

Pollinator Plants for Stormwater Management Facilities

PLSC 460

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March 8, 2021



Background Information

Partnership for Action and Learning Sustainability (PALS)

Project is in partnership with the Prince George's County

Department of Parks and Recreation

Project Deliverables:

Pollinator Plant Selection Guide

- Brief literature review of stormwater management
- Site considerations for three types of plantings (proper use of stormwater control measures and viewpoints)—a building, parking lot island, and open field
- Plant palette fact sheet – plant needs and site environmental conditions with pictures



Project Goals & Sample Sites

Design a plant palette list for three potential stormwater management system sites:

Site 1: Kentland Community Center, Landover, MD

Site 2: View from a Building

Site 3: Stormwater Pond

Project Goals & Sample Sites

Kentland Community Center

Already established SWM systems

Issues: heat in parking lot islands, lack of staff to control weeds, invasive plants, goose/deer presence

Field trip



Kentland Community Center

Plant Palette Criteria

Plant selection is based on these requirements:

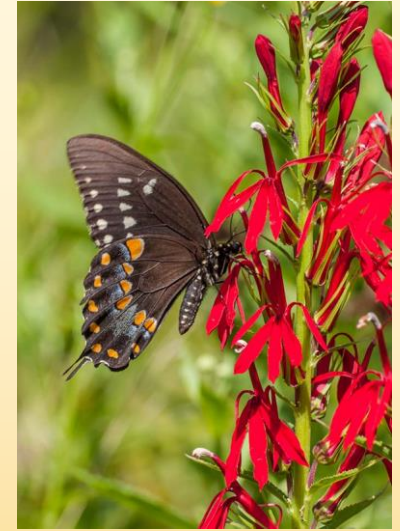
- **Native:** ~80%-100% native plant material
- **Growth Habit:** aggressive establishment and spread to compete with invasives
- **Wildlife/Pollinators:** Attractive to native wildlife and pollinators
- **Aesthetic Value:** Aesthetically-pleasing and attractive to visitors
- **Low Maintenance**
- **Deer Resistance**
- **Soil Tolerance:** Survivability in extreme dry/wet conditions



Pollinator Plant Selection Guide

Information to be included in the Guide:

- Common name
- Scientific name
- Site - i.e. suitability for specific stormwater infrastructures
- Growth habit
- Wildlife/pollinators
- Soil/light/water requirements
- Size and growth rates
- Aesthetic value
- Maintenance
- Native/non-native
- Special requirements
- Plant pictures



Stormwater Management

What is stormwater?

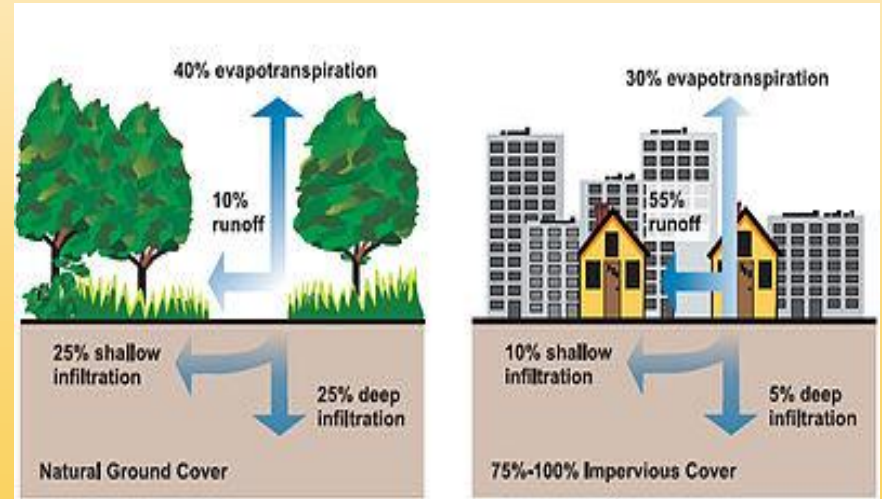
Precipitation that accumulates in natural and/or constructed storage and stormwater systems during and immediately following a storm event.

Why is stormwater management important?

- Hard surfaces (streets, parking lots, rooftops) increase runoff
- Runoff carries sediment, chemicals, debris, toxins, and pollutants to waterways
- Pollutants in waterways affect ecosystem balance and human activities

What is stormwater management?

The control of stormwater to reduce the amount of runoff into waterways and allow water to drain more naturally in urban ecosystems.



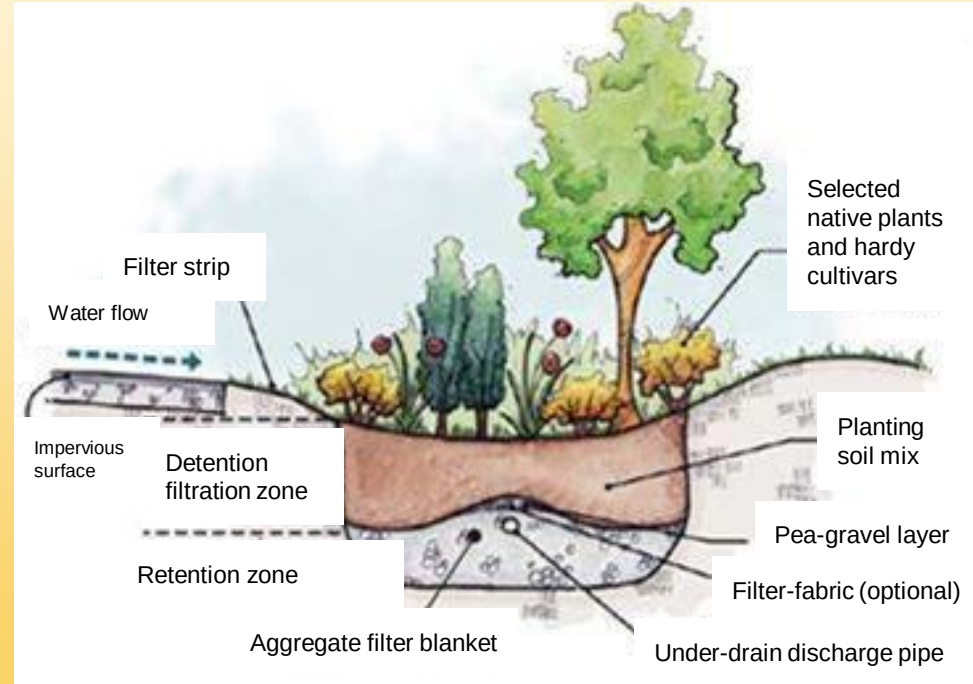
Site 1: (Parking lot island) Micro-Bioretention

Micro-bioretention captures and treats runoff by filtering through a mixture of sand, soil, and organic matter.

Ideally the bioretention should drain within 24 to 48 hours after a rain event.

Use native wetland plants that can tolerate both wet and dry conditions.

Plants enhance nutrient and pollutant uptake, and can also provide habitat and aesthetic value.



Site 1: Plant Material Sample

Eastern Annual Saltmarsh Aster

(*Symphyotrichum subulatum*)



Bog Aster

(*Oclemena nemoralis*)



Cardinal Flower

(*Lobelia cardinalis*)



Site 2: (View from a building) Bioretention

Daily activities cause pollutants to collect on impervious surfaces and wash into waterways during rain events. These pollutants, including dirt, oil, fertilizers, yard waste and litter, poison streams and watersheds.



Educational signage installations will attract visitors and provide information about stormwater management and pollinators.

Site 2: Plant Material Sample

Arrowwood Viburnum
(*Viburnum dentatum*)



Blackhaw Viburnum
(*Viburnum prunifolium*)



Cutleaf Coneflower
(*Rudbeckia laciniata*)



Site 3: (Open field) Stormwater Pond



Stormwater ponds are small permanent pools that treat and extend detention of stormwater.

Rainwater is collected, along with sediment and pollutants, which then settle out before being released into the watershed.

A benefit of the stormwater pond is their aesthetic appearance and creation of habitat.

Site 3: Plant Material Sample

Bald Cypress
(*Taxodium distichum*)



Fragrant White Water-lily
(*Nymphaea odorata*)



Great Blue Lobelia
(*Lobelia siphilitica*)



Future Additions

We plan to provide:

- a seasonal flowering plant palette list along with suggested planting
- educational signage sample

Sample site visit and meeting with professionals

Questions?