

WATERSHED

A Newsletter of the Wood-Pawcatuck Watershed Association

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Rock Snot Invades Pristine Streams in New England *By Denise Poyer*

Usually, invasive aquatic plants are lovely, flower bearing organisms that found their way into our yards because of their charm or function. Plants such as purple loosestrife and water chestnut can still be bought through nurseries to populate your water gardens. They work their way into our hearts and then into our streams and ponds, wreaking havoc with native plants and wildlife. But *Didymo* (*Didymosphenia geminata*) is a species no one could love or want. Its common alias, rock snot, describes it to a T.

Didymo is a microscopic diatom, a type of single-celled algae. Under a microscope its shape is similar to a Coke bottle. The one talent it does have, which is getting it into so much trouble, is the ability to



produce copious amounts of a stalk material to stick to rocks and other plants. The stalks are complex, multilayered structures that are resistant to degradation. Long after the diatom has died the stalk remains. This can result in dense mats with a thickness up to 8 inches that completely cover a stream's substrate, extending for ½ mile or more, and lasting for several months of the year. The

mat's range in color from light yellow to brown, and are often mistaken for ripped toilet paper floating in the water. While the mats look like they are slimy they actually feel more like wet wool.

Previously considered innocuous, this little plant has been around for awhile. It had normally been found in low nutrient, cold streams in northern Europe and North America. However, over the last decade *Didymo* has been found in high nutrient waters, appearing outside of its recognized ecological range. *Didymo* was found in New Zealand in 2004 and

within 18 months had spread to 12 rivers on the South Island. It was first described as a nuisance in the western US in 2004 and in the eastern US in 2005. *Didymo* found its way into VT and NH by 2007 and into CT in 2011. Nuisance blooms usually refer to sites where *Didymo* was considered within its native range, such as the northern boreal habitats and high elevation sites. Invasive blooms are those sites with no previous record, such as New England and New Zealand.

Studies are being done on the effect *Didymo* has on stream habitat. The large amount of stalk material produced during blooms is basically non-nutritious to both macroinvertebrates and fish. The blooms smother the bottom, decreasing nesting and hiding sites for fish, and reducing the amount of insects available to eat. It decreases sunlight getting to other aquatic plants, blocking them from normal growth. Since *Didymo* seems to prefer cold, pristine streams, it also has a negative aesthetic and possibly economic effect as well. It's not pleasant to fish in a stream covered in rock snot!

Whatever the reason for its change in habitat preference, it is commonly accepted that *Didymo* is spread by humans. It only takes one microscopic cell of *Didymo* in one drop of water to colonize a new stream. Fishermen and other recreationalists are probably the prime vectors. *Didymo* can survive up to 40 days outside the stream environment if carried in cool, damp, dark conditions. Fishing equipment, including fishing line, boats, neoprene waders and felt-soles are all culprits. Felt-soles are very difficult to clean and dry adequately. In addition, fishermen like to travel to destination vacations,

Continued on page 2

From the Executive Director

The WPWA family was saddened by the recent loss of former board member, Jake Levanti, one of our long time volunteers and advisors. The heart and soul that he invested in this organization lives on in all that we do and we could never have accomplished all that we have without his limitless support. His passing inspires us to continue the great work that we do to protect your rivers and the watershed as a whole. Fishing was his passion and I am remiss that he will not be here to witness WPWA's final fish passage restoration phase on the Pawcatuck River later this year. We know he will be with us in spirit as we complete this major river project and as we celebrate our 2011 accomplishments at our 29th Annual Meeting in May. We hope to see you there and out on the water paddling and fishing this season.



THANK YOU - CCRI COMMUNITY SERVICE DAY VOLUNTEERS!



On March 27, 2012 eleven CCRI Staff members and students volunteered to help WPWA with our campus cleaning.

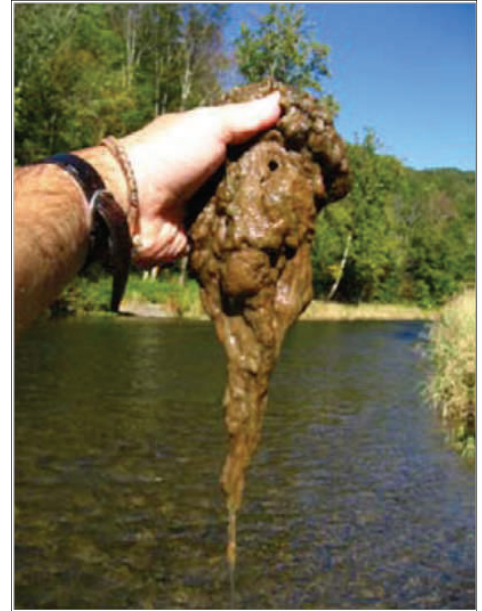
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spreading Didymo beyond their normal range.

To help prevent the spread of Didymo into RI, DEM issued new regulations in December, 2011, that ban all felt-soled waders in RI waters. They revised this regulation in February, 2012 to specify that the use of felt-soled gear is prohibited only in the state's fresh waters and does not apply to salt water fishing. These regulations could also prevent the spread of other invasive species. RI is only one of four states that have such a regulation, although other states such as Maine and Connecticut are considering the same ban.

Fisherman and other freshwater recreationalist are urged to take other precautions. CHECK all gear after use, remove any obvious plant material and leave it upland. Then CLEAN all gear that came into contact with the water, including bait pails, waders, and boats. Disinfect with hot, soapy water and/or allow the materials to DRY completely. After gear is dried wait at least 48 more hours before using in another stream or pond. You can also place gear in the freezer until all moisture is frozen solid. If cleaning, drying, or freezing is not possible, then restrict the use of that gear to only one water body.

While getting rid of your beloved felt-soled waders and cleaning all gear can be a pain, we all need to do our part to protect our rivers. Since it is almost always humans who introduce invasive species into our waters it has to be humans who taken rigorous precautions to prevent their spread. Please help keep Didymo out of the Wood-Pawcatuck Watershed!



Sources:

USDA National Agriculture Library, National Invasive Species Information Center: Aquatic Species: Didymo. Last modified November, 15, 2011. <http://www.invasivespeciesinfo.gov/aquatics/didymo.shtml#state>. Accessed March 6, 2012.

S.A. Spaulding and L. Elwell. 2007. Increase in nuisance blooms and geographic expansion of the freshwater diatom *Didymosphenia geminata*. *United States Geological Survey*.

For more photos use a Google image search and simply type in Didymo.



**WATERSHED
KIDS
CORNER**

This edition of WPWA's Kid's Corner features information on WATER CONSERVATION. Please spend a few minutes with your child to read the article and conservation tips together before doing the activity! Visit: <http://www.watereducation.org/> for more information.



Kids can Conserve Water Too!

Did you KNOW that kids can make a BIG difference towards water conservation?

We need plenty of clean water, to keep us humans, plants, animals, birds and water-dwelling life **HEALTHY!** Polluted water is a big NO-NO!

Just because kids don't work for the government, they can still make huge changes simply by inspiring their families, friends and classmates to use less water. If you think you are just as capable of making changes in our world (and you really are) as the adults in your life, then try some of these suggestions to start doing your part to change our world by conserving water - *a very precious resource!*

- Whenever you wash your hands, don't leave the water running. Wet your hands and turn the water off. Soap up, and when you're good and sudsy then turn the water on to rinse.
- Same thing when you brush your teeth. Turn the faucet on to get your toothbrush and toothpaste wet. Don't leave it running while you're brushing.
- Tell your friends what you're doing and why and encourage them to do the same.
- Do you have plants in your house? When meals are prepared and vegetables or other fresh produce are washed, collect that water and use it to water the plants.
- Since a bath uses a LOT of water take a short shower instead.
- In the tank part of the toilets in your house, put several drops of food coloring into the water. If you see the coloring seeping into the bowl, there's a leak. Fixing it can save about 600 gallons of water each month!
- Do you like a drink of cold water now and then? Instead of running the kitchen faucet for several minutes to get the water cold, fill a pitcher of water to keep cold in the refrigerator.



HOW MUCH WATER DOES IT TAKE?

Draw a line from an activity on the left to an amount of water you think it uses. Check your answers and then quiz your parents!



- | | |
|---|------------------------|
| 1. All the building it takes to make a car | a. 39 thousand gallons |
| 2. To make one gallon of paint | b. 13 gallons |
| 3. To make 1 bottle used for bottled water | c. 1.85 gallons |
| 4. To make one pound of plastic | d. 24 gallons |
| 5. To make one cotton t-shirt | e. 400 gallons |
| 6. To make one pair of jeans | f. 1,800 gallons |
| 7. To make one ton of steel | g. 62,000 gallons |
| 8. To wash a car | h. 50 gallons |
| 9. To brush your teeth (letting the water run!) | i. 4 gallons |
| 10. To take a bath | j. 24 gallons |



WATERSHED GREEN CORNER

These articles are brought to you by **RI NEMO** - Produced by Rhode Island URI Cooperative Extension for RI Stormwater Solutions, a project funded by the RI Department of Transportation, in partnership with the RI Department of Environmental Management and RI municipalities. Articles have been formatted by WPWA to fit this space.



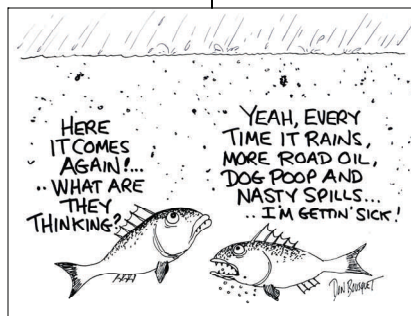
Spring Cleaning Sweeps In

Lions, lambs, college basketball, and spring cleaning are what come to many people's minds when they think of Spring. And since we don't have much to say about weather forecasts or tournament predictions, we thought we'd share some of our stormwater-friendly spring cleaning tips instead.



If you plan on doing any cleaning outdoors, please remember to use a broom rather than the hose to remove any leaf litter or debris from your driveway or nearby sidewalks. When you use a hose, that water simply flows to the nearest storm drain or directly to the nearest water body, carrying with it all the dirt you were trying to get rid of!

If you plan on cleaning out old cans of paint or household cleansers such as oven cleaner or paint thinner, please don't pour them out! Call the Eco-Depot at 942-1430 ext. 241 to make an appointment to dispose of them. When poured on the ground, those toxic chemicals are carried by stormwater directly to our local water resources. And who wants to swim or fish with paint?



Thank You **Don Bosquet** for your cartoon donation!

Looking on the Bright Side of Rain

April showers bring May flowers, but how do you deal with all that rain in the meantime? Currently, many Rhode Island towns are working to reduce the effects of polluted stormwater runoff, which is the water you see flowing down the street when it rains. One way that residents of the community can help is by diverting rooftop runoff away from pavement.

Did you know that the amount of rain that flows off an average roof, over the course of a year in Rhode Island, would fill more than 500 bathtubs? Instead of allowing that rain to flow down your driveway or sidewalk to the nearest storm drain, it's possible to divert the rain in at least three ways:

- Consider using downspout extenders to direct the water onto a landscaped area.
- Purchase a rain barrel, and direct downspout water directly into it. You'll not only reduce stormwater, but you can conserve water by using what you capture for irrigation.

- Install a rain garden, which is a natural or hand-dug shallow depression designed to soak up water. Check one out at WPWA's riverfront campus!

A Smart Look Forward to Summer Gardening

For many people, May is the true beginning of summer gardening. And while achieving a lush green lawn, beautiful flowers, and hearty summer vegetables are understandable gardening goals, some gardening and lawn care practices can have detrimental effects on our local water resources. In keeping with your town's efforts to reduce the effects of stormwater pollution, there are a few gardening tips that will minimize the impact on your local waters:

- Fertilize sparingly. If you must fertilize, September is the best month. And be sure to use slow-release fertilizer.
- If you must fertilize more than once, don't fertilize in the spring until you have mowed the lawn three times.
- Check the weather forecast before fertilizer or pesticide applications, and don't apply lawn chemicals when there is rain predicted. It increases the chances of those chemicals washing right into local waters.

If any lawn chemicals or yard debris get on the sidewalk or driveway, sweep them back onto the lawn to prevent them from washing into storm drains. Even grass clippings and excess leaves don't belong in our streams and rivers.

For more information about ways to reduce stormwater, and for additional tips to help safeguard our waters, visit: www.ristormwatersolutions.org

Paying for Paving: A Fair Way to Cleaner Water *by Chip Young*
The more you pave, the more you pay.

That slogan is the calling card of local officials who want to protect their communities from the consequences of unmanaged stormwater - through a logical and equitable way to achieve the goals of flood protection and healthy waterways statewide.

We all remember too well the property damage resulting from the Spring 2010 floods, and the more frequent flooding problems caused by smaller storms. Stormwater runoff is also one of the prime polluters of the state's rivers, lakes and streams, and Rhode Island's number one economic resource, Narragansett Bay. But unlike wastewater and combined sewage overflow that share the top polluter berth, there has never been dedicated funding to manage stormwater's overall impact on the water we drink, and in which we swim and fish.

Most people understand why and at what level they should rightly pay for utilities such as the water that comes into our homes and out of our faucets that we use to drink, cook and bathe. Likewise the wastewater that leaves our homes, which needs to be treated and cleaned before it is pumped back into the environment. You get your water bill, and you pay your share for what you have used each month. You get your sewer bill, and you pay for how much you have circulated to your local wastewater treatment plant. Fair's fair.

Currently, there is no user fee attached to stormwater, which is created when it rains, and washes the oil, gas and grease films off our roads, collecting with it pet waste and litter, and flows right into our waterways and aquifers with no treatment whatsoever. We ignore that process, or somehow believe it is the sparkling, pristine precipitation that Gene Kelly danced through while "Singin' in the Rain!"

But in reality, things aren't right as rain. Any paved area or expanse of hard surface, be it roads, highways or the roofs of houses and local businesses, that repels what falls from the sky during storms, is the start point for a flow of polluted runoff. It sluices into storm drains, where it is channeled to the waters along the nearby riverbank or beach where local residents live and play.

Sometimes storm drains don't work the way they're supposed to – they get clogged from sediment build-up, collapse because they are old and need of replacing or are undersized for the volume of runoff coming off newly developed areas. The annoyances of having to drive through a flooded street quickly become public health and safety concerns and possible litigation material, when car accidents occur or emergency response vehicles are detoured.

Local communities have begun to deal with runoff using techniques such as basins to store flood flows, capturing litter and sediment bound pollutants before they can flow any further. To rid the runoff of its less visible elements - the dissolved pollutants and bacteria - it has been diverted to natural grassy or forest areas or manmade structures such as underground infiltrating chambers or rain gardens, where it can be naturally cleansed by the ground, or recycled to irrigate a backyard garden.

That cost has generally been inserted into the local tax rate, out of sight, out of mind. But the operation and maintenance expense, such as for cleaning storm drains, both manmade and natural (ditches, culverts), or street-sweeping, are parceled out on a per capita basis, not for how much each individual or business contributes to the pollution that is being fought against by city and state workers.

At a time when budgets are in tough shape, but the desire for clean drinking water and a clean environment still rank at the top of the priority list for the general public, the sense that people should only have to pay their fair share for a healthy environment is growing.

This "the more you pave, the more you pay" concept is making more and more sense for communities across the United States. Those owners of properties or businesses that are replete with hard, or "impervious" surfaces, that exacerbate pollution after rainstorms, are being charged for that waterproof ground or building cover. Those homes or businesses that minimize their impervious surface area are rewarded with a smaller user fee.

Treating the processing and management of stormwater as a utility with a user fee based on paying your deserved share, just like your monthly water or sewer bill, is being implemented now in states like North Carolina where a stormwater user fee in towns and districts is the norm, rather than the exception; and a number of New England communities such as Burlington, Vermont and South Portland, Maine now have stormwater user fees in place. The residents seem quite pleased with the results.

The campaign for cleaner stormwater has begun but it is not adequately funded. In Rhode Island, Middletown and Westerly have been out front in recognizing the need for funding stormwater management efforts to prevent beach closures and mitigate flooding. With assistance from the Department of Environmental Management, and with the blessings of their town officials, they are conducting feasibility studies and running the numbers to see if a stormwater utility makes sense for their community. In addition to the idea of fairness involved, civic leaders are also aware that their local environments, featuring beaches and scenic landscapes, are an economic driver in their town.

The DEM, partnering with the Department of Transportation, the University of Rhode Island's Cooperative Extension "Stormwater Solutions" project, and Save The Bay, has launched a three-workshop series on stormwater utilities. Topics include learning how to evaluate the full cost of managing stormwater, the pros and cons of a stormwater utility through lessons learned from the trenches, and how to encourage low-impact design and "green infrastructure" that not only save businesses and homeowners unnecessary costs, but simultaneously benefit quality of life through a cleaner environment.

Is it easy? No. Is it fair and equitable? Yes. Does it improve local living conditions and help the community, economically? Yes. It doesn't look like a difficult choice.

And the logic isn't too hard, either.
The more you pave, the more you pay.

Chip Young is a senior fellow at the URI Coastal Institute, president of CY LLC, and board member of the ecoRI Inc. He has worked with RI NEMO, RI DEM, and others to organize a workshop series on stormwater utility districts for RI local officials. Workshop presentations are available at http://www.uri.edu/ce/wq/NEMO/Workshops-Support/Previous_Workshops.htm

MARK YOUR CALENDARS for some exciting UPCOMING EVENTS

April 21, Saturday, 9 am to Noon
EARTH DAY CLEANUP

Help keep our watershed healthy and beautiful by joining WPWA to cleanup public river access areas. Adopt one of the twenty five sites by emailing info@wpwa.org. Check www.wpwa.org to see the list of sites and for more information.

April 14, Saturday 6 am to 10 am
OPENING DAY OF TROUT FISHING SEASON
Free coffee for anyone with a reusable mug at the WPWA Campus.

May 5, Saturday, from 8am to 10am
BIRDING WALK #5 AT GREAT SWAMP
The last walk in the Birding Series will be held in the Great Swamp Management Area.
Please consider a donation for this free event.
Participants must have binoculars.

May 10 & 12, MAP & COMPASS WORKSHOP
Thursday, 6 pm to 9 pm

Part 1- During the indoor portion of this class, participants will learn how to read maps and use a compass to navigate their way through woods and unfamiliar terrain.

Saturday, 9am to 3pm
Part 2- During the outdoor portion of this class, participants will use their newly acquired skills to read maps and use a compass to navigate their way through woods and unfamiliar terrain in the Arcadia Management Area.
\$10, one fee for both classes.

Pre-registration is required for all events!
It's easy at: www.wpwa.org/events.php

JOIN US FOR OUR 29TH ANNUAL MEETING

Guest Speaker -
Jon Boothroyd
To speak on Sea Level Rise
Live & Silent Auctions!

Thursday, May 17, 2012
from 6pm to 9pm
at the
Weekapaug Golf Club
265 Shore Road
Westerly, RI 02891
\$25 per person entry fee

Award Winners...
Janet Coit -
Salomon Award
Watershed Watch -
Trustee's Award
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Lifetime Achievement Award



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WPWA's Green Goods

Visit: www.wpwa.org/shop.php to view these items in full color.

Mail this completed form with your check or credit card information to WPWA.

Description	Price	Specs	Qty	Subtotal	
Carabiner Key Chain - Great for keeping keys together or using as a clip to keep important items close at hand. Laser engraving on both sides means the WPWA logo won't flake off! <i>Not For Climbing Use</i>	\$3.00	Select Color: Green Blue			
Reusable Sandwich Container - Put an end to using disposable baggies with this oversized sandwich container. The attached lid means no more searching for the right fit! Perfect for the back-to-schoolers in your home.	\$5.00	n/a			
Ball Cap - This washed twill cap is 100% cotton and has a velcro closure that tucks in on the backside, so no more hanging velcro strips! WPWA & the logo are beautifully embroidered on the front.	\$15.00	One Size Fits Most			
Green Tee - Show everyone that you support your favorite watershed organization with this 100% cotton, preshrunk short sleeve tee by Gildan. On the back is a list of our five favorite rivers in the watershed.	\$15.00	Select Size: S/M/L/XL/2XL			
Navy Polo - This classic, three-button polo is perfect for any occasion! It's a breathable blend of poly and cotton and will keep you looking good as you show your support with its high quality embroidered WPWA logo.	\$25.00	Select Size: S/M/L/XL/2XL			
Reusable Market Tote - Picking up a few groceries at the local farmer's market has never looked so good! This 100% cotton canvas bag's bottom is gusseted to ensure years of use and there is even a small zippered pocket to keep your keys and cash handy.	\$12.00	n/a			
Wood-Pawcatuck River Guide - A comprehensive fold-out map and guide to paddling the Wood and Pawcatuck Rivers.	\$5.00	n/a			
Walks in the Watershed - A pocket guide detailing 20 of the watershed's best loop hikes in southwestern RI and adjacent Connecticut.	\$5.00	n/a			
Earth Friendly Alternatives - A concise guide for anyone who wants to lessen the impacts of toxins and chemicals in and around the home.	\$7.00	n/a			
Shipping Rates on Order Totals			Subtotal		
Up to \$15: \$5 shipping Up to \$30: \$8 shipping Up to \$50: \$12 shipping Orders over \$50 receive Free Shipping!			RI Sales Tax <i>already figured in</i>	Hooray!	
			Shipping Charges - <i>see left</i>		
			Total Enclosed		

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