



The Stream Watcher

Fall - September 2008

Watershed Management Mission

Protecting and enhancing our watershed through chemical, physical, and biological monitoring, restoration, appropriate action, and education. Volunteers are the key!

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Cleaning Our Streams

Volunteers Remove 5 tons of debris from local waterways



Motor oil, coffee cups, bleach bottles. Have you ever wondered what happens to all that trash? It certainly doesn't just disappear. With every rain event, trash gets washed closer to a storm drain, eventually ending up in our streams and rivers, polluting our land and water. Unless of course someone picks it up.

Building on the success of the Stony Brook-Millstone Watershed Association's inaugural Stream Clean-up in 2007, more than 235 volunteers from across nine municipalities – including Cranbury, East Windsor, Franklin, Hightstown, Lawrence, Millstone, Monroe, the Princetons and West Windsor – did just that, hauling out a combined total of over 10,000 pounds, or 5 tons, of trash from local waterways April 5th, 6th, 12th and 13th.

"It was really exciting to see so many new faces getting down and dirty to help clean up our local brooks, streams, rivers and the Delaware & Raritan Canal," said Anneli TerryNelson, Watershed Watch Coordinator. "This year Andy White, our AmeriCorps Watershed Ambassador, consciously sought out municipal partners who might not have been as familiar with the Watershed Association and its mission. He was tremendously successful and more than doubled our volunteer participation and the amount of trash collected, a great accomplishment for just our second Stream Clean-up."

In 2007, the Watershed Association partnered with five municipalities and with the help of more than 100 volunteers hauled a little over 4,000 pounds of trash from area waterways.

This year, first time partners East Windsor, Hightstown, West Windsor and Monroe found the 2008 clean-ups to be motivating in ways they couldn't have imagined.

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UPDATES AND HAPPENINGS

StreamWatch volunteers belong to a water quality monitoring community that covers the 265-square miles of the Stony Brook-Millstone Watershed. Now, the program joins approximately 46,000 people in 43 countries to be part of an even larger monitoring community by participating in World Water Monitoring Day. World Water Monitoring Day is an international education and outreach effort that builds public awareness and involvement in protecting water resources around the world by engaging citizens through basic monitoring of their local water bodies. As part of World Water Monitoring Day, people are encouraged to monitor their local streams and lakes from September 18 to October 18 and enter the data in an online database. This year, the Watershed Association became a partner to raise awareness about the event. Staff also enter data collected by StreamWatch volunteers on a select group of sites on the Beden Brook, Stony Brook and Millstone River. If you are interested in entering data from your stream, contact Beth April at (609) 737-3735 ext. 17. Together, we can raise awareness about the importance of monitoring and watershed health. Learn more at www.wvmd.org.



As an added dimension to our Chemical Action Teams, Watershed staff collected water samples that were sent to a lab to be analyzed for levels of total phosphorus, orthophosphate, and nitrates. These samples were collected in early September at five sites on the Stony Brook, Honey Brook, Harry's Brook, Beden Brook, and Millstone River. The results allow us to measure nutrient levels outside the limits of our testing kits. For example, if a volunteer normally finds levels of phosphate that are less than 0.2 ppm, lab analysis allows us to determine how much below 0.2 ppm the levels actually are. Results will be reported in the December issue of *The StreamWatcher*.

WATER QUALITY RATINGS BASED ON JULY 2008 BIOLOGICAL DATA

The water quality rating is based on a combination of the organisms' tolerance to pollution; the number of different families in the sample; the number of families and individual organisms belonging to the Orders *Ephemeroptera* (mayflies), *Plecoptera* (stoneflies), and *Trichoptera* (caddisflies); and the percent dominance of one family. In general, a non-impaired stream has a diversity of different families, organisms with low tolerances to pollution (those generally belonging to *Ephemeroptera*, *Plecoptera*, and *Trichoptera*), and a low percent dominance, which is an indicator of diversity. A moderately impaired stream may be experiencing low species diversity due to a lack of diverse habitat and/or a majority of organisms with high tolerances to pollution. Causes of pollution in our streams include runoff containing high amounts of fertilizers, pesticides, oil, sediment, and/or pet waste.

| | |
|------------------------|---------------------|
| • Big Bear Brook (BB1) | Moderately Impaired |
| • Beden Brook (BD1) | Moderately Impaired |
| • Beden Brook (BD3) | Not Sampled |
| • Beden Brook (BD4) | Non-Impaired |
| • Back Brook (BK1) | Non-Impaired |
| • Cranbury Brook (CB2) | Moderately Impaired |
| • Stony Brook (SB1) | Non-Impaired |
| • Stony Brook (SB2) | Moderately Impaired |
| • Stony Brook (SB3) | Non-Impaired |
| • Stony Brook (SB4) | Severely Impaired |
| • Stony Brook (SB5) | Moderately Impaired |
| • Six Mile Run (SM1) | Moderately Impaired |
| • Ten Mile Run (TM1) | Non-Impaired |

Watershed Associations Urge Residents to Use Care When Selecting Driveway Sealants

by Patti Ruby, Upper Raritan Watershed Association



There are many pollutants, including fertilizers and motor oil, which are washed from our lawns and driveways each time it rains and eventually enter our streams and lakes. One such contaminant is polycyclic aromatic hydrocarbons (PAH), a known carcinogen that degrades fish health and inhibits reproduction while increasing mortality in aquatic invertebrates, stream critters that are used as indicators of stream health.

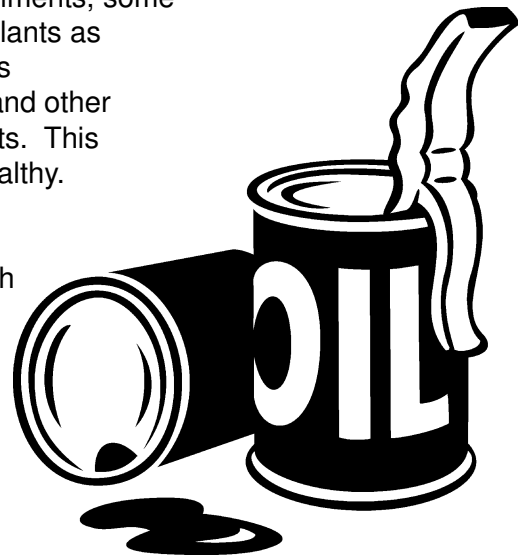
While PAHs originate from auto exhaust, motor oil, gasoline, tire particles, and lubricating oils, studies performed by the United States Geological Survey and other scientists have identified a previously overlooked and significant source of this contaminant – black top. People may enjoy the aesthetics of their freshly sealed driveway or parking lot, but many of the products used to enhance the appearance and increase the longevity of asphalt contain 50% or more PAHs by weight.

The two primary sealcoat products available today are coal-tar-pitch-based emulsions and asphalt-based emulsions. All sealants must be reapplied every two to three years as the material is worn away by vehicle and pedestrian traffic as well as the elements. Studies that have evaluated and compared the particulates that wash off sealed and unsealed surfaces have found that coal tar sealed surfaces produce five times the amount of PAH contaminants as those treated with an asphalt-based emulsion sealant. The pollution derived from coal tar sealed surfaces was 65 times that originating from unsealed pavement.

After such studies identified coal tar based pavement sealants as a significant source of the polycyclic aromatic hydrocarbon (PAH) contamination found in stream sediments, some communities banned the sale and use of coal tar containing sealants as numerous alternatives are available. For now, please read labels carefully when purchasing sealcoat for driveways, parking lots, and other paved surfaces to be sure they do not contain coal-tar ingredients. This simple contribution will help to keep our streams and families healthy.

For more information, visit the United States Geological Survey website at www.usgs.gov and enter "PAH driveway" in the search box.

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“When people, especially young people, participate in clean-ups like this they really become conscious of the impact trash and litter have on our area waterways and are moved to keep our entire community litter-free,” said East Windsor Mayor Janice Mironov, who was on hand personally for the clean-up. “We are hopeful that the energy and spirit from our clean-up will carry over to further the goal of keeping all our area waterways as clean as possible.”

Gary Grubb, Hightstown Environmental Commission and Parks and Recreation Commission member, agrees. “It was a great experience, one that really helped make our community look much nicer than when we started,” he said. “Three cheers or more for the Watershed!”

For many volunteers it was a real learning experience. Robert Connacher, a volunteer at the clean-up in West Windsor, said that removing the garbage brought him a sense of fulfillment and accomplishment. “I enjoyed how so many people were willing to come out and work together to make a difference in the community,” he said. “I had no idea there was so much pollution in the D&R Canal and on the banks.”

And as Andrew Kulley of the West Windsor Environmental Commission and trustee with the Friends of West Windsor Open Space points out, events like the clean-up affect more than just the participants.

“The primary benefit came from carrying out hundreds of pounds of garbage from the D&R Canal,” he said. “But a secondary benefit came from all the people who witnessed the clean up while walking or biking on the tow path. It really calls attention to the problem of litter and waste material and hopefully makes them think twice the next time they think about tossing their water bottle or latte cup.”



Volunteers help lift a shopping cart out of Rocky Brook Environmental Resource Area on April 5, 2008.

In other areas, the clean-ups became a real team-building experience between both the community and township staff. In Franklin, the Environmental Commission received hearty support from the City Council and Public Works Department, who lent a hand and some heavy equipment.

“Without the bulldozer and other help from Public Works we wouldn’t have been able to make as large a dent as we did in Hawthorne Park, an undeveloped park in our area that’s suffered from 70 years of dumping,” said John Clyde, Franklin Township Environmental Commission member. “We pulled out a car, oil burner and countless bags of trash. The way people came out was amazing.”

“Any clean-up small or large is beneficial to our entire watershed and our ecosystem,” added Tom Sanderson of Franklin’s Public Works, who has been cleaning up his town since 1985. “Every bit counts whether it’s two bags or 50 bags; it all goes towards the same crucial environmental cause.”

Douglas Lischick, of the Environmental Commission in Millstone, echoed similar sentiments.

“In Millstone, everyone had a great time, met new people, and got a chance to improve our community,” he said. “It’s a job that never seems to be done, but after the clean-up you could actually see a real difference and that’s a very positive thing. We can’t wait to give it another shot next year and make an even greater impact.”

The 2008 clean-ups were co-sponsored by the Watershed Association, participating municipalities, American Rivers, Eastern Mountain Sports, Saul Ewing, Wegmans, and Whole Foods, with additional Clean Communities funding for Cranbury, Lawrence and West Windsor.



A volunteer removes trash near a stream in Millstone Township.

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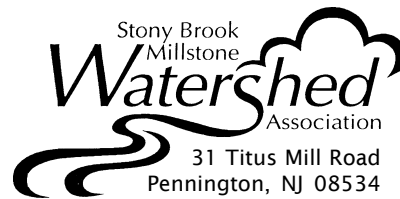
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DATES TO REMEMBER

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| September 27 th | 33rd Annual Watershed Fest. Join us for dinner and auctions to support the Watershed Association! Call (609) 737-3735 x. 10 for more information. Auction donations welcome. |
| October | RAT Month! Time to walk your stream beats! Contact Beth April at (609) 737-3735 x.17 or bapril@thewatershed.org for more information. |
| October 4 th | CATs testing weekend. |
| October 18 th | CATs testing weekend. |
| October 18 th | BATs Identification Day from 9:30 am - 4:00 pm at the Kingsford Community Room. Remember that your macroinvertebrate sample can be collected up to two weeks before the identification day! Contact Beth April for more information or to pick up your sampling equipment. |
| November 1 st | CATs testing weekend. |
| November 15 th | CATs testing weekend. |
| November 17 th & 18 th | Volunteer Monitoring Summit at Frelinghuysen Arboretum, Morris County. Visit http://www.nj.gov/dep/wms/bfbm/vm/events.html for more information |
| November 29 th | CATs testing weekend. |
| December 13 th | CATs testing weekend |
| December 27 th | CATs testing weekend |

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