of the Wallkill River, based on macroinvertebrate sampling near Newport in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Poesten Kill

Recent biological monitoring of the Poesten Kill has shown non-impacted conditions for most of its length, with the lower 2 miles being slightly impacted. Seven sites were sampled from East Poestenkill to Troy in a 2001 study by Katie DeGoosh, in cooperation with the Stream Biomonitoring Unit. The site in Troy had also been assessed as slightly impacted in 1998, showing influences of nonpoint source runoff and nutrient enrichment. Acidity has been measured in the upper Poesten Kill, a result of nutrient-poor soils and decreased buffering capacity. A pH measurement of 5.0 was obtained from this site in the 2001 sampling. The acidity decreases toward the mouth, with a pH of 7.9 being measured in Troy. The most upstream site at East Poestenkill was slightly impacted by acidity in 1992, but was assessed as non-impacted in 2001. The cause of this apparent improvement is not known.

Potic Creek

Water quality was assessed as non-impacted for this tributary of Catskill Creek, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Punsit Creek

Water quality was assessed as non-impacted for this tributary of the Kline Kill, based on macroinvertebrate sampling near Spencertown in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Putnam Lake Outlet

The macroinvertebrate community metrics at this site indicated moderate impact. This lake outlet site was located immediately downstream of Putnam Lake, and the impact may be largely impoundment effects. However, many species present also point to organic enrichment. The location of this site makes it difficult to separate water quality effects from impoundment effects.

Quacken Kill

Water quality was assessed as non-impacted for this tributary of the Poesten Kill, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Quaker Brook

This stream was sampled in Brewster in 2000, and was determined to be non-impacted. An exemplary fauna of clean-water mayflies, stoneflies, and caddisflies was present, and all community metrics were within the range of non-impacted water quality.

Quaker Creek

Severe water quality impacts in Quaker Creek were measured in 1994 and 1995, downstream of the Florida (V) Sewage Treatment Plant. The greatest impacts occurred 3.3 miles downstream of the discharge, and were likely worsened by water withdrawals from the stream by local onion growers. A daytime dissolved oxygen level of 3.1 mg/l was measured in 1995.

Quassaic Creek

Macroinvertebrates were sampled above the River Road bridge in Newburgh in 1997, 1998, and 1999. The 1997 and 1999 assessments were of slightly impacted water quality, and the 1998 assessment was moderately impacted. Urban runoff is likely the primary stressor at this site, and the lower-flow years of 1997 and 1999 carried less runoff than the higher-flow year of 1998. Overall water quality is considered slightly impacted, similar to the 1992 assessment at this site. An upstream site at Walsh Road in Newburgh was also assessed as slightly impacted in 1999.

Queensboro Creek

Water quality was assessed as non-impacted for this stream, based on macroinvertebrate sampling near Bear Mountain in 2002. The site was field-assessed, and the sample has not yet been processed. No prior data were available for the stream.

Rochester Creek

Water quality was assessed as non-impacted was assessed for this tributary of Rondout Creek, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Roeliff-Jansen Kill

The Roeliff-Jansen Kill is considered non-impacted from Ancram to Linlithgo, with slight agricultural impact upstream near Hillsdale. Slightly impacted water quality from nutrient enrichment was documented at an upstream site at Route 22 south of Hillsdale in 1993. At Black Grocery Road bridge, downstream of Hillsdale, the fauna appeared more diverse and better balanced, and water quality was assessed as non-impacted. Crayfish from this site analyzed for contaminants were found to contain three PAHs above the levels of concern: pyrene, benzo (a) anthracene, and chrysene. A site located just downstream of the Overlook Road bridge below Hillsdale was assessed as slightly impacted by nutrient enrichment. Macroinvertebrate sampling at Linlithgo in 1997 and 1998 indicated non-impacted water quality. Clean-water mayflies were numerous at this site.

Rondout Creek

Water quality in Rondout Creek is currently assessed as non-impacted for most of its length. Reaches of slight impact are found above Peekamoose, due to acid effects, and from Napanoch to Kerhonkson, due to runoff and various discharges. Macroinvertebrate sampling was conducted at 10 sites on Rondout Creek in 2002 from Peekamoose to Rosendale. The slight impact from acidity

documented at Peekamoose was similar to previous studies (DEC, unpublished). The macroinvertebrate fauna was dominated by acid-tolerant midges and stoneflies. Acid effects dampened out within a few miles to non-impacted conditions at Bull Run. The assessment of non-impacted water quality at Sundown represents an apparent improvement from slightly impacted conditions documented at this site in 1991 and 1992.

The Rondout Reservoir did not exert a negative effect on downstream macroinvertebrate communities. The fauna sampled at Lackawack, one mile below the reservoir outlet, exhibited the most diverse and well-balanced fauna in the watershed. An approximate 5 mile reach from below Napanoch to Kerhonkson was assessed as slightly impacted by nonpoint source nutrient enrichment and municipal/industrial inputs. Water quality from Accord to Rosendale was assessed as non-impacted, representing an apparent improvement from the previous assessment of slight impact at Rosendale in 1991. Water quality at this site had been assessed as non-impacted in 1997 and 1998.

Rutgers Creek

Non-impacted water quality was assessed for this tributary of the Wallkill River, based on macroinvertebrate sampling near Johnson in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Sandburg Creek

Water quality was assessed as non-impacted for this tributary of Rondout Creek, based on macroinvertebrate sampling in 2002. The fauna was dominated by mayflies, and all metrics were within the range of the non-impacted category. No prior data were available for the stream.

Saw Kill Creek (Dutchess County)

Water quality at Annandale-on-Hudson was assessed as slightly impacted, based on 1998 macroinvertebrate sampling. The fauna was dominated by facultative filter-feeding caddisflies. Impact Source Determination indicated nonpoint source nutrient enrichment and/or pesticides as the probable source of impact.

Saw Kill (Ulster County)

Water quality of this tributary of Esopus Creek was assessed as non-impacted, based on 1997 macroinvertebrate sampling at Sawkill. The sample met the field screening criteria, and was not retained. Many clean-water organisms were present, including mayflies, stoneflies, caddisflies, riffle beetles, and hellgrammites.

Saw Mill River

Based on macroinvertebrate sampling at Yonkers, in 1997, 1998, and 1999, water quality was assessed as moderately impacted. Impact Source Determination indicated municipal/industrial inputs as the source of impact. Indices were slightly improved from those found in 1992, with mayflies and caddisflies collected here in recent samplings. Water quality had been assessed as severely impacted in 1992. Crayfish collected at this site in 1997 were analyzed for metals; lead was found at a level exceeding the current level of concern. Crayfish were also analyzed for the presence of organic compounds. Five PAHs were found at levels exceeding current levels of concern: anthracene, benzo (a) anthracene, pyrene, fluoranthene, and chrysene. Moderate impact was also indicated at Nepera Park in 1999 macroinvertebrate sampling, similar to 1992 conditions.

Shawangunk Kill

Non-impacted water quality is assessed for the Shawangunk Kill. Three sites from Maple Glen to Ganahgote were assessed as non-impacted water quality in macroinvertebrate sampling in 2002. The sites were field-assessed, and the sample was processed to family level. The site at Ganahgote in was previously sampled in 1997 for macroinvertebrates, and was assessed as non-impacted. The field screening criteria were met, and the sample was not retained. An exemplary fauna was noted.

Shekomeko Creek

This tributary of the Roeliff Jansen Kill was sampled northwest of Pine Plains in 2002. The macroinvertebrate fauna was diverse and well-balanced, and water quality was assessed as non-impacted. No prior data were available for the stream.

Shingle Kill

Water quality was assessed as non-impacted for this tributary of Catskill Creek, based on macroinvertebrate sampling near Cairo in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Singsing Creek

Slightly impacted water quality is assessed for this stream, sampled for macroinvertebrates in Ossining in 2002. ISD denoted toxic stressors as the primary impact source, likely from urban runoff. Siltation was also a factor. No prior data were available for the stream.

Sparkill Creek

Moderately impacted water quality is assessed for this stream, based on recent sampling. Sampling in Sparkill at the Washington Avenue bridge and the Valentine Street bridge in 2002 denoted moderate impact. Possible toxic stressors were indicated at the lower site, and nonpoint enrichment and organic wastes were indicated at the upper site. These sites had been assessed as slightly impacted in 1999, and the lower site was also assessed as slightly impacted in 1998. Further sampling of the stream is planned for 2003.

Sprout Creek

Water quality is assessed as slightly impacted for Sprout Creek, based on macroinvertebrate sampling at Freedom Plains and Swartoutville in 2002. Communities were dominated by filter-feeding caddisflies, and ISD denoted nonpoint source nutrient enrichment as the primary stressor. No prior data were available for the stream.

Stephens Brook

Slightly impacted water quality is assessed for Stephens Brook, based on macroinvertebrate sampling in Pawling in 2000. Nonpoint source nutrient enrichment and siltation were the primary stressors. Although clean-water mayflies, stoneflies, and caddisflies were present, the fauna was dominated by midges and black flies. The substrate was highly embedded at this site.

Stone Hill River

This stream, also known as Beaverdam Brook, is assessed as slightly impacted by nonpoint sources for most of its length. An upstream segment at Bedford Village was assessed as non-

impacted in 2001, and 3 downstream sites were assessed as slightly impacted. Similar assessments were obtained for the downstream site at Beaverdam Road in 1998 and 2000. This site was assessed as non-impacted in 1999, a low-flow summer with runoff.

Stony Clove Creek

Water quality was assessed as non-impacted for this tributary of Esopus Creek, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Stony Kill (Dutchess County)

Current water quality is assessed as moderately impacted for the Stony Kill, based on macroinvertebrate sampling above and below Tivoli in 1999. This represents an apparent decline in water quality compared to 1991, although further sampling is recommended to verify this trend. Drought conditions were present during the 1999 sampling. The upstream site was affected by nonpoint source nutrient enrichment, while the downstream site was affected by multiple stressors, including inputs with both organic and toxic characteristics. Water quality at the downstream site was previously assessed as slightly impacted in 1998.

Tackawasick Creek

Non-impacted water quality was assessed for this tributary of Kinderhook Creek, based on macroinvertebrate sampling at Hoag Corners in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Taghkanic Creek

Water quality was assessed as non-impacted was assessed for this stream at New Forge and below Linlithgo Mills, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Tenmile Creek

Water quality in Tenmile Creek is slightly impacted for most of its length, with the lower mile assessed as non-impacted. Five sites from Rensselaerville to Oak Hill were sampled for macroinvertebrates in 1997; the upper four sites were slightly impacted by nonpoint source nutrient enrichment, and the lower site was non-impacted. The fauna at most sites was dominated by midges and caddisflies.

Tin Brook

This tributary of the Wallkill River was sampled for macroinvertebrates in Walden in 2002. Water quality was assessed as slightly impacted, likely by a combination of municipal/industrial inputs and siltation. The fauna was dominated by facultative midges and scuds.

Titicus River

Water quality of the Titicus River ranged from slightly to moderately impacted, based on macroinvertebrate sampling at Salem Center and Purdys in 2000. The North Salem site, upstream of the Titicus Reservoir, was assessed as slightly impacted by nonpoint source nutrient enrichment. The Purdys site was 0.5 miles downstream of the Titicus Reservoir, and the moderate impact reflected mostly impoundment effects from the reservoir. The macroinvertebrate fauna was heavily

dominated by black fly larvae.

Tonetta Brook

Macroinvertebrate sampling of Tonetta Brook in Brewster in 2000 assessed water quality as slightly impacted. Previous sampling in 1998 and 1999 denoted moderate impact. The site had large amounts of urban refuse, and is apparently influenced by organic wastes and stormwater runoff. The macroinvertebrate fauna in all years sampled has been dominated by caddisflies and midges.

Twaalfskill Creek

This small Hudson River tributary was sampled in Highland in 2002. The macroinvertebrate fauna was sparse, and water quality was assessed as moderately impacted. ISD denoted municipal/industrial inputs as the primary source of impact. Poor habitat may also be a factor at this site.

Valatie Kill

Based on 1997 macroinvertebrate sampling at Mead Road, Nassau, water quality was assessed as non-impacted. The fauna was dominated by caddisflies, and mayflies were sparse, but most indices were favorable. This site is upstream of Nassau Lake. Valatie Kill biota was documented as carrying high levels of PCBs in samplings in 1979 and 1988, attributed to the nearby Dewey Loeffel landfill.

Verkeerder Kill

Water quality was assessed as non-impacted for this tributary of the Shawangunk Kill, based on macroinvertebrate sampling at Ulsterville in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Vernooy Kill

Water quality was assessed as non-impacted was assessed for this tributary of Rondout Creek, based on macroinvertebrate sampling at Wawarsing in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Vlockie Kill

This Hudson River tributary was sampled in Castleton in 2002. Water quality was assessed as moderately impacted, apparently by nonpoint sources. Habitat factors at this site contributing to a poorer fauna were the gravelly substrate and possible tidal influences from the Hudson River.

Vloman Kill

Water quality is provisionally assessed as moderately impacted for the lower Vloman Kill, based on macroinvertebrate sampling in Selkirk in 1998. Much of the impact may be due to poor habitat, as the substrate was mostly bedrock. Re-sampling at an alternate site is recommended. Sampling upstream near the Five Rivers Environmental Education Center in 2001 by Hudson Basin River Watch yielded a field assessment of non-impacted.

Vly Creek

This small tributary of the Normans Kill was sampled in 1993 and was assessed as slightly impacted. The stream receives the effluent from the Voorheesville (V) Sewer District # 1 Sewage Treatment Plant. The fauna contained mayflies, stoneflies, and caddisflies, but was dominated by facultative midges.

Wallkill River

Water quality in most of the Wallkill River is assessed as slightly impacted. A 1994 macroinvertebrate survey of 11 sites from the New Jersey/New York border to New Paltz found moderate impact at the border site, and slight impact at all downstream sites. It could not be determined if the impact at the border site represented wetland impact or a toxic/organic stress. Most of the impact in the river is due to agricultural nonpoint source nutrient enrichment. Previous sampling found slight impact at Walden and New Paltz in 1999, and at New Paltz in 1997 and 1998. Similar water quality was documented in 1994 sampling at the New Paltz site. Crayfish collected at this site in 1997 were analyzed for contaminants, and three PAHs, pyrene, benzo (a) anthracene, and chrysene, were found at levels exceeding the levels of concern.

Improvement in Wallkill River water quality is noted compared to conditions documented by Cooper and Neuderfer in a 1972 survey of the river. The 1972 study found moderate to severe impacts attributable to sewage effluents from the Middletown, Wallkill, Montgomery and Walden sewage treatment plants. All of these sewage treatment plants were upgraded from 1985 to 1989, and the upgrades are likely responsible for the improved water quality documented in the 1994 survey.

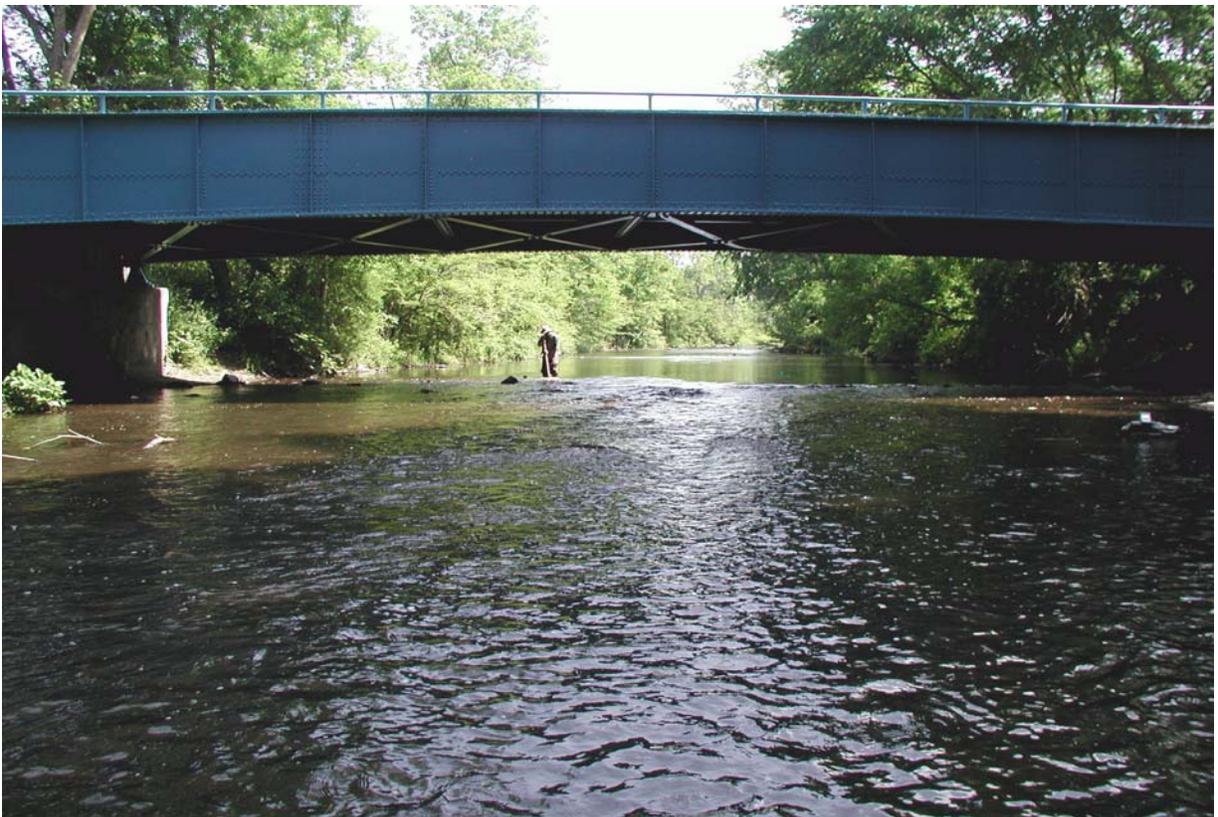


Figure 13-5. Wappinger Creek at Salt Point, 2002.

Wappinger Creek

Water quality in most of Wappinger Creek is currently assessed as non-impacted. A biological survey of 5 sites from Stanfordville to below Poughkeepsie in 2002 found excellent water quality at all sites except at Stanfordville, which was assessed as slightly impacted by nutrient enrichment. These assessments represent an apparent improvement from 1991 sampling, when sites at Salt Point and Poughkeepsie were assessed as slightly impacted. Water quality at the downstream site was also assessed as slightly impacted in 1998. The 1997 metrics from this site were within the range of non-impacted water quality.

Wawayanda Creek

Improved water quality was documented in Wawayanda Creek following the 1994 upgrade of the Warwick (V) Wastewater Treatment Facility. Severe impact downstream of the treatment plant discharge was documented in 1989 macroinvertebrate sampling. Early morning dissolved oxygen levels at this site were measured at 2.5 mg/l. Sampling in 1994 showed partial improvement downstream of the discharge, and sampling in 1995 showed further improvement. Monitoring at the most downstream site at New Milford in 1997, assessed water quality as slightly impacted. Indices were nearly identical to those found in 1995 at this site.

West Beer Kill

Water quality was assessed as non-impacted for this stream at Ellenville, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

West Brook

Non-impacted water quality was assessed for this tributary of Kinderhook Creek, based on macroinvertebrate sampling at Stephentown in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Whaley Lake Stream

Water quality for this tributary of Fishkill Creek is assessed as non-impacted, based on macroinvertebrate sampling in Poughquag in 2002. The diverse, well-balanced fauna included many clean-water mayflies, stoneflies, and caddisflies, but the stream apparently receives some inputs, as siltation and enrichment were also factors at this site.

Whortle Kill

This tributary of Fishkill Creek was sampled for macroinvertebrates at Hopewell Junction in 2002. Water quality was assessed as slightly impacted, likely by nonpoint source nutrient enrichment. The fauna contained a few mayflies and stoneflies, but was dominated by filter-feeding caddisflies. Large proportions of sand and gravel in the substrate may have limited the fauna to some degree.

Wynants Kill

Based on macroinvertebrate sampling at 6 sites in 2001, water quality in the Wynants Kill ranges from non-impacted to slightly impacted. The upper portion of the creek, from West Sand Lake through the village of Wynantskill, had water quality bordering on non-impacted to slightly

impacted. Nonpoint source runoff is the likely cause of impact at these sites. The greatest decline in water quality in the Wynants Kill occurred in the reach where the creek enters the city of Troy. Previous water quality assessments at this site have ranged from slightly impacted in 1998 to moderately impacted in 1999, and invertebrate tissues have exhibited elevated levels of some metals (copper, lead, mercury, lead, titanium, and zinc) and some PAHs. The elevated PAH levels were also present at the upstream Wynantskill site. No specific sources are known that may contribute these contaminants, and the problems are thought to result from historical contamination and urban runoff. Elevated levels of PAHs and metals are a common result of urban runoff.

Wyomanock Creek

Non-impacted water quality was assessed for this tributary of Kinderhook Creek, based on macroinvertebrate sampling in 2002. The site was field-assessed, and the sample was processed to family level. No prior data were available for the stream.

Unnamed Croton tributary at Locke Ledge

Water quality was assessed as slightly impacted for this stream, based on macroinvertebrate sampling in 2000. Clean-water mayflies, stoneflies, and caddisflies were present, but the fauna was dominated by midges. This is a very small stream, and the fauna is likely influenced by headwater conditions. Effects of nonpoint source nutrient enrichment is also indicated.

Unnamed Middle Branch Croton River tributary (Centennial Links trib)

This small tributary drains the Centennial Links golf course. The habitat at the site was adequate, but the macroinvertebrate fauna was heavily dominated by midges. Based on the metrics, water quality was assessed as slightly impacted. ISD denoted toxicity as the primary stressor.

Unnamed Hudson River tributary at Milton, (H108).

Based on macroinvertebrate sampling in April, 2001, severe impact in Hudson River Tributary H108 was documented, attributable to the discharge of the treatment plant for the Brooklyn Bottling Company wastes. Compared to the upstream site, three biological impairment criteria were exceeded. Follow-up sampling in October, 2001 found the upstream control site to be inundated by iron bacteria, severely limiting the capacity of the site to serve as control site for measuring effects downstream of the effluent. Additionally, the severely limited macroinvertebrate fauna at this site provided a poor recolonization resource for areas downstream of the effluent. This sampling revealed no substantial change in macroinvertebrate communities downstream of the effluent, compared to conditions in April. The sampling in June, 2002, found conditions similar to those in April, 2001, both at the upstream and downstream sites. Three biological impairment criteria. were exceeded, as in the sampling of April, 2001. It is recommended that any further sampling be focused on the chemical composition of the effluent.

Unnamed Muitzes Kill tributary

A small tributary of the Muitzes Kill was sampled for macroinvertebrates in the village of Castleton in 2002. Water quality was assessed as slightly impacted by nonpoint source nutrient enrichment. The fauna was dominated by filter-feeding caddisflies.

Unnamed Onesquethaw Creek tributary

A small tributary of Onesquethaw Creek in Clarksville was sampled for macroinvertebrates in 1996. The upstream site was assessed as moderately impacted, although the impact was due to headwater effects and intermittent conditions. Clean-water stoneflies dominated the fauna. Two downstream sites below Hill Top Farm were assessed as severely impacted by animal wastes. Sewage-tolerant midges and worms dominated the fauna. No prior data were available for the stream.

Unnamed "Power Station" tributary

This small tributary of the West Branch Croton Reservoir was assessed as slightly impacted, based on macroinvertebrate sampling in 2000. The fauna included clean-water mayflies and stoneflies, but ISD denoted a possible toxic stressor.

Unnamed Putnam Lake tributary

This small unnamed tributary of Putnam Lake was assessed as slightly impacted, based on macroinvertebrate sampling in 2000. Nonpoint source nutrient enrichment was the likely cause of impact. The fauna was dominated by facultative caddisflies and midges.

Unnamed Richardsville tributary

This unnamed stream is a small mossy tributary of the West Branch Croton that has possible headwater influences and wetland influences. Clean-water mayflies, stoneflies, and caddisflies were present, but the fauna was dominated by black flies and midges. Overall water quality was assessed as slightly impacted, based on sampling in 2000.

Unnamed St. Johns Church tributary

This small stream located in North Salem was assessed as slightly impacted, based on macroinvertebrate sampling in 2000. The sandy habitat may have limited some of the metrics. Clean-water mayflies, stoneflies, and caddisflies were present. ISD denoted impoundment effects and nutrient enrichment as possible stressors.

Unnamed Stone Hill River tributary

This small stream flows out of Lake Marie approximately 1.5 miles before its confluence with the Stone Hill River. Water quality at the upstream site is assessed as slightly impacted by impoundment effects. Sandy stream criteria were used to evaluate data from the lower two sites. These sites are assessed as slightly impacted by municipal/industrial inputs. Macroinvertebrates collected from the lower site in 2000 were found to have elevated levels of DDD and DDT.

Unnamed Wallkill River tributary

Slightly impacted water quality was assessed for this stream, based on macroinvertebrate sampling near Michigan Corners in 2002. The stream had a sluggish flow, which likely limited the fauna, and nonpoint source nutrient enrichment was also indicated. Crayfish were very abundant at the site.

Literature cited:

Strayer, D. L. and L. C. Smith. 2001. The zoobenthos of the freshwater tidal Hudson River and its response to the zebra mussel (*Dreissena polymorpha*) invasion. Arch. Hydrobiol. Suppl. 139/1, Monogr. Stud., p. 1-52.