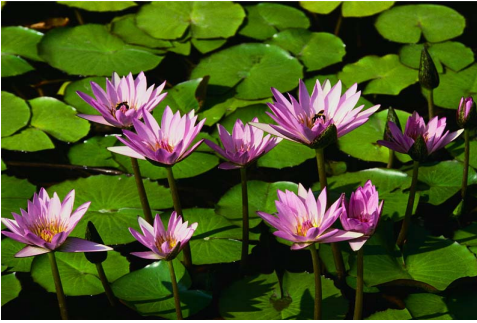


## Ponds and Buffer Strips: Managing Stormwater Pollution



### The Myth...

We often think of a pond as a pool of clear water sparkling with dancing diamonds of sunlight. In fact, most ponds in modern residential areas have been constructed to retain pollutants or prevent flooding. Why?

### ...The Reality

Simply put, a stormwater pond is a tool for managing the runoff from rainfall and snowmelt. Stormwater ponds, like natural ponds or wetlands, help control flooding by slowing down surges and absorbing rainwater before it reaches waterways. They also help filter out nutrients and sediments collected by stormwater before pollutants can reach our waterways. Stormwater can contain sediment, nutrients, bacteria, oil and grease, trace metals, and organic contaminants such as pesticides.

Ponds are subject to algal blooms that are often the result of pet waste and excess fertilizer from neighboring yard runoff. These ponds can look ugly because of the algal blooms but continue to be effective for stormwater control. In fact, algal blooms indicate that phosphorus is being captured in the stormwater pond, in other words, the pond is working properly.

### Buffer Strips

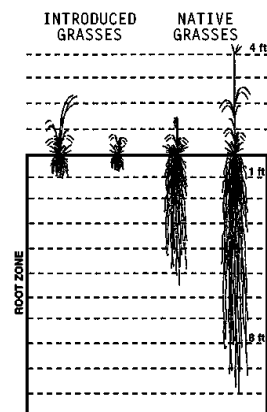
Vegetative buffer strips are another tool for managing stormwater pollution. Vegetative buffer strips are widths of vegetation that provide a transition between different land uses. Widths vary depending on the function and topography of the buffer; in general, the steeper the slope, the wider the buffer strip.

Buffer strips can also help filter out nutrients, contaminants, and sediment before they reach a pond or stream. In urban areas, studies suggest a minimum removal rate of 40% nutrients (nitrogen and phosphorous) and 35% solids. Studies have also shown:

- A 15-foot wide buffer can achieve a 50% removal rate of nitrogen, phosphorous, and sediment
- A 100-foot wide strip can removal rate of 70%

### How do they work?

The plant roots thread into the ground, filtering pollutants & helping hold the soil in place; the deeper the roots, the better the capacity of the soil. Plants taller than turf grass also deter Canada geese from accessing ponds and lakes; the geese prefer areas with vegetation short enough so that they can see approaching 'animals.' Turf grass and crop fields are preferred goose habitat ('natural' lawn mowers?). Unfortunately, goose droppings, like pet waste, add phosphorus to our water systems.



## Benefits of Stormwater Management Tools

**Ponds** serve three main functions:

- *Erosion Control*  
If not controlled, accumulated runoff from stormwater can erode slopes and cause sediment to enter the water.
- *Pollutant Removal*  
Some ponds retain water, also keeping pollutants from entering streams and rivers.
- *Flood Control*  
Stormwater management ponds provide flood control by slowing rates of flow.

**Vegetative Buffers** can:

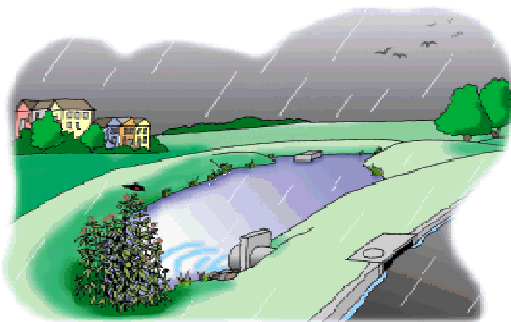
- Remove pollutants from stormwater
- Reduce erosion & sediment from entering waterbodies
- Stabilize slopes
- Provide infiltration of stormwater runoff
- Maintain base flows of streams
- Contribute food & energy to aquatic systems
- Provide shade to streams for desirable wildlife

### LEARN MORE!

[www.pca.state.mn.us/water/groundwater/gwmap/vegbuffers.pdf](http://www.pca.state.mn.us/water/groundwater/gwmap/vegbuffers.pdf)

[http://files.dnr.state.mn.us/waters/watermgmt\\_section/shoreland/wrs\\_buffers.pdf](http://files.dnr.state.mn.us/waters/watermgmt_section/shoreland/wrs_buffers.pdf)

[www.dnr.wi.gov/permitprimer/stormwater/constessay3.html](http://www.dnr.wi.gov/permitprimer/stormwater/constessay3.html)



*If you are concerned about ponds harboring West Nile virus, remember that mosquitoes can breed in many places, and even if we drain all ponds or mow all vegetation, mosquitoes will continue to exist. A natural environment with natural predators and personal precautions are the best means of combating West Nile Virus.*

Watershed districts are responsible for managing water resources within their district. Together, we can help improve our lakes, creeks, streams, and drinking water.

Please contact Coon Creek Watershed District if you have questions @ 763.755.0975 or email Dawn Doering, Information & Education Coordinator, [ddoering@cooncreekwd.org](mailto:ddoering@cooncreekwd.org)

References: [www.metcouncil.org](http://www.metcouncil.org)

[www.pca.state.mn.us](http://www.pca.state.mn.us)

[www.on.ec.gc.ca/wildlife/publications-e.html#factsheets](http://www.on.ec.gc.ca/wildlife/publications-e.html#factsheets)