

# WATERSHED

## A Newsletter of the Wood-Pawcatuck Watershed Association

Volume 28 No. 2

Summer 2011

### Stormwater Management - What's All the Buzz About? *by Denise Poyer*

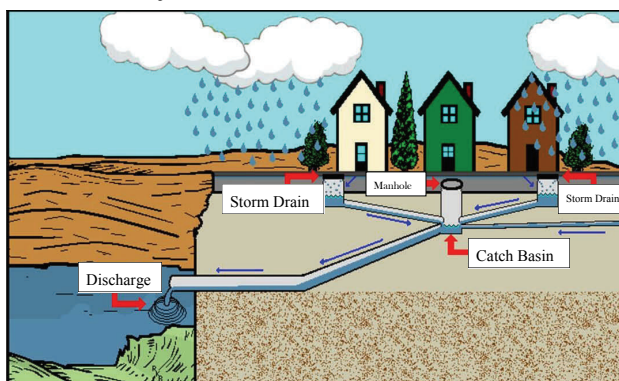
If you have been reading anything about local environmental issues lately you may have noticed that "Stormwater Management" is the new buzz phrase. So, what exactly is stormwater management and why is it important? Let's first take a moment to learn what stormwater is.

Almost all water eventually ends up in the ocean. However, it can take many different paths to get there, depending on the use of the land where it falls.

**If rain falls on a forested area**, it is first slowed in its descent by the leaves and branches of the trees before reaching the ground slowly. This allows some of the water to be used by plants, some to evaporate, and most of it to seep into the soil and enter the groundwater. Groundwater travels slowly to the nearest river, pond, or bay, taking days, months, or even years to reach its destination. During this time, the soil "treats" or removes pathogens and other pollutants from the water. In a forest, very little rain water ends up running over the ground.

**If rain falls on a patch of grass**, it moves a little faster, so some of it may run off the patch and some will seep into the ground.

**If rain falls on an impervious surface**, such as a road, parking lot, or rooftop, it moves quickly and has little or no opportunity to seep into the ground. Most of this water runs off into the nearest stormwater drain or wetland area. The big question that follows is "Where do the stormwater drains carry that water?"



In metropolitan areas storm drains often empty right into the nearest stream, river, or bay. Impervious surfaces cause 95% of the water that falls on them to run off; housing developments about 45%; pastures and lawns about 30%; and forests about 10%. (RI SD & IS Manual, 2010)

**Why is stormwater runoff an issue?** In areas that are covered with impervious surfaces there is less infiltration or groundwater recharge. This affects not only plants that tap into the groundwater, but also families

and communities that rely on wells for all their water needs. About 30% of the population of RI and 100% of the residents in the Wood-Pawcatuck Watershed depend on groundwater. (RI DEM WQ Programs) Also, the less water going into the ground, the less groundwater there is slowly seeping into our local streams, rivers, and ponds, which could alter the habitat for aquatic wildlife. This will impact the smaller streams that don't have a large volume of water.

**Another consideration is that stormwater is always polluted given**

**what is on the surface of our lawns, fields and roads:**

- fertilizer and pesticides from lawns, gardens and homes;
- bacteria from pet waste and improperly maintained septic systems;
- soap from car washing;
- debris and litter;
- Nitrogen and bacteria from livestock and agriculture;
- oil, grease, and automotive fluids;
- sand and salt from winter-time snow removal.

*Continued on page 2*

### From the Executive Director

The WPWA staff has worked hard over the last year to maximize efficiency and the result has been outstanding. WPWA is accomplishing more per year than at any other time in its 28 year history. While government scrambles to cut its services and raise taxes, WPWA has increased the level of services we provide without increasing our membership fees. **If there is a renewal reminder sticker attached to the outside of this newsletter it means your membership expired on June 1<sup>st</sup> 2011.** Please show your support by renewing your membership today!

Thank you for making possible, our campus renovation, the fish ladder construction at Horseshoe Falls, the new line of WPWA merchandise, removal of trees blocking the rivers, more educational and recreational programs, and improving water quality.

We will continue to leverage every dollar that you send towards obtaining grant funding. Typically, your contribution allows WPWA to apply for three times that amount in grant funding annually. While we are all financially strapped in these tough economic times, you can feel good about how far your contribution to WPWA is going and the positive effects it has on your community and quality of life.

None of these improvements would be possible without your continued financial support.



### Stormwater Management

*Continued from font page*

The worst part is that none of this polluted stormwater, whether it runs overland or through storm drains, is treated. Instead, it is dumped directly into the nearest water body carrying all the contaminants it picked up on its way there. Many studies of "problem areas" in the Rhode Island have consistently pointed to stormwater as a contributing factor to poor water quality. The polluted runoff plays a large part in the closure of beaches and fishing grounds, threatens drinking water resources, harms natural areas, and contributes to flooding.

The good news is that recent federal and state regulations require many cities and towns to develop plans to treat their stormwater before it gets into a natural water body. In the Wood-Pawcatuck Watershed, municipalities such as South Kingstown and Westerly must submit a Storm Water Management Program Plan in order to receive a general permit to discharge. Besides best management practices to reduce the pollution loading from stormwater, the towns must also provide public education to community members and encourage that they participate.

WPWA has taken many steps to help the state and local municipalities with their public outreach and education goals. First, in all of WPWA's watershed education programs the issues of stormwater and its impacts to local water bodies are addressed.

Second, WPWA provides resources and watershed models to teachers for use in their classrooms, including an EnviroScape, a detailed model that provides a great visual account of what happens to pollutants in a watershed when it rains.



*Educators work together to use the EnviroScape*

WPWA also provides a biannual course on watershed science for teachers. This course includes activities relating to stormwater, including causes, their effects, and management options. During the most recent course, (Winter 2010-2011) Shannon McManus from URI's NEMO program gave a special presentation on RI's stormwater programs. Papers and presentations posted on the education page of the WPWA website from teachers taking the course include several lesson plans which address stormwater issues. Third, we work with many agencies in the state to contribute our outreach capabilities to teach folks about stormwater. Lastly, as part of the WPWA campus upgrade, that you read about in the last issue of *Watershed*, WPWA will be taking steps to reduce stormwater flow from Arcadia Road and the campus parking areas in order to protect the Wood River using low impact development practices.

*Continued on top of next page*

No discussion about storm water issues would be complete without pointing out that public participation is critical to reduce impacts. Therefore you must be wondering what you can do to help.

**Around the home:**

Don't dump cleaners, oils, or medicines down the drain, bring them to a proper disposal facility. Maintain your septic system; have it pumped out and inspected regularly. Switch to less toxic or "Green" cleaners.

**Around the yard:**

Fertilize sparingly, once a year in the fall is best.  
Water only once a week, for a total of one inch of water.  
Use a rain barrel to water gardens.  
If you live near water, don't mow to the water's edge and consider planting a buffer.

**Animal care:**

Pick up after your pet, bring plastic bags with you wherever you walk your pet.  
Keep livestock away from natural water sources.  
Don't feed the wildlife, including waterfowl.

**Car care:**

Wash your car at a car wash, where they are required to treat the waste water.  
If you change your own oil, remember to recycle it and the used filter at your transfer station.  
Dispose of hazardous waste such as antifreeze at your state's Eco Depot.

**For citations & more information about stormwater solutions & recycling visit:**

<http://www.rirrc.org/resident/household-hazardous-waste/> <http://www.dem.ri.gov/programs/>  
<http://www.ristormwatersolutions.org/index.html> & <http://www.epa.gov/owow/nps/toolbox/>



## Upcoming Fall & Winter Events That You Won't Want to Miss!

9.23.2011 - 5:30pm - **Autumnal Equinox Paddle** - Participants will meet at the WPWA campus on Arcadia Road and launch canoes and kayaks at the handicapped accessible fishing pier on the Wood River. Appropriate for all levels of experience. Member price \$10 / Non Members \$15

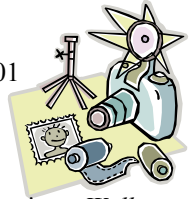


10.4.2011 - 6:30pm - **Digital Photography 101 - Knowing Your Equipment** - WPWA member and volunteer, Tom Tetzner will teach participants of all ages and backgrounds. Bring your own digital camera and

learn how to make the best use of it during this two hour class, which will focus specifically on equipment usage.

10.11.2011 - 6:30pm - **Digital Photography 101 - Lenses & Focusing** - The second in the Tetzner Photography 101 series, this class will be spent learning about lenses and focusing.

10.18.2011 - 6:30pm - **Digital Photography 101 - Composition** - You guessed it - this class is on composition!



10.15.2011 - 9:00am - **Stepstone Falls & Ben Utter Trail Hike** - Join WPWA for the first listed hike in their publication - *Walks in the Watershed*. Three miles, gentle and scenic. Proper footwear required!

10.25.2011 - 6:30pm - **Digital Photography 101 - Light** - Tom Tetzner will wrap up the series with this final photography class.

11.05.2011 - 10:00 am - **Breakheart & Shelter Trail Hike** - The second hike in *Walks in the Watershed* will take hikers on a moderate, six-mile hike in Exeter, RI. Proper footwear, blaze orange vests and plenty of stamina and good cheer required!



COMING IN WINTER 2011-2012 - A BIRD IDENTIFICATION PROGRAM LED BY ROGER MASSE



Pre-registration is required for all WPWA events and is easy to do online at [www.wpwa.org/events.php](http://www.wpwa.org/events.php)  
All Digital Photography 101 & Fall and Winter Hikes are offered to members and the public **free of charge**.  
Please consider making a donation to help offset the cost to WPWA for providing these events. Thank You!