

## Urban runoff can pollute streams

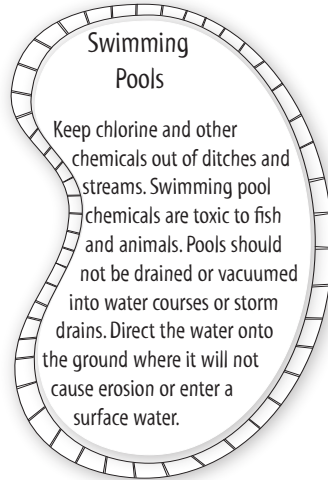
and cause flooding. The running water carries with it litter, dust, oil, gas, fertilizer, pesticides and anything else that will float, dissolve, or be moved along. These pollutants then flow directly into streams or storm sewer systems that flow, untreated, into streams, lakes, and the aquifer. There, the water-borne pollutants can cause fish kills. As urban development increases, more runoff occurs and the potential for downstream flooding becomes worse and more frequent. Increased flooding can erode stream banks, smother habitat, and degrade water quality.

Everyone must help if we are to clean up water pollution caused by urban runoff. This pamphlet will tell you how you can help keep our waters clean and reduce urban runoff by following some tips for activities around your home.



### Animal Wastes

Keep your animal wastes at home. Pet waste transmits disease to other pets and humans. Wastes left on sidewalks or in gutters are flushed directly into your streams and lakes by runoff.



### Swimming Pools

Keep chlorine and other chemicals out of ditches and streams. Swimming pool chemicals are toxic to fish and animals. Pools should not be drained or vacuumed into water courses or storm drains. Direct the water onto the ground where it will not cause erosion or enter a surface water.

### Contacts

**Florida Fish and Wildlife Conservation Commission** (850) 488-4676  
Wildlife Alert (888) 404-FWCC <http://myfwc.com/>

**Alachua County Environmental Protection Department**  
(352) 264-6800  
<http://www.environment.alachuacounty.us>

**St. Johns River Water Management District** (800) 451-7106  
[www.sjrwmd.com](http://www.sjrwmd.com)

**Suwannee River Water Management District** (800) 226-1066  
<http://www.srwmd.state.fl.us>

**Suwannee River Partnership** (386) 362-0431  
<http://www.suwannee.org/>

**Florida Yards & Neighborhoods** (352) 392-1831 x220  
<http://fyn.ifas.ufl.edu/local.htm>

**Bureau of Invasive Plant Management** (386) 758-0464  
<http://www.dep.state.fl.us/lands/invaspec/>

**Gainesville Clean Water Partnership** (352) 393-8657  
[www.gainesvillecreeks.org](http://www.gainesvillecreeks.org)

**US Department of Fisheries & Aquatic Sciences** (352) 392-9617  
<http://fishweb.ifas.ufl.edu/>

**USGS (850) 942-9500**  
<http://fl.water.usgs.gov>



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## Your Streams



When land is undeveloped, forests and fields let most rainfall soak into the ground. Some rainfall is lost through evaporation and some is taken up by vegetation through transpiration. Some water flows overland to streams and the rest flows slowly underground to feed streams and lakes.

When urban development covers the land with buildings and streets, the trees, shrubs and topsoil are replaced by concrete and asphalt. Less rain can soak into the soil, and the result is "urban runoff". Water, which stays on the surface, runs off quickly into storm drains, ditches or streams.



## Tips for Streamsidiers

A lot depends on you. Unwise and careless use of stream banks and stream beds can lower water quality to the point where fish die and the stream becomes an eyesore, not an asset.

### • Keep your stream shaded

Trees, bushes and grasses on the banks will: 1) shade the water, keeping it cool for fish in the summer, 2) prevent stream bank erosion and collapse, and 3) provide wildlife habitat and a food source for fish. Stream bank vegetation also provides cover and shelters fish from predators. Leaves that fall into the stream break down over time and become an important part of the food chain.

### • Keep livestock away from streams and marshes

Animal wastes degrade water quality and their hooves can cause banks to collapse which leads to heavy siltation and can block water flows.

### • Keep litter out of streams

This includes tree branches, grass clippings, old appliances and trash. Organic matter will rot and reduce the amount of dissolved oxygen in the water. The oxygen is needed by fish and other aquatic creatures, and it helps keep the water smelling fresh.

### • Don't over-beautify

Despite good intentions, changes you make to your stream may destroy spawning beds and fish eggs. Any alteration, including vegetation, likely requires approval and permits from local, state, and even federal agencies.

## Sidewalk and Drive

Streets and driveways are sources of water pollution. Oil leaks from cars can contribute large volumes of oil pollutants. Antifreeze is highly toxic. Contaminants from car exhausts can wash off roads and into streams.

### • Fix oil and transmission leaks

Place a drip tray under the car. Never dispose of used oils and antifreeze into gutters or storm drains, all of which empty into streams. Recycle used oil and antifreeze.

### • Sweep your walks and driveways

Hosing and rainfall wash litter and dirt from the sidewalks and driveways into your streams; sweeping them is better. If you use a leaf blower, blow away from the street and storm drains.

### • Keep your exhaust clean

Tune-ups and anti-pollution devices reduce the fallout from your exhaust which is picked up by runoff on streets and parking lots.

### • Keep suds out of gutters

Wash cars on the grass or take to a commercial car wash. Use no-phosphate soaps when you wash your car. Do not dump left-over detergents or cleaning compounds into local waterways or storm drains.

### • Watch your construction projects

When pouring concrete, keep wet concrete away from storm drains and streams. It is very toxic. Never dump or hose cleanup water or wash water from painting, concrete work, plastering, or other construction processes into a storm drain or water body.

## Lawn and Garden

Pesticides and weed killers create problems when they enter lakes and streams. Some chemicals stay active for a long time and accumulate in the environment. Others kill desirable insects, animals, and plants as well as pests. Fertilizers, chemical and organic, can cause excess weed and algae growth when they enter water, reducing available oxygen for other forms of aquatic life. These tips are good for the environment and good for your pocketbook, too!

### • Encourage insect-eating birds and "friendly" insects in your yard instead of relying on pesticides.

Attract birds with tree cover, food during the winter and protection from cats. Spiders, ladybugs and dragonflies all eat pest insects. Recognize and respect these useful insects.

### • Water no more than half an inch per week. Do not water at all if it rains

### • Instead of weed killers and other pesticides, consider hand-pulling weeds and using an insecticidal soap

• **If you must use chemicals, do not over apply**  
Use specific spot treatments rather than general broadcast herbicides. Never spray near ditches, lakes, or streams. Spray on windless days and not before or during rain.

### • Dispose of lawn and garden chemicals carefully

Follow instructions on the container. Never dump chemicals into ditches, down drains, into the gutter or near water. They can interfere with the workings of sewage treatment plants and septic tanks or cause fish kills. If you have unused pesticides, please contact your local household hazardous waste facility or your county's solid waste department.

## Lot Coverage

The average city lot has 50 to 75 percent of its surface covered. Townhouse and condominium developments result in even greater lot coverage and less vegetation. Sealing the ground with concrete and asphalt is the major cause of increased amounts and greater force of runoff. As more land is paved, less rain can infiltrate the soil to recharge groundwater supplies. Infiltration through the ground cleans water and provides underground water to keep streams flowing. The result of increased paving is often increased flow during storms causing in-stream erosion, smothered habitat, and degraded water quality.

### Plant another tree

Trees and shrubs capture and hold a lot of rain before it reaches the ground. Their roots hold water in the ground. Wherever possible, keep existing trees and bushes growing and try to plant more.

### Recharge groundwater supplies

Redirect your roof downspouts away from street and storm sewers. Instead, direct the water to low spots and plant a rain garden.

### Avoid landscaping plastic

If you need to prevent weed growth, use perforated plastic or geotextile to let water penetrate.

### Use mulch to conserve water

Make use of biodegradable mulches such as leaves, grass clippings, pine needles, or wood chips but never use cypress mulch.

### Avoid paving your lot

Leave as much of the lot as you can in grass and trees. Consider using the new porous asphalts or paving bricks for your driveway. Water seeps through them. Mulches and pine needles are also options.