

TREES BRING GREEN...

in more ways than one

To find a balance between trees and turf on a golf course and maintain sustainability and budgetary goals, superintendents need to think like urban foresters.

By Nicole Wisniewski

When the American elm that towered over Winged Foot Golf Club's No. 10 East green in Mamaroneck, N.Y. succumbed to Dutch elm disease in 1993, members were devastated.

Despite the fact that this tree confounded their approach shots for decades, they gave the tree a proper send-off, standing in silent salute as it was taken down and calling it the "greatest tree in golf." Even the New York Times' Dave Anderson eulogized the tree, and Bob Alonzi, Winged Foot's superintendent, said: "This tree was like a person to us."



A tree sets the stage as a recognizable part of the course, and be a point of pride for players.

While trees can give a course its signature edge and draw attention and pride from players, unmaintained they can become a bane to golf course superintendents, causing pruning and shade challenges that can impact playability and budget.

“Superintendents are turf experts; they are always looking down at the green, and trees become an obstacle in their quest to grow perfect, playable turf,” explains Michael Bova, a project coordinator with the Davey Resource Group and an International Society of Arboriculture Certified Arborist

and Certified Tree Risk Assessor, based on the West Coast.

Because turf is king on the course, trees tend to take a backseat. “And when tree care is deferred for too long and it starts to show, members complain, pride of the course decreases and maintenance costs increase,” Bova says. “It’s a vicious circle.”

But in today’s age of heightened sustainability concerns and economic challenges, properly caring for course trees in a proactive fashion means the difference in course aesthetics and maintaining a tight budget.

THINK LIKE AN URBAN FORESTER. Liability is a superintendent’s biggest concern when maintaining large trees on a golf course. But reacting to major issues when they occur, such as lightning strikes or turfgrass performance issues – or what Thomas Schlick calls “knee-jerk reactions to tree care” – can be very expensive.

“You wouldn’t plant a tree in the end zone of a football field or the back of a soccer pitch and then wait for problems to ensue, dipping into your emergency funds to deal with them, so why would you do this on a golf course?” says Schlick, Southern division manager of Davey Golf Course Maintenance and a certified golf course superintendent. “Even the best architects can’t envision what trees are going to do 50 years after they are planted.”

Conflicts arise when superintendents who are excellent at growing turf sometimes lack the knowledge necessary for maintaining a healthy forest. So what tends to happen is a violation of standard urban forestry practices, resulting in wasted resources, money and

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decreasing the benefits the course provides to members and the community.

To properly care for the trees on their courses, superintendents must think more like urban foresters, Bova advises. Being proactive vs. reactive can not only keep planning time and maintenance costs in check, but can also enhance the golf course's standing in the community. The course as a mini forest, maintained properly, provides essential benefits to the surrounding area, including boosted property values and energy savings, carbon sequestration, improved air quality, reduced stormwater runoff and enhanced cooling.

FOLLOW TREE CARE STANDARDS. Today, most dollars spent on trees in golf course maintenance are dedicated to those that are in the field of play. Trees on the fringe or property perimeter get less attention than others, Schlick says. As a result, liability increases and sustainability decreases because forest health and overall benefits decline.

A golf course tree maintenance program should focus on all course trees and should center around what Bova calls the three Ps – planting, placement and pruning.

Planting. When planting or transplanting trees, superintendents need to ensure they are the proper species for the course, which means they have minimal leaf litter, are low maintenance and provide the values they seek. Just because one species is removed doesn't necessarily mean it should be replaced with the same species, Bova says. A major problem with many courses across the country today is tree monoculture.

A mixed age class is also important for golf course trees. Ideally, 15 to 40 percent of an urban forest should be made up of young trees 12 inches or smaller in diameter, 25 to 30 percent of a forest should be made up of mature trees between 12 and 30 inches in diameter and the remaining 5 to 10 percent of a forest should comprise trees more than 30 inches in diameter, Bova says.


"A sustainable urban forest requires spe-

cies and age diversity," he says. A golf course should have no more than 10 percent of any one species and 20 percent of any one genus.

A balanced mix of tree species and age placed properly can better handle severe weather events, insects and diseases and be more naturally low maintenance, providing sustainability and budget goals. Creating a monoculture could be a huge liability issue if, for instance, an invasive pest or destructive disease enters the forest. This was unfortunately the case with the Winged Foot American elm, and those trees are now on a preventive, proactive program to ensure their safety and long life, says Mike Cook, an ISA Certified Arborist with The Care of Trees, who takes care of trees on more than 15 golf courses in the Northeast, including Winged Foot.

Placement. Strategic tree location in the long-term will provide room for growth that is consistent with the course strategy and play challenge.

"It's not just about filling a hole," Bova says.



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Not only does a tree's species factor into whether or not it will survive on a course, even its placement on the course comes into play. The Oaks Club, Osprey Fla.

"It's about putting the right species in the right location to grow to a mature size without impacting other trees or reducing the playability on the course."

Pruning. Proper pruning is the ultimate key to having course trees continue to provide positive playability challenges and aesthetic benefits, as well as reducing maintenance costs. Many times, superintendents thin trees annually to ensure turf receives adequate light, which can be around six to eight hours for bentgrass, Cook says. But overpruning forces the tree to push out growth and develop weak branch attachments, increasing pruning needs to continue to ensure turf receives light and, as a result, driving up maintenance costs. Trees placed in locations that match their health needs should be able to hold for three years between prunings. "Any more and the tree is basically telling you it's the wrong species for that location or planted in the wrong place," Bova says. "On top of that, excessive pruning is not a sustainable practice because it shortens trees' lifespans, decreases the benefits they provide and increases your costs."

Irrigation is another key factor concerning trees on golf courses. Because courses are being irrigated in most cases for turf, trees are not receiving proper hydration. They develop excess surface roots, which create additional conflict when roots damage mowing equip-

HIGH-TECH TREE TRACKING

An excellent way to manage trees on a course is by conducting a tree inventory with the help of global positioning system technology.

"This is incredibly beneficial as it helps you better manage your trees, providing you with species statistics, approximate age and a rough assessment of other characteristics you can start to track," Schlick says.

This level of planning can also help superintendents when handling difficult situations with members or greens committees – for instance, an uproar over a tree removal or a member's insistence on planting a memorial tree in a poor location on the course.

A golf course superintendent's ultimate goal should be to create a long-term tree plan and budget for annual tree care, keeping tree pruning on a three- to five-year rotation so each year a new set of trees is trimmed. "With a better plan, superintendents can better educate their members so when trees are removed they can show there are valid reasons," Bova says. "With a plan, superintendents can also express their desire to plant trees and maintain a healthy, sustainable forest that benefits them, their members and the community around them."



TOP LEFT: COURTESY OF THE OAKS CLUB, OSPREY FLA. TOP RIGHT AND RIGHT: COURTESY OF DAVEY TREE

Tree root systems should run deep, so the tree can sustain itself on rainwater rather than irrigation. The Westchester Country Club in N.Y., a white oak at the left side of #11 south green.



ment and prevent optimum turf growth. Trees also don't benefit from fertilizer used for turf on a course.

Some trees, such as pines used on golf courses in the Southeast, do not thrive in in these excess moisture environments. "So when they border a fairway where turf gets heavily irrigated, they tend to turn yellow or show other signs of stress and are more susceptible to borer infestation," Schlick says.

"What we're seeing now is more golf courses expanding tree rings and putting mulch down so they don't have as much of a tree-turf conflict and still have a somewhat playable surface," Bova says.

As golf courses are pressured to become more sustainable, they are also removing turf areas in exterior roughs and turning them into native habitats to reduce water use and maintenance costs. While creating these ecological areas is positive, it can be detrimental to trees. "While trees don't use a lot of water, they are typically accustomed to surface watering via turf and therefore have developed surface roots," Bova says. "To protect these trees, instead of just shutting down irrigation, provide trees with some drip irrigation so they can establish a deeper root system and then be weaned off so they can sustain themselves on rainwater. Trees aren't big water users but they have to be considered when reducing water use. Losing a 50-foot oak is a lot more costly than removing a few square feet of turf." **GCI**

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A tree should only need pruning once every three years – more frequent pruning will make the tree push out new growth faster. Hole 11 at the Mesa Verde Country Club in Costa Mesa, Calif.