

Pond Vegetation from a Positive Perspective

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GOLF COURSES have a long history of struggling with accelerated weed growth in golf course waterways and ponds. Establishing a balance is a key concept in maintaining a healthy pond system and also an important concept in integrating wildlife and natural areas of the golf course with the game of golf.

A pond's natural aging process, known as natural succession, refers to the transition of an open water system to a marsh and, ultimately, an upland. Mother Nature intends for this process to take centuries, but nutrients introduced into a waterway can shorten this process to a few years. To create a balanced pond ecology, it is important to eliminate any additional nutrient loading to the pond. Many golf courses have problems when surface water drains directly into water bodies, adding increased levels of nutrients to the pond and stimulating excessive growth of aquatic plants and algae. The result for the superintendent is war against excessive growth and the perception that all pond vegetation is the enemy.

Aquatic plants play an important role in the health of a pond and have many positive attributes. They have essential functions, which include:

- The production of oxygen, from photosynthesis, to aerate the water.
- Providing shelter for fish and freshwater invertebrates.



Whitefish Lake Golf Course, Whitefish, Montana.

Photograph by DAVE WEDUM

- Strengthening the river bed and banks.
- Providing a spawning medium for many fish.
- Supplying food for aquatic organisms.
 - Use of emergent plants as nesting sites and a food source by waterfowl.
 - Filtering pollutants and nutrients.
 - Adding aesthetic appeal.

As a first step towards a balanced pond system, try to minimize the additional nutrients found in surface drainage from reaching the pond. Using a filter, such as a swale or gravel trench, around the receiving edge of the pond to intercept surface flow, and establishing vegetation as a buffer strip, can begin to reduce the nutrient load. Buffers can include a variety of vegetation types from grasses to trees, and they provide additional value as food and cover sources for wildlife.

Species of edge plant materials that like their feet wet are referred to as emergent plants. Suggested species for use in ponds include arrowheads, bulrushes, sedges, duck potato, pickerelweed, and rice cutgrass. These plants should be planted in 6-to-12 inches of water. Most emergent plants can be planted any time during the year, as long as the water requirements are provided. Plants with dormant tubers, such as duck potato, should not be planted during their dormant growing season.

An alternative includes using border shrubs, usually multi-stemmed, woody plants found on the edge of the pond in areas that are flooded only periodically. Suggested species include: buttonbush, alder, bayberry, chokeberry, serviceberry, pussy willow, and common winterberry. These plants are best suited to the drier edges of the pond above the water line. Contact your local nursery for species availability and zone hardiness.

Although a vegetation buffer surrounding all sides of the pond would provide the best nutrient filter, this usually is not an acceptable solution when the pond is a water feature that comes into golf play. The solution involves a balanced approach, including the establishment of a grassed swale for those areas in play, with the out-of-play areas of the pond planted with border shrubs and emergent plants. This compromise provides for the health of the pond, the play of the hole, the aesthetics of the view, and the proliferation of the area's wildlife.

When reviewing your annual budget for the war against aquatic weeds, consider this common-sense approach to creating a balanced pond ecology. This simple project represents a positive conservation approach. Encouraging beneficial plant species around the pond can filter nutrients and reduce your dependence on chemical controls at a later time.

	Ornamental Value	Cover/Nesting Value	Food Value	Waterfowl	Upland Game Birds	Other Mammals	Songbirds	No. Bird Species Utilize	REMARKS
BORDER SHRUBS¹									
Alder, Speckled (<i>Alnus rugosa</i>)	•		•				•	15	Seed source for goldfinches, pine siskins; winter food source.
Bayberry, Northern (<i>Myrica pennsylvanica</i>)	•	•	•				•	26	Red-winged blackbird nesting.
Buttonbush, Common (<i>Cephalanthus occidentalis</i>)	•	•	•	•				7+	Food source for waterfowl; flowers used by ruby-throated hummingbird.
Chokeberry, Red (<i>Aronia aorbutifolia</i>)	•	•	•				•	12	Berry food source; fall color interest.
Dogwood, Silky (<i>Cornus, amomum</i>)	•	•	•				•	18+	Berry food source; fall color interest.
Serviceberry, Shadblow (<i>Amelanchier canadensis</i>)	•		•				•	36	Berry food source.
Willow, Pussy (<i>Salix discolor</i>)	•	•	•		•	•	•		Showy fruits; grouse eat buds; American goldfinch nesting site.
Winterberry, Common (<i>Ilex verticulata</i>)	•	•	•				•	7+	Berry food source thru winter; attractive to mockingbird, cutbird, brown thrasher & hermit rush.

EMERGENT PLANTS²

Arrow arum (<i>Petrandra virginica</i>)	•	•	•	•					Seed eaten by wood duck and other waterfowl; clump plant that does not spread, statuesque.	
Arrowheads, Duck Potato (<i>Sagittaria species</i>)	•		•	•				19+	Most valued for underground tuber (potato); favored by waterfowl species, including the canvasback, black duck, godwall, wood duck, ringneck duck, trumpeter, whistling swans, sandhill crane, king rail.	
Bulrushes (<i>Scirpus sp.</i>)	•	•	•	•			•	•	30+	Seed is important food source for ducks, marsh birds, and songbirds, including swans, cranes, godwits, rails; stems and rhizomes eaten by muskrats and geese. Upright stems good cover for nesting waterfowl, marsh wren, bitterns, coots, grebe, red-winged blackbirds. Valuable for controlling shore erosion.
Iris, Yellow Water Iris, Blue Flag (<i>Iris sp.</i>)	•		•		•				Yellow or blue flower of ornamental interest; limited wildlife value; muskrats eat roots.	
Pickerelweed (<i>Pontederia cordata</i>)	•		•	•				6+	Slow spreading with bright blue flower spines, excellent color accent in pond; seeds eaten by black and wood ducks.	
Rice Cutgrass (<i>Leersia oryzoides</i>)			•	•	•		•	14+	Seed and roots important to waterfowl.	
Sedge species (<i>Carex sp.</i>)	•	•	•	•	•		•	53	500 species of sedges; clump grower; excellent nesting; seeds important food: teals, rails, grouse, snow bunting, larkspur, and swamp sparrow.	
Sweet Flag (<i>Acorus calamus</i>)	•	•							Ornamental interest, non-spreading clump plant, limited wildlife value.	

¹Plants prefer periodic flooding. Should be planted on pond banks, above normal water edge. Height ranges from 5 to 20 feet.

²Plants grow in shallow water and prefer wet conditions. Planted in 6 to 12 inches of water. Height of these herbaceous species ranges from 2 to 4 feet.

*Contact a local nursery regarding availability and zone hardiness.



A vegetation buffer not only provides aesthetic beauty but also strengthens the pond banks.

ALL THINGS CONSIDERED

The Game of Golf Is Played on Grass

by **STANLEY J. ZONTEK**

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WHEN the golf course is in good shape, everything at the club seems to go well. How obvious . . . or is it?

Why is it, then, that today's golf course superintendent must compete — perhaps struggle is a better word — for the machinery, manpower, materials, and “the budget” to do his or her job? Sometimes clubs and courses appreciate the obvious. If the golf course is in good shape, the rest of the facility hums. People bring guests who pay guest or green fees. This factor impacts favorably on the food and beverage portion of the club, and it helps the facility's cash flow. Members and guests buy logo shirts and sweaters, benefiting the golf professional. Everyone is happy and the club or facility is healthy.

Consider what happens, though, when several greens or fairways are lost, tees are divoted and devoid of turf, the roughs and stream banks are not well cut, and trash, tree limbs, and litter are

scattered about the course. Who is happy then? Would you bring guests or sponsor business outings at your club or course? Probably not, or only with a multitude of apologies and excuses.

With less play, food and beverage sales suffer and golf carts go unrented. Golf shirts remain on the shelves and everyone begins to grumble. Attention is then focused on, you guessed it, the golf course superintendent.

Do you think a golf course superintendent wants to present a shabby golf course? Is that individual, as a professional, pleased with what he or she sees out there? No, not in the least. So why does it happen?

I submit it often is a question of budget priorities. *The golf course is not getting its fair share of the golf course income.*

Specifically, what percentage of course income is being used to maintain the golf course? Do you think it is 20%, 33%, or 50%?

Figure it out. If the club has an income of, say, \$2 million per year and the golf course maintenance budget is \$400,000 per year, then the maintenance budget is 20% of the entire club or golf course income. Twenty percent does not sound like very much, and often it isn't enough. Where is the other 80% going?

Shouldn't it be a goal to allow the golf course to be maintained at a level where all the departments are humming and everyone is happy?

Only you can know. It bothers me that golf course maintenance budgets often do not receive their fair share of the club income, and when the course is not perfect, the superintendent is criticized. I submit the real culprit is the budget policy — not providing what is needed to do the job well.

Perhaps a better sales pitch is needed. I hope these comments will help people realize the obvious . . . the game of golf is played on grass, and providing properly for its maintenance should be a course's number-one priority.