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# STORMWATER PONDS

## *How To Maximize Benefits for You & Your Neighbors*

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When properly maintained, a stormwater pond can increase the value of nearby homes by providing an attractive green space while serving as a community space and wildlife viewing area. These ponds also protect downstream property owners from flooding, channel erosion and runoff pollution. Due to dwindling government budgets, far too many ponds have deteriorated. When poorly maintained, ponds can become an eyesore, lowering property value, increasing mosquito populations while leaving downstream neighbors unprotected from floodwaters and other impacts. The purpose of this fact sheet is to explain how you can ensure that a pond remains an asset to you and your neighbors, both next door and downstream.

### STORMWATER POND BASICS

The intent of stormwater ponds is to manage runoff from homes, buildings, parking lots, streets and other *impervious* surfaces. Converting a forest to homes can increase runoff (floodwater) volume by two- or three-fold. Ponds are designed to store the difference in runoff volume then release it gradually to prevent downstream flooding. Also, a tremendous amount of pollution settles on rooftops and streets, then washes downstream with each storm. Most ponds are designed to trap a portion of this pollution, making them essential to preserving the Chesapeake Bay and the waters nearest your home. Most stormwater ponds belong to one of three types (*see illustrations on other side*):

**Wet Pond (WP):** As the name implies, these ponds retain a permanent pool of water. When well maintained they enhance the value of nearby homes and may support an abundance of wildlife. They are moderately effective in retaining pollutants. But as sediment and vegetation fills the pool, effectiveness declines and nuisances can become more common.

**Dry Pond (DP):** These facilities have a large opening on the pond bottom. They only hold water for a few hours following major storms. Because of the bottom opening there is no place to retain pollutants. Therefore dry ponds provide little protection for downstream waters. But they can be retrofitted to increase benefits.

**Infiltration Basin:** An Infiltration Basin (IB) resembles a dry pond but runoff can pool to a depth of a foot or two before it can flow out of the Basin. The stored runoff infiltrates into the very permeable (sandy) soils where these facilities are used. You can also tell if a pond is an IB by the white, plastic observation well(s) many have. When it comes to environmental protection, this is ***THE*** most effective pond type.

### GENERAL POND ASSESSMENT METHODS

Depending upon pond type, here's what to look for.

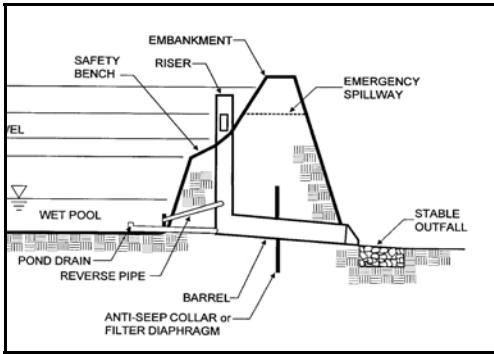
**Wet Pond Pool Volume:** Over time the pool of water in a wet pond will fill with sediment then wetland vegetation, both of which rob pollutant storage capacity. Using online sites such as Google Earth, compare the open water area of the pond today with that shown on older photos. If it looks like open water has declined by half or more then the pond probably needs cleaning.

**Infiltration Basin:** Evaluating Basins can be tricky. If you find a pond that's dry but there's no opening near the bottom or observation wells are present, then it's probably an infiltration basin. Determine if:

- It retains water for more than 48 hours after the last storm; if yes then it's clogged and needs cleaning;
- Cattails or other wetland vegetation are present, then it's holding water because of clogging;
- Sediment has accumulated to the first spillway opening, then the Basin needs to be cleaned.

**Dam Condition:** The earth dam should be free of trees and animal (groundhog) burrows, both of which could lead to dam failure. While viewing the dam from a distance, the top should appear as a straight, level surface. There should not be any low points, except for those ponds with an emergency spillway. Other low points may indicate settlement that could lead to dam failure. There should not be any wet spots or wetland vegetation growing on the dam, even at the toe.

For further guidance see the videos at the CEDS YouTube channel: [ceds.org/youtube](https://www.youtube.com/channel/UCv8v8v8v8v8v8v8v8v8v8v8).



**Sideview of Pond Embankment**



**Dry Pond: Opening At Riser Bottom**



**Infiltration Basin: Opening Above Riser Bottom**



**Straight, Level Earth Embankment; No Low Spots; No Trees or Burrows on Embankment**



**Wet Pond: Full Capacity; Little Sedimentation**



**Wet Pond Partially Full With Sediment-Cattails**



**Wet Pond: Full of Cattails; No Storage Remaining**