# RAIN GARDENS 101

Kentucky Division of Water

When stormwater runs across hard surfaces, it picks up whatever is in its way, such as oil, salt, fertilizer, pesticides, pet waste, sediment, litter, and eventually carries it into a storm drain. Unlike sewer pipes, which carry household wastewater to a treatment center, stormwater pipes empty directly into streams, rivers, and lakes. Too much stormwater from developed areas can erode stream banks, pollute drinking water sources, and harm aquatic life. Studies have shown that up to 70 percent of the pollution in our streams, rivers and lakes is carried there by stormwater.

A Rain Garden is a garden with shallow depression designed to capture runoff from impervious surfaces such as rooftops, sidewalks, or parking lots. They use natural processes to improve water quality by soaking up stormwater and filtering pollutants.

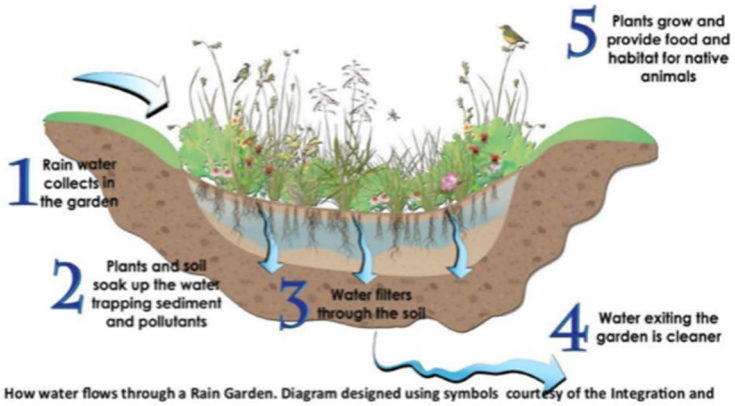
These gardens contain native plants that are adapted to the local climate and generally do not require fertilizer or special care. Native plants have deep root systems that allow stormwater to infiltrate into the soil and recharge the groundwater supply.

Native plants also attract native animals and provide critical habitat for critical pollinators, like bees and butterflies.

In urban areas, the recharge of the ground water by rain gardens and the addition of vegetation helps to reduce the Urban Heat Island Effect.

Rain gardens also help prevent flooding and drainage problems on the property and surrounding area by reducing stormwater flow velocity and giving water a chance to soak in rather than go into a creek.

An effective rain garden depends on water infiltrating into the soil of the garden. Water should stand in a rain garden no longer than 24 hours after the rain stops. Mosquitoes cannot complete their breeding cycle in this length of time, so the rain garden should not increase mosquito populations at all.




How water flows through a Rain Garden. Diagram designed using symbols courtesy of the Integration and Application Network, University of Maryland Center for Environmental Science (ian.umces.edu/symbols/).

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## How to Create a Rain Garden

To make a rain garden, you can follow these steps:

1. Choose a low-lying site in your yard, at least 10 feet away from your house to prevent flooding. This area should also be downhill, to allow water to flow to it.
2. Remove grass and other plants from the area, digging a basin in the area to temporarily hold water
3. Replace heavy soil with a faster draining mix. You can use 1/2 sand, and 1/4 compost, and 1/4 topsoil
4. Choose native flowers and grasses that can tolerate both wet and dry areas. Also, add plants that can grow in shallow water
5. Your rain garden should be planted and planned according to both the size, shape, and sun exposure of your area. Don't choose plants that are too large for the area or that can't tolerate the level of light the area gets

## Rain Garden Maintenance

Rain gardens do require maintenance, including:

- Watering regularly during the first two years and dry spells
- Inspecting site after rainfall events to ensure everything is working properly
- Adding and replacing vegetation in eroded areas
- Pruning and weeding
- Replacing mulch if needed
- Removing weeds
- Inspect where water enters the garden to make sure the area is very viable for a rain garden and choosing low maintenance plants can help

## Resources

How to Make a Simple Rain Garden to Solve Stormwater Problems

Rain Gardens – The Complete 2024 Guide

Basic Information about Nonpoint Source (NPS) Pollution

Soak Up the Rain: Rain Gardens

How to Maintain a Healthy Rain Garden