

Homeowner's GUIDE

To Protecting Water Quality and the Environment

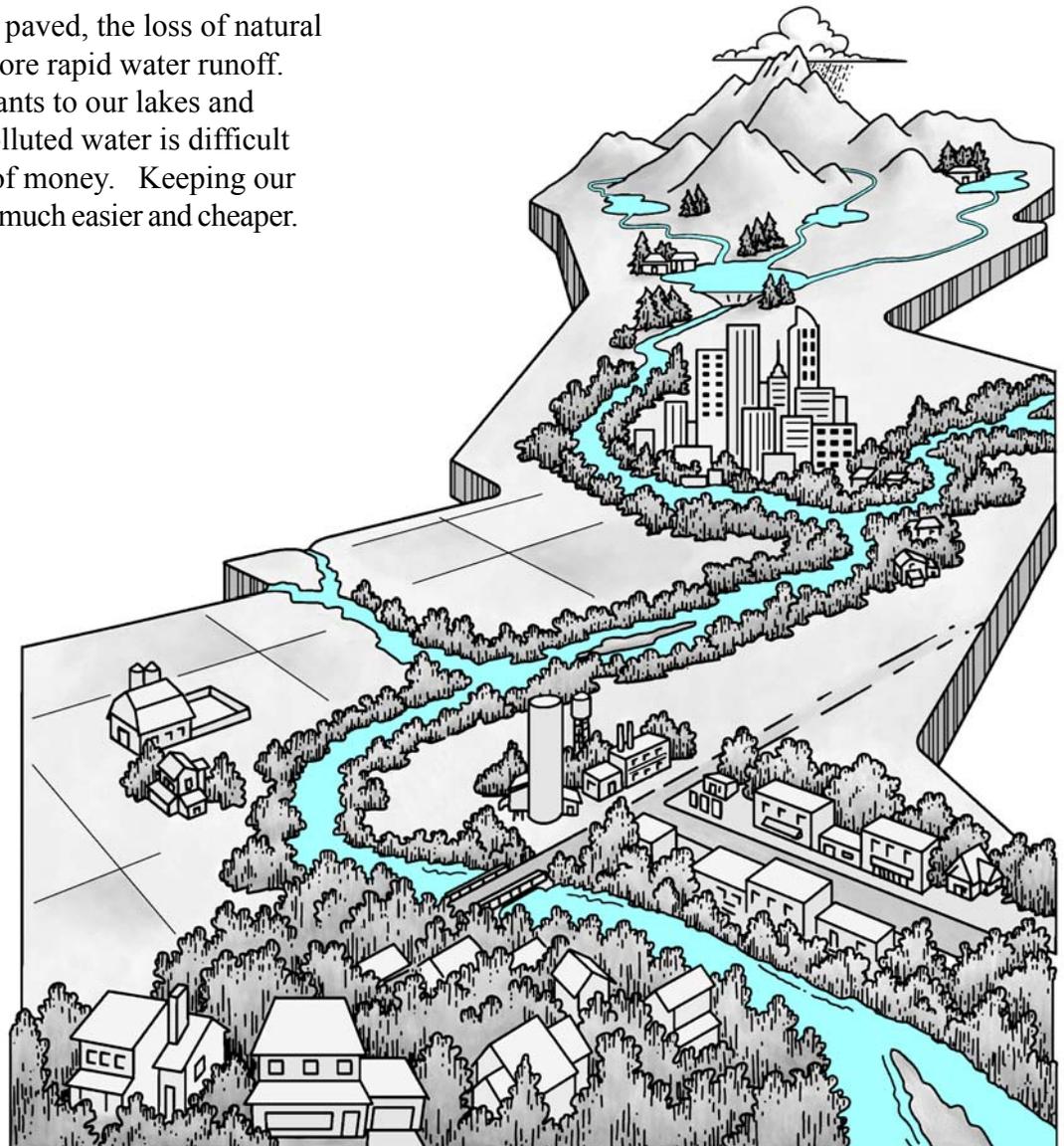
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It's a fact of modern life - many of our activities have altered the natural cycles of water movement and purification that give us clean water. And while our individual homes may contribute only small amounts of pollutants, they add up to bigger problems downstream.

The watershed in which you live probably consists of houses, businesses and undeveloped land. The water from this area drains to a creek or river. As cities develop and streets are paved, the loss of natural vegetation results in much more rapid water runoff. This runoff carries contaminants to our lakes and streams. Cleaning up this polluted water is difficult and can cost taxpayers a lot of money. Keeping our water clean in the first place is much easier and cheaper.

In the Home

The typical home contains an amazing assortment of cleaning products, paints, solvents, oils, fertilizers and pest control products. If used according to their labels, they can make our lives easier. But many of these products fall within the Environmental Protection Agency's definition of hazardous substances because they can catch fire, explode, corrode or because they are toxic.



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No matter how beneficial these products are, improper disposal of them can cause serious environmental problems. For example, never pour a pesticide down the sink or toilet, because municipal wastewater treatment plants cannot effectively treat them before returning the water to the watershed. Instead, call your local health department, wastewater treatment plant, or local Colorado State University Cooperative Extension office for the location of a collection site near you. Some municipalities have hazardous waste drop sites or collection days.

It doesn't take much to cause trouble; as little as one teaspoon of certain pesticides rinsed down a drain is enough to show up as a pollutant in local streams. This can cause a city's wastewater treatment plant to fail federal guidelines designed to protect the watershed and water quality.

When possible, consider using a non-hazardous or less toxic product for your household jobs. For example, a steady stream of water can wash many landscape insects off plants and adding insecticidal soap increases the control. (See fact sheet, 5.547, Insect Control: Soaps and Detergents; www.ext.colostate.edu/PUBS/INSECT/05547.html.) Try using white vinegar or baking soda in water as a household cleaning solution. These products may work as well and won't pose a threat to your community water supply. The best way to minimize the problem is to reduce the use of hazardous products, but if you must use them, here are some things you can do:

- Buy only enough chemical for the immediate job.
- Follow all label directions for use and disposal.
- Store leftover products in their original containers.
- Share unused products with neighbors and friends.
- Hire a licensed, professional service to apply chemicals.
- Never dump leftover chemicals in your backyard, in the trash, down the sink or toilet, or in storm drains. Street gutters and storm drains lead directly to waterways.

Hazardous Household Chemicals

Automotive products: oil, battery acid, brake fluid, antifreeze, gasoline.

Fertilizers and pesticides: herbicides, fungicides, insecticides, no-pest strips, flea collars and pet shampoo.

Household cleaners: spot removers, furniture polishes, deodorizers, drain cleaners, oven cleaners, disinfectants, moth repellants, bleach, ammonia.

Maintenance supplies: paint, varnish, lacquer, turpentine, wood stains, wood preservatives, asphalt, asbestos, roofing tar, swimming pool chemicals.

Outside Your Home

Your landscape either can help to prevent water quality problems or it can contribute to them. For example, rain and irrigation water can wash misapplied lawn fertilizer and pesticide off sidewalks and driveways into storm drains. From storm drains, chemicals enter directly into our streams or other bodies of water. On the other hand, careful landscaping and sound lawn care practices can reduce the need for chemicals and watering, and so reduce the chances of degrading water quality for humans and the environment.

A garage, driveway or sidewalk also can be a conduit for water pollution. Anything that drips from your car — oil, gas, antifreeze — can wash off concrete or asphalt into storm drains and end up in our streams and reservoirs. Pet wastes, de-icing salts, pet flea shampoos, water softener chemicals, even car washing detergents can be harmful to aquatic life. Wash your car at a commercial car wash rather than in your driveway. Commercial car washes recycle some of the wastewater. They also pre-clean the wastewater before dumping it into the sewage system. Dumping waste oil or other such products into the storm drain is no different than pouring it directly into the nearest stream.

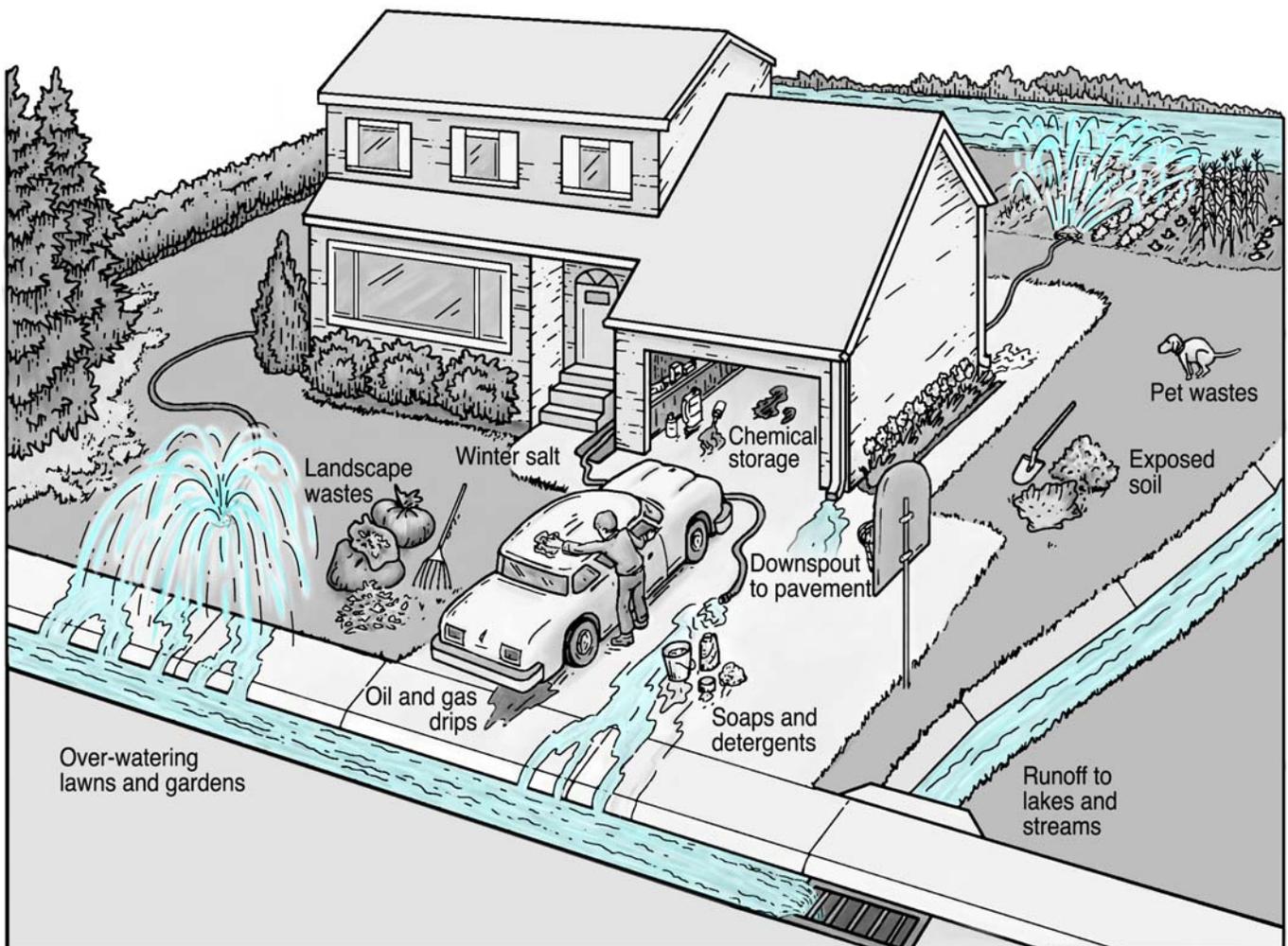
Consider using these beneficial landscape practices:

- Use planting beds or ground covers to reduce the amount of area in high-maintenance turf and concrete surfaces. Mulched planting beds and ground cover can be maintained with fewer pesticides and less water than high-maintenance turf.
- Compost leaves and other yard wastes.
- Select native and Xeriscape plants that require less water and fertilizer and fewer pesticides.
- Replace turf grass in inappropriate areas, such as dense shade, steep slopes or hard-to-water places. Instead, plant hardy groundcovers or ornamental grasses.

You also can mulch or use porous paving materials.

- Establish a groundcover or mulch on all bare soil areas.
- Install water-efficient sprinkler systems, which are directed away from paved surfaces.
- Establish a chemical-free buffer strip of dense vegetation next to any watercourse, stream or lake that borders your property.
- Use organic mulches, such as wood chips, in flowerbeds to reduce weeds and conserve water.

If spilled or dumped down a storm sewer, just 4 quarts of oil from your car's engine can form an 8-acre oil slick bigger than a city block.



Chemicals can be an asset to homeowners in some situations. But fertilizing when the lawn doesn't really need it, using weed killers at the wrong time of year, spraying insecticides "just to be safe," even watering a little bit every day are unnecessary and can contaminate our water supplies. Sometimes, just changing the method of watering can take care of pest problems. In other cases, beneficial insects could destroy garden pests better than any insecticide.

Some beneficial lawn care practices include:

- Use only the amount of fertilizer that is recommended—more is not better.
- Use slow-release forms of fertilizer.
- Use pesticides (herbicides, insecticides and fungicides) only as a last resort.
- Calibrate spray equipment for accurate delivery, and follow all label instructions.
- Safely dispose of pesticide containers, rinse water and leftover pesticides without dumping them down a house drain or in the storm drain.
- Keep a record of pest problems and what worked to control them.



Degraded fish and wildlife habitat, and recreation opportunities, often results from overgrowth of aquatic weeds and algae. Nutrient runoff from lawns, parks and gardens can contribute to this problem.

- Water the lawn when it is dry rather than on a calendar schedule.
- Reset the sprinkler clock after rain or cool weather.
- Don't water the pavement.

Much of our pesticide and fertilizer use is because of a desire for "perfect," pest-free lawns and gardens. But these products can kill beneficial insects that naturally help to control unwanted ones. Learn to accept a few weeds or insects in your yard as part of nature's balance.

In the Community

Public awareness about water quality needs to start at home, in our own neighborhoods.

- Act on your interest in safeguarding and cleaning up local waters. Learn about your watershed. Tell public officials that a healthy watershed is important today and for future generations.
- Support the preservation of open space and natural areas that filter run-off water and buffer the effects of urban life.
- Participate in projects and events that promote conservation and preservation of our water resources.

Home gardeners may use on average more fertilizer and pesticides per square foot than farmers do in their fields.

Simple Things You Can Do To Protect Water Quality

- Redirect down spouts from paved areas to vegetated areas and away from foundations.
- Select landscape plants that are well adapted to our climate and soils and that have minimal chemical and water requirements.
- Mow your grass up to 3 inches high and do so regularly to keep you lawn healthy. A healthy lawn requires fewer chemicals.
- Leave grass clippings on your lawn to recycle nutrients.
- Apply only enough irrigation water to satisfy plant needs. Never over-water after pesticide or fertilizer applications.
- Adjust sprinklers to avoid watering paved areas.
- Keep fertilizers and pesticides off sidewalks and driveways.
- Use alternative pest control measures first. If a pesticide is needed, apply it at the correct time and rate.
- Store all pesticides and fertilizers in a safe, dry place with the labels intact.
- Check with your local health or natural resources department, wastewater treatment plant, or your county Colorado State University Cooperative Extension office about the safe disposal of hazardous household wastes.

