Rain gardens attract birds and butterflies, while protecting streams, lakes and ponds. Planted with native flowers, shrubs, and grasses, rain gardens can thrive without fertilizers and pesticides. These gardens store rain for a few hours, allowing the water to seep into the ground. This helps to recharge ground waters that replenish streams and ponds between rain events. The plants and soils also filter pollutants and remove nutrients that harm water quality.

A rain garden creates a holding area that fills with a few inches of rain after a storm and keeps that water from flowing into storm drains in the street. This type of garden allows about a third more water to soak into the ground than the same size lawn. Since the water quickly drains into the ground, the rain garden does not provide a breeding area for mosquitoes.

Rain gardens can make our yards, neighborhoods, and downtown shopping areas more attractive, while improving the health of ecosystems. These vibrant landscape highlights will allow homeowners and businesses alike to contribute directly to cleaner water.

Community Benefits

When housing subdivisions, stores, offices, and parking lots replace fields and forests, the new hard surfaces often lead to many stormwater problems. Greater runoff after rain storms causes flooding, carries pollutants into streams, raises risks of waterborne diseases, and forces cities and towns to install costly stormwater treatment structures. By reducing runoff, rain gardens help to prevent these problems. Although a single rain garden is small, the combined effect of

many will enable big benefits in restoring local waters and preventing problems for the entire community.

Rain gardens mimic conditions that existed before impervious surfaces were built. These natural buffers reduce flooding by putting rain back into the soil rather than on the street. Plants and soils also work together to filter runoff and allow clean ground water to nourish nearby brooks. Scientific research has found that rain gardens are very effective in providing many benefits:

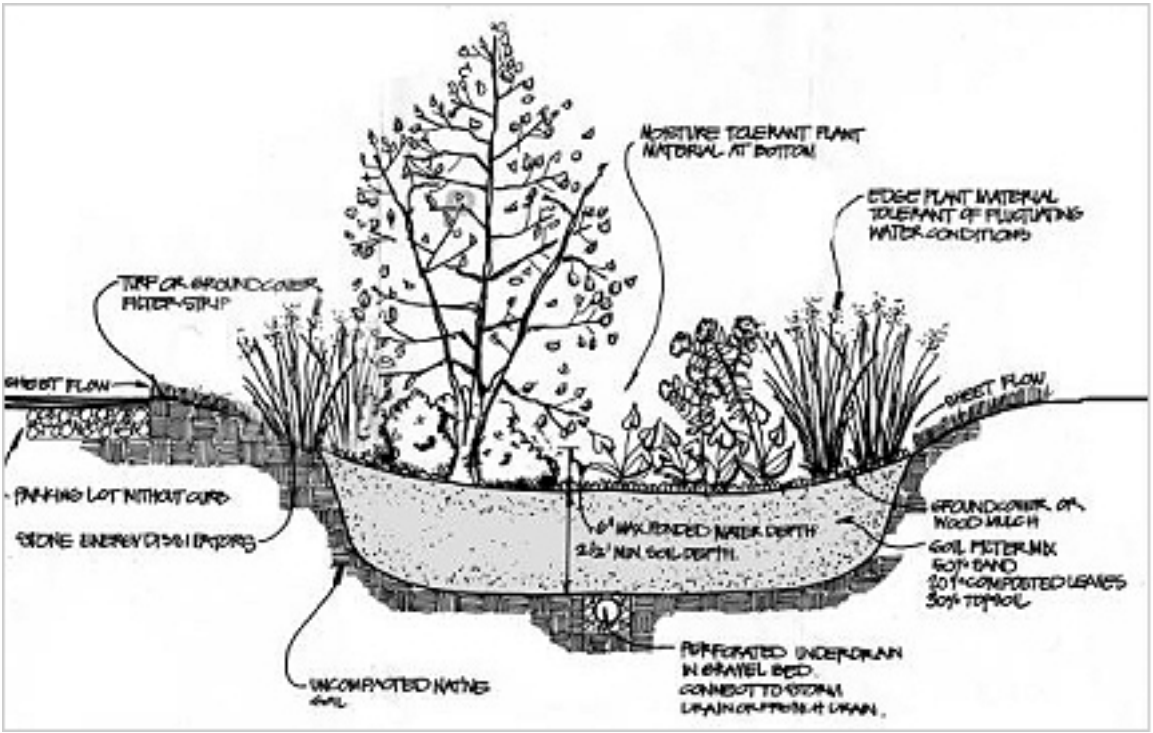
- Reduce runoff from hard, impervious surfaces by up to 98 percent.
- Remove 80% or more of the suspended solids that will clog storm drains and streams.
- Lessen stormwater discharges of metals, oils and other pollutants that harm fish.
- Allow phosphorus and nitrogen to be naturally taken up by plants and soils.
- Keep stream temperatures healthy since storm runoff is cooled by soaking into the ground

Iowa NRCS Urban Conservation Photo Gallery In addition to improving water quality and reducing flooding, rain gardens supply habitats for the beneficial insects, birds and wildlife that we enjoy seeing. Replacing some lawn areas with gardens will also reduce the need for mowing, fertilizers, pesticides, and other turf maintenance.

Rain gardens are easy and inexpensive to install and maintain. Rain gardens can eliminate erosion and prevent property damages by reducing problems with too much water from rooftops and driveways. Replacing lawn areas with interesting combinations of flowers and native plants will complement any home or business, and there are many choices of shapes and colors that can be used to create a personalized garden.

Bioretention Practices

Rain gardens are one type of new stormwater controls that are increasingly popular in many regions of the nation. These bioretention practices apply combinations of plants, soils and natural drainage that offer options for improving conventional storm water drainage systems. Other natural techniques include open vegetated swales, also called "country drainage", as well as larger bioretention areas with under drains that convey water to stormwater systems. By keeping runoff on-site with many smaller infiltration areas, the costs for installing and maintaining catch basins, drainage pipes, large detention basins and other expensive structures are reduced.



Above: Typical bioretention cross-section.
(From The Bioretention Manual, Prince George's County, Maryland)

Bioretention practices have a wide array of applications:

- As the primary or secondary best management practices for residential, commercial, office and institutional (e.g. churches, colleges) developments.
- As retrofits for existing building complexes and parking lots.
- As home improvements where landscaping features add value to the property.

Many free sources offer helpful information about designing and maintaining rain gardens and other bioretention practices. Detailed guidance manuals are readily available on the internet. Or contact the Massachusetts Watershed Coalition for more ideas on using natural landscaping to improve the health of community streams, lakes and water supplies.