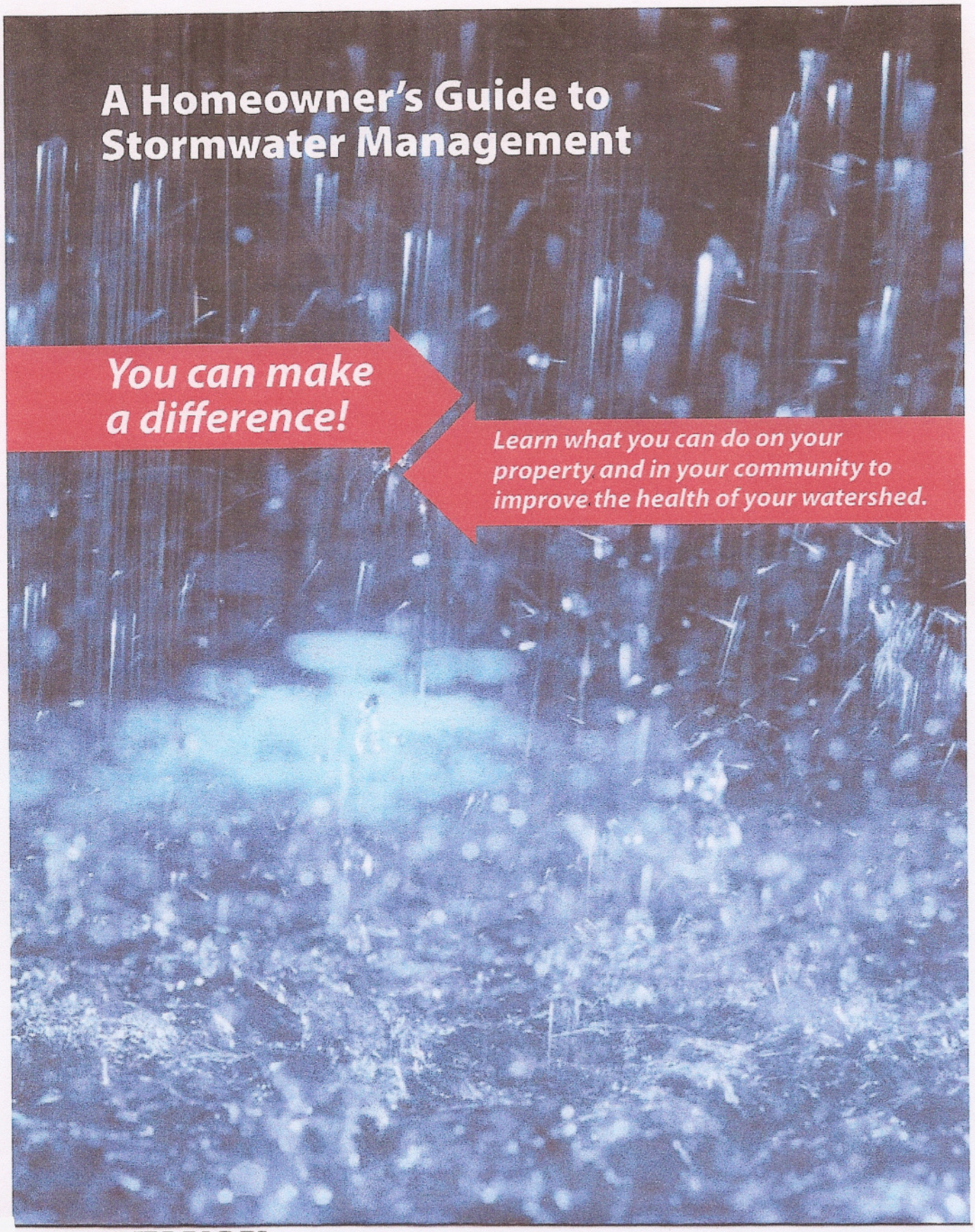
UPLAND BOROUGH'S



THANK YOU,
UPLAND BOROUGH COUNCIL

THIRSTY?

STORMWATER POLLUTANTS FIND THEIR WAY INTO WHERE WE FISH, WHERE WE SWIM AND WHAT WE DRINK. Everything that goes into our storm drains—grass clippings, soap, pesticides, pet waste—makes its way straight to our streams. Stormwater pollution is our biggest source of water pollution. It all adds up.

DO YOUR PART TO PROMOTE CLEAN STREAMS AND SAFE DRINKING WATER

- Pick up and properly dispose of pet waste.
- Use a commercial car wash.
- Pick up litter and compost yard waste.
- Maintain your vehicle so it does not leak oil.
- Redirect your downspouts to grassy areas or a rain barrel to lessen the amount of stormwater leaving your property and eroding nearby streambanks.

For more information, view or download:

1) Downspout disconnection instructions: *www.toronto.ca/water/protecting_quality/downspout_diy.htm*

2) "Homeowner's Guide to Stormwater Management," *www.crcwatersheds.org/resources*

This message is brought to you by your municipality and Chester Ridley Crum Watersheds Association, www.crcwatersheds.org.

Graphic courtesy of North Carolina Department of Environment and Natural Resources.

RAIN BARRELS PROMOTE CLEANER STREAMS

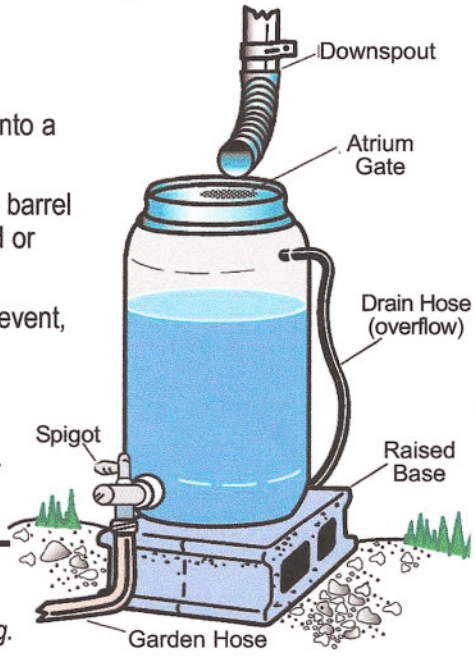
A rain barrel collects and stores stormwater runoff from rooftops. By temporarily holding stormwater runoff during a rain event, you can reduce peak runoff to storm sewers and creeks, reducing erosion of nearby streambanks. Collected rain water released at a later time recharges groundwater and can be used to water thirsty plants and lawns. Rain barrels also help reduce water pollution by reducing the amount of pollutants and sediment washing into our streams.

Rain Barrel Installation & Maintenance

- Barrel must be placed on flat and level surface.
- Barrel should be raised about two feet off ground in order to enhance gravity flow into a hose and get good drainage. Cinder or landscaping blocks provide a good base.
- Overflow hose must be installed in addition to an outflow spigot. Overflow from the barrel as well as the garden hose from the spigot must be directed into a landscaped bed or lawn area at least 4 feet away from foundation.
- Empty rain barrel within a week after a rain event to optimize use for the next rain event, and to avoid problems with standing water.

Winter Care

- Empty buckets, watering cans, rain barrels. Emptying reduces freezing damage, prevents the accumulation of debris and allows for any needed repairs or refurbishing.
- Disconnect downspouts and redirect.



To view or download "***How to Build Your Own Rain Barrel***," or for information on where to purchase rain barrels, see *www.crcwatersheds.org/resources. This message is brought to you by your municipality and Chester Ridley Crum Watersheds Association, www.crcwatersheds.org.*

Sources: Stroud Water Research Center, Education Department; Graphic courtesy of Philadelphia Water Department.

PENNSYLVANIA
Department of Environmental Protection

GRASSCYCLING

IT'S OK TO "LET IT LAY"

Did you know that a 1/2-acre lawn in Pennsylvania produces more than three tons--nearly 260 bags--of grass clippings each year? Think of all the time, money and effort it takes to bag all those clippings. Why go through all that hassle when it's not necessary?

YOU CAN HAVE A HEALTHY GREEN LAWN BY LEAVING GRASS CLIPPINGS WHERE THEY FALL.
It's simple. Grass clippings left on the lawn decompose and act as a natural organic fertilizer. This lets you reduce the amount of commercial fertilizer you need to apply. Your lawn will remain healthy and green because each time you mow, you will be returning valuable nutrients to the soil.

MOWING TECHNIQUES & TIPS
Any mower can recycle grass **clippings**. Just remove the grass catcher. Ask your lawn mower dealer if you need a special safety plug or adapter kit to convert your mower into a "recycling" mower. Installing a mulching blade also is helpful.

- **Never cut off more than 1/3 of the grass blade in one mowing.** Keep grass mowed to 2" in early spring, gradually raise the height to 3-4" by summer, then gradually reduce to 2" by late fall.
- **Mow when the grass is dry**.
- **Keep your mower blade sharp.** Dull mowers tear the grass blade, injure the plant and cause a brownish cast to the turf.
- If the grass gets too high, **mow over the clippings a second time** to further shred and scatter them.
- To prevent excess growth between mowings, **raise the mower height**, mow, **then gradually lower it** over a span of several mowings. This will help prevent shock to the plants.
- When it's time to replace your mower, **consider a mulching, recycling or nonpolluting reel mower**. All of them do a good job of shredding and scattering grass clippings.

WHAT ABOUT THATCH?
Thatch, a matted layer of dead roots and stems, usually is caused by too much water and fertilizer. Clippings don't produce thatch because they are 80 percent water and decompose quickly. A thatch layer of more than 1/2" should be removed.

USES FOR CLIPPINGS

- **COMPOST.** Fresh clippings should compose no more than 1/3 of the compost pile They are an excellent source of nitrogen. Mix thoroughly with "brown" materials such as leaves or straw and turn the pile regularly to aerate it and prevent odors.
- **MULCH.** Pile about 1" of dried clippings on the soil to reduce weeds and moderate soil temperature. Mulching also controls erosion, run-off and evaporation. If using herbicides, wait at least two mowings after treating the lawn to use the clippings.
- **SOIL ADDITIVE.** Mixing fresh grass clippings into the garden improves soil texture, promotes moisture retention and adds nutrients and organic matter. About once a month, turn a 2" layer of grass into the soil to a depth of 6".

FERTILIZER APPLICATION
Most grasses need modest amounts of nitrogen for controlled growth and good color. Too much fertilizer increases growth and results in more frequent mowing.

It is best to fertilize around Labor Day and again at the end of October. Fall fertilization promotes a vigorous root system and helps the plant survive winter, but does not lead to the excessive top growth of spring fertilization. Apply only 1/2 pound of nitrogen per 100 square feet of lawn. To calculate how many pounds of fertilizer should be applied per 1,000 square feet, divide 100 by twice the percentage of nitrogen (N) in the fertilizer.

This chart calculates some of the common fertilizer rates for you:

Fertilizer NPK Rating	100 / (2 x N%)	=	Lb. per 1,000 Sq.Ft.
12-4-8	100/24	=	4.1
16-8-8	100/32	=	3.1
20-5-10	100/40	=	2.5
10-10-10	100/20	=	5.0

For slower, more uniform growth, use fertilizers that contain slow-release nitrogen such as methylene urea, ureaformaldehyde, sulfur-coated urea, or IBDU. The label may also read "water-insoluble nitrogen" or "slow-release nitrogen."

WATERING PRACTICES

Pennsylvania has enough rain that turf grasses don't have to be watered to survive. Healthy lawns go brown during a drought, but quickly turn green when rainfall resumes.

If you choose to water, 1" of water will wet the soil to a depth of 4"-6". Place an empty can under the sprinkler to determine when an inch has been applied. If water runs off the lawn before reaching an inch, turn off the sprinkler and wait an hour before resuming.

- **Water deeply and infrequently** to encourage deep root growth. Light, frequent watering encourages shallow roots, which increase the risk of disease and stress injury.
- **Water in the morning**. Less water is lost through evaporation and transpiration.
- **Don't water at midday or in the evenings**. A lawn that remains damp during the night is more prone to disease.

ALTERNATIVE LANDSCAPES

Consider turf grass alternatives**.** Increase shrub beds, grow a wildflower meadow, or plant ground covers. They look beautiful, don't need mowing and will help **reduce maintenance and yard waste.**

THE KEY WORD IS "LESS"

LESS FERTILIZER
LESS WATER
LESS WORK
LESS WASTE

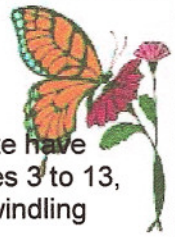
Recycling clippings back into the lawn is less work than disposing of them as waste. No one has to handle the clippings--not you, your lawn care professional, or the waste management crew. By not trashing grass, you can reduce your mowing time by nearly 40 percent and spend less money on fertilizer and trash bags. And you'll be doing your part for the environment by reducing waste.

If you follow these IT'S OKAY TO "LET IT LAY" guidelines, not only will you have a healthy lawn, you'll never have to bag grass clippings again.

Produced by the Pennsylvania Department of Environmental Protection in cooperation with the Connecticut, Massachusetts and Rhode Island Departments of Environmental Protection. *2500-PADEP1714 Rev 6/94*

For more information please contact us at our recycling e-mail address: ra-eprecyclepa@state.pa.us
Department of Environmental Protection
Bureau of Land Recycling and Waste Management
Rachel Carson State Office Building
P.O. Box 8472
Harrisburg, Pa 17105-8472
Telephone 717-787-7382

10 Safer Ways to Fight Pests



Stormwater washes pesticide residue into stormdrains and creeks, where it poses a risk to aquatic life and drinking water sources. Studies quoted on the Penn State IPM web site have documented measurable amount of pesticides or their by products in 90% of children ages 3 to 13, with possible links to illnesses still under investigation. Pesticides have been linked to dwindling numbers of amphibians, birds, and pollinators, especially honeybees.

Here are **ten steps you can take** to reduce the amount of harmful pesticide exposure to your family, local streams, and local environment.

1. Regularly check your plants for pest damage so you can begin treatment before populations grow.

2. Correctly identify pest or disease problems so you can choose an appropriate treatment.

3. Encourage beneficial predators, such as birds, bats, frogs, and beneficial insects, to live on or visit your property. Plant diverse kinds of flowers, trees, and shrubs and install bird feeders, bird baths, and bird houses.

4. Use beneficial organisms, such as using beneficial nematodes and milky spore to combat Japanese beetles.

5. Prune off and bag diseased plant debris; clean tools between cuttings.

6. Limit pesticide use to only the specific plant or area that is infested or diseased.

7. Do not overfertilize plants; it increases tender new leafy growth attractive to pests.

8. Site plants in conditions they prefer. Plants stressed by too little or too much moisture or light are more susceptible to pests and disease.

9. Follow pesticide label instructions for use and disposal; do not spray midday or when beneficial insects (such as honeybees) are active.

10. Use less toxic pesticides such as dormant oil, insecticidal soaps, and insect traps.

For more information and a list of reduced risk pesticides, see http://paipm.cas.psu/1214.htm or www.crcwatershed.org/resources. This message is brought to you by your municipality and Chester Ridley Crum Watersheds Association, www.crcwatershed.org under the Joint MS4 Stormwater Education Program.

Less-Toxic Products

Target Pest	Product Type	Active Ingredient(s)	Brand name examples
Aphids, scales, mites, leafhoppers, hemlock woolly adelgid, mealybugs and powdery mildew	Horticultural oil (dormant oil for winter season, summer oils for growing season)	Highly refined paraffinic oil or petroleum oil	SunSpray
Aphids, ants, scales, mites, mealybugs, small caterpillars, and other soft-bodied insects, weeds	Insecticidal Soaps	Potassium salts of fatty acids	Safer's Soap, Garden Safe
Aphids, whiteflies, mites, extract of black spot, powdery mildew, rust, anthracnose, grubs and more	Neem oil	Clarified hydrophobic neem oil	Safer BioNeem, Azatin, Greenlight brand
Aphids, spider mites, thrips, whiteflies and others	Hot pepper insect repellent	Capsaicin	Hot Pepper Wax Insect Repellent
Ants	**1.** Arsenic ant baits **2.** Sulfluramid ant baits	**1.** Arsenic trioxide **2.** N-ethyl perflourooctanesulfonamide	**1.** Grants Kills Ants **2.** Hot Shot Maxattrax Ant Bait
Ants & Cockroaches	**1.** Abamectin ant & roach baits **2.** Borax **3.** Fipronil ant and roach baits **4.** Hydramethylnon baits	**1.** Abamectin **2.** Sodium tetrahydrate decahydrate **3.** Fipronil **4.** Hydramethylnon	**1.** Advance Bait Station, Avert brand, Raid Max House & Yard Roach Bait **3.** Combat Quick Kill Formula **4.** Combat
Ants, Cockroaches & Fleas	**1.** Citrus oil spray **2.** Diatomaceous earth, Desicating dust, Insecticidal dust	**1.** d-Limonene **2.** Silicon dioxide	**1.** Orange Guard, Concern Citrus Home Pest Control **2.** Diatomaceous earth
Ants, cockroaches, fleas, silverfish, termites	Boric acid/ borate products	Orthoboric acid	Boric acid Borax laundry detergent
Fleas & ticks (on pets)	**1.** Fipronil topical or spray **2.** Insect growth regulator topical **3.** Lufenuron pills	**1.** Fipronil **2.** Methoprene **3.** Lefenuron	**1.** Frontline **2.** Frontline Plus (contains both fipronil & methoprene) **3.** Program

Fleas (indoors)	**1.** Insect growth regulator carpet spray (breaks life cycle, larva can't mature) **2.** Boric acid-based carpet treatments (best used with steam cleaner)	**1.** Methoprene **2.** Borate	**1.** Precor **2.** Fleanix
Mosquitos, aphids, ants, leafhoppers, thrips, whiteflies	Garlic (Concentrated garlic 'clips' to attach to plants OR Garlic oil sprays)	Garlic	Victor Mosquito Barrier Garlic Barrier Insect Repellent
Mosquitos (kills larvae in standing water for use in ponds, large puddles)	Bt mosquito dunks (Small, doughnut-shaped, floating disks)	Bacillus thuringiensis	Mosquito Dunks (found at home improvement stores)
Powdery mildew, black spot, rust, scab, damping-off virus	Sulfur fungicide	Sulfur	Safer Garden Fungicide, Orthoganics Garden Sulfur
Snails & Slugs	**1.** Snail & slug bait **2.** Snail & slug barrier **3.** Diatomaceous earth	**1.** Iron phosphate **2.** Coconut oil soap **3.** Silicon dioxide	**1.** Monterey Sluggo, Escar-go
Weeds	**1.** Herbicidal (insecticidal) soap **2.** Corn gluten meal **3.** Vinegar spray **4.** Pelargonic acid herbicide	**1.** Potassium salts of fatty acids **2.** Corn gluten **3.** 20% Vinegar, put in spray bottle **4.** Pelargonic acid	**1.** Safer Superfast Weed & Grass Killer **2.** Concern Weed Prevention Plus, Supressa **3.** N/A **4.** Quick Weed Killer
White grubs	Imidacloprid Also see Neem above	Imidacloprid	
Yellow jackets and other flying insects	Mint oil	Mint oil, sodium lauryl sulfate	Victor Poison-Free Wasp & Hornet Killer Spray

Courtesy of Penn State, The College of Agricultural Science, Pennsylvania Integrated Pest Management Program
http://paipm.cas.psu.edu/1314.htm

Safety Tips

You should never use an extension cord to power an electric space heater. Electrical appliances that generate heat or utilize a motor, such as a space heater, an air conditioner, or a refrigerator are designed to be plugged directly into an electrical outlet. If you use an extension cord for a light or other small appliance, consider the electrical extension cord as a temporary solution. While in use:

- Check the extension cord frequently for problems such as heating, fraying, exposed wires or loose plugs.
- Use only three wire extension cords for appliances with three-prong plugs.
- Don't coil or pinch the extension cord in any way.
- Don't attach the extension cord to a wall or baseboard with staples or nails.
- Don't place extension cords under rugs or where they may be crushed by furniture.
- Look for extension cords with self-closing outlets to cover unused receptacles, or with a single outlet if that is all that is required.

Eliminate the need for extension cords in your home. Have a licensed electrician install a sufficient number of electrical outlets, with the proper wiring and circuit protection, to meet your family's electrical needs.☆

Keep Your Pool's Water From Damaging Streams

As part of fall maintenance, residents and property managers who drain water from swimming pools need to be aware of ways to minimize environmental impact from pool water which contains chemicals that may be harmful to the environment.

- Leave the water in the pool at least one week without chlorinating prior to draining.
- Drain the pool only when a test kit indicates no detectable chlorine levels, and a pH level between 6.5 and 7.8.
- If your pool contains algae or a black film of organic matter, collect it and flush it down the toilet.
- Pump pool water out over an open area, such as a lawn. Avoid drainage paths that may spill water onto neighbors' properties. If you do not have an open area to drain the water, hire a professional company to remove your pool water and dispose of it offsite.
- Never drain pool water directly into a stream, pond, or other body of water, or into a storm drain.
- Properly store pool chemicals to prevent leaks and spills, and follow the instructions on labels for disposal. Pool chemicals must be disposed of at a County Household Hazardous Waste Disposal.

By following these simple steps, you can help ensure that your pool will not only provide months of summer fun in 2008, but will also leave minimal pollution to our precious natural water supplies. ☆

Canines for Clean Creeks

Dogs are great companions for fresh air, exercise, and a wonderful way to enjoy our natural surroundings. However, pet waste has a negative impact on streams, walking trails, and natural areas. Recent studies by Chester Ridley Crum Watersheds Association, Pennsylvania Department of Environmental Protection, and Villanova University have documented that our local creeks frequently have levels of fecal coliform bacteria three or more times the state recommended maximums for safe water contact. Studies by the Center for Watershed Protection have found that a significant portion of fecal coliform bacteria in residential stormwater originates from dog waste. These levels escalate when stormwater washes contamination from pet droppings into storm drains.

One average size dog dropping contains 3 billion fecal coliform bacteria. Multiply that by the fact that 40% of households have a dog, you can see how this problem "piles up", and adds to the challenge of treating much of our creek water for drinking water.

Do your part to make your dog a friend of our creeks, fellow walkers, and our natural environment:

- Scoop up after your pet and dispose the waste properly- in a trash can or toilet
- Keep your pet on a leash and on trails in natural areas and avoid contact with wildlife
- Remain within off leash areas when off leash
- Encourage your friends and family to do the same!

Source: Center for Watershed Protection, www.cwp.org . This message is brought to you by your municipality and Chester Ridley Crum Watersheds Association, www.crcwatersheds.org.

TreeVitalize

A partnership to restore tree cover in Southeast PA

To stop your rain from going down the drain, plant more trees. Trees catch rainfall on leaves, branches and trunks. A single London Plane tree will intercept over 130 gallons during a minor (1/4 inch) rainstorm.

Plus, trees help conserve water.

For more info on TreeVitalize planting projects, Tree Tender education classes and homeowner rebates go to **www.treevitalize.net.**

TreeVitalize Partners

TreeVitalize — A partnership to restore tree cover in Southeast PA

The Pennsylvania Horticultural Society

AQUA Pennsylvania

DCNR

DEP

Philadelphia Eagles

Fairmount Park — Philadelphia's Park System

Morris Arboretum of the University of Pennsylvania

PECO

PLNA — Pennsylvania Landscape & Nursery Association

Penn State — College of Agricultural Sciences

Forest Service — U.S. Department of Agriculture

William Penn Foundation