Littoral Zone Scorecard



The Littoral Zone scorecard enables users to rank the health of their ponds and prioritize enhancement efforts. By examining the pond's structure, users will get a better idea of the pond's ability to provide essential environmental benefits such as bank stability, improving water quality, and providing the physical habitat needed for wildlife.

Description of the Selected Parameters

The parameters of this scorecard will guide users through a series of observations to determine whether pond best practices have been implemented and to what degree. It is recommended that you complete the scorecard in teams of two or more for discussion, consensus, and to limit subjectivity. A pond with an

"optimal" condition for both the buffer and littoral zones is likely the best one could expect. A diverse fish assemblage, a vibrant bird community, and the water quality necessary for reducing chemical inputs and protecting downstream waters would be expected in these ponds.

Littoral Zone Coverage

The littoral zone is the portion of the waterbody that is shallow enough to accommodate aquatic plants. Typically, this zone is less than 5 feet deep. The littoral zone is critical to ecosystem sustainability, providing refuge, nursery function, and sources of food for much of the aquatic life. The zone also functions to break up shoreline damaging waves and remove nutrient pollution. This parameter is based on the extent of the littoral zone within the pond regardless of whether it contains plants.

Littoral Zone Plant Abundance

In order to have a healthy littoral zone that provides the full suite of ecosystem services to your neighborhood and watershed, plants must be abundant. Sarasota County ordinance requires at least 65% of the littoral zone to be planted, and Harvey and Baker (2007) recommend the entire zone be planted with a combination of submerged and emergent vegetation. The score for this parameter is based on the percent of aquatic plant coverage in the littoral zone.

Native Plant Diversity

Native aquatic vegetation is assessed in this parameter. Diverse native vegetation provides an optimal structure for a variety of native fish and other aquatic life. The percent coverage by invasive plants in the littoral zone is scored in this parameter.

Invasive Plant Abundance

When aggressive non-native plants spread into aquatic areas, they displace native plants and disrupt natural processes. These invaders can outcompete native plants that provide food and important physical structure for aquatic life.

Overall Plant Coverage Aquatic Plant Coverage

Research and observations suggest that neither too many, nor too little, plant coverage is good for healthy fish populations within ponds and lakes. This parameter looks at aquatic plant coverage across the entire surface area of the pond. Studies suggest that the optimal plant coverage range for healthy fish populations is between 15-85% (Florida LAKEWATCH, 2007).

Littoral Zone



Littoral Zone Coverage

For this parameter, you are looking for the shallow areas that would support aquatic plants, but no plants need to be present. The actual presence of plants will be scored later.

Optimal: The shallow areas of the pond that could support aquatic plants represents at least 30% of pond area; confirmation of littoral zone or shelf is by the presence of a maintained shallow area in and around the pond.

Sub-optimal: Littoral Zone is less than 30% of the pond area, but more than 20%.

Marginal: Littoral Zone is less than 20% of pond area; generally restricted to shoreline.

Poor: No Littoral Zone or shallow water area to support aquatic plants.

Examine the depth of the pond at various points.

Littoral Zone Coverage	NONE		< 20%		< 30% but > 20%		At least 30%
Score	1	1.5	2	2.5	3	3.5	4
Littoral Zone Coverage		0	0	0	0	0	0

Littoral Zone Plant Abundance

(include both native and non-native species):

Optimal: Littoral zone is fully covered with plants.

Sub-optimal: Littoral zone is at least 65% covered with plants.

Marginal: Between 33 - 64% of the littoral zone is covered by plants.

Poor: Less than 33% of the littoral zone contains plants.

Examine the amount of plant coverage. Littoral zones should be fully covered by vegetation.

Plant Abundance	0-32%		33-64%		65-99%		66-100%
Score	1	1.5	2	2.5	3	3.5	4
Plant Abundance in Littoral Zone		0	0	0	0	0	0

Littoral Zone Invasive Species Plant Abundance

For this parameter, if you are not familiar with Florida aquatic plants and common invaders, consult with your pond contractor or your local Extension office. Visit https://plants.ifas.ufl.edu/ for more information.

Optimal: No invasive plant species (emergent, floating, submersed) coverage.

Sub-optimal: No more than 15% coverage by invasive plant species.

Marginal: Invasive plant species coverage is greater than 15%, but less than 33%.

Poor: Invasive species coverage is greater than 33%.

Examine the coverage of invasive species in the littoral zone.

Nonnative species cover	> 3	3%	> 15 % b	ut < 33%	≤ 1	5%	0%
Score	1	1.5	2	2.5	3	3.5	4
Plant Abundance - Invasive Species	0	0	0	0	0	0	0

Littoral Zone Native Plant Diversity

For this parameter, if you are not familiar with Florida aquatic plants, consult with your pond contractor or your local Extension office. Visit for more information.

Optimal: Native vegetation (emergent, floating, submersed) includes more than 5 different species.

Sub-optimal: Native vegetation (emergent, floating, submersed) includes 3 - 5 different species.

Marginal: Native vegetation (emergent, floating, submersed) includes at least 2 different species.

Poor: There is only 1 native plant species (emergent, floating, submersed).

Examine the number of different plant species in the littoral zone. Littoral zone plantings should consist of at least

Plant Diversity	1 species		At least 2 species		3-5 species		5+ species
Score	1	1.5	2	2.5	3	3.5	4
Plant Diversity	0	0	0	0	0	0	0

Littoral Zone Native Species Relative Abundance

Optimal: A single native plant species does not represent more than 33% of all plant coverage.

Sub-optimal: A single native plant species does not represent more than 50% of all plant coverage.

Marginal: A single native plant species does not represent more than 66% of all plant coverage.

Poor: One native plant represents more than 66% coverage by all plants.

Plant Abundance	> 6	6%	≤ 60	5%	< 5	0%	< 33%
Score	1	1.5	2	2.5	3	3.5	4
Plant Abundance	0	0	0	0	0	0	0

Overall Plant Coverage

Optimal: All aquatic plants (submerged, emergent, and floating) occupy more than 30%, but less than 85%, of the total surface area of the pond.

Poor: All aquatic plants (submerged, emergent and floating) occupy less than 30% or more than 85% of the total surface area of the pond.

Examine the entire footprint of the pond and determine how much of the pond area is covered by aquatic vegetation.

Plant Coverage	< 30% or > 85%	> 30% but < 85%		
Score	1	4		
Plant Coverage	O	0		

Total score _____

Poor condition (< or = 10 points) suggests the need to enhance your littoral zone by installing a variety of Florida native aquatic plants and controlling invasive species.

Marginal condition (10.5 - 15.5 points) suggests there are many opportunities for improvement by installing a variety of Florida native aquatic plants and reducing the impact of invasive species.

Suboptimal condition (15 - 19 points) suggests fair condition and modest improvements would likely enrich the pond ecosystem and enhance the production of environmental benefits.

Optimal condition (19.5 - 24) suggests that the pond is producing peak environmental benefits that lend to healthy and abundant wildlife, shoreline stabilization, and the removal of stormwater pollutants.