

## What is a Step Pool Storm Conveyance (SPSC)?

SPSCs are open-channel conveyance structures that convert, through shallow pools and a sand seepage filter, surface storm flow to shallow groundwater flow. These systems safely convey, attenuate, and treat the quality of storm flow. These structures utilize a series of constructed shallow aquatic pools, riffle grade control, native vegetation, and an underlying sand/woodchip mix filter bed media.

SPSCs can be used in places where grades make traditional stormwater practices difficult to implement. SPSCs combine features and treatment benefits of swales, infiltration, filtering, and wetland practices. In addition, they are designed to convey flows in a non-erosive manner.



## SUGGESTED MAINTENANCE ACTIONS\*

### ROUTINE REQUIREMENTS

- Regularly check for erosion of the soil layer and surrounding areas draining to the step pool storm conveyance system.
- Bare or eroding areas in the contributing drainage area or around the SPSC should be stabilized with native vegetation, grass, or mulch.
- Remove invasive species as needed.

### DO NOT:

- Apply excess salt and sand around your property during the winter months as this could harm plants.
- Dump snow or leaves in your step pool storm conveyance system.
- Use fertilizers or pesticides in your step pool storm conveyance system as they are usually not needed and can contribute to water pollution.
- Remove or alter your step pool storm conveyance system. If you claimed your step pool storm conveyance system area for the Stormwater Credit Program, removing or modifying it can result in loss of credit.

*\* Please refer to the Maryland Stormwater Design Manual, Volumes I and II for minimum requirements and procedures for maintaining BMPs. This document serves as the official guide for stormwater management principles, methods, and practices in the State of Maryland. Visit <http://bit.ly/MDESWDM>.*

### Who is responsible for this maintenance?

As the property owner, you are responsible for all maintenance.

### WHY IT'S IMPORTANT TO MAINTAIN YOUR STEP POOL STORM CONVEYANCE

An unmaintained SPSC may:

- Stop filtering the rainwater and allow trash and pollutants to enter into our local streams.
- Be difficult or expensive to repair if left unmaintained.

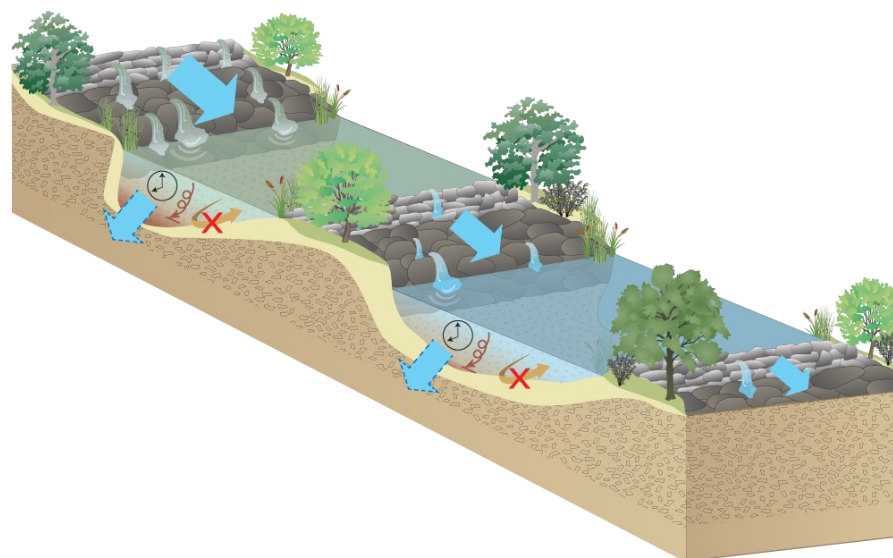
## Troubleshooting Issues

Symptom	Possible Cause	Solution
Poor Plant Health	You plants may be the wrong plant type for your shade and moisture conditions or they may be smothered by weeds.	Remove dead or disease plants and plant new vegetation as needed. Also be sure to regularly remove weeds and other invasive plants.
Standing water for 2 or 3 days after a rainstorm.	Clogging due to leaf litter, sediment, or debris accumulation. If water level has increased as a result of groundwater elevation increases, standing water may be unavoidable.	Remove any visible debris from the surface.
Erosion or bare soil	The rainwater is moving too fast and/or vegetation is lacking or nonexistent.	Stabilize the eroded areas by planting new vegetation. Consider using rocks to slow the flow of rainwater.




### Recommended timeframes for routine maintenance

Conduct Maintenance Inspection	— Triennial —
Remove Invasive Vegetation	— As needed —
Remove Sediment in Pools if Causing Instability	— As needed —
Remove Trash	— As needed —
Weeding and Pruning	— As needed —
Watering, Replanting, Erosion Control	— As needed —



### Typical Step Pool Storm Conveyance Profile (for illustrative purposes only)



#### Reducing water quantity

The structure of this system is effective at reducing stormwater volume , thereby preventing streambed erosion  and increasing groundwater recharge .

#### Improving water quality

With a reduced flow, stormwater is retained for a longer period , enabling pollutants, nutrients, and sediment to settle  and be biologically transformed.