



Stormwater Management: Green Infrastructure Solutions and Rain Barrels

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Stormwater Vocabulary



- **Stormwater runoff:** rain or snowmelt that flows over land and doesn't soak into the ground
- **Best Management Practice (BMP):** a practice or method designed to prevent or reduce pollution from a source, like stormwater runoff.
- **Impervious surfaces:** hard surfaces that prevent water from soaking into the ground
- **Pervious Surfaces:** a surface that allows water to pass through it and into the ground
- **Permeable:** allows stormwater to infiltrate through the surface of the pavement to the ground below

What is Stormwater Management?

- The process of controlling the stormwater runoff that comes primarily from impervious surfaces like parking lots, driveways, and rooftops
- It's important because it reduces flooding, improves water quality, Protects human health, protects aquatic ecosystems, restores natural habitats, and protects the environment



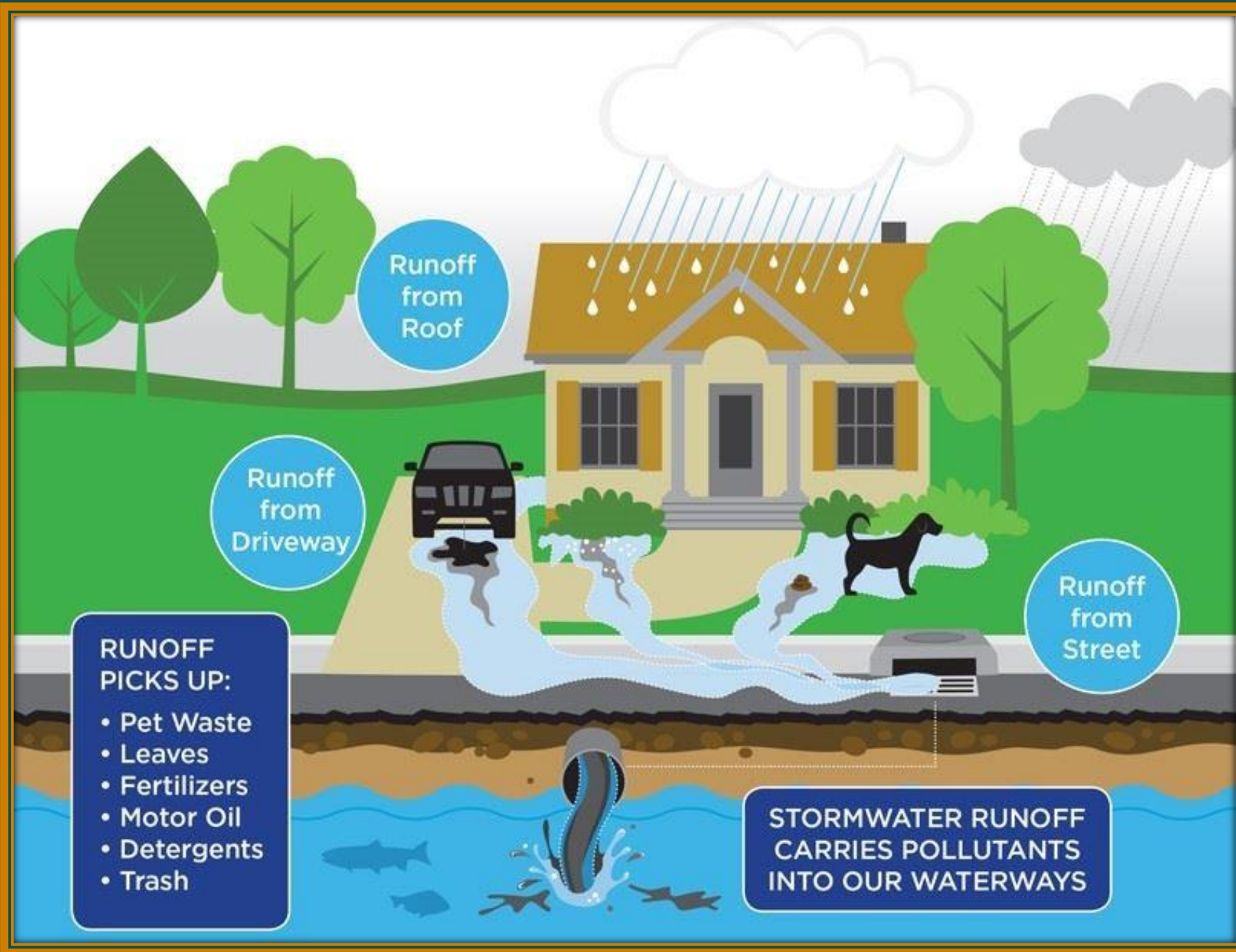
Stormwater Management Challenges in Coastal Regions

- Coastal Erosion
- Flooding
- Storm Surges
- Tides
- Life on land and in the water





Common Pollutants



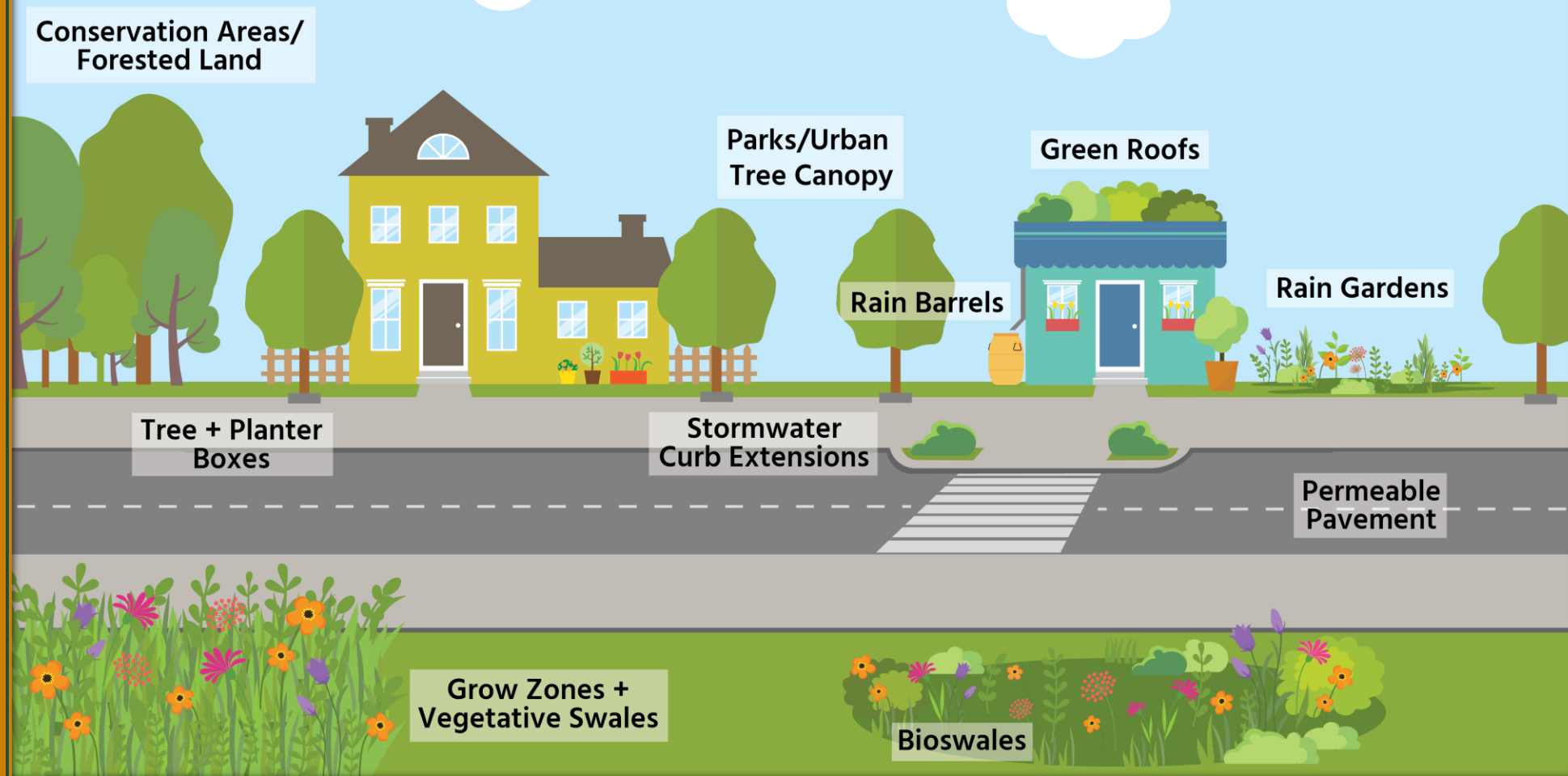
- Pet Waste
- Extra Fertilizer
- Motor Oil
- Soap
Detergent
- Litter
- Sediment

Green Infrastructure

Green infrastructure is considered a Best Management Practice (BMP) because it is a technique used to manage stormwater runoff and pollution by mimicking natural systems, like plants and soil, to capture, filter, and reduce runoff at its source.



WHAT IS GREEN INFRASTRUCTURE?





Benefits of Green Infrastructure

GI uses natural elements like plants and soil to mimic natural processes and provide various benefits.

- Environmental
 - Habitat and Biodiversity
 - Natural Hydrology
 - Water Quality
- Social
 - Amenity and Landscape Design
 - Encourage Outdoor Activity
 - Air Quality
- Economic
 - Energy use reduction
 - Lifespan of Infrastructure.
 - Property Values and Marketability

Types of Green Infrastructure



Natural Infrastructure (NI)

- Wetlands
- Forests
- Parks
- Meadows
- Lawns and Gardens
- Soil

Low Impact Development (LID)

- Rain Barrels
- Cisterns
- Permeable Pavement
- Rain Gardens
- Green Roofs and walls
- Stormwater Ponds

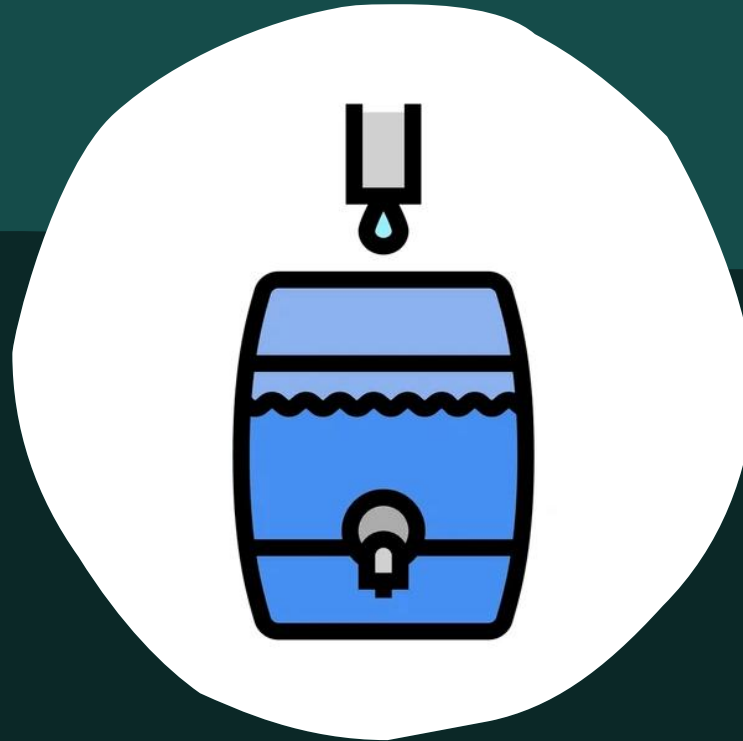
The background image shows two rain barrels. On the left is a black barrel with a white downspout and a green hose connected to its bottom. To its left are purple hydrangeas. On the right is a light green barrel decorated with a painted floral design of pink cherry blossoms, white daisies, and yellow black-eyed Susans. It sits on a stone base. A large dark teal circle is overlaid in the center, containing the title text.

Rain Barrels

In Stormwater Management

What are Rain Barrels?

- A container that collects rainwater from a roof and stores it for later use.
- A rain barrel is a form of green infrastructure, more specifically an LID, which is a land planning and design strategy that manages stormwater on-site rather than piping it away.
- They are used to conserve water, save money, improve water quality, and reduce stormwater runoff

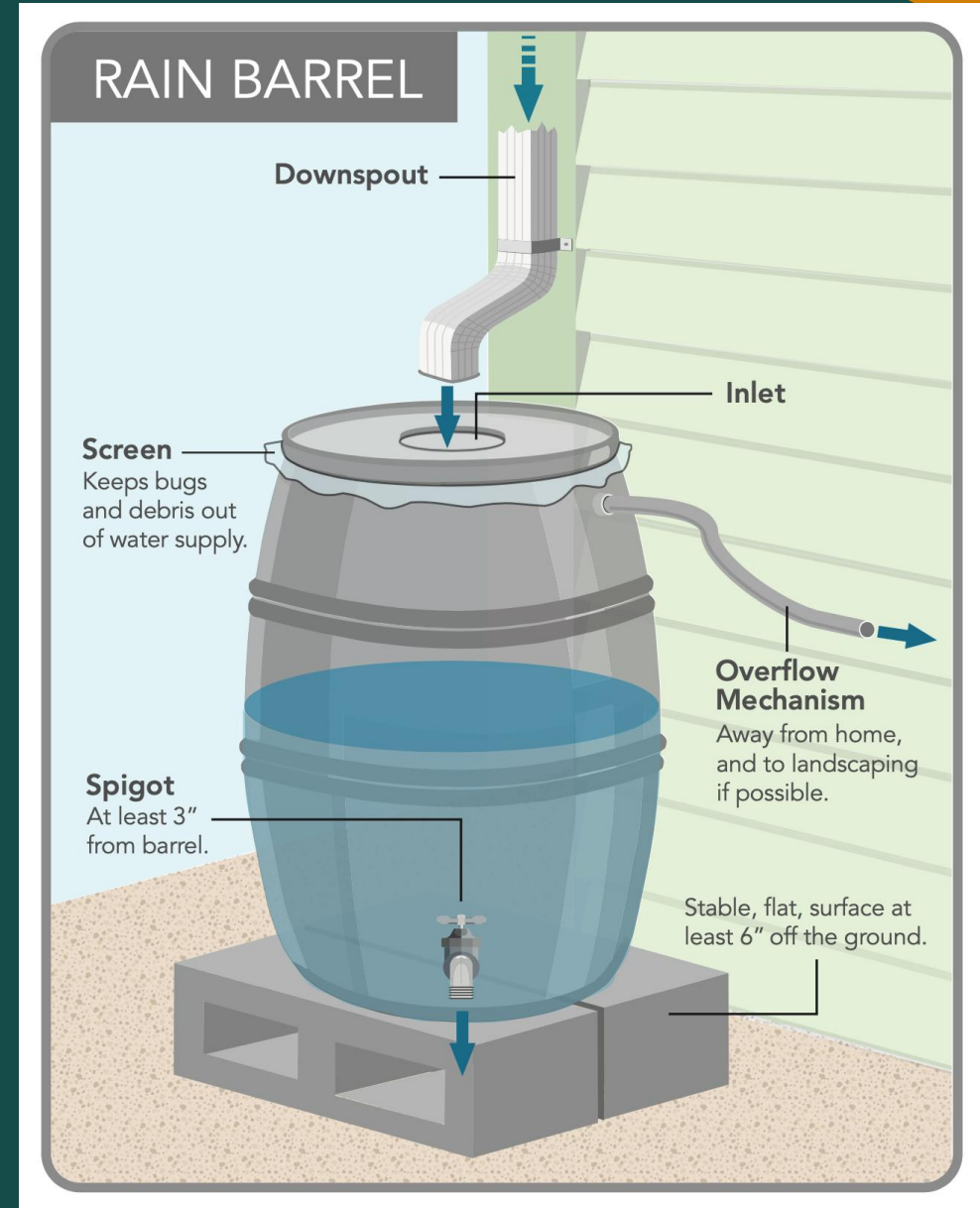


Rain Barrel Video



Main Parts of a Rain Barrel

- A. Downspout:** a gutter system that directs the flow of water to the rain barrel
- B. Inlet:** opening where the flow of water enters the barrel
- C. Screen:** this keeps debris from the flow of water from accumulating in the barrel and also keeps bugs and mosquitos away
- D. Overflow Mechanism:** when the barrel is full, the overflow pipe allows for water to escape away from the foundation
- E. Spigot:** lever system that allows for turning on/off of water flow
- F. Stable:** Elevated surface where the barrel is placed to increase the water pressure of water flow from barrel



How Rain Barrels Work



A photograph of two large, blue and green rain barrels with landscape paintings on them, sitting on concrete blocks next to a house. The barrels are decorated with vibrant, hand-painted scenes of rural landscapes, including green fields, blue skies with white clouds, and small houses. They are positioned on a gravel bed next to a wooden deck and a house with light-colored siding. A large, stylized orange flower graphic is overlaid on the right side of the image.

Benefits of Rain Barrels

Using rain barrels at your home can be beneficial to you, your property, and the environment.

- **Save water**
 - Using the rainwater we capture for landscaping allows for savings on the monthly water bills.
- **Moderate flooding**
 - Rain barrels can help moderate the potential for flooding in your community by reducing the amount of water that leaves the property.
- **Prevent stormwater pollution**
 - By collecting rainwater onsite, rain barrels can help keep pollutants from draining into our waterways.
- **Make your garden thrive**
 - Rain barrels collect rainwater, which is free of the additives (such as fluoride, salts, and inorganic ions) that tap water has for sanitation. Your plants and garden will thrive by being watered with rainwater.

How to get involved

- Install a rain barrel at your home, school, or business
- Participate in community stormwater solutions
- Advocate for green infrastructure projects at your school, work, and community
- Clean litter from clogged storm drains
- Stay educated on Stormwater Best Management Practices
- Spread the word!





Thank you!



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<https://www.beaufortcountysc.gov/stormwater>