

Intercept and Infiltrate – Managing Stormwater at Home

Stormwater runoff occurs when rainwater cannot infiltrate the ground. In urban areas, land development increases runoff potential due to impermeable surfaces such as pavement, buildings, and compacted soils. This results in high volume and high intensity runoff. Excess discharge impacts streams by causing erosion, destroying habitat, and deforming natural channel flow. Stormwater also transports pollutants from our yards and pavement to streams. These pollutants reduce stream water quality and can cause illness, impair ecological health, and increase water treatment cost.

What can I do? When considering ways to reduce runoff from your property, remember two words: *intercept and infiltrate*. Look for opportunities to capture rainfall and store it for later use. Utilizing storage devices such as cisterns or rain barrels will minimize stormwater volume leaving your property. Another option to consider is installing a rain garden or bioswale. These landscape elements are used to intercept and slow down runoff, allowing stormwater to soak into the ground.

Rain gardens vs bioswales, what's the difference? A rain garden is a shallow depression which captures and detains runoff for a short time. For home landscape applications, rain gardens are designed to hold the first 1" of a rainfall event. They are equipped with an overflow or outlet point to safely release water once the rain garden reaches capacity. They function as small detention basins because captured water should not permanently pool. Water that is detained in the shallow basin slowly percolates into the soil over 2 to 3 days. Bioswales are like rain gardens except they are designed to transport water rather than detain it. They are linear, vegetated features used to channel water to a discharge point and are commonly used in parking lots and along sidewalks and streets.

How do they work? Rain gardens and bioswales are designed to slow down runoff and promote infiltration through the combined and strategic use of plants and conditioned soils. This reduces runoff leaving your property and helps to recharge groundwater. Plants, soils and associated microorganisms also play an important role in improving water quality through uptake of excess nutrients and immobilization and degradation of some chemicals. When making plant selections, consider native species that are tolerant of alternating wet and dry conditions.

Remember, almost any residential landscape can accommodate some type of green infrastructure to reduce stormwater runoff. Key words to remember are *intercept and infiltrate*. Rain barrels, rain gardens and bioswales are just a few options to consider. Rain gardens and bioswales are low maintenance and add beauty and interest to your landscape while providing water quality benefits. They also provide food and shelter that attracts birds, desirable insects and wildlife.

Suggested Social Media Description:

Go green infrastructure to reduce stormwater runoff and improve water quality. Consider installing a rain barrel or a landscape feature like a rain garden or bioswale to intercept stormwater runoff and encourage infiltration.

Resources:

Residential Raingardens (HENV205)

<http://www2.ca.uky.edu/agcomm/pubs/HENV/HENV205/HENV205.pdf>

Managing Stormwater Using Low Impact Development (LID) Techniques (AEN-118)

<http://www2.ca.uky.edu/agcomm/pubs/AEN/AEN118/AEN118.pdf>

Ecosystem Services of Landscape Plants: A Guide for Consumers and Communities (HO-121)

<http://www2.ca.uky.edu/agcomm/pubs/HO/HO121/HO121.pdf>

Home and Garden Information Center – CLEMSON

<https://hgic.clemson.edu/factsheet/an-introduction-to-bioswales/>