Sustainable UD water

WATERSHED ACTION TEAM FOR ECOLOGICAL RESTORATION

2008 UD WATER Members: *Back:* Maria Pautler, Tom Sims, Martha Narvaez, Jerry Kauffman, Tom Taylor, Leslie York-Hubbard, Mike Sistek, Andrew Homsey, Kelley Dinsmore, Dan Leathers, Tom McKenna; *Front:* Stracy Redis, Nicole Dobbs, Stacey Chirnside, Erik Eggleston, Erin Dilworth, Kelsey Lanan, Samantha Loprinzo. (Not shown: Carmine Balascio, Mike Loftus, Kiersten Joesten)

2010 UD WATER Interns:
Rina Binder-Macleod
Kimberly Teoli
Dakota Laidman
Melissa Luxemberg
Melanie Allen
Advisors:
Dr. Tom Sims
Prof. Gerald Kauffman
Dr. John Mackenzie
Dr. Judith Hough-Goldstein

What is UD WATER?

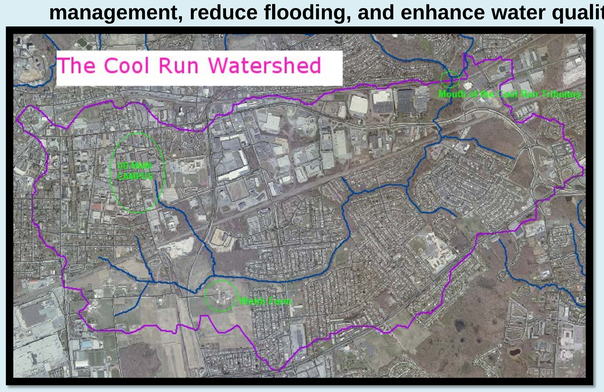
UD WATER (Watershed Action Team for Ecological Restoration) is a university-wide project, conducted in collaboration with the City of Newark, which seeks to develop and implement management measures to mitigate the stormwater runoff problems facing UD and the City. For more information visit www.udel.edu/water .

Cool Run Grant Project

UD WATER developing a watershed plan for the Cool Run tributary of the White Clay Creek.

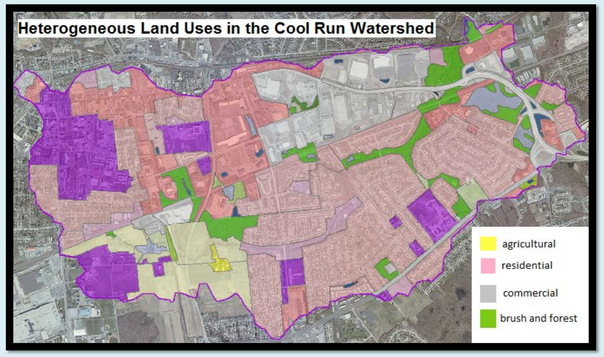
Project Goals:

1) **Identify major nonpoint sources of pollution**
2) **Estimate the annual pollutant loads from different land uses**
3) **Make recommendations to improve stormwater management, reduce flooding, and enhance water quality**



About Cool Run Watershed

Cool Run is a sub-watershed of the White Clay Creek. It covers the University of Delaware's main campus, Main Street, and the surrounding area. The land use is mainly residential and commercial.

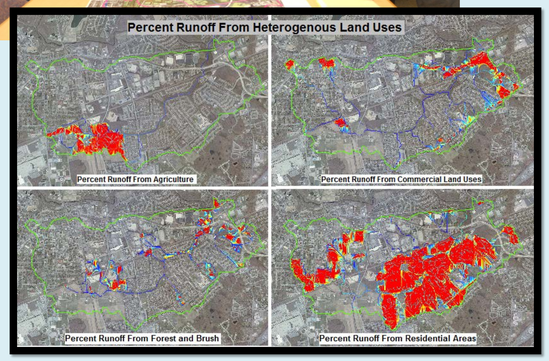


Monitoring of Aquatic Macroinvertebrates

Aquatic insects are excellent indicators of the aquatic ecosystem health. Several locations in Cool Run were monitored.

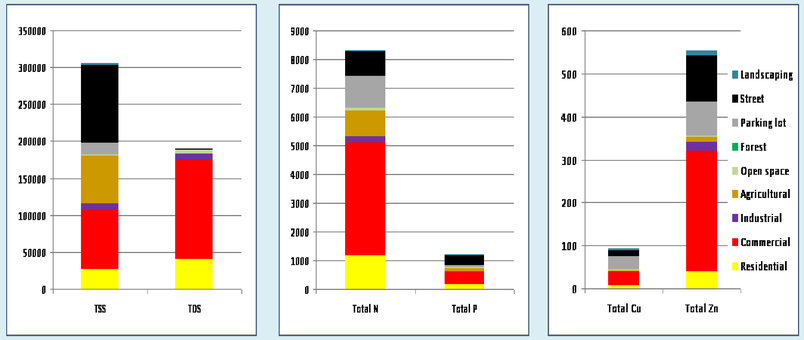
Findings:

The estimated loads of sediment (TSS, TDS), nutrients (N, P), and metals (Cu, Zn) were determined by UD WATER interns and are shown below for the entire watershed. Primary sources of nonpoint pollution by stormwater runoff appear to be commercial lands, streets, and parking lots. The image to the right displays the percent of total runoff contributed from four different land uses.



Watershed Totals for Estimated Annual Pollutant Loads (lbs/watershed/yr)

Sediment **Nutrients** **Metals**



Recommendations:

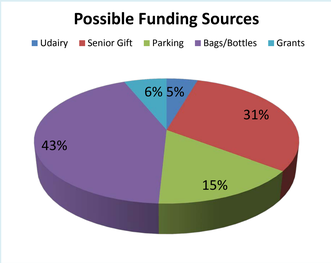
The 2008 UD WATER interns recommended wider use of the following "best management practices" to reduce stormwater runoff and pollution of the White Clay Creek:

- **Increase use of wetlands, bio-retention ponds, and swales**
- **Use more vegetated swales and filter strips along roads**
- **Plant more winter cover crops on agricultural cropland**

Funding:

The 2010 interns recommend the following:

1. **UDairy Creamery Contribution**
2. **Senior Class Gift**
3. **Parking Fees**
4. **Plastic Bag & Water Bottle Fee**
5. **Federal Grants**



Source:	Annual Funding Projection:
UDairy	$7,300
Senior Gift	$50,000
Parking	$25,000
Bags/Bottles	$69,700
Grants	$10,000

Education:

The 2010 interns recommend the following strategies to educate the public on the project:

1. **Implement Informative Signs**
2. **Advertise Using Social Media**
3. **Increase Storm Drain Stenciling**
4. **Publish Article in The Review**
5. **Advertise on STN49**

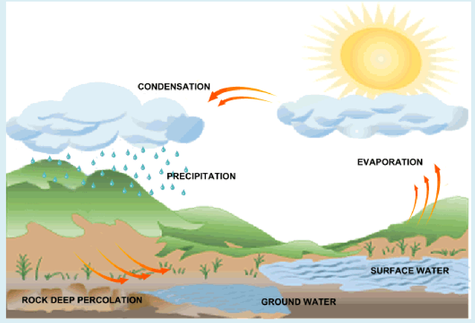
What is a watershed?

A **watershed** is the area of land into which water from rain and melting snow drains. The water eventually converges to a single point, where the water joins another water body, such as a river, lake, or ocean.

Source: http://www.sanduskyriver.org/

Did you know…

•The water we have now is all we will ever get! Water is recycled through a process called the hydrological cycle. This is why it is so important to keep our water clean.



Source: http://www.thewatertreatments.com/water-quality-lab-who/water-resources

•Everything that flows down the storm-drains goes to the creek! Many people think that storm-drain water is treated, but this is a misconception.

•Most of our water is used to create energy! Water is used in cooling processes and to power steam driven turbines. Conserving energy is another way to conserve water.

What can **you** do to help

Don't Litter
Trash gets carried into the stormwater system by runoff. Stormwater does not get treated before it flows into our creeks and rivers.
Conserve Water
Save water by limiting watering your lawn, fixing leaking pipes, and turning off faucets when you are not using them.
Reduce, Reuse, Recycle
This will minimize the amount of litter in our watershed.