There are many resources to help manage healthy stormwater management ponds. Some convenient resources are:

Maryland Department of the Environment
General information
Phone: 1-800-633-6101
www.mde.state.md.us

Maryland Department of Natural Resources
General information
Phone: 1-410-260-8711
www.dnr.state.md.us

Queen Anne's County Maryland
Cooperative Extension Service
Weed control and general information
Phone: 1-410-758-0166
www.agnr.umd.edu/MCE

Queen Anne's County
Department of Public Works
General information
Phone: 410-758-0925
www.qac.org/depts/dpw/dpwhome.htm

Queen Anne's County
Soil Conservation District
Pond maintenance and planting guidance
Phone: 410-758-3136, ext. 3

Phragmites, an invasive plant, should be controlled on and around ponds to preserve native species.

QUEEN ANNE'S COUNTY
DEPARTMENT OF PUBLIC WORKS

312 Safety Drive
Centreville, Maryland 21617

Phone: 410-758-0925
Fax: 410-758-3341

QUEEN ANNE'S COUNTY
DEPARTMENT OF PUBLIC WORKS

Citizens Guide to Healthy Stormwater Management Ponds

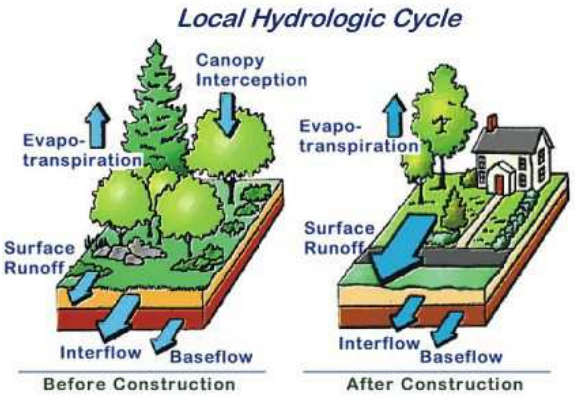
SAFEGUARDING THE ENVIRONMENT

Tel: 410-758-0925

What is the purpose of a SWM Pond?

Stormwater management ponds have several purposes:

The primary purpose is to **prevent erosion and flooding** associated with increased surface runoff from development (see figure). This is accomplished by storing and slowly releasing the water from the developed site.



Another purpose is to **control pollution** from the runoff from developments. This is accomplished by storing or trapping nutrients and pollutants before they are released into streams, rivers and bays. This process is the primary cause of algae blooms in stormwater management ponds.

Yet another purpose is to **recharge groundwater** tables. Developments limit infiltration of rain into water tables just by having impervious areas like roads and houses.

On a lesser scale, stormwater ponds can be used to create **wildlife habitat** and aesthetically pleasing open spaces. In an ecologically balanced pond, it is not uncommon to see large varieties of grasses, fish, birds, frogs, turtles, dragonflies and butterflies.

What are some of normal problems associated with poorly maintained SWM Ponds?

When not properly maintained, there can be a variety of problems with SWM Ponds:

Algae is one of the most common complaints with SWM ponds. Algae feeds off the nutrients that the pond is designed to capture. If the pond is not functioning as a balanced ecosystem, excessive algae growth may occur, which can cause foul odors and a scum to form within the pond. A healthy pond should include a variety of plant species. Plants will compete with the algae for the available nutrients. In well established ponds, plants keep the water naturally aerated, which maintains aesthetics and limits unpleasant odors caused by algae blooms.

Erosion on pond banks and in swales leading to the pond can be another problem. Generally, erosion results from poorly established grass. Grasses within 25 feet of a pond and any swales leading to the pond should be kept between 6 and 9 inches in height. Tall, dense grasses reduce the erosive force of the rain on the soil. Sediment from erosion contain nutrients that feed algae growth in ponds.

What can I do to ensure my pond is healthy?

There are many things that individuals can do to promote healthy ponds:

Mow pond buffers and banks no lower than **6 to 9 inches high**. This stabilizes shorelines and increases the uptake of nutrients before they reach the pond.

Mow pond embankments often enough to control invasive species and woody growth from becoming established (normally between 1-3 times per year). Tree roots weaken pond banks and cause dams to fail. Invasive species limit the potential for native plants and wildlife to thrive.

Only **Fertilize** lawns in the spring when they are actively growing using phosphorus-free fertilizers or recommendations from a soil test. The use of drop spreaders and slow release nitrogen fertilizers will also limit nutrients from entering SWM ponds.

Keep water fowl away from ponds. Geese and Swans can introduce undesirable nutrients to ponds and eat plants that compete with algae.

Promoting diversity in **native aquatic plants** will help increase the competition for the algae's food source. Plants help aerate the pond and improve the habitat for many creatures that feed on algae.

Are there other treatments for algae?

Several alternative treatments for algae are:

Chemical treatments work well if timed correctly. Many chemical treatments will not work after the bloom has occurred. Examples of chemical treatments are dyes (to block light and prevent growth) and pesticides (kill algae by contact or prevent growth).

Mechanical treatments can be effective. Physically removing algae, with a rake or pool skimmer, from the top of the pond will help limit the amount of decomposing matter in the pond and keep the oxygen content higher for creatures that feed on algae. Aerators and fountains also increase the oxygen content and can provide aesthetic value. However, if not properly installed they can disturb nutrient rich sediment which can lead to increased algae blooms.

Biological treatments should be avoided in SWM ponds. The introduction of non-native species to wetlands can have many problems and even contribute to algae growth and erosion.

Barley straw limits algae growth if set early in the spring in appropriate quantities. For best results, it should be placed partially submerged in the pond.