Importance of Littoral Plants to your Stormwater Systems

August 17, 2022

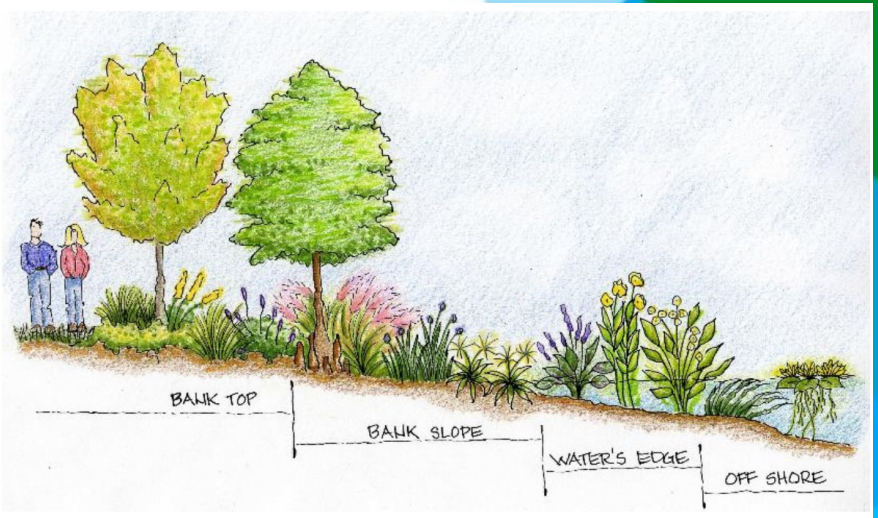


Figure 3. Illustration of stormwater pond planting zones along a moderate to gentle slope

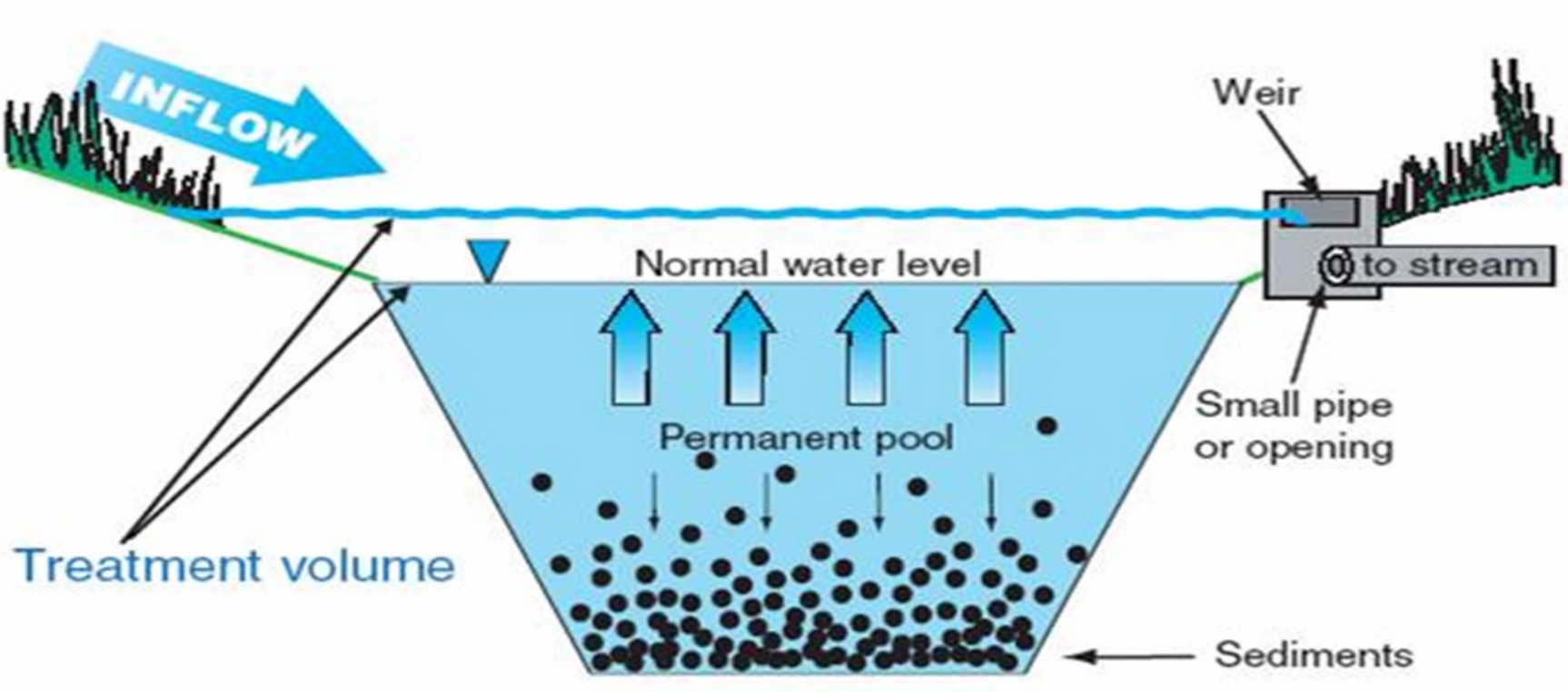
Why stormwater ponds?

- Wetlands at one point covered over 50% of our state.
- Florida's original stormwater system – filtered pollutants, controlled flooding and provided habitat to wildlife.
- Misunderstood the value – drained for agriculture, roads, developments and businesses
- In the early 80's Florida passed laws requiring treatment of stormwater – Comprehensive Stormwater Plan
- Water Management district is responsible for managing and protecting our water resources.

Stormwater System Purpose:

- Ponds in communities were created to mimic wetlands.
- Manages nutrient rich runoff from rainwater – trap pollution
- Prevent flooding
- Remove pollutants before entering our natural water bodies

Retention Ponds holds and filters polluted water before it leaves and enters our natural water bodies.



Runoff: Nutrient Rich

- Fertilizer
- Pesticide
- Grass Clippings
- Leaves from trees
- Oil and detergents
- Pet droppings

As a result of runoff:

- High in nitrogen and phosphorus – increases algae and plant growth
- High nutrient levels increase the aging process of the lake
- Sediment is deposited over time and reduces the holding capacity

Control what enters the pond

- Go easy on the pesticides and herbicides
- Use Fertilizer sparingly
- Prevent grass clippings from going in the water
- Street sweeping in heavy leaf drop areas
- Prevent pet waste from entering the water body
- Redirect runoff from the driveways, patios and roof
- Storm drains are for water not oil, detergents, leaves and lawn clippings
- Repair erosion – sediment
- Community Education

So why littoral plants?

- Pollution filter – nutrient absorption
- Minimize erosion – delaying costly repairs.
- Slows down the flow of water during a rain event
- Oxygen in the water
- Provides wildlife habitat and beauty

Shoreline Erosion

- Wave Action
- Water level fluctuations between wet and dry
- Downspouts from surrounding homes
- Sprinklers

These sources create many different types of erosion, each of which can be controlled with plants.

Erosion

Littoral Plants

Littoral Plants

Plant	Height	Light	Water Depth	USDA Zone
Arrowhead Sagittaria latifolia	3.5’	Full sun to partial shade	6-12”	5-10
Duck potato Sagittaria lancifolia	3’	Full sun to partial shade	6-12”	6-10
Golden Canna Canna flaccida	3’	Full sun to partial shade	12-18”	8-10
Pickerelweed Pontederia cordata	3’	Full sun to partial shade	6-18”	3b-10
Sand Cord Grass Spartina bakerii	4’	Full sun	Dry to wet; water’s edge	8b-11
Spikerush Eleocharis cellulose & interstincta	1-3’	Full sun to partial shade	6-12”	8a-11b

Considerations when selecting littoral plants

- Water depth – upper, middle and lower zone
- Fluctuating water levels – hardier plants will be needed.
- Foraging fish – triploid grass carp
- Soil structure
- Slope of littoral shelf and pond bank
- Light availability
- Size
- Texture and color
- Erosion control – some plants are better than others

Pickerelweed – Pontederia cordata

Pickerel weed is an aquatic native plant found throughout Florida. They help stabilize the banks of natural water bodies and retention ponds. It grows in no more than a foot of water and typically around 3’ tall. Typical flowers for about three weeks in the spring.

Duck Potato – Sagittaria lancifolia

Duck potato very commonly grows in swamps, ditches, lake and stream margins, and other shallow-water habitats throughout Florida. Duck potato has large, lance-shaped leaves, it has large, showy, white flowers and its flowers are on stalks that are taller than the leaves.

Golden Canna – Canna flaccida

Golden canna is a large, showy, native aquatic plant that typically grows to 3 feet tall. It grows in small stands at the edges of marshes, ponds, and lakes.

Gulf Coast Sprikerush – Eleocharis cellulosa

- 1-3’ Tall – spreads in shallow water from underground stems call rhizomes. They can spread along the shoreline in large patches in the shallow areas.

Thank you for your time!

Questions??