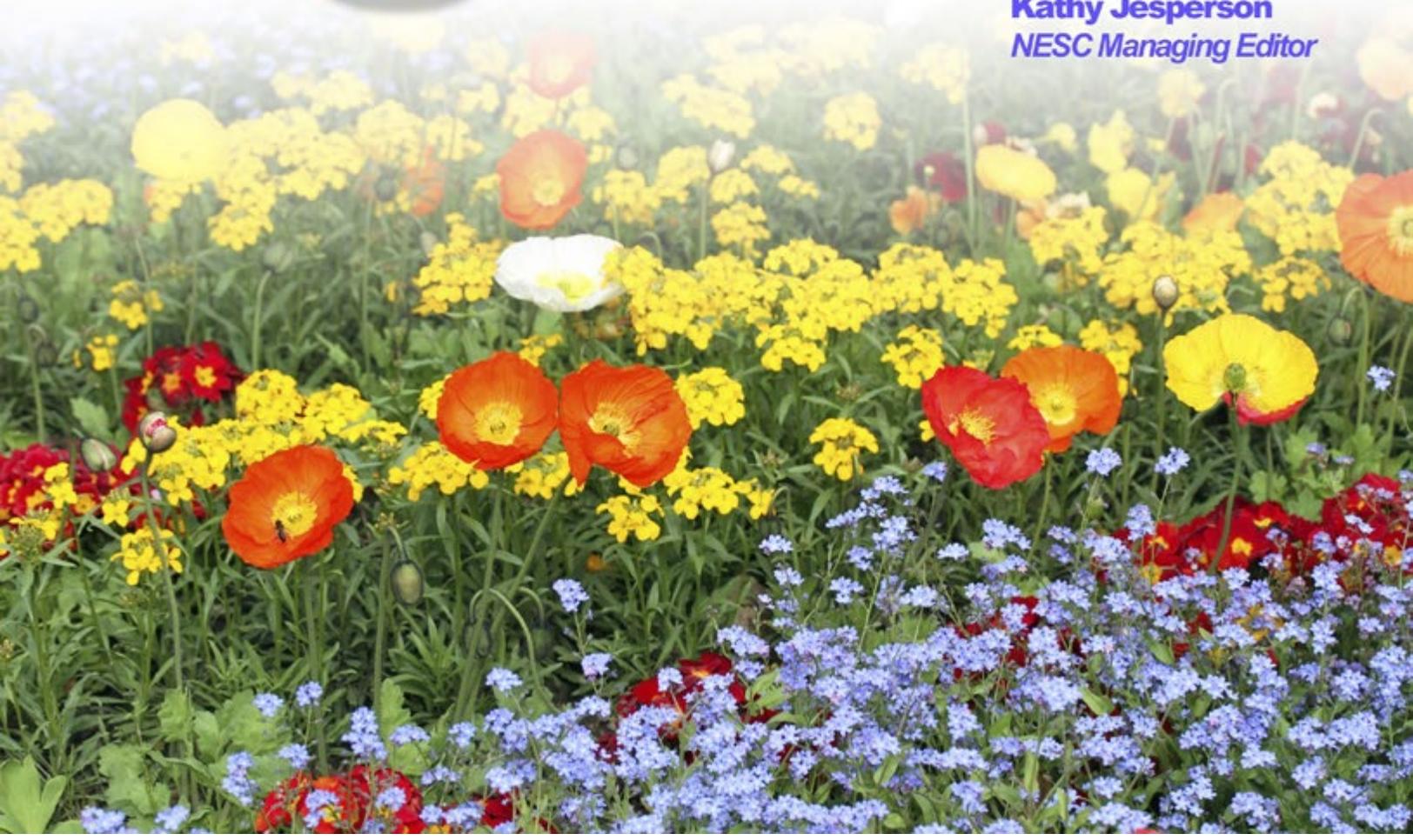


**How to plant a**

# RAIN garden

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Rain gardens are designed to collect stormwater runoff from a roof, driveway or other impervious surface—and keep this water out of storm sewers or local waterways. Rain gardens work by collecting stormwater in a shallow depression in your yard. This area is planted with native grasses and wildflowers that are specially selected for their ability to gradually absorb and filter stormwater.

Studies from the U.S. Environmental Protection Agency (EPA) have shown that as much as 70 percent of the pollution in streams, rivers and lakes has been carried there by stormwater. During a downpour, water can gush out of downspouts, across lawns treated with pesticides and fertilizers, into an oily street, and, finally, down a storm drain that dumps that pollution along with the water into a stream, river, or bay. By planting a rain garden, you can divert your gutter water into an attractive planting bed that works like a sponge and natural filter to clean the water and let it percolate slowly into the surrounding soil.

Besides diverting stormwater, adding a rain garden to your yard will also provide food and shelter for wildlife, and give you a whole new garden that's hardy, low maintenance and naturally beautiful.

Here are some basic steps to give you a good start planting your own rain garden.

#### 1. Find a location

The rule of thumb suggests that you place the garden at least 10 feet away from your home to prevent flooding in your house. Do not locate the garden over a septic field. You should try to choose a naturally occurring low spot in your yard or position the garden where your downspouts or sump pump outlet can be used to direct rainwater into your garden. Try to choose a location in the sun either full or partial.



**Cross-section of typical rain garden**

Once you've identified the new garden's location, remove the sod and dig a shallow depression approximately six inches deep. Slope the sides gradually from the outside edge to the deepest area. Use the soil that you remove to build up a slightly raised area on the lowest side of the garden. This berm will help contain the stormwater and allow it to percolate slowly through the rain garden.



## 2. Measure drainage area

If you are building the rain garden in a low spot in your yard, you do not need to measure the drainage area. Just ensure the area receives water regularly during a rainstorm.

If you are capturing water from a roof or other hard surface you will need to measure the specific drainage area of that surface and multiply by the number associated with the type of soil you have. For sandy soil, multiply by 20 percent for loam use 30–35 percent and for clay use 45–60 percent. These numbers are somewhat inflated but they will ensure the garden holds as much water as possible.

## 3. Create a design

Whether your garden is large or small the same basic principles apply. By planning your garden on paper first, you will be able to create the best appearance possible for your rain garden.



## 4. Choose your plants

Native plants are suggested for rain garden installations because they are best adapted for our climate. You will want to choose plants (flowers and grasses) that will grow well in both wet and dry areas because the rain garden will temporarily fill with rainwater from time to time.

## 5. Lay out the garden

Lay out the shape and boundary of the garden based on your design. Always check with your local underground utilities organization before you start digging.



## 6. Dig the garden

Remove the turf grass and dig your garden approximately four to eight inches deep. Use the soil to build a berm around the garden edges if necessary.

## 7. Prepare the soil

Amend the soil with two to three inches of compost. Mix in well.

## 8. Plant the flowers and grasses

Follow the design you created and place your plants in the approximate positions. Step back and look at the garden and the design. Plants should be placed about one foot apart from each other. Once you are satisfied you can start planting the flowers and grasses using a hand trowel.

## 9. Mulch the garden

Use coarse, fibrous, shredded woodchips that won't float or blow away. Apply the mulch about two to three inches deep. This will help to keep the moisture in and the weeds out.

## 10. Water and arrange downspouts

After you've planted the garden, water it every other day for two weeks if it doesn't rain and until the garden looks to be growing on its own. Good water techniques and maintenance are the keys to a quality rain garden.



The downspout from your roof or sump pump outlet from your basement should be directed toward your rain garden depression. This can be accomplished by a natural slope, by digging a shallow swale, or by piping the runoff directly to the garden through a buried four-inch diameter plastic drain tile.

**This How to Plant a Rain Garden fact sheet was developed by using information from the following sources:**



- **The Rain Garden Network**  
<http://www.raingardennetwork.com/build.htm>
- **This Old House**  
<http://www.thisoldhouse.com/toh/how-tointro/0,,20517496,00.html>
- **Rain Gardens.org.**  
<https://www.raingardens.org/index.php/create-a-garden/>

For more information about studies about how effective rain gardens can be, you may go to:

1. The University of Michigan's site at <http://umdearborn.edu/eic/research/rain.html>; or
2. The U.S. Geological Survey publication "Effects of Rain Gardens on the Quality of Water in the Minneapolis–St. Paul Metropolitan Area of Minnesota, 2002-04" may be viewed at [http://pubs.usgs.gov/sir/2005/5189/PDF/SIR2005\\_5189.pdf](http://pubs.usgs.gov/sir/2005/5189/PDF/SIR2005_5189.pdf); and
3. The Ohio River Foundation has a list of case studies at [https://www.ohioriverfdn.org/stewardship/rain\\_gardens/case\\_studies.html](https://www.ohioriverfdn.org/stewardship/rain_gardens/case_studies.html).

To see EPA stormwater case studies, go to <http://cfpub.epa.gov/npdes/stormwater/casestudies.cfm>.