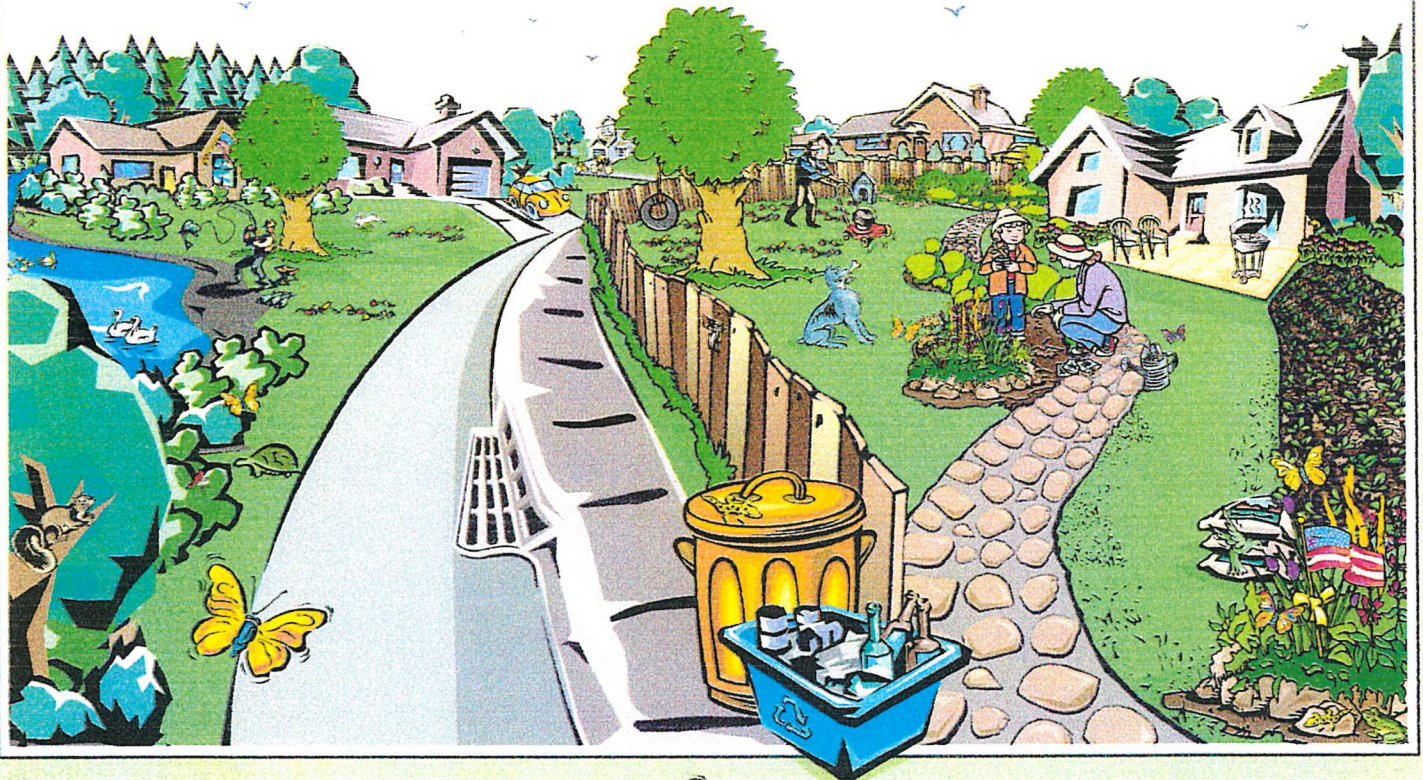


Environmental Protection Begins In...

Your Own Backyard

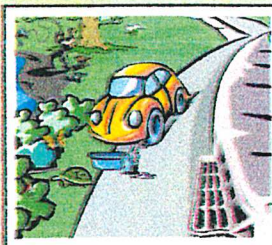


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ADEQ

ARKANSAS
Department of Environmental Quality



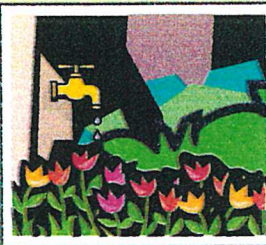
Protect water quality
Don't dump waste motor oil or chemicals in storm drains or on the ground. Storm drains are made to carry rainwater away. The water is not cleaned before it goes into a stream or lake.



Recycle
Recycling newspapers, cans, plastic, and other wastes saves resources. The less trash we put in landfills, the more land we will have available for future generations.



Prevent air pollution
Don't burn leaves or grass clippings. Mulch or make compost with clippings instead. On hot summer days, wait until evening to mow the lawn and to gas up yard equipment or the car.



Use water wisely
Turn off dripping faucets. Don't over-water the grass, and make sure sprinklers aren't watering the sidewalk. Grow plants that need less water.



Use fertilizer properly
Using more than your soil needs won't improve your yard and could harm lakes and streams. Adding compost to your soil reduces the need for chemicals.



Using Water Wisely to Reduce the Impact of Runoff

Do's and Don'ts

- Don't waste water
- Select plants and lawns that are drought-resistant
- Reduce runoff pollution by reducing the amount of waste in your yard

Did You Know?

Only one percent of the world's water supply is usable fresh water. The rest is saltwater or frozen in the polar caps.

Arkansas produces several native plants that are drought-tolerant and need less water. They include redbud, pin oak, red cedar, honey locust and prairie wildflowers.

Environmental protection begins in your own backyard

Arkansas is blessed with good water quality

Arkansas is more fortunate than some parts of the country that struggle with limited water supplies or waters that are too polluted for swimming or fishing.

To maintain our good water quality, we all should make conserving water a habit outdoors and inside our homes:

- Use a hose nozzle to conserve water as you wash your car.
- Water the lawn, not the sidewalk. Position lawn sprinklers to avoid wasting water and to maximize the benefit to your lawn and garden.
- Repair faucet drips and leaks.
- Water lawns wisely. Water deeply but infrequently, and water before 10:00 am to avoid losing your water to evaporation.

- Choose drought-avoiding plants that grow, flower and die back before the summer heat causes problems: daffodils, irises, poppies, pansies, and many other wildflowers.

- Choose drought-tolerant plants that sustain through the hot, dry summer: cacti, some cedars, lantana, viburnum, hollies.
- Drought-tolerant grasses include: buffalo grass and Bermuda grass.

What is runoff?

Runoff usually starts as rainwater or water from a hose that does not readily soak into the ground. This water flows from rooftops, over paved areas, and across lawns.

The flowing runoff transports soil, pet waste, pesticides, fertilizer, oil and grease, toxic wastes, leaves, litter and other potential pollutants.

What are storm drains?

Storm drains and drainage ditches are flood control devices made to quickly remove storm water runoff from your neighborhood.

Storm drains are **not** sewer systems. No treatment to clean the storm water occurs before it flows into a waterway. Polluted runoff can degrade our creeks, rivers and lakes.

Please see the back of this page for a list of easy steps you can take at home to reduce pollution from runoff.

(Continued on back)

Environmental protection begins in your own backyard

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Conservation Commission
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Make simple changes in the ways you care for your yard and home to reduce pollution runoff

Pollution Risk	Manage Runoff Potential By....
Storage of pesticides, fertilizers	Buy only what you need; store in waterproof conditions
Use of pesticides, fertilizers	Follow application directions; avoid rain
Car washing	Use commercial car wash; or wash on lawn
Automotive wastes	Clean up spills with absorbent material like sand or cat litter; take used oil to a collection center
Pet and animal wastes	Bury waste or dispense in toilet
Grass clippings, leaves, yard waste	Sweep clippings, leaves off paved surfaces and away from water flow routes; compost yard waste or use as mulch

Thanks to these sources and websites

Arkansas Soil and Water Conservation
Commission

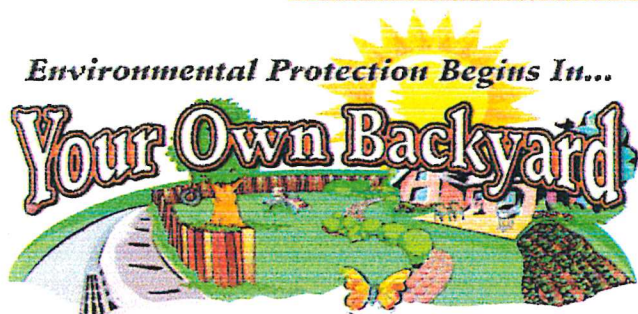
The U.S. Environmental Protection
Agency www.epa.gov

University of Arkansas Cooperative
Extension Service www.uaex.edu

City of Seattle www.ci.seattle.wa.us

University of Wisconsin Cooperative
Extension www1.uwex.edu

Visit us online
www.adeq.state.ar.us



Alternatives to Chemicals

Environmental protection begins in your own backyard

Thousands of household products contain toxic ingredients. They add convenience to our lives, but if used improperly, these products can endanger our health and the environment.

Several types of cleaning jobs can be accomplished using safe products commonly found around the home:

Alternatives to Household Cleaners

All-purpose cleaner—2 Tbsp. ammonia, 2 Tbsp. liquid detergent, 1 quart water (do not use detergent with bleach added).

Drain cleaner—Pour 1/2 cup of baking soda down the drain first, then 1/2 cup of vinegar. Let it fizz for a few minutes, then pour down a teakettle full of boiling water.

Window cleaner—Put 1/4 cup vinegar in a spray bottle and fill to top with water. Spray on surface.

Alternatives to Pesticides

Rub with lint-free cloth.

Use a non-chemical compound such as a solution of three teaspoons of pure soap per one gallon of water. Store the mixture in a spray bottle. Clean leaves with it and spray directly on any insects.

Introduce predatory species such as spiders, ladybugs, etc.

Include pest resistant plants such as yarrow, thyme and marigolds.

Alternatives to Pest Repellants

Ants—Mix 1 Tbsp. each of sugar and borax with 2 Tbsp. of water. Soak a cloth in the mixture and place in a flat dish near the infestation; or place red chili peppers or cream of tartar near place of entry.

Mice—Remove rodents' food supply and use live traps available at the hardware store; get a cat.

Most pests—Garlic oil and extracts are used to repel a variety of insect pests and also work as fungicides.

Deer Repellant

Blend raw eggs with water. Some gardeners add garlic and hot pepper. This repellant can last for several weeks when sprayed on plant foliage or until it is washed away by water or rain.

Contact us

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(501) 682-0923



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Thanks to these sources and websites

- Arkansas Soil and Water Conservation Commission
- Univ. of Arkansas Cooperative Extension Service www.uaex.edu
- University of Wisconsin Cooperative Extension
- City of Seattle www.ci.seattle.wa.us
- Michigan State University www.msue.msu.edu/vanburen/rhhwalt.htm



Landscaping for the Environment

Did You Know?

One tree can filter up to 60 pounds of pollutants from the air each year.

Drought-tolerant plants and grasses

Arkansas natives: redbud, pin oak, red cedar, honeylocust, prairie wildflower

Also, cacti, some cedars, lantana, viburnum, hollies

Relatively drought-tolerant include crape myrtle, nandina, Chinese junipers and golden raintree

Grasses include: buffalo grass and Bermuda grass

Environmental protection begins in your own backyard

Your yard can be beautiful, inviting and environmentally friendly

There are many ways to enhance the environmental quality of your yard's landscape.

Be aware of exposed soils in your yard where erosion can occur and runoff can carry soil to streams.

Start planting gardens that don't require frequent, heavy watering. Here are other ways to develop environmentally friendly yards:

- Minimize impervious surfaces such as sidewalks and driveways.
- Terrace when you garden on hillsides.
- Plant trees.
- Group plants according to their water needs.
- Attract and enjoy local wildlife, like hummingbirds into your backyard.
- Use pest and disease-resistant plant varieties. Whether you grow roses or tomatoes, certain varieties resist common pests and diseases better than others.
- Diversify your landscaping. Gardens filled with a variety of plants resist the spread of pests and disease better than beds with little variety.
- Go native. Indigenous plants have adapted to the local climate and require less watering and maintenance.
- Enrich your soil with commercial compost or compost you've made from your own household organic waste and yard trimmings. Compost is the dark, earthy material naturally produced by decaying items. The addition of com-post keeps your soil loose, moisture holding, fertile and well drained.
- Some plants avoid drought by avoiding the hot season. Choose drought-avoiding plants that grow, flower and die back before the summer heat causes problems. Some to try are: daffodils, irises, poppies, pansies and many wildflowers.

Thanks to these sources and websites

University of Arkansas Cooperative Extension Service www.uaex.edu

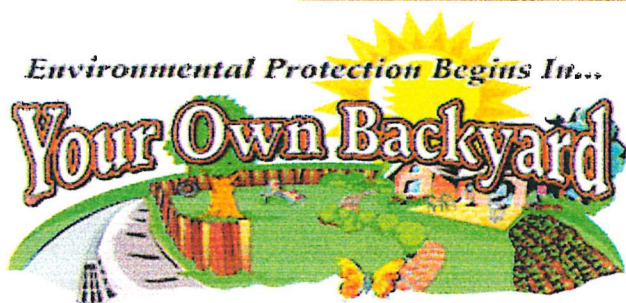
Arkansas Soil and Water Conservation Commission

City of Seattle www.ci.seattle.wa.us



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Managing Chemicals and Household Hazardous Waste

Environmental protection begins in your own backyard

Do's and Don'ts

- Properly use, store and dispose of yard chemicals.
- Follow label directions for disposal of household hazardous wastes.
- Use alternatives to pesticides.

Did You Know?

Storm drains are not sewers. No treatment is done to the runoff before it enters a stream or lake.

One pint of oil can make a slick larger than a football field. Oil that leaks from our cars onto roads and driveways is washed into storm drains and then flows to a waterway or ends up in groundwater.

Everybody lives downstream

Ever heard that phrase? Managing the chemical products you use in your home and yard protects not only your property, but also water quality far beyond your neighborhood.

One major type of non-point source pollution to

our nation's rivers and streams comes from urban sources where small actions of individual homeowners can combine to cause serious water quality problems.

When enough rainwater or water runoff starts flowing across the

landscape, it will collect and carry pollutants to our lakes, rivers and streams.

Listed below are some ways you can manage the chemical products and wastes in your home to prevent pollution problems downstream.

Pesticides/Lawn & Garden Products

- Read and follow all label directions.
- Do not mix products.
- Buy only the amount needed and use it all.
- Do not over-use products. It results in too much plant growth in rivers and streams.
- Donate or exchange leftover product.
- Read and follow disposal instructions.
- Triple rinse pesticide containers before disposing of them and use the rinse as an application.

Auto Maintenance

- Use ground cloths or drip pans beneath your vehicle if you have leaks or are doing engine work.
- Clean up spills immediately by putting cat litter on it and sweeping it up.
- Collect used oil for recycling in containers with tight fitting lids.
- Do not mix different engine fluids for recycling.
- Take your used motor oil to a repair shop or gas station for recycling.
- Buy recycled ("re-refined") motor oil.

Car Washing

- Use soap sparingly.
- Use a hose nozzle with a trigger to save water.
- Pour your bucket of soapy water down the sink when you're done, not into the street.
- Take your car to a commercial car wash, especially if you plan to clean the engine or bottom of your car. Most car washes reuse wash water several times before sending it to the sewer system for treatment.

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Read the Label

If a product has a hazardous substance, the label must include a warning and a description of the hazard. Levels of hazardous are identified this way:

- **Danger—**
Substances are extremely flammable, corrosive or highly toxic.
- **Poison—**
Substances are highly toxic.
- **Warning/
Caution—**
Substances are moderately or slightly toxic.

Buy the least hazardous product for the job.

Note—the word “non-toxic” is for advertising only.

Visit us online
www.adeq.state.ar.us

Household chemicals and household hazardous waste

Many household products contain toxic ingredients. If used or disposed of improperly, products containing toxic ingredients can endanger our health and the environment.

Enough hazardous waste is generated in

one year in the United States to fill the New Orleans Superdome 1,500 times over.

The average American household generates 15 pounds of household hazardous wastes. Some of these wastes include automotive products;

household cleaners; paints and solvents; and pesticides.

Follow label directions regarding use, storage and disposal carefully.

Thanks to these sources and websites

Arkansas Soil and Water Conservation
Commission

Katie Teague, University of Arkansas
Cooperative Extension Service,
Washington County www.uaex.edu

U.S. Environmental Protection Agency
www.epa.gov

Pennsylvania Dept. of Environmental
Protection www.dep.state.pa.us



Managing Soil Quality

Environmental protection begins in your own backyard

DO'S and DON'TS

- Read the label carefully and use fertilizer correctly.
- Test the soil first.
- Don't fertilize before a rainstorm.
- Use organic fertilizer.
- Don't burn or bag leaves and grass clippings. Mulch or leave them on the ground.
- Compost with your yard clippings, or buy commercially available compost.

Did You Know?

Yard waste is banned from Arkansas landfills. Converting yard waste to compost or mulch instead benefits your yard and garden.



Use Fertilizer Carefully

People want to enhance their yards and gardens by using fertilizer. Use it carefully. On average, homeowners use 10 times more chemical fertilizers and pesticides per acre than farmers use. Too much of a good thing creates problems in your yard and downstream as well.

Who needs it?

Only a fraction of lawn owners have their soil tested to determine whether fertilizer is even needed. The University of Arkansas Cooperative Extension Service tests soil at no charge. Call your local county

Extension Service office for information.

Use the right amount at the right time

Don't over-fertilize. If you use too much or apply before a rainstorm, it can easily wash away into storm drains and then flow untreated into lakes and streams. Consider using organic fertilizers, which release nutrients more slowly.

Consider compost

Compost adds nutrients to tired, worn out soil. Use commercially available compost or make your own using garden waste. Mixing compost with soil

means your plants will need less chemical fertilizer and puts your waste to good use.

Compost benefits the environment because it:

- Restores soil structure
- Reduces fertilizer need
- Increases soil nutrient content and water retention in both sandy and clay soils
- Suppresses plant diseases and parasites

Need Nitrogen?

Don't overuse nitrogen. Apply one pound per 1,000 square feet, and never apply more than three times a year.

Thanks to these sources and websites

The Center for Watershed Protection
www.cwp.org

Do It Yourself Network www.diy.net

NRCS Backyard Conservation
www.nrcs.usda.gov/feature/backyard

Arkansas Soil and Water Conservation Commission

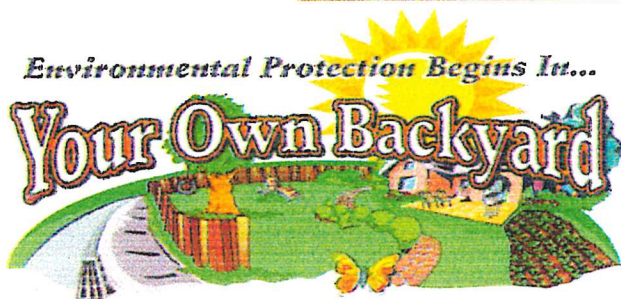
Univ. of Arkansas Cooperative Extension Service
www.uaex.edu/washington/Urban_HomeASyst/Contents.asp

U.S. EPA Lawn and Garden Activities
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/edu_6.cfm

Retrofitting Your Own Backyard www.cwp.org/Community_Watersheds/Retrofitting_Backyard.pdf

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Protecting Air Quality

Do's and Don'ts

- Walk or ride a bike.
- Share a ride.
- Combine errands for fewer trips.
- Keep your car tuned up and well maintained.
- Avoid idling.
- Use electric or hand-powered lawn equipment.
- Run dishwashers and clothes washers only when full.
- Use energy-efficient light bulbs and appliances.
- Choose environmentally friendly cleaners.

Environmental protection begins in your own backyard

What you can do to protect Arkansas' air

We all want to step outdoors and breathe fresh, clean air. Fortunately, Arkansas has plenty available. Most of Arkansas consistently meets all federal air quality standards for major air pollutants.

Households contribute to air pollution with automobiles, lawn mowers and other yard equipment, and activities like painting.

Managing activities that contribute to air pollution is especially important during hot summer days when pollutants react to produce ozone smog. High concentrations of ground-level ozone can be harmful to people, animals and crops.

Symptoms can include shortness of breath, coughing, headaches, nausea and eye and throat irritations. Children, the elderly and those who exercise outside are particularly vulnerable.

ADEQ and other organizations support **Ozone Action Days**, May 1 through September 30, to alert the public when levels are dangerous. Citizens are encouraged to reduce ozone-causing activities.

You can help by adjusting how and when you do certain outdoor activities:

- Wait until evening to use or refuel gas-powered lawn mowers, tillers and weed eaters to minimize ozone pollution.
- Consider using a push-mower to avoid contributing to ozone pollution.
- Avoid outdoor painting and using aerosol products, varnishes and degreasers on hot, humid summer days.
- Plant lots of trees and shrubs. Foliage helps absorb air pollutants.

For more information about air quality

For more information about ozone and other air quality issues, call the Arkansas Department of Environmental Quality at (501) 682-0770.

ADEQ Helpline (501) 682-0923

