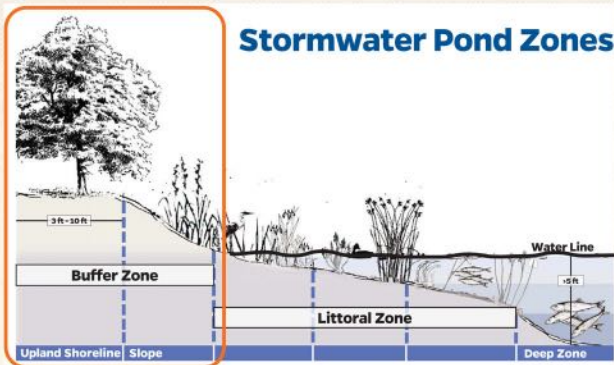


Buffer Zones

for Stormwater Ponds

a.k.a. No Mow Zones

Buffer Zones



Buffer zones, also known as no mow zones, are vegetated lands that are either natural or created to separate a waterbody from negative human impacts. Buffer zones are a key feature for securing shorelines from erosion (National Research Council, 2000).

Adapted from Martin County Government:
https://wec.ifas.ufl.edu/extension/landscaping/littoral_zone.pdf

Shoreline EROSION



Major causes of erosion impacting shorelines

Most stormwater ponds that are surrounded by homes have at least 4 major sources of shoreline erosion - (1) wave action, (2) water level fluctuations between wet and dry seasons, (3) downspouts from surrounding homes, and (4) sprinklers. These sources create many different types of erosion, each of which can be controlled with plants.

Good, Better, Best Buffer Zones

In Florida, stormwater ponds are the most common way to manage rainwater that falls on developed lands. These ponds are designed and installed to protect us from floods and to trap pollution so that when the water moves downstream into our rivers, creeks, lakes, springs and bays it is clean. The proper management of the buffer zone around stormwater ponds can improve water quality, protect property, save a substantial amount of money, and benefit Florida wildlife. For decades, the many benefits of buffer zones have been codified in laws and policies around the world, written for the express purpose of protecting surface water from pollution and shorelines from erosion (National Research Council, 2000). Learn more about the qualities of good, better, and best buffer zones on the next page.

Best buffer



Good



A GOOD buffer primarily relies on a grass strip that is at least 3 feet wide and 10-15 inches tall. Trim the buffer using tools that keep the clippings out of the water. A GOOD buffer zone will secure your shoreline from many of the major causes of erosion by locking in the soils with plant roots and limiting compaction from heavy lawn mowers.

Pros

- Combats most erosion forces.
- Modest water quality improvements by:
 - » extending the root zone of plants deep within the ground,
 - » locking in the sediment that contains phosphorus and other contaminants; and
 - » preventing grass clippings, which contain approximately 3% nitrogen by mass, from entering your pond.
- Minimal maintenance required.
- Extends the life of the pond pushing the need for costly engineered solutions into the future.

Cons

- Does not protect your shoreline against all major causes of erosion.
- Does not increase habitat for aquatic wildlife.
- Does not remove pollution from within the pond.



Better



Sometimes the impacts of erosion that exist within a community are worse between homes due to channelization from combined roof runoff. As a result, you might consider establishing a BETTER buffer. A BETTER buffer consists of the GOOD buffer plus the installation of native bunch grasses, shrubs, and/or trees between homes, and native, aquatic plants on the slope.

Pros

- Deeper and thicker root systems that can tolerate periods of high water and lock in soils better than turfgrass.
- Aquatic plants on the slope lock in soils reducing erosion during dry periods when the water level is low.
- Increased water quality benefits compared to the GOOD buffer.
- Wildlife habitat for certain types of wading birds (White and Main, 2004).
- Extends the life of the pond delaying the need for costly engineered solutions.

Cons

- Wave action can still impact your shoreline.
- Only modest improvement for aquatic wildlife.
- More maintenance required than the GOOD buffer.



Best



The BEST buffers are those that not only protect your shoreline from all the major types of erosion saving pond owners a significant amount of money, but also support wildlife and reduce pollution. For a stormwater pond, these BEST buffers include:

1. A wider GOOD buffer with high plant diversity,
2. An expanded BETTER buffer that connects the native vegetation between homes and occupies at least 50% of the pond perimeter,
3. Includes native shrubs and trees, and
4. Native wetland plants in the water around the perimeter of the pond.

Pros

- All the pros of the BETTER buffer.
- Expanded wildlife habitat for most types of aquatic birds (White and Main, 2004).
- Combats all major causes of erosion.
- Extends the life of the pond even further than the BETTER buffer, putting off the need for costly engineered solutions.
- Increased water quality benefits provided by the GOOD buffer.

Cons

- Requires the most maintenance.

