WAVE

Water Assessments by Volunteer Evaluators

Final Report for the 2012 Sampling Season

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Background

Water Assessments by Volunteer Evaluators (WAVE) is a water quality assessment method using stream macroinvertebrates developed by the NYS Department of Environmental Conservation (NYSDEC) Stream Biomonitoring Unit in collaboration with the NYSDEC Hudson River Estuary Program. It is based, in large part, on Connecticut's Rapid Bioassessment in Water Streams and Rivers by Volunteer Monitors (CTDEP 2003). The purpose of WAVE is to enable citizen scientists to collect water quality data on Water streams.

WAVE was piloted in the Hudson River basin in 2012. The results of this pilot are reported here. Support materials, including the project plan, guidance documents, and data sheets are available by contacting WAVE Coordinator Alene Onion by phone at 518-402-8166 or e-mail: amonion@gw.dec.state.ny.us.

Samples Collected by Citizen Monitors

The primary responsibility of WAVE participants was to collect macroinvertebrate samples from Water streams. To do so, participants were required to submit sampling locations for review and to attend a four-hour training session which provided hands-on experience with collection methods. Sampling was conducted July through September 2012. Participants collected riffle-dwelling benthic macroinvertebrates and preserved one or two example specimens of each macroinvertebrate type in a voucher collection. Both the data sheets and voucher collection were submitted to the WAVE coordinator by November 2012.

WAVE participant sorting macroinvertebrates

Samples Identified and Analyzed by WAVE Coordinator

The WAVE coordinator processed and analyzed all samples that were properly labeled. She identified macroinvertebrates in each sample to the level of family and used these data to calculate an assessment:

If a sample contained six or more organisms from the Most Wanted list (see below), then the stream segment was defined as having "No Known Impact." This is the highest quality category assigned to stream segments in NY State in the Waterbody Inventory.

If a sample contained four or more organisms from the Least Wanted list (see below), then the stream segment was defined as "Possibly Impaired." Unfortunately, this assessment is not robust; 52% of NY streams that contain four or more least wanted organisms are actually healthy. This assessment is still valuable, however, as a red flag for sites that might deserve further investigation at the professional level.

If a sample did not meet the above criteria, then no conclusion could be made.

Most and Least Wanted Organisms

The WAVE analysis uses the presence of the following organisms to determine the health of sampled streams. Please note that the "least" wanted organisms are simply indicators of poor water quality or poor habitat; they are not undesirable. Many pristine waters contain these organisms in low numbers. To see examples of these organisms, visit: http://www.dec.ny.gov/animals/35772.html

Glossosomatidae

Pteronarcydae

Most Wanted Macroinvertebrates

Scientific Name	Common Name
Athericidae	watersnipe fly larva
Brachycentridae	humpless case-maker caddisfly larva
Caenidae	small squaregill mayfly nymph
Chloroperlidae	green stonefly nymph
Corydalidae	dobsonfly, fishfly and hellgrammite larva
Ephemerellidae	spiny crawler mayfly nymph
Ephemeridae	common burrowing mayfly nymph
Glossosomatidae	saddle case-maker caddisfly larva
Gomphidae	clubtail dragonfly nymph
Helicopsychidae	snail-case caddisfly larva
Heptageniidae	flat head mayfly nymph
Hydroptilidae	micro caddisfly larva
Isonychiidae	brushlegged mayfly nymph
Lepidostomatidae	lepidostomatid case-maker caddisfly larva
Leptohyphidae	little stout crawler mayfly nymph
Leptophlebiidae	prong-gilled mayfly nymph
Leuctridae	rolled-winged stonefly nymph
Odontoceridae	strong case-maker caddisfly larva
Peltoperlidae	roachlike stonefly nymph
Perlidae	common stonefly nymph
Perlodidae	patterned stonefly nymph
Philopotamidae	finger net caddisfly larva
Polycentropodidae	tube making and trumpet net caddisfly larva
Polymitarcyidae	pale burrowing mayfly nymph
Potamanthidae	hacklegill mayfly nymph
Psephenidae	water penny
Pteronarcidae	giant stonefly nymph
Rhyacophilidae	free living caddisfly larva
Uenoidae	unoid case-maker caddisfly larva

Least Wanted Macroinvertebrates

Scientific Name	Common Name
Asellidae	sowbug
Calopterygidae	broad-winged damselfly nymph
Chironomus	red midge larva
Coenagrionidae	narrow-winged damselfly nymph
Cordulegastridae	spiketail dragonfly nymph
Corixidae	water boatman
Amphipoda	scud
Haliplidae	crawling water beetle
Hirudinea	leech
Lymnaeidae	air-breathing snail
Pelecypoda	clams and mussels
Physidae	bladder snails
Turbellaria	flatworm and planarian
Sialidae	alderfly larva
Simuliidae	black fly larva
Tabanidae	horsefly and deerfly larva

Amphipoda

Asellidae

Why Was WAVE Analysis Changed?
The 2012 WAVE participants will notice that the analysis described above is slightly different than what was taught in the training sessions. We are very excited to announce the following modifications:

Organisms Added to Most/Least Wanted Lists:
We were pleasantly surprised that WAVE participants were able to find a larger diversity of organisms than we anticipated. For this reason, we added more organisms to the Most Wanted and Least Wanted categories and improved the efficiency of our method significantly.

"Unimpaired" Replaced by "No Known Impact":
Our previous method identified healthy streams as "Unimpaired." This was a broad category that covered streams with some amount of pollution to those with none at all. Specifically, it included waters with "Minor Impacts" and "No Known Impacts" in NYSDEC's Waterbody Inventory and EPA's 305b report, and "non-impacted" and "slightly impacted" waters in NYSDEC trends reports.

Using the new macroinvertebrate lists, we were able to be more specific about water quality assessment. Streams that have six or more MOST wanted organisms are labeled "No Known Impacts" in NYSDEC's Waterbody Inventory and EPA's 305b report and "non impacted" in NYSDEC trends reports.

2012 WAVE Results

A total of 109 sites were assessed in the 2012 WAVE pilot. Of these 109 sites, 47 were defined as having "No Known Impact" and 7 were defined as "Possibly Impaired." It is important to note that many of these sites had never been assessed before—57 sites were new assessment locations on previously assessed stream segments, and 29 sites were in stream segments that had never been assessed by DEC. The remaining 23 sites were at historic DEC sampling sites and helped to contribute to the long-term monitoring record.

Results of the 2012 WAVE Pilot Project

Number of trained citizen monitors	99
Number of samples collected	144
Number of sites assessed	109
Number of sites defined "No Known Impact"	47
Number of sites defined "Possibly Impaired"	7

The map in Figure 1 (pg. 9) gives site locations, and Table 1 (pg. 10) provides a summary of all the sites and their concluding assessments.

Table 2 (pg. 14) is the complete data set, including site description, all organisms identified, and the concluding assessment for each site.

Schoharie Creek

Data Quality Assessment

A sample that gave "no conclusion" is not necessarily a bad sample! The WAVE method captures the water quality of only 53% of NY's streams, even if participants use perfect technique. The most and least wanted organisms simply aren't present in all streams. We chose this method, despite the 53% capture rate, because it never gives false positives; by using this method, we never identify a stream as high quality when it is actually impaired. This is very important because we will be using the data for Clean Water Act purposes; we must be extremely confident in the results.

Poor sampling technique could result in more "no conclusion" results. If participants didn't sample all available habitat, if they didn't examine their sample closely, or if they failed to distinguish between two different organisms, then their sample would give "no conclusion" even if a conclusion was possible.

As part of the 2012 WAVE pilot project, we conducted a study to assess how effective WAVE participants were at collecting samples. To do so, we sampled 28 WAVE sites within two weeks of the citizen monitors and compared our results with theirs. These sites are starred in Table 1 and Table 2. On average, our samples were 57% more likely to define a stream's water quality than the WAVE participants' samples. This is inflated because the new Most Wanted and Least Wanted lists contain organisms participants were not trained to identify. If we compare only the organisms participants were trained to identify, the difference drops to 27%. We consider this an acceptable level of inefficiency.

In fact, the results of the pilot study are more efficient than expected. If we combine the efficiency of the WAVE method (52%) and the sampling error calculated above (57%), we expected only 30% of the WAVE samples to define No Known Impact or Possibly Impaired sites. Instead, 49% of the 2012 WAVE samples were able to define stream water quality. We believe the project was more successful than predicted because participants targeted streams they expected were either very high or very low quality.

Dutchess County "No Child Left Inside" Participants

Use of WAVE Data

The 2012 WAVE data set will be used by NYSDEC for multiple purposes:

- State and Federal Reporting:
  No Known Impact sites identified by the WAVE project will be included in the NYS Waterbody Inventory and EPA's Clean Water Act Section 305(b) reporting. Sites that fail the No Known Impact criteria will not be included.
- Trend Monitoring Reports
  WAVE data from historic SBU sampling locations will be used to monitor long-term trends and may be included in the Trend Monitoring reports (the next report will be drafted in 2014).
- Rotating Integrated Basin Studies (RIBS)
  The 2012 WAVE data were used in January to help select intensive RIBS sampling locations for the 2013 sampling season.
- Department Personnel Working on Non-point Source Discharges
  WAVE assessments will provide basic background information on water quality conditions.

In addition, county, municipal, and not-for-profit organizations will use this data to carry out local stream restoration and/or protection efforts. We are very interested in tracking these applications of the WAVE data. If you are involved or are aware of a use of the WAVE data, please contact WAVE Coordinator Alene Onion via e-mail: amonion@gw.dec.state.ny.us, or phone: 518-402-8166.

WAVE participant David Hidinger

WAVE in 2013

The 2012 WAVE pilot project was very successful, but there is always room for improvement. Our primary focus for 2013 will be to improve instruction on collection and identification of benthic organisms. Following the guidance provided by Nerbonne and Vondracek (2003), we plan to add the following methods and materials to our training sessions:

1. We will recommend participants carry sample material from a stream to a well-lighted and comfortable location for identification.
2. We will recommend using both a magnifying glass and carbonated water, which can be used to slow the fastest moving organisms, such as scuds.
3. We will create identification sheets for each organismal order and provide photographs of all possible families that participants could find in their samples.

2013 Training Schedule

We are planning to expand WAVE in 2013! To best use our available resources, we will rotate our training efforts among the 17 major river basins in New York State on a five-year schedule, following the rotation of the NYSDEC Division of Water Statewide Water Quality Monitoring Program (http://www.dec.ny.gov/chemical/29576.html). The 2013 training sessions will be held in the Delaware and Genesee river basins, pending funding.

PLEASE NOTE: Samplers trained in 2012 may collect and submit samples from the Hudson or Mohawk basins in 2013; to participate, please send sampling locations to the WAVE coordinator for review. Interested citizens or groups who missed training in 2012 and want to sample in the Hudson or Mohawk basins may attend training in another basin if slots are available. Priority will be given to those sampling in their home basins.

To participate in the 2013 sampling season, please contact WAVE Coordinator Alene Onion via e-mail: amonion@gw.dec.state.ny.us, or phone: 518-402-8166. For information on other citizen science opportunities in the Hudson River basin, please see appendix 1.

WAVE

Figure 1: WAVE Sampling Locations in the Hudson River Watershed

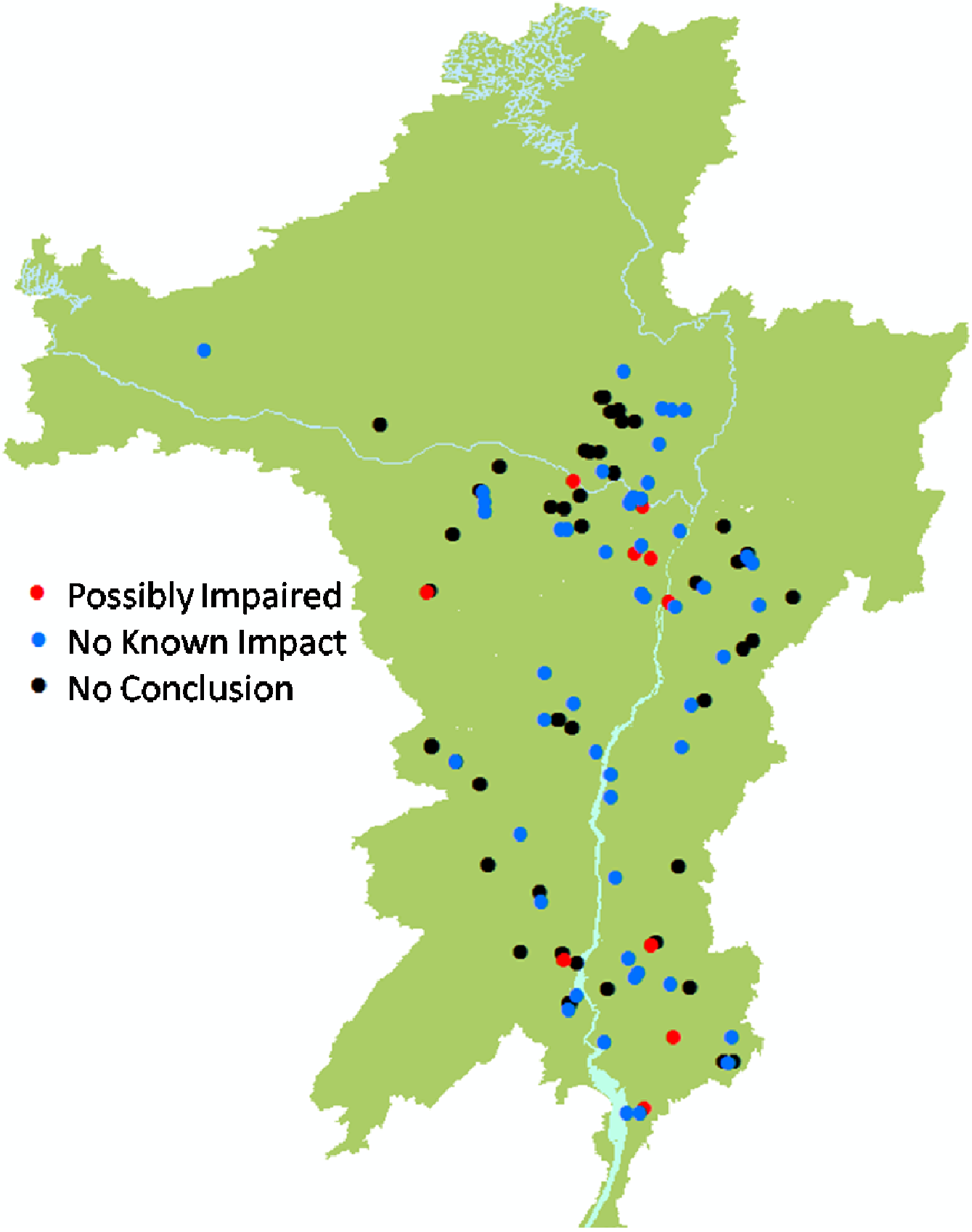

Table 1: 2012 WAVE Data Summary

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the method.

Stream	Station ID	Lat/Lon	Date	Assessment
Alplaus Kill and minor tribs	ALPL03*	42.9247,-73.9406	09/21/12	No Known Impact
Alplaus Kill and minor tribs	ALPL03**	42.9246,-73.9707	09/16/12	No Known Impact
Alplaus Kill and minor tribs	ALPL03A	42.9302,-73.9832	09/23/12	No Known Impact
Alplaus Kill and minor tribs	ALPL06*	42.8670,-73.9027	08/08/12	No Known Impact
Alplaus Kill and minor tribs	ALPL06**	42.8670,-73.9027	08/05/12	No Known Impact
Alplaus Kill and minor tribs	LARU01	42.9246,-73.9707	09/16/12	No Known Impact
Amawalk Reservoir minor tribs	AMAW01*	41.3254,-73.7397	08/07/12	Possibly Impaired
Amawalk Reservoir minor tribs	AMAW01**	41.3254,-73.7397	07/25/12	No Conclusion
Bozen Kill and minor tribs	BOZN00	42.7136,-74.0465	08/25/12	No Conclusion
Bozen Kill and minor tribs	BOZN01	42.7143,-74.0296	09/01/12	No Conclusion
Bozen Kill and minor tribs	BOZN02	42.7221,-73.9924	08/25/12	No Known Impact
Burden Lake tribs	BURD00	42.6253,-73.5645	08/16/12	No Known Impact
Burden Lake tribs	GLAS01	42.6213,-73.5247	09/25/12	No Conclusion
Burden Lake tribs	HRSH00	42.6377,-73.5391	09/25/12	No Conclusion
Burden Lake tribs	HRSH01*	42.6310,-73.5354	09/14/12	No Known Impact
Burden Lake tribs	HRSH01**	42.6310,-73.5354	09/12/12	No Conclusion
Burden Lake tribs	HRSHA*	42.6496,-73.5368	09/28/12	No Known Impact
Burden Lake tribs	HRSHA**	42.6496,-73.5368	09/20/12	No Known Impact
Bushnellsville Creek and tribs	BSNL01 *	42.1239,-74.3991	08/31/12	No Known Impact
Bushnellsville Creek and tribs	BSNL01 **	42.1239,-74.3991	08/29/12	No Conclusion
Bushnellsville Creek and tribs	BSNL02	42.1211,-74.3987	09/21/12	No Known Impact
Caroga Creek, Lower, and tribs	CARO00	43.0017,-74.5398	09/15/12	No Known Impact
Catskill Creek, Upper, and minor tribs	BOWR00	42.3226,-74.0915	08/11/12	No Conclusion
Claverack Creek, Upper, and minor tribs	AGAW02	42.2478,-73.6553	09/14/12	No Known Impact
Claverack Creek, Upper, and minor tribs	CLAV01	42.2326,-73.6898	07/02/12	No Conclusion
Clove Creek	CLVC00	41.4588,-73.9201	09/30/12	No Known Impact
Cobleskill Creek, Lower, and tribs	COBL07A*	42.7025,-74.3445	08/31/12	No Known Impact
Cobleskill Creek, Lower, and tribs	COBL07A**	42.7026,-74.3445	08/25/12	No Conclusion
Coeymans Creek and minor tribs	COEY06*	42.5397,-73.8294	07/20/12	No Conclusion
Coeymans Creek and minor tribs	COEY06**	42.5397,-73.8294	07/14/12	No Conclusion
Coeymans Creek and minor tribs	COEY06	42.5395,-73.8302	07/14/12	No Conclusions
Coeymans Creek and minor tribs	COEY07	42.5292,-73.8195	07/14/12	No Conclusion
Croton River West Branch, Upper, and tribs	BOYD00	41.4708,-73.7484	08/22/12	No Conclusion
East Kill and tribs	GAME01	42.2368,-74.0114	08/19/12	No Conclusion
Esopus Creek, Middle, and minor tribs	ESOPA*	41.8834,-74.1586	08/22/12	No Conclusion
Esopus Creek, Middle, and minor tribs	ESOPA**	41.8834,-74.1586	08/22/12	No Conclusion
Fall Kill and tribs	FKIL 02	41.7622,-73.8996	09/24/12	No Conclusion
Fishkill Creek	FISH 05A	41.5446,-73.8625	09/22/12	No Conclusion
Fishkill Creek, Middle, and minor tribs		41.5780,-74.8017	09/09/12	Possibly Impaired
Fishkill Creek, Middle, and minor tribs	FISH03	41.5878,-73.7897	09/14/12	No Known Impact
Gidneytown Creek and tribs	GIDN00	41.5566,-74.0446	08/10/12	No Known Impact
Gidneytown Creek and tribs	GIDN02	41.5395,-74.0414	08/10/12	Possibly Impaired
Glowegee Creek	GLOW05*	43.0375,-73.9101	08/30/12	No Known Impact
Glowegee Creek	GLOW05**	43.0375,-73.9101	08/28/12	No Conclusion
Gordon Creek	GORC01	43.0086,-73.8796	08/23/12	No Known Impact
Hudson River minor tribs east	ANNS01	41.3153,-73.9311	09/25/12	No Conclusion
Hudson River minor tribs east	ANNS01*	41.3153,-73.9311	08/07/12	No Conclusion

Table 1: 2012 WAVE Data Summary (continued)
The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the method.

Stream	Station ID	Lat,Lon	Date	Assessment
Hudson River minor tribs east	ANNS02	41.3150,-73.9309	09/17/12	No Conclusion
Hudson River minor tribs east	KROMCT*	42.7083,-73.7239	09/28/12	No Conclusion
Hudson River minor tribs east	RWOO01	41.1213,-73.8672	08/23/12	No Conclusion
Hudson River minor tribs west	DOCH01	41.4428,-74.0036	08/20/12	No Conclusion
Hudson River minor tribs west	HRBLA	41.4040,-74.0270	07/29/12	No Conclusion
Hudson River minor tribs west	HRBLB*	41.4189,-74.0225	07/07/12	No Known Impact
Hudson River minor tribs west	HRBLC*	41.4199,-74.0270	08/14/12	No Known Impact
Hudson River minor tribs west	HRBLC**	41.4199,-74.0270	08/05/12	No Conclusion
Hudson River minor tribs west	SAWY01	42.1076,-73.9496	09/09/12	No Conclusion
Indian Kill	INDK02	42.8736,-73.9333	09/03/12	No Conclusion
Kaaterskill Cr, Upper, and minor tribs	KAAT01*	41.1720,-74.0190	09/07/12	No Known Impact
Kaaterskill Cr, Upper, and minor tribs	KAAT01**	42.1720,-74.0190	09/02/12	No Conclusion
Kaaterskill Cr, Upper, and minor tribs	KAATR	42.1947,-74.0920	09/30/12	No Conclusion
Kaaterskill Cr, Upper, and minor tribs	KAATS	42.1953,-74.0548	09/30/12	No Known Impact
Kaaterskill Cr, Upper, and minor tribs	KAATS	42.1953,-74.0555	09/30/12	No Known Impact
Kaaterskill Cr, Upper, and minor tribs	KAATS	42.1955,-74.0570	09/30/12	No Conclusion
Kayaderosseras Creek	KAYD02B	43.0754,-73.9288	08/29/12	No Known Impact
Kayaderosseras Creek	KAYD03*	43.0403,-73.8892	08/30/12	No Known Impact
Kayaderosseras Creek	KAYD03**	43.0403,-73.8892	08/30/12	No Known Impact
Kayaderosseras Creek	KAYD04A*	43.0097,-73.8442	08/30/12	No Known Impact
Kayaderosseras Creek	KAYD04A**	43.0097,-73.8442	08/30/12	No Conclusion
Kayaderosseras Creek	KAYD05	43.0436,-73.7705	09/07/12	No Conclusion
Kayaderosseras Creek	KAYD06	43.0420,-73.7435	09/07/12	No Conclusion
Kayaderosseras tribs	CLVR01	43.0738,-73.9379	08/29/12	No Known Impact
Kayaderosseras tribs	KAYDS	43.1452,-73.8778	08/30/12	No Conclusion
Kinderhook Creek, Upper, and minor tribs	KIND02*	42.5313,-73.4158	08/08/12	No Known Impact
Kinderhook Creek, Upper, and minor tribs	KIND02**	42.5313,-73.4158	07/30/12	No Known Impact
Kinderhook Creek, Upper, and minor tribs	KIND04	42.5082,-73.5087	07/30/12	No Conclusion
Lisha Kill and tribs	LISH03	42.7833,-73.8572	07/11/12	No Conclusion
Lisha Kill and tribs	LISH04B	42.7913,-73.8569	07/23/12	No Conclusion
Little Beaverkill and tribs	LILB01*	42.0195,-74.2675	09/14/12	No Known Impact
Little Beaverkill and tribs	LILB01**	42.0195,-74.2675	09/07/12	No Conclusion
Minor Tribs to East of Hudson	MUDD01	41.9841,-73.9139	07/07/12	No Conclusion
Minor Tribs to West of Hudson	NEWB01*	41.5276,-74.0056	09/20/12	No Known Impact
Minor Tribs to West of Hudson	NEWB01**	41.5276,-74.0056	09/06/12	No Conclusion
Mohawk River minor tribs	BIKE01	42.7775,-73.8227	07/19/12	Possibly Impaired
Mohawk River minor tribs	LOC701	42.8019,-73.8480	08/30/12	No Conclusion
Moordener Kill and minor tribs	MORD02	42.5575,-73.6578	09/29/12	No Conclusion
Moordener Kill North Branch and tribs	MORD05*	42.5692,-73.6769	09/28/12	No Known Impact
Moordener Kill North Branch and tribs	MORD05**	42.5692,-73.6769	09/23/12	No Conclusion
Normans Kill, Lower, and minor tribs	KRUM00	42.6720,-73.8280	09/12/12	No Conclusion
Normans Kill, Lower, and minor tribs	KRUM03	42.6506,-73.8449	09/20/12	Possibly Impaired
Normans Kill, Lower, and minor tribs	NORM10*	42.6343,-73.8014	09/07/12	Possibly Impaired
Normans Kill, Lower, and minor tribs	NORM10**	42.6343,-73.8014	08/24/12	No Conclusion
Normans Kill, Upper, and tribs	NORM01	42.7774,-74.0752	09/27/12	No Known Impact
Normans Kill, Upper, and tribs	NORM02	42.7729,-74.0388	08/15/12	No Known Impact
Platte Kill and tribs	PKIL00	41.6963,-74.1011	08/31/12	No Conclusion

Table 1: 2012 WAVE Data Summary (continued)
The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the method.

Stream	Station ID	Lat,Lon	Date	Assessment
Platte Kill and tribs	PKIL00*	41.6963,-74.1011	09/20/12	No Conclusion
Platte Kill and tribs	PKIL00**	41.6963,-74.1011	09/23/12	No Conclusion
Platte Kill and tribs	PKIL01	41.7253,-74.1047	09/17/12	No Known Impact
Plotter Kill and tribs	PLOT01	42.8454,-74.0129	08/31/12	Possibly Impaired
Pocantico River, Middle, and tribs	POCA00	41.1324,-73.8187	07/08/12	Possibly Impaired
Pocantico River, Middle, and tribs	POCA00	41.1324,-73.8187	09/15/12	Possibly Impaired
Pocantico River, Middle, and tribs	POCA01	41.1213,-73.8334	09/18/12	No Conclusion
Poentic Kill and tribs	POEN01A*	42.8050,-73.9939	08/16/12	No Conclusion
Poentic Kill and tribs	POEN01A**	42.8050,-73.9939	08/10/12	No Known Impact
Poesten Kill, Lower, and minor tribs	POST07*	42.7219,-73.6050	09/28/12	No Known Impact
Poesten Kill, Lower, and minor tribs	POST07**	42.7219,-73.6050	09/24/12	No Conclusion
Rochester Creek and minor tribs	ROCH01	41.7970,-74.2470	09/15/12	No Known Impact
Round Lake minor tribs	TRLK00	42.9483,-73.7808	09/16/12	No Conclusion
Saratoga Lake tribs	SATO01	43.0387,-73.7079	09/27/12	No Conclusion
Schodack Creek/Muitzes Kill and tribs	MUIT01	42.5053,-73.7353	08/26/12	No Conclusion
Schodack Creek/Muitzes Kill and tribs	MUIT03	42.5161,-73.7553	07/21/12	Possibly Impaired
Schodack Creek/Muitzes Kill and tribs	MUIT03	42.5161,-73.7553	08/26/12	No Conclusion
Schoharie Creek minor tribs	WILE01*	42.8203,-74.2678	08/16/12	No Known Impact
Schoharie Creek minor tribs	WILE01**	42.8203,-74.2678	07/27/12	No Conclusion
Schoharie Creek, Lower, Main Stem	PANT01*	42.5442,-74.4125	09/14/12	Possibly Impaired
Schoharie Creek, Lower, Main Stem	SCHO13	42.5489,-74.4068	09/09/12	No Known Impact
Schoharie Creek, Lower, Main Stem	SCHO15	42.7618,-74.2540	08/01/12	No Conclusion
Schoharie Creek, Lower, Main Stem	SCHO15	42.7609,-74.2550	08/10/12	No Conclusion
Schoharie Creek, Lower, Main Stem	SCHO15B*	42.7894,-74.2534	08/08/12	No Conclusion
Schoharie Creek, Lower, Main Stem	SCHO15B**	42.7894,-74.2534	08/01/12	No Conclusion
Schoharie Creek, Lower, Main Stem	SCHO16B	42.8152,-74.2599	07/26/12	No Conclusion
South Chuctanunda Cr, Lower, and tribs	SCHU00	42.8865,-74.2169	07/29/12	No Known Impact
Stony Creek, Lower, and tribs	STCR01	42.7969,-73.8297	09/28/12	No Conclusion
Stony Creek, Lower, and tribs	STNY02	42.0450,-73.9131	07/02/12	No Conclusion
Stony Creek, Upper, and tribs	STCR00	42.8428,-73.8095	09/28/12	No Conclusion
Stony Kill and tribs	STON01	42.4095,-73.5220	07/09/12	No Known Impact
Stony Kill and tribs	STON02*	42.3896,-73.5511	07/13/12	No Known Impact
Stony Kill and tribs	STON02**	42.3896,-73.5511	07/02/12	No Known Impact
Stony Kill and tribs	STON05	42.3684,-73.6032	07/02/12	No Conclusion
Taghkanic Creek, Lower, and tribs	TAGH02A	42.1220,-73.7198	07/02/12	No Conclusion
Tin Brook, Upper, and tribs	TINW00*	41.5584,-74.1583	09/20/12	No Known Impact
Tin Brook, Upper, and tribs	TINW00**	41.5584,-74.1583	09/06/12	No Known Impact
Titicus Reservoir tribs	TICU00	41.3272,-73.5818	08/26/12	No Conclusion
Trout Brook	TOUT01	41.4902,-73.8443	09/22/12	No Conclusion
Trout Brook	WICO01	41.5016,-73.8361	09/22/12	No Conclusion
Upper Cross/Waccabuc River and tribs	CROS00	41.2592,-73.5760	09/24/12	No Known Impact
Upper Cross/Waccabuc River and tribs	CROS01	41.2603,-73.6019	09/27/12	No Known Impact
Upper Cross/Waccabuc River and tribs	CROSA	41.2566,-73.5893	09/20/12	No Conclusion
Vly Creek	VLY400	42.6514,-73.9263	09/22/12	No Conclusion
Wappingers Cr, Upper, and tribs	WAPPE0	41.7925,-73.7262	07/02/12	No Known Impact
West Branch Reservoir minor tribs	HORS02*	41.4635,-73.6942	09/21/12	No Known Impact
West Branch Reservoir minor tribs	HORS02**	41.4635,-73.6942	09/03/12	No Conclusion

Table 1: 2012 WAVE Data Summary (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the method.

Stream	Station ID	Lat,Lon	Date	Assessment
West Canada Creek trib	CANW4T	43.2014,-75.0241	09/22/12	No Conclusion
Woodland Stream and tribs	WOLD01*	42.0781,-74.3360	08/31/12	No Known Impact
Woodland Stream and tribs	WOLD01**	42.0781,-74.3360	08/16/12	No Known Impact
Woodland Stream and tribs	WOLD02	42.0810,-74.3326	09/14/12	No Conclusion

Table 2: 2012 WAVE Data

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Alplaus Kill and minor tribs Station ID: ALPL03* Lat/Lon: 42.9247,-73.9406	09/21/12	Ancylidae	other	No Known Impact
		Baetidae	other	
		Cambaridae	other	
		Corydalidae	MOST	
		Dryopidae	other	
		Elmidae	other	
		Ephemeridae	MOST	
		Gomphidae	MOST	
		Helicopsychidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Odontoceridae	MOST	
		Oligochaeta	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Sialidae	LEAST	
		Tabanidae	LEAST	
		Tipulidae	other	
Alplaus Kill and minor tribs Station ID: ALPL03** Lat/Lon: 42.9246,-73.9707	09/16/12	Helicopsychidae	MOST	No Known Impact
		Heptageniidae	MOST	
		Psephenidae	MOST	
		Elmidae	other	
		Chironomidae	other	
		Corydalidae	MOST	
		Perlidae	MOST	
		Tipulidae	other	
		Gomphidae	MOST	
		Philopotamidae	MOST	
		Isonychiidae	MOST	
		Hydropsychidae	other	
		Corixidae	LEAST	
		Sialidae	LEAST	
		Tabanidae	LEAST	
		Ephemeridae	MOST	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Alplaus Kill and minor tribs Station ID: ALPL03A Lat/Lon: 42.9302,-73.9832	09/23/12	Athericidae	MOST	No Known Impact
		Cambaridae	other	
		Chironomidae	other	
		Corydalidae	MOST	
		Elmidae	other	
		Ephemeridae	MOST	
		Goeridae	other	
		Gomphidae	MOST	
		Helicopsychidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Odontoceridae	MOST	
		Perlidae	MOST	
		Psephenidae	MOST	
		Tabanidae	LEAST	
		Tipulidae	other	
Alplaus Kill and minor tribs Station ID: ALPL06* Lat/Lon: 42.8670,-73.9027	08/08/12	Athericidae	MOST	No Known Impact
		Baetidae	other	
		Cambaridae	other	
		Corydalidae	MOST	
		Elmidae	other	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Nematoda	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Psychomyiidae	other	
		Tabanidae	LEAST	
Alplaus Kill and minor tribs Station ID: ALPL06** Lat/Lon: 42.8670,-73.9027	08/05/12	Athericidae	MOST	No Known Impact
		Baetidae	other	
		Cambaridae	other	
		Corydalidae	MOST	
		Elmidae	other	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Perlidae	MOST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Alplaus Kill and minor tribs Station ID: LARU01 Lat/Lon: 42.9246,-73.9707	09/16/12	Cambaridae Chironomidae Corixidae Corydalidae Elmidae Ephemeridae Gomphidae Helicopsychidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Psephenidae Sialidae Tabanidae Tipulidae	other other LEAST MOST other MOST MOST MOST MOST other MOST MOST MOST MOST LEAST LEAST other	No Known Impact
Amawalk Reservoir minor tribs Station ID: AMAW01* Lat/Lon: 41.3254,-73.7397	08/07/12	Asellidae Caenidae Cambaridae Chironomidae Amphipoda Elmidae Hydrophilidae Hydropsychidae Philopotamidae Physidae Turbellaria	LEAST MOST other other LEAST other other other MOST LEAST LEAST	Possibly Impaired
Amawalk Reservoir minor tribs Station ID: AMAW01** Lat/Lon: 41.3254,-73.7397	07/25/12	Asellidae Caenidae Cambaridae Chironomidae Amphipoda Hydropsychidae Ostracoda Philopotamidae Turbellaria	LEAST MOST other other LEAST other other MOST LEAST	No Conclusion
Bozen Kill and minor tribs Station ID: BOZN00 Lat/Lon: 42.7136,-74.0465	08/25/12	Baetidae Cambaridae Dytiscidae Gomphidae Heptageniidae Tipulidae	other other other MOST MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Bozen Kill and minor tribs Station ID: BOZN01 Lat/Lon: 42.7143,-74.0296	09/01/12	Baetidae Chironomidae Corydalidae Elmidae Heptageniidae Isonychiidae Perlidae Tipulidae	other other MOST other MOST MOST MOST other	No Conclusion
Bozen Kill and minor tribs Station ID: BOZN02 Lat/Lon: 42.7221,-73.9924	08/25/12	Athericidae Baetidae Cambaridae Corydalidae Curculionidae Elmidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Physidae Turbellaria Psephenidae	MOST other other MOST other other MOST other MOST MOST MOST LEAST LEAST MOST	No Known Impact
Burden Lake tribs Station ID: BURD00 Lat/Lon: 42.6253,-73.5645	08/16/12	Athericidae Cambaridae Corydalidae Hydropsychidae Perlidae Philopotamidae Psephenidae Rhyacophilidae	MOST other MOST other MOST MOST MOST MOST	No Known Impact
Burden Lake tribs Station ID: GLAS01 Lat/Lon: 42.6213,-73.5247	09/25/12	Chironomidae Chloroperlidae Dytiscidae Hydropsychidae Perlidae Tipulidae	other MOST other other MOST other	No Conclusion
Burden Lake tribs Station ID: HRSH00 Lat/Lon: 42.6377,-73.5391	09/25/12	Ancylidae Cambaridae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Psephenidae Tipulidae	other other MOST other MOST MOST MOST MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Burden Lake tribs Station ID: HRSH01* Lat/Lon: 42.6310,-73.5354	09/14/12	Aeshnidae	other	No Known Impact
		Ancylidae	other	
		Baetidae	other	
		Cambaridae	other	
		Chironomidae	other	
		Corydalidae	MOST	
		Elmidae	other	
		Glossosomatidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
Burden Lake tribs Station ID: HRSH01** Lat/Lon: 42.6310,-73.5354	09/12/12	Cambaridae	other	No Conclusion
		Corydalidae	MOST	
		Heptageniidae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
Burden Lake tribs Station ID: HRSHA* Lat/Lon: 42.6496,-73.5368	09/28/12	Baetidae	other	No Known Impact
		Cambaridae	other	
		Chironomidae	other	
		Chloroperlidae	MOST	
		Elmidae	other	
		Hydropsychidae	other	
		Lepidostomatidae	MOST	
		Leptophlebiidae	MOST	
		Peltoperlidae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	
		Tipulidae	other	
Burden Lake tribs Station ID: HRSHA** Lat/Lon: 42.6496,-73.5368	09/20/12	Cambaridae	other	No Known Impact
		Chloroperlidae	MOST	
		Elmidae	other	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Peltoperlidae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Tipulidae	other	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Bushnellsville Creek and tribs Station ID: BSNL01 * Lat/Lon: 42.1239,-74.3991	08/31/12	Athericidae Glossosomatidae Heptageniidae Hydropsychidae Isonychiidae Philopotamidae Rhyacophilidae Simuliidae	MOST MOST MOST other MOST MOST MOST LEAST	No Known Impact
Bushnellsville Creek and tribs Station ID: BSNL01 ** Lat/Lon: 42.1239,-74.3991	08/29/12	Chironomidae Chloroperlidae Ephemerellidae Heptageniidae Leptohyphidae Tipulidae	other MOST MOST MOST MOST other	No Conclusion
Bushnellsville Creek and tribs Station ID: BSNL02 Lat/Lon: 42.1211,-74.3987	09/21/12	Athericidae Chloroperlidae Heptageniidae Hydropsychidae Isonychiidae Oligochaeta Perlodidae Philopotamidae Tipulidae	MOST MOST MOST other MOST other MOST MOST other	No Known Impact
Caroga Creek, Lower, and tribs Station ID: CARO00 Lat/Lon: 43.0017,-74.5398	09/15/12	Athericidae Baetidae Cambaridae Glossosomatidae Heptageniidae Hydropsychidae Isonychiidae Oligochaeta Perlidae Philopotamidae Psephenidae Rhyacophilidae Tipulidae	MOST other other MOST MOST other MOST other MOST MOST MOST MOST other	No Known Impact
Catskill Creek, Upper, and minor tribs Station ID: BOWR00 Lat/Lon: 42.3226,-74.0915	08/11/12	Baetidae Chironomidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae	other other MOST other MOST MOST MOST	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Claverack Creek, Upper, and minor tribs Station ID: AGAW02 Lat/Lon: 42.2478,-73.6553	09/14/12	Athericidae Brachycentridae Corydalidae Elmidae Gomphidae Heptageniidae Isonychiidae Oligochaeta Philopotamidae Turbellaria Psephenidae Tipulidae	MOST MOST MOST other MOST MOST MOST other MOST LEAST MOST other	No Known Impact
Claverack Creek, Upper, and minor tribs Station ID: CLAV01 Lat/Lon: 42.2326,-73.6898	07/02/12	Baetidae Brachycentridae Amphipoda Heptageniidae Hydropsychidae Isonychiidae Oligochaeta Perlidae Psephenidae	other MOST LEAST MOST other MOST other MOST MOST	No Conclusion
Clove Creek Station ID: CLVC00 Lat/Lon: 41.4588,-73.9201	09/30/12	Baetidae Cambaridae Corydalidae Ephemeridae Gomphidae Heptageniidae Hydropsychidae Isonychiidae Psephenidae	other other MOST MOST MOST MOST other MOST MOST	No Known Impact
Cobleskill Creek, Lower, and tribs Station ID: COBL07A* Lat/Lon: 42.7025,-74.3445	08/31/12	Baetidae Cambaridae Corydalidae Elmidae Gyrinidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Psephenidae Tabanidae	other other MOST other other MOST other MOST MOST MOST MOST LEAST	No Known Impact

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Cobleskill Creek, Lower, and tribs Station ID: COBL07A** Lat/Lon: 42.7026,-74.3445	08/25/12	Baetidae Cambaridae Chironomidae Corydalidae Elmidae Heptageniidae Hydropsychidae Isonychiidae Psephenidae Rhyacophilidae	other other other MOST other MOST other MOST MOST MOST	No Conclusion
Coeymans Creek and minor tribs Station ID: COEY06* Lat/Lon: 42.5397,-73.8294	07/20/12	Chironomidae Caenidae Corydalidae Amphipoda Hirudinea Hydropsychidae Oligochaeta Sialidae	other MOST MOST LEAST LEAST other other LEAST	No Conclusion
Coeymans Creek and minor tribs Station ID: COEY06** Lat/Lon: 42.5397,-73.8294	07/14/12	Chironomidae Aeshnidae Asellidae Baetidae Caenidae Dytiscidae Amphipoda Hydropsychidae Polymitarcyidae Sialidae	other other LEAST other MOST other LEAST other MOST LEAST	No Conclusion
Coeymans Creek and minor tribs Station ID: COEY06 Lat/Lon: 42.5395,-73.8302	07/14/12	Tipulidae Hydropsychidae Chironomidae Heptageniidae Perlidae Baetidae Leptohyphidae Athericidae Corixidae Leuctridae	other other other MOST MOST other MOST MOST LEAST MOST	No Conclusion
Coeymans Creek and minor tribs Station ID: COEY07 Lat/Lon: 42.5292,-73.8195	07/14/12	Aeshnidae Cambaridae Hydropsychidae Leptohyphidae Perlidae	other other other MOST MOST	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Croton River West Branch, Upper, and tribs Station ID: BOYD00 Lat/Lon: 41.4708,-73.7484	08/22/12	Corydalidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae	MOST MOST other MOST MOST MOST	No Conclusion
East Kill and tribs Station ID: GAME01 Lat/Lon: 42.2368,-74.0114	08/19/12	Cambaridae Corydalidae Heptageniidae Hydropsychidae Perlidae Philopotamidae Tipulidae	other MOST MOST other MOST MOST other	No Conclusion
Esopus Creek, Middle, and minor tribs Station ID: ESOPA* Lat/Lon: 41.8834,-74.1586	08/22/12	Cambaridae Corydalidae Ephemeridae Gomphidae Heptageniidae Oligochaeta Psephenidae Sialidae	other MOST MOST MOST MOST other MOST LEAST	No Conclusion
Esopus Creek, Middle, and minor tribs Station ID: ESOPA** Lat/Lon: 41.8834,-74.1586	08/22/12	Cambaridae Coleoptera Cordulegastridae Ephemeridae Gomphidae Heptageniidae Leuctridae Sialidae Tipulidae	other other LEAST MOST MOST MOST MOST LEAST other	No Conclusion
Fall Kill and tribs Station ID: FKIL 02 Lat/Lon: 41.7622,-73.8996	09/24/12	Cambaridae Corydalidae Elmidae Heptageniidae Hydropsychidae Oligochaeta Philopotamidae Turbellaria Sialidae	other MOST other MOST other other MOST LEAST LEAST	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Fishkill Creek Station ID: FISH 05A Lat/Lon: 41.5446,-73.8625	09/22/12	Baetidae Elmidae Amphipoda Gomphidae Gyrinidae Hydropsychidae Philopotamidae Tipulidae	other other LEAST MOST other other MOST other	No Conclusion
Fishkill Creek, Middle, and minor tribs Station ID: Lat/Lon: 41.5780,-74.8017	09/09/12	Corydalidae Heptageniidae Sialidae Hydropsychidae Isonychiidae Asellidae PELECYPODA Amphipoda Tipulidae Psephenidae Turbellaria Curculionidae	MOST MOST LEAST other MOST LEAST LEAST LEAST other MOST LEAST other	Possibly Impaired
Fishkill Creek, Middle, and minor tribs Station ID: FISH03 Lat/Lon: 41.5878,-73.7897	09/14/12	Athericidae Corydalidae Elmidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Psephenidae Sialidae	MOST MOST other MOST other MOST MOST MOST LEAST	No Known Impact
Gidneytown Creek and tribs Station ID: GIDN00 Lat/Lon: 41.5566,-74.0446	08/10/12	Coenagrionidae Elmidae Gomphidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Potamanthidae Psephenidae	LEAST other MOST MOST other MOST MOST MOST MOST MOST	No Known Impact

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Gidneytown Creek and tribs Station ID: GIDN02 Lat/Lon: 41.5395,-74.0414	08/10/12	Chironomidae Corydalidae Amphipoda Elmidae Heptageniidae Hirudinea Hydropsychidae Isonychiidae Oligochaeta Philopotamidae Turbellaria Sialidae Simuliidae	other MOST LEAST other MOST LEAST other MOST other MOST LEAST LEAST LEAST	Possibly Impaired
Glowegee Creek Station ID: GLOW05* Lat/Lon: 43.0375,-73.9101	08/30/12	Athericidae Baetidae Cambaridae Chironomidae Corydalidae Elmidae Gomphidae Helicopsychidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Psephenidae Tipulidae	MOST other other other MOST other MOST MOST other MOST MOST MOST MOST other	No Known Impact
Glowegee Creek Station ID: GLOW05** Lat/Lon: 43.0375,-73.9101	08/28/12	Perlidae Athericidae Cambaridae Chironomidae Gomphidae Hydropsychidae Isonychiidae Psephenidae	MOST MOST other other MOST other MOST MOST	No Conclusion
Gordon Creek Station ID: GORC01 Lat/Lon: 43.0086,-73.8796	08/23/12	Aeshnidae Athericidae Chironomidae Corydalidae Elmidae Isonychiidae Odontoceridae Perlidae Philopotamidae Psephenidae Tipulidae	other MOST other MOST other MOST MOST MOST MOST MOST other	No Known Impact

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Hudson River minor tribs east Station ID: ANNS01 Lat/Lon: 41.3153,-73.9311	09/25/12	Cambaridae Corydalidae Elmidae Amphipoda Isonychiidae Perlidae Polycentropodidae Psephenidae	other MOST other LEAST MOST MOST MOST MOST	No Conclusion
Hudson River minor tribs east Station ID: ANNS01* Lat/Lon: 41.3153,-73.9311	08/07/12	Aeshnidae Baetidae Corydalidae Elmidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Rhyacophilidae	other other MOST other other MOST MOST MOST MOST	No Conclusion
Hudson River minor tribs east Station ID: ANNS02 Lat/Lon: 41.3150,-73.9309	09/17/12	Chironomidae Corydalidae Hirudinea Hydropsychidae Oligochaeta Turbellaria	other MOST LEAST other other LEAST	No Conclusion
Hudson River minor tribs east Station ID: KROMCT* Lat/Lon: 42.7083,-73.7239	09/28/12	Baetidae Calopterygidae Cambaridae Elmidae Hydropsychidae Oligochaeta Philopotamidae Physidae Psephenidae Simuliidae Tipulidae	other LEAST other other other other MOST LEAST MOST LEAST other	No Conclusion
Hudson River minor tribs east Station ID: RWOO01 Lat/Lon: 41.1213,-73.8672	08/23/12	Cambaridae Amphipoda Turbellaria Baetidae	other LEAST LEAST other	No Conclusion
Hudson River minor tribs west Station ID: DOCH01 Lat/Lon: 41.4428,-74.0036	08/20/12	Asellidae Chironomidae Amphipoda Gomphidae Oligochaeta Polycentropodidae	LEAST other LEAST MOST other MOST	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Hudson River minor tribs west Station ID: HRBLA Lat/Lon: 41.4040,-74.0270	07/29/12	Chironomidae Corixidae Ephemerellidae Leptophlebiidae Leuctridae Sialidae	other LEAST MOST MOST MOST LEAST	No Conclusion
Hudson River minor tribs west Station ID: HRBLB* Lat/Lon: 41.4189,-74.0225	07/07/12	Baetidae Elmidae Gomphidae Heptageniidae Hydropsychidae Lepidostomatidae Leuctridae Odontoceridae Oligochaeta Perlidae Pteronarcidae Rhyacophilidae Tipulidae	other other MOST MOST other MOST MOST MOST other MOST MOST MOST other	No Known Impact
Hudson River minor tribs west Station ID: HRBLC* Lat/Lon: 41.4199,-74.0270	08/14/12	Aeshnidae Baetidae Cambaridae Elmidae Glossosomatidae Hydropsychidae Leuctridae Nematoda Odontoceridae Oligochaeta Perlidae Philopotamidae Pteronarcidae Rhyacophilidae	other other other other MOST other MOST other MOST other MOST MOST MOST MOST	No Known Impact
Hudson River minor tribs west Station ID: HRBLC** Lat/Lon: 41.4199,-74.0270	08/05/12	Corydalidae Elmidae Gomphidae Leuctridae Odontoceridae Oligochaeta Physidae Polycentropodidae Sialidae Tipulidae	MOST other MOST MOST MOST other LEAST MOST LEAST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Hudson River minor tribs west Station ID: SAWY01 Lat/Lon: 42.1076,-73.9496	09/09/12	Asellidae Baetidae Cambaridae Amphipoda Elmidae Heptageniidae Hydropsychidae Oligochaeta	LEAST other other LEAST other MOST other other	No Conclusion
Indian Kill Station ID: INDK02 Lat/Lon: 42.8736,-73.9333	09/03/12	Amphipoda Corydalidae Hydropsychidae Philopotamidae Elmidae Tipulidae Chironomidae Simuliidae Aeshnidae Calopterygidae	LEAST MOST other MOST other other other LEAST other LEAST	No Conclusion
Kaaterskill Cr, Upper, and minor tribs Station ID: KAAT01* Lat/Lon: 41.1720,-74.0190	09/07/12	Baetidae Gomphidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Psephenidae Pteronarcidae Tipulidae	other MOST MOST other MOST MOST MOST MOST other	No Known Impact
Kaaterskill Cr, Upper, and minor tribs Station ID: KAAT01** Lat/Lon: 42.1720,-74.0190	09/02/12	Gomphidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Tipulidae	MOST MOST other MOST MOST other	No Conclusion
Kaaterskill Cr, Upper, and minor tribs Station ID: KAATR Lat/Lon: 42.1947,-74.0920	09/30/12	Ephemerellidae Heptageniidae Hydropsychidae Perlidae Tipulidae	MOST MOST other MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Kaaterskill Cr, Upper, and minor tribs Station ID: KAATS Lat/Lon: 42.1953,-74.0548	09/30/12	Corydalidae Ephemerellidae Heptageniidae Hydropsychidae Perlidae Philopotamidae Polycentropodidae	MOST MOST MOST other MOST MOST MOST	No Known Impact
Kaaterskill Cr, Upper, and minor tribs Station ID: KAATS Lat/Lon: 42.1953,-74.0555	09/30/12	Corydalidae Heptageniidae Hydropsychidae Perlidae	MOST MOST other MOST	No Known Impact
Kaaterskill Cr, Upper, and minor tribs Station ID: KAATS Lat/Lon: 42.1955,-74.0570	09/30/12	Corydalidae Ephemerellidae Heptageniidae Hydropsychidae Oligochaeta Perlidae Tipulidae	MOST MOST MOST other other MOST other	No Conclusion
Kayaderosseras Creek Station ID: KAYD02B Lat/Lon: 43.0754,-73.9288	08/29/12	Aeshnidae Asellidae Athericidae Brachycentridae Corydalidae Elmidae Ephemerellidae Gomphidae Heptageniidae Hydraenidae Hydropsychidae Isonychiidae Oligochaeta Perlidae Psephenidae Rhyacophilidae Sialidae Tipulidae	other LEAST MOST MOST MOST other MOST MOST MOST other other MOST other MOST MOST MOST LEAST other	No Known Impact

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Kayaderosseras Creek Station ID: KAYD03* Lat/Lon: 43.0403,-73.8892	08/30/12	Athericidae	MOST	No Known Impact
		Baetidae	other	
		Cambaridae	other	
		Chironomidae	other	
		Corydalidae	MOST	
		Elmidae	other	
		Glossosomatidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Oligochaeta	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Sialidae	LEAST	
Kayaderosseras Creek Station ID: KAYD03** Lat/Lon: 43.0403,-73.8892	08/30/12	Athericidae	MOST	No Known Impact
		Brachycentridae	MOST	
		Cambaridae	other	
		Chironomidae	other	
		Corydalidae	MOST	
		Elmidae	other	
		Gomphidae	MOST	
		Helicopsychidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	
Kayaderosseras Creek Station ID: KAYD04A* Lat/Lon: 43.0097,-73.8442	08/30/12	Athericidae	MOST	No Known Impact
		Baetidae	other	
		Brachycentridae	MOST	
		Cambaridae	other	
		Chironomidae	other	
		Elmidae	other	
		Ephemerellidae	MOST	
		Glossosomatidae	MOST	
		Helicopsychidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Oligochaeta	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Kayaderosseras Creek Station ID: KAYD04A** Lat/Lon: 43.0097,-73.8442	08/30/12	Athericidae Baetidae Cambaridae Chironomidae Elmidae Heptageniidae Hydropsychidae Isonychiidae Perlidae	MOST other other other other MOST other MOST MOST	No Conclusion
Kayaderosseras Creek Station ID: KAYD05 Lat/Lon: 43.0436,-73.7705	09/07/12	Brachycentridae Caenidae Chironomidae Amphipoda Gomphidae Heptageniidae Macromiidae	MOST MOST other LEAST MOST MOST other	No Conclusion
Kayaderosseras Creek Station ID: KAYD06 Lat/Lon: 43.0420,-73.7435	09/07/12	Baetidae Cambaridae Amphipoda Gomphidae Lestidae Oligochaeta	other other LEAST MOST other other	No Conclusion
Kayaderosseras tribs Station ID: CLVR01 Lat/Lon: 43.0738,-73.9379	08/29/12	Aeshnidae Baetidae Cambaridae Corydalidae Elmidae Ephemerellidae Goeridae Gomphidae Heptageniidae Hydropsychidae Isonychiidae Leuctridae Oligochaeta Perlidae Philopotamidae Psephenidae Pteronarcidae Rhyacophilidae	other other other MOST other MOST other MOST MOST other MOST MOST other MOST MOST MOST MOST MOST	No Known Impact

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Kayaderosseras tribs Station ID: KAYDS Lat/Lon: 43.1452,-73.8778	08/30/12	Baetidae	other	No Conclusion
		Cambaridae	other	
		Chironomidae	other	
		Cordulegastridae	LEAST	
		Ephemerellidae	MOST	
		Goeridae	other	
		Heptageniidae	MOST	
		Hydraenidae	other	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Tipulidae	other	
Kinderhook Creek, Upper, and minor tribs Station ID: KIND02* Lat/Lon: 42.5313,-73.4158	08/08/12	Athericidae	MOST	No Known Impact
		Baetidae	other	
		Brachycentridae	MOST	
		Corydalidae	MOST	
		Elmidae	other	
		Ephemerellidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Perlidae	MOST	
		Perlodidae	MOST	
		Philopotamidae	MOST	
		Simuliidae	LEAST	
		Tipulidae	other	
Kinderhook Creek, Upper, and minor tribs Station ID: KIND02** Lat/Lon: 42.5313,-73.4158	07/30/12	Athericidae	MOST	No Known Impact
		Chironomidae	other	
		Elmidae	other	
		Ephemerellidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Nematoda	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Rhyacophilidae	MOST	
		Tipulidae	other	
		Uenoidae	MOST	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Kinderhook Creek, Upper, and minor tribs Station ID: KIND04 Lat/Lon: 42.5082,-73.5087	07/30/12	Brachycentridae Elmidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Psephenidae Tipulidae	MOST other MOST other MOST MOST MOST other	No Conclusion
Lisha Kill and tribs Station ID: LISH03 Lat/Lon: 42.7833,-73.8572	07/11/12	Aeshnidae Ancylidae Asellidae Baetidae Cambaridae Chironomidae Corydalidae Elmidae Amphipoda Hydropsychidae Limnephilidae Oligochaeta Psephenidae Sialidae Tipulidae	other other LEAST other other other MOST other LEAST other other other MOST LEAST other	No Conclusion
Lisha Kill and tribs Station ID: LISH04B Lat/Lon: 42.7913,-73.8569	07/23/12	Athericidae Cambaridae Corydalidae Elmidae Amphipoda Heptageniidae Hydropsychidae Oligochaeta Psephenidae	MOST other MOST other LEAST MOST other other MOST	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Little Beaverkill and tribs Station ID: LILB01* Lat/Lon: 42.0195,-74.2675	09/14/12	Aeshnidae	other	No Known Impact
		Baetidae	other	
		Cambaridae	other	
		Coenagrionidae	LEAST	
		Corydalidae	MOST	
		Elmidae	other	
		Ephemeridae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Leptophlebiidae	MOST	
		Peltoperlidae	MOST	
		Perlidae	MOST	
		Psephenidae	MOST	
		Tipulidae	other	
Little Beaverkill and tribs Station ID: LILB01** Lat/Lon: 42.0195,-74.2675	09/07/12	Cambaridae	other	No Conclusion
		Corydalidae	MOST	
		Elmidae	other	
		Ephemeridae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Perlidae	MOST	
		Psephenidae	MOST	
Minor Tribs to East of Hudson Station ID: MUDD01 Lat/Lon: 41.9841,-73.9139	07/07/12	Chironomidae	other	No Conclusion
		Corixidae	LEAST	
		Hydropsychidae	other	
		Leuctridae	MOST	
		Sialidae	LEAST	
		Tipulidae	other	
Minor Tribs to West of Hudson Station ID: NEWB01* Lat/Lon: 41.5276,-74.0056	09/20/12	Asellidae	LEAST	No Known Impact
		Baetidae	other	
		Cambaridae	other	
		Corydalidae	MOST	
		Amphipoda	LEAST	
		Glossosomatidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Oligochaeta	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Turbellaria	LEAST	
		Psephenidae	MOST	
		Tipulidae	other	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Minor Tribs to West of Hudson Station ID: NEWB01** Lat/Lon: 41.5276,-74.0056	09/06/12	Asellidae Cambaridae Chironomidae Corydalidae Amphipoda Hirudinea Hydropsychidae Oligochaeta Psephenidae	LEAST other other MOST LEAST LEAST other other MOST	No Conclusion
Mohawk River minor tribs Station ID: BIKE01 Lat/Lon: 42.7775,-73.8227	07/19/12	Asellidae Baetidae Elmidae Amphipoda Hydropsychidae Lymnaeidae Oligochaeta Philopotamidae Sialidae Tipulidae	LEAST other other LEAST other LEAST other MOST LEAST other	Possibly Impaired
Mohawk River minor tribs Station ID: LOC701 Lat/Lon: 42.8019,-73.8480	08/30/12	Aeshnidae Asellidae Baetidae Chironomidae Elmidae Amphipoda Hydropsychidae Oligochaeta Turbellaria Tipulidae	other LEAST other other other LEAST other other LEAST other	No Conclusion
Moordener Kill and minor tribs Station ID: MORD02 Lat/Lon: 42.5575,-73.6578	09/29/12	Baetidae Gomphidae Hydropsychidae Perlidae Philopotamidae Tipulidae	other MOST other MOST MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Moordener Kill North Branch and tribs Station ID: MORD05* Lat/Lon: 42.5692,-73.6769	09/28/12	Aeshnidae Ancylidae Athericidae Brachycentridae Calopterygidae Corydalidae Elmidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Psephenidae Simuliidae Tipulidae Valvatidae	other other MOST MOST LEAST MOST other MOST other MOST MOST MOST MOST LEAST other other	No Known Impact
Moordener Kill North Branch and tribs Station ID: MORD05** Lat/Lon: 42.5692,-73.6769	09/23/12	Aeshnidae Asellidae Athericidae Baetidae Corydalidae Dryopidae Elmidae Hydropsychidae Perlidae Philopotamidae Psephenidae Simuliidae Tipulidae	other LEAST MOST other MOST other other other MOST MOST MOST LEAST other	No Conclusion
Normans Kill, Lower, and minor tribs Station ID: KRUM00 Lat/Lon: 42.6720,-73.8280	09/12/12	Aeshnidae Chironomidae Amphipoda Hydropsychidae Oligochaeta Simuliidae	other other LEAST other other LEAST	No Conclusion
Normans Kill, Lower, and minor tribs Station ID: KRUM03 Lat/Lon: 42.6506,-73.8449	09/20/12	Asellidae Chironomus Amphipoda Hydropsychidae Oligochaeta Tabanidae	LEAST LEAST LEAST other other LEAST	Possibly Impaired

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Normans Kill, Lower, and minor tribs Station ID: NORM10* Lat/Lon: 42.6343,-73.8014	09/07/12	Athericidae Baetidae Bithyniidae Coenagrionidae Elmidae Hirudinea Hydropsychidae PELECYPODA Philopotamidae Physidae Psephenidae Simuliidae Talitridae	MOST other other LEAST other LEAST other LEAST MOST LEAST MOST LEAST other	Possibly Impaired
Normans Kill, Lower, and minor tribs Station ID: NORM10** Lat/Lon: 42.6343,-73.8014	08/24/12	Chironomidae Baetidae Elmidae Amphipoda Hydrophilidae Ostracoda Talitridae	other other other LEAST other other other	No Conclusion
Normans Kill, Upper, and tribs Station ID: NORM01 Lat/Lon: 42.7774,-74.0752	09/27/12	Aeshnidae Cambaridae Corydalidae Gomphidae Heptageniidae Isonychiidae Perlidae Psephenidae Tipulidae	other other MOST MOST MOST MOST MOST MOST other	No Known Impact
Normans Kill, Upper, and tribs Station ID: NORM02 Lat/Lon: 42.7729,-74.0388	08/15/12	Baetidae Corydalidae Gomphidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Polycentropodidae	other MOST MOST MOST other MOST MOST MOST	No Known Impact

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Platte Kill and tribs	08/31/12	Baetidae	other	No Conclusion
Station ID: PKIL00		Cambaridae	other	
Lat/Lon: 41.6963,-74.1011		Elmidae	other	
		Amphipoda	LEAST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Leuctridae	MOST	
		Oligochaeta	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Tipulidae	other	
Platte Kill and tribs	09/20/12	Baetidae	other	No Conclusion
Station ID: PKIL00*		Cambaridae	other	
Lat/Lon: 41.6963,-74.1011		Coenagrionidae	LEAST	
		Elmidae	other	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Pelecypoda	LEAST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Sialidae	LEAST	
		Talitridae	other	
		Tipulidae	other	
Platte Kill and tribs	09/23/12	Asellidae	LEAST	No Conclusion
Station ID: PKIL00**		Baetidae	other	
Lat/Lon: 41.6963,-74.1011		Cambaridae	other	
		Corixidae	LEAST	
		Elmidae	other	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Psephenidae	MOST	
		Sialidae	LEAST	
		Tipulidae	other	
Platte Kill and tribs	09/17/12	Athericidae	MOST	No Known Impact
Station ID: PKIL01		Cambaridae	other	
Lat/Lon: 41.7253,-74.1047		Corydalidae	MOST	
		Elmidae	other	
		Heptageniidae	MOST	
		Isonychiidae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Plotter Kill and tribs Station ID: PLOT01 Lat/Lon: 42.8454,-74.0129	08/31/12	Baetidae Cambaridae Chironomus Corduliidae Corixidae Amphipoda Dixidae Elmidae Phryganeidae Physidae	other other LEAST other LEAST LEAST other other other LEAST	Possibly Impaired
Pocantico River, Middle, and tribs Station ID: POCA00 Lat/Lon: 41.1324,-73.8187	07/08/12	Asellidae Baetidae Caenidae Cambaridae Coenagrionidae Amphipoda Elmidae Hydropsychidae Leptoceridae Oligochaeta Turbellaria Simuliidae	LEAST other MOST other LEAST LEAST other other other other LEAST LEAST	Possibly Impaired
Pocantico River, Middle, and tribs Station ID: POCA00 Lat/Lon: 41.1324,-73.8187	09/15/12	Cambaridae Corydalidae Hydropsychidae Oligochaeta PELECYPODA Turbellaria	other MOST other other LEAST LEAST	Possibly Impaired
Pocantico River, Middle, and tribs Station ID: POCA01 Lat/Lon: 41.1213,-73.8334	09/18/12	Calopterygidae Heptageniidae Peltoperlidae Philopotamidae Rhyacophilidae	LEAST MOST MOST MOST MOST	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Poentic Kill and tribs Station ID: POEN01A* Lat/Lon: 42.8050,-73.9939	08/16/12	Aeshnidae	other	No Conclusion
		Baetidae	other	
		Cambaridae	other	
		Elmidae	other	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Physidae	LEAST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	
		Simuliidae	LEAST	
		Tipulidae	other	
Poentic Kill and tribs Station ID: POEN01A** Lat/Lon: 42.8050,-73.9939	08/10/12	Baetidae	other	No Known Impact
		Cambaridae	other	
		Chironomidae	other	
		Diptera	other	
		Elmidae	other	
		Empididae	other	
		Gomphidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Lepidostomatidae	MOST	
		Leptoceridae	other	
		Leuctridae	MOST	
		Oligochaeta	other	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	
		Tipulidae	other	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Poesten Kill, Lower, and minor tribs Station ID: POST07* Lat/Lon: 42.7219,-73.6050	09/28/12	Athericidae Baetidae Brachycentridae Corydalidae Ephemeridae Goeridae Heptageniidae Hydropsychidae Isonychiidae Nematoda Odontoceridae Perlidae Philopotamidae Physidae Psephenidae Tipulidae	MOST other MOST MOST MOST other MOST other MOST other MOST MOST MOST LEAST MOST other	No Known Impact
Poesten Kill, Lower, and minor tribs Station ID: POST07** Lat/Lon: 42.7219,-73.6050	09/24/12	Asellidae Athericidae Ephemeridae Heptageniidae Hydropsychidae Perlidae Tipulidae	LEAST MOST MOST MOST other MOST other	No Conclusion
Rochester Creek and minor tribs Station ID: ROCH01 Lat/Lon: 41.7970,-74.2470	09/15/12	Baetidae Cambaridae Corydalidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Psephenidae Tipulidae	other other MOST MOST other MOST MOST MOST MOST other	No Known Impact
Round Lake minor tribs Station ID: TRLK00 Lat/Lon: 42.9483,-73.7808	09/16/12	Baetidae Chironomidae Elmidae Ephemerellidae Hydropsychidae Philopotamidae Turbellaria Rhyacophilidae Tipulidae	other other other MOST other MOST LEAST MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Saratoga Lake trib Station ID: SATO01 Lat/Lon: 43.0387,-73.7079	09/27/12	Amphipoda Hydrophilidae Hydropsychidae Leptophlebiidae Tipulidae	LEAST other other MOST other	No Conclusion
Schodack Creek/Muitzes Kill and tribs Station ID: MUIT01 Lat/Lon: 42.5053,-73.7353	08/26/12	Athericidae Baetidae Chironomidae Elmidae Gomphidae Hydropsychidae Philopotamidae Turbellaria Tipulidae	MOST other other other MOST other MOST LEAST other	No Conclusion
Schodack Creek/Muitzes Kill and tribs Station ID: MUIT03 Lat/Lon: 42.5161,-73.7553	07/21/12	Asellidae Baetidae Calopterygidae Cambaridae Chironomidae Elmidae Hirudinea Hydropsychidae PELECYPODA Philopotamidae Turbellaria Rhyacophilidae Tipulidae	LEAST other LEAST other other other LEAST other LEAST MOST LEAST MOST other	Possibly Impaired
Schodack Creek/Muitzes Kill and tribs Station ID: MUIT03 Lat/Lon: 42.5161,-73.7553	08/26/12	Asellidae Athericidae Baetidae Cambaridae Chironomidae Elmidae Heptageniidae Hirudinea Hydropsychidae Philopotamidae Turbellaria Psephenidae Rhyacophilidae Tipulidae	LEAST MOST other other other other MOST LEAST other MOST LEAST MOST MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Schoharie Creek minor tribs Station ID: WILE01* Lat/Lon: 42.8203,-74.2678	08/16/12	Aeshnidae Athericidae Baetidae Cambaridae Chironomidae Corydalidae Elmidae Heptageniidae Hydropsychidae Leuctridae Lymnaeidae Perlidae Polycentropodidae Psephenidae Simuliidae Tipulidae	other MOST other other other MOST other MOST other MOST LEAST MOST MOST MOST LEAST other	No Known Impact
Schoharie Creek minor tribs Station ID: WILE01** Lat/Lon: 42.8203,-74.2678	07/27/12	Aeshnidae Cambaridae Chironomidae Corydalidae Heptageniidae Hydropsychidae Oligochaeta Perlidae Tipulidae	other other other MOST MOST other other MOST other	No Conclusion
Schoharie Creek, Lower, Main Stem Station ID: PANT01* Lat/Lon: 42.5442,-74.4125	09/14/12	Asellidae Baetidae Elmidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Physidae Psephenidae Pteronarcidae Simuliidae Tabanidae	LEAST other other MOST other MOST MOST LEAST MOST MOST LEAST LEAST	Possibly Impaired

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Schoharie Creek, Lower, Main Stem Station ID: SCHO13 Lat/Lon: 42.5489,-74.4068	09/09/12	Corydalidae Heptageniidae Philopotamidae Psephenidae Perlidae Hydropsychidae Athericidae Isonychiidae Simuliidae Baetidae	MOST MOST MOST MOST MOST other MOST MOST LEAST other	No Known Impact
Schoharie Creek, Lower, Main Stem Station ID: SCHO15 Lat/Lon: 42.7618,-74.2540	08/01/12	Cambaridae Corydalidae Elmidae Hydropsychidae Isonychiidae Perlidae Polycentropodidae Tipulidae	other MOST other other MOST MOST MOST other	No Conclusion
Schoharie Creek, Lower, Main Stem Station ID: SCHO15 Lat/Lon: 42.7609,-74.2550	08/10/12	Cambaridae Corydalidae Hydropsychidae Tipulidae	other MOST other other	No Conclusion
Schoharie Creek, Lower, Main Stem Station ID: SCHO15B* Lat/Lon: 42.7894,-74.2534	08/08/12	Baetidae Chironomidae Corydalidae Elmidae Heptageniidae Hydropsychidae Isonychiidae Leptohyphidae PELECYPODA Perlidae Simuliidae	other other MOST other MOST other MOST MOST LEAST MOST LEAST	No Conclusion
Schoharie Creek, Lower, Main Stem Station ID: SCHO15B** Lat/Lon: 42.7894,-74.2534	08/01/12	Baetidae Corydalidae Elmidae Heptageniidae Isonychiidae Perlidae Tipulidae	other MOST other MOST MOST MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Schoharie Creek, Lower, Main Stem Station ID: SCHO16B Lat/Lon: 42.8152,-74.2599	07/26/12	Aeshnidae Corydalidae Elmidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Rhyacophilidae	other MOST other other MOST MOST MOST MOST	No Conclusion
South Chuctanunda Cr, Lower, and tribs Station ID: SCHU00 Lat/Lon: 42.8865,-74.2169	07/29/12	Athericidae Caenidae Cambaridae Elmidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Philopotamidae Psephenidae Tipulidae	MOST MOST other other MOST other MOST MOST MOST MOST other	No Known Impact
Stony Creek, Lower, and tribs Station ID: STCR01 Lat/Lon: 42.7969,-73.8297	09/28/12	Corydalidae Elmidae Heptageniidae Hydropsychidae Philopotamidae Psephenidae	MOST other MOST other MOST MOST	No Conclusion
Stony Creek, Lower, and tribs Station ID: STNY02 Lat/Lon: 42.0450,-73.9131	07/02/12	Baetidae Amphipoda Haliplidae Hydropsychidae Rhyacophilidae Talitridae	other LEAST LEAST other MOST other	No Conclusion
Stony Creek, Upper, and tribs Station ID: STCR00 Lat/Lon: 42.8428,-73.8095	09/28/12	Corduliidae Hydropsychidae	other other	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Stony Kill and tribs	07/09/12	Elmidae	other	No Known Impact
Station ID: STON01		Ephemerellidae	MOST	
Lat/Lon: 42.4095,-73.5220		Hydropsychidae	other	
		Isonychiidae	MOST	
		Leuctridae	MOST	
		Perlidae	MOST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	
		Tabanidae	LEAST	
		Tipulidae	other	
Stony Kill and tribs	07/13/12	Athericidae	MOST	No Known Impact
Station ID: STON02*		Baetidae	other	
Lat/Lon: 42.3896,-73.5511		Brachycentridae	MOST	
		Cambaridae	other	
		Chironomidae	other	
		Coleoptera	other	
		Elmidae	other	
		Ephemerellidae	MOST	
		Gomphidae	MOST	
		Heptageniidae	MOST	
		Hydropsychidae	other	
		Isonychiidae	MOST	
		Leuctridae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	
		Tipulidae	other	
Stony Kill and tribs	07/02/12	Athericidae	MOST	No Known Impact
Station ID: STON02**		Baetidae	other	
Lat/Lon: 42.3896,-73.5511		Brachycentridae	MOST	
		Cambaridae	other	
		Chironomidae	other	
		Corydalidae	MOST	
		Elmidae	other	
		Ephemerellidae	MOST	
		Hydropsychidae	other	
		Hydroptilidae	MOST	
		Isonychiidae	MOST	
		Leptophlebiidae	MOST	
		Perlidae	MOST	
		Philopotamidae	MOST	
		Psephenidae	MOST	
		Rhyacophilidae	MOST	
		Tipulidae	other	

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Stony Kill and tribs Station ID: STON05 Lat/Lon: 42.3684,-73.6032	07/02/12	Baetidae Chironomidae Corydalidae Heptageniidae Hydropsychidae Oligochaeta Psephenidae Rhyacophilidae	other other MOST MOST other other MOST MOST	No Conclusion
Taghkanic Creek, Lower, and tribs Station ID: TAGH02A Lat/Lon: 42.1220,-73.7198	07/02/12	Cambaridae Chironomidae Corydalidae Heptageniidae Hydropsychidae Isonychiidae Perlidae Psephenidae	other other MOST MOST other MOST MOST MOST	No Conclusion
Tin Brook, Upper, and tribs Station ID: TINW00* Lat/Lon: 41.5584,-74.1583	09/20/12	Baetidae Cambaridae Corydalidae Amphipoda Elmidae Heptageniidae Hydropsychidae Isonychiidae Odontoceridae PELECYPODA Perlidae Psephenidae Tipulidae	other other MOST LEAST other MOST other MOST MOST LEAST MOST MOST other	No Known Impact
Tin Brook, Upper, and tribs Station ID: TINW00** Lat/Lon: 41.5584,-74.1583	09/06/12	Cambaridae Elmidae Heptageniidae Hydropsychidae Isonychiidae Nematoda Odontoceridae Perlidae Philopotamidae Psephenidae Ptilodactylidae Tipulidae	other other MOST other MOST other MOST MOST MOST MOST other other	No Known Impact

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Titicus Reservoir tribs Station ID: TICU00 Lat/Lon: 41.3272,-73.5818	08/26/12	Cambaridae Chironomus Corydalidae Heptageniidae Oligochaeta	other LEAST MOST MOST other	No Conclusion
Trout Brook Station ID: TOUT01 Lat/Lon: 41.4902,-73.8443	09/22/12	Corydalidae Ephemerellidae Heptageniidae Hydropsychidae Perlidae Pteronarcidae Tipulidae	MOST MOST MOST other MOST MOST other	No Conclusion
Trout Brook Station ID: WICO01 Lat/Lon: 41.5016,-73.8361	09/22/12	Elmidae Gomphidae Heptageniidae Hydropsychidae Isonychiidae Odontoceridae Pteronarcidae Tipulidae	other MOST MOST other MOST MOST MOST other	No Conclusion
Upper Cross/Waccabuc River and tribs Station ID: CROS00 Lat/Lon: 41.2592,-73.5760	09/24/12	Athericidae Baetidae Cambaridae Corydalidae Heptageniidae Isonychiidae Perlidae Philopotamidae Psephenidae	MOST other other MOST MOST MOST MOST MOST MOST	No Known Impact
Upper Cross/Waccabuc River and tribs Station ID: CROS01 Lat/Lon: 41.2603,-73.6019	09/27/12	Baetidae Cambaridae Corydalidae Gomphidae Heptageniidae Perlidae Philopotamidae Psephenidae	other other MOST MOST MOST MOST MOST MOST	No Known Impact
Upper Cross/Waccabuc River and tribs Station ID: CROSA Lat/Lon: 41.2566,-73.5893	09/20/12	Baetidae Corydalidae Isonychiidae Perlidae Psephenidae	other MOST MOST MOST MOST	No Conclusion

Table 2: 2012 WAVE Data (continued)

The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
Vly Creek Station ID: VLY400 Lat/Lon: 42.6514,-73.9263	09/22/12	Perlidae Baetidae Philopotamidae Psephenidae Chironomidae Heptageniidae Elmidae Glossosomatidae Stratiomyidae	MOST other MOST MOST other MOST other MOST other	No Conclusion
Wappingers Cr, Upper, and tribs Station ID: WAPPE0 Lat/Lon: 41.7925,-73.7262	07/02/12	Corydalidae Hydropsychidae Isonychiidae Oligochaeta Perlidae Philopotamidae Psephenidae Rhyacophilidae	MOST other MOST other MOST MOST MOST MOST	No Known Impact
West Branch Reservoir minor tribs Station ID: HORS02* Lat/Lon: 41.4635,-73.6942	09/21/12	Athericidae Baetidae Cambaridae Corydalidae Elmidae Glossosomatidae Gomphidae Heptageniidae Hydropsychidae Isonychiidae Oligochaeta Perlidae Psephenidae Sialidae Tipulidae	MOST other other MOST other MOST MOST MOST other MOST other MOST MOST LEAST other	No Known Impact
West Branch Reservoir minor tribs Station ID: HORS02** Lat/Lon: 41.4635,-73.6942	09/03/12	Cambaridae Cordulegastridae Corydalidae Hydropsychidae Oligochaeta Perlidae Tipulidae	other LEAST MOST other other MOST other	No Conclusion

Table 2: 2012 WAVE Data (continued)
The (*) or (**) marks special study sites. These sites were sampled by both the WAVE coordinator (*) and a citizen monitor(**) in order to assess the accuracy of the WAVE method.

Location	Date	Organisms	Category	Assessment
West Canada Creek trib Station ID: CANW4T Lat/Lon: 43.2014,-75.0241	09/22/12	Baetidae Cambaridae Cordulegastridae Elmidae Hydropsychidae Peltoperlidae Perlodidae Pteronarcidae Rhyacophilidae Tipulidae	other other LEAST other other MOST MOST MOST MOST other	No Conclusion
Woodland Stream and tribs Station ID: WOLD01* Lat/Lon: 42.0781,-74.3360	08/31/12	Aeshnidae Brachycentridae Glossosomatidae Heptageniidae Hydropsychidae Isonychiidae Lepidostomatidae Perlidae Perlodidae Philopotamidae Tipulidae	other MOST MOST MOST other MOST MOST MOST MOST MOST other	No Known Impact
Woodland Stream and tribs Station ID: WOLD01** Lat/Lon: 42.0781,-74.3360	08/16/12	Brachycentridae Chironomidae Chloroperlidae Elmidae Heptageniidae Isonychiidae Leuctridae Philopotamidae Tipulidae	MOST other MOST other MOST MOST MOST MOST other	No Known Impact
Woodland Stream and tribs Station ID: WOLD02 Lat/Lon: 42.0810,-74.3326	09/14/12	Heptageniidae Hydropsychidae Isonychiidae Perlidae Tipulidae	MOST other MOST MOST other	No Conclusion

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CT DEP. 2003. “Rapid Bioassessment in Water Streams and Rivers by Volunteer Monitors” Quality Assurance Project Plan. CT Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division, Hartford, CT

Nerbonne, F.J. and B. Vondracek. 2003. Volunteer Macroinvertebrate Monitoring: Assessing Training Needs through Examining Error and Bias in Untrained Volunteers. *Journal of the North American Benthological Society*. 22(1): 152-163

APPENDIX 1: Other Opportunities in the Hudson River Estuary

The Hudson River Estuary Program protects and improves the natural and scenic Hudson River watershed for all its residents. You can help! The following pages describe opportunities for individuals or communities.

Opportunities for Individual Participation:

Amphibian Migrations and Road Crossings Project

In early spring, forest amphibians move from their woodland habitat to breed in vernal pools, often making dangerous road crossings. Volunteers can help conserve salamanders, frogs, and toads by moving them to safety during migrations, locating high-mortality crossings, and collecting data on this spring phenomenon. Following guidance on the DEC website, volunteers survey roads or known crossings for a few hours during "Big Night" migrations, usually in late March or early April. All ages are welcome, but younger volunteers should be closely supervised due to road safety concerns. Visit www.dec.ny.gov/lands/51925.html or contact: woodlandpool@gw.dec.state.ny.us

North American Amphibian Monitoring Program (NAAMP)

Frog and toad populations around the world are declining due to habitat loss, climate change, fungal disease, and contaminants. Monitoring programs that keep track of where frogs and toads are and how they are doing will be a critical part of their conservation and long-term sustainability. Volunteers drive a pre-determined route just after sunset four times throughout the spring and summer and listen for calling frogs and toads for five minutes at each of the ten stops on the route. Prior training is provided, and passing an online quiz on identifying frog and toad calls is required. Volunteers must be at least 16 years old. Visit www.dec.ny.gov/animals/50247.html or contact: FrogandToad@gw.dec.state.ny.us

American Eel Research (with Hudson River Research Reserve)

With the decline of American eels on the East Coast, research is critical to understand the behavior and habitats of juvenile "glass eels" that migrate from the Sargasso Sea to Hudson River tributaries to conserve them. Teams of scientists, community volunteers, and students go to their sites on designated days in April and May and record data about glass eels, assess environmental conditions, and release the eels to continue their journey. All volunteers under 18 are accompanied by an adult experienced in the eel research project. On-site training is provided. Visit www.dec.ny.gov/lands/49580.html or contact: chbowser@gw.dec.state.ny.us

River Herring Monitoring Program

River herring stocks along the East Coast are declining, likely due to a combination of dams, water quality issues, invasive species, over fishing, bycatch losses, and increases in predator populations. Monitoring Hudson River tributaries will help determine the extent of their use by migratory river herring during spring spawning months. Volunteers visit their local tributary twice a week from April 1st to May 31st and observe the stream for 15 minutes each visit, monitoring for signs of river herring. River herring identification training is provided. Visit www.dec.ny.gov/animals/41545.html or contact: r3hermon@gw.dec.state.ny.us

"Trees for Tribs"

The Hudson River Estuary Program's "Trees for Tribs" initiative offers free native plants to landowners who qualify for stream buffer restoration projects. The program was developed to reforest unhealthy stream buffers along tributaries ("tribs") in the Hudson River Estuary watershed. "Trees for Tribs" hosts volunteers for seedling potting events in late April at the NYSDEC Region 3 Office in New Paltz and for tree planting throughout the Hudson Valley in May. All ages are welcome, but younger volunteers must be accompanied by an adult. On-site training is provided. Visit www.dec.ny.gov/lands/43668.html or contact: baroessl@gw.dec.state.ny.us

Opportunities for Community Based Water Quality Conservation

Improving Water Quality - A Watershed Approach

A watershed is the land area that drains to a common body of water, such as a river, stream, lake or estuary. Watersheds can be large or small, and larger watersheds comprise many smaller watersheds. For example, the Hudson River Estuary watershed includes the watersheds of many smaller streams that flow into it (called tributaries). Land use within the watershed directly impacts the quality of water downstream.

Why is Watershed Management Important?

Municipalities and landowners should understand watersheds as key geographic units when making local land-use and water resource decisions. Development of or disturbance to natural areas can translate into water quality impairments and biological stresses. A DEC 30-year trends report on water quality, released in 2004, estimated that over half of the streams in the Hudson River watershed have some degree of impairment and that more streams have declined in water quality than improved. According to DEC, stormwater runoff is the leading source of impairment to Hudson River tributaries.

Through the watershed planning process, community leaders, watershed advocates, scientists and local governments work together to develop watershed conservation strategies. This process facilitates communication and partnerships among local stakeholders to document current watershed conditions and accomplish projects. Watershed-based planning is the foundation of the Hudson River Estuary Program's watershed initiative. It focuses on protecting healthy streams before they become degraded, while also striving to improve water quality in impacted streams. We use community-based conservation at the watershed scale to effect local changes.

Tools for Protecting Water Quality

- Grants for watershed planning and implementation are available from the Hudson River Estuary Program. Visit: http://www.dec.ny.gov/lands/5091.html
- Stream Buffer Protection and Restoration for Hudson River Tributaries: Our Trees for Tribs Program provides free technical support and plantings to landowners interested in restoring riparian buffers. Visit: http://www.dec.ny.gov/lands/43668.html
- Dam Removal/Barrier Mitigation: Dams and culverts can disrupt important hydrologic processes and stream biology. The Hudson River Estuary Program works with partners to prioritize barriers for removal and mitigation to maintain fish and wildlife, provides a training manual and field sheets for citizen scientists to inventory barriers, and provides technical and financial support for removing dams. Dam Removal and Barrier Mitigation in New York State (http://www.dec.ny.gov/docs/remediation_hudson_pdf/damremoval.pdf) is a resource for applicants with an interest in removing a dam or implementing an aquatic barrier mitigation project. For more information, contact the Estuary Program.
- Green Infrastructure Examples for Stormwater Management in the Hudson Valley (http://www.dec.ny.gov/lands/58930.html): This site provides information on local green infrastructure practices, such as rain gardens, swales, porous pavement and green roofs. Green infrastructure manages stormwater while maintaining or restoring natural hydrology, reducing management costs and providing long-term benefits to communities.
- Better Site Design: Better site design is an approach to development that uses a set of design principles to protect natural areas, reduce impervious surfaces, and better integrate stormwater treatment in development projects, with an emphasis on changing municipal codes. The Hudson River Estuary Program provides tools and technical support for implementing better site design in Hudson River Estuary watershed communities. Visit: http://www.dec.ny.gov/lands/42053.html

- Hudson River Estuary Program staff are available to provide presentations, technical assistance, and other support to efforts to maintain water quality in the Hudson watershed. For more information, call the Estuary Program at 845-256-3016.