

7. **Don't create runoff when washing your car.** Bring your car to a car wash (preferably one that recycles its water), or wash your car on your lawn. You can also [wash a car without water](#), if you prefer (organic or petrochemical. waterless car wash).

8. **Create a rain garden.** A rain garden is a garden, planted in a slight depression in the ground, that collects water and allows it to gradually permeate into the soil. Rain gardens come in many sizes and are typically planted at the base of a slope or even at the outlet to a downspout--anywhere where water naturally flows or can be directed. Water-loving plants and a base of permeable soil enhanced with fertile loam and a topcoat of mulch allow the rain garden to quickly absorb even large amounts of water, usually in just a few hours.

9. **Reduce the slope of your yard.** If your yard has a severe slope, the soil will have a hard time absorbing even moderate rains. Consider excavating to lessen make steep slopes more gradual. In order to prevent basement flooding and foundation damage, make sure there is an adequate slope away from the house for at least 10-15 feet.

10. **Install berms and vegetated swales.** A berm is a slightly raised

area, while a swale is ditch with a mild slope. Berms can be used to slow runoff on steep slopes, and swales planted with grass or other plants can direct water to a rain garden. Swales can also direct water toward a storm drain or street: since they significantly reduce the amount of runoff, very little water that enters a vegetated swale will actually make it to the street or drain.



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## How To Reduce Stormwater Runoff at Your Home



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# Stormwater Runoff

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Storm water runoff, precipitation that does not soak into the ground where it falls. This is one of the greatest threats to water quality in much of the industrialized world. When water runs off yards, streets, and parking lots into storm sewers or directly into waterways, it carries with it sediments that clog streams and reduce oxygen in the water, as well as chemicals that poison aquatic ecosystems and can render water supplies undrinkable. Runoff also contributes to flooding and, because it doesn't recharge groundwater supplies, it exacerbates water shortages in many areas.

As more and more people move to cities and towns, the storm water runoff problem worsens, because the flattened, impervious surfaces and lack of natural vegetation in these environments prevent precipitation from soaking into the ground. While runoff is a problem of immense scale, there are plenty of simple steps you can take to reduce storm water runoff on your own property.

## Steps to Take

**1. Line impervious surfaces with gravel trenches.** Figure out where water runs off your driveway or patio, and then dig a small trench along the edge. Fill it with gravel to slow the runoff and allow the water to seep into the soil.

**2. Use the water that drains off your roof.** A 1,000 square foot roof can produce more than 600 gallons of runoff for every 1" of rain that falls on it. If your downspouts are connected directly to a storm drain, disconnecting them is the single most important step you can take to reduce runoff. Instead of allowing water to go directly into the sewer or to run into the street, direct your downspouts toward a vegetated area, such as your garden or lawn. Use extensions to ensure the water comes out at least 5 feet away from your foundation. Alternatively, install rain barrels or cisterns to collect the water so you can reduce the risk of soggy yards or basement flooding and save some rain for a sunny day. If you don't have any way to make good use of the stored water, consider Dutch drains, gravel-filled barrels with holes at the bottom which slow the flow of water to allow the ground to absorb it all.

**3. Replace lawn areas with native plants.** Lawns aren't particularly effective at absorbing and retaining water, especially during heavy rains. This is a problem not only because more natural precipitation runs off them, but also because they require a lot of irrigation, which in turn creates even more runoff. Native plants, such as shrubs and wildflowers, tend to develop more extensive root systems that take in

and hold water much better than lawns. As an added bonus, they require less maintenance than a lawn does. If you do decide to keep your lawn, though, water it efficiently to conserve water and reduce runoff.

**4. Add organic matter to your soil.** Adding compost or mulch to your soil can make your plants happier, but it can also reduce runoff. Spread a 2-4" layer of organic material once a year.

**5. Don't leave soil exposed.** Depending on your slope and soil type, bare soil can be nearly as impervious as concrete. If you can't or don't wish to plant vegetation on an exposed patch of soil, cover it with mulch, wood chips, or gravel. This is especially important for newly landscaped yards that don't yet have established vegetation.

**6. Plant trees and preserve existing ones.** Trees' immense root systems effectively absorb water over a large area. In addition, the canopy of a tree slows the fall of rainwater so that the ground is capable of absorbing larger amounts than it otherwise would be. Plant native trees or trees which take in a lot of water and are well adapted to your environment, and take care of your existing trees. For new home constructions, leave trees in place if possible.