Hort-9

Stormwater Pondscaping

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Stormwater retention ponds play an important role in flood control, especially in Florida's rainy season. Retention ponds maintain a permanent pool of water and are designed to store and slow stormwater runoff from nearby areas. With over 95,000 stormwater ponds throughout the state, they have become an integral part of our urban landscape. Stormwater ponds often fall short of their potential though when it comes to other ecosystem benefits, such as reducing pollutants and sediments.

Stormwater and irrigation runoff carry pollutants such as fertilizers, pesticides, pet wastes, grass clipping, trash, and gas/oil from roads, which result in elevated nutrient levels, sediment build-up, harmful algal blooms, depleted oxygen, fish kills and shoreline erosion. The amount of cleaning and treatment a retention pond can provide is limited without a planted buffer zone to provide filtration, both in out of the water. Buffer zones improve water quality and increase the ecological functionality of ponds by reducing pollutants, absorbing nutrients, reducing likelihood of algal blooms, attenuating wave energy to prevent erosion, and creating food and habitat for wildlife. Added bonuses are improved aesthetics and community beautification.

The key to successful pondscaping is proper plant selection. The planting area in and around a pond has four zones, including the bank top, bank slope, water's edge and offshore. As with any garden, select plants that will naturally thrive in the conditions in which they are planted. The bank top will require plants that prefer drier conditions and the moisture requirement increases as they get closer to the water. Florida regulation requires planting only native plants in water bodies. This publication will provide an overview of several plants for each of the planting zones. For further information, refer to *A New Database on Trait-Based Selection of Stormwater Pond Plants* (https://edis.ifas.ufl.edu/fr416), which ranks 82 species on aesthetics, function and habitat.

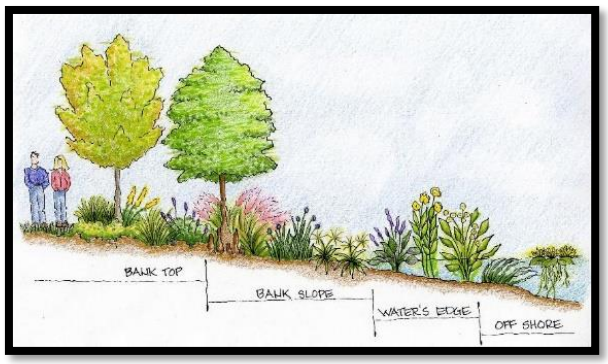

Figure 1 Illustration of stormwater pond planting zones along a moderate to gentle slope. Credit: Gail Hansen, UF/IFAS

Tips for successful design include selecting plants with a variety of different textures, massing plants for visual impact and selecting for the mature size of the plant. Placing taller plants at the bottom of the slope and shorter ones on top will preserve your view. Additionally, planting large shade trees on the north side of the pond will prevent them from shading the pond (and other pond plantings).

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Plant Selection Per Zone:

Shrubs for all zones:
Buttonbush, *Cephalanthus occidentalis*
Sweet pepperbush, *Clethra alnifolia*
Firebush, *Hamelia patens*
Dahoon Holly, *Ilex cassine*

Trees for all zones:
Red Maple, *Acer rubrum*
Loblolly Bay, *Gordonia lasianthus*
Bald Cypress, *Taxodium distichum*

Photo Credit: Shirley Denton

Figure 2. Photo Credit: Vic Ramey, UF

Plants for top of bank (dry):
Purple Lovegrass, *Eragrostis spectabilis*
Blanketflower, *Gaillardia pulchella*
Dune sunflower, Helianthus debilis
Passionflower, *Passiflora incarnata*
Elderberry, *Sambucus nigra*

Plants for bank slope (temporary inundation):
Muhly grass, *Muhlenbergia capillaris*
Fakahatchee grass, *Tripsacum dactyloides*
Bushy Bluestem, *Andropogon glomeratus*
Alligator Flag, *Thalia geniculata*
Sea Purslane, *Sesuvium portulacastrum*

Photo Credit: Shirley Denton

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Plants for water's edge (shallow water, constantly inundated):
Golden canna, *Canna flaccida*
Swamp lily, *Crinum americanum*
Red Hibiscus, *Hibiscus coccineus*
Swamp Rosemallow, *Hibiscus grandiflorus*
St. John's Wort, *Hypericum fasciculatum*
Southern Blue Flag Iris, *Iris virginica*
Soft Rush, *Juncus effuses*
Pickerel Weed, *Pontederia cordata*
Lance-leaf arrowhead, *Sagittaria lancifolia*
Sand Cordgrass, *Spartina bakeri*

Plants for off shore (entirely underwater):
Fragrant Waterlily, *Nymphaea odorata*
Jointed Flat Sedge, *Cyperus articulatus*
Giant Bullrush, *Schoenoplectus californicus*
Smooth Cordgrass, *Spartina alterniflora*
Eel-grass, *Vallisneria americana*

Photo Credit: Ann Murray, UF

References:

- **A New Database on Trait-Based Selection of Stormwater Pond Plants**[1]

https://edis.ifas.ufl.edu/fr416

- **Florida-Friendly Plants for Stormwater Pond Shorelines**[1]

https://edis.ifas.ufl.edu/ep476

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