Post-traumatic stress syndrome

Cleaning up after The Majors is like clearing a battle field after war

By Mark Leslie and Trevor Ledger

PINEHURST, N.C. — It's five weeks after the U.S. Open and the roughs are lower, the fairways longer and the greens slower on Pinehurst No. 2 here. "You would hardly know right now that we had an Open," said Director of Golf Course Maintenance Brad Kocher, whose course is blessed with fast-growing, fast-healing Bermudagrass. Augusta National Golf Club Senior Director of Golf Course Operations Marsh Benson and superintendent Brad Owen opened their course for play the day after the Masters Tournament concluded and, in this dry year, had the playing areas back in shape in two weeks.

Three weeks after Carnoustie Golf Links hosted the British Open, July 15-18, superintendent John Philp was removing all the periphery items which come first in the regeneration of the famous course after its first Major in 24 years. But at Medinah (Ill.) Country Club, whose No. 3 hosted the PGA Championship on Aug. 13-15, superintendent Danny Quast was in more of a rush, waiting for the last of the corporate tents to be removed from the neighboring No. 2 course so that his crews could seed bentgrass and return it to normal playing conditions.

Quast, who hosted the Open in June 1990, pointed to the importance of timing in recovering from his mid-August event. "The main concern about how the course will look next spring is how fast they get the tents out of my way," he said. "But some have an urgency to do so: They need to get out to Boston for the Ryder Cup."

"The main trick of success is how soon you can seed the course. The later you do it, the longer it takes to germinate. If I can get it to germinate in the first part of September, we will have very beautiful fairways next spring."

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George Frye, H2O and the Ocean Course

Lack of quality water the bane of Kiawah super

By Mark Leslie

KIAWAH ISLAND, S.C. — "Water, water everywhere, but not a drop to drink." George Frye could pen his own refrain to this lament. The superintendent at Kiawah Island Resort's famed Ocean Course, which is running short on available effluent, is paying the high price of potable water and monitoring his three sister courses on the island, which are experimenting with deep-well, brackish and waste water.

Frye may be best known for readying the Pete Dye-designed Ocean Course for the 1991 Ryder Cup even before the course was built, or for preparing Tom Fazio's Turtle Creek course here for the World Cup matches in 1997, or for his course being a test site for a major Clemson University toxicology study. But he points to water as his most consuming issue.

"Water. It's getting as expensive, if not more, than providing electricity. It's our biggest challenge of the future," said Frye, calling for extensive research into how to grow turfgrass with low-quality water.

The Kiawah Island courses "are considered — not to golfers or myself, but others — as sewage dispersal sites, a means of getting rid of excessive effluent," Frye said. "The problem right now is, we have too many courses for the effluent. We need more houses in order to provide effluent."

In the meantime, the Ocean Course is irrigating with aquifer water and a small amount of effluent, while the other courses get a combination of potable, effluent and deep-well water.

Dealing with less-than-perfect water has led to experimentation with methods to treat that water. For instance, the deep-well water contains "a lot of bad constituents, such as high bicarbonates, high carbonates, high sodium, high boron," Frye said.

AUDUBON CERTIFIES OCEAN COURSE

KIAWAH ISLAND, S.C. — The Ocean Course has achieved designation as a Certified Audubon Cooperative Sanctuary by the Audubon Cooperative Sanctuary System (ACSS). The Ocean Course is the fourth in South Carolina and 177th course in the world to receive the honor. The other three courses in South Carolina are The Club at Seabrook Island, Palmetto Hall Plantation, and Whispering Pines Golf Course.

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George Frye
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To neutralize these constituents, the Ocean Course system uses sulfur dioxide, burning it in an SO2 generator and converting it. "As the sulfur is burned, it turns into SO2 and then SO3 and SO4 and as it does, it gasses off the bicarbonates as CO2," he said.

When you have a lot of bicarbonates in the water," he said, "they very quickly hit the calcium in the soil and displace the calcium, leaving sodium. Sodium reduces the permeability of the soil and causes poor drainage, poor filtration, and can create black layer. Whenever the salt index in the soil becomes greater than the plant, the plant can't take up available nutrients, or available water."

Meanwhile, he said, more and more courses have to use effluent and, therefore, must deal with chlorides and suspended solids that can adversely affect the permeability of the soil and cause black layer.

WATER DETERMINES SOIL

"The soil is going to become what the water is," Frye added. "If you have bad water, you will have bad soil. So good water is a prerequisite to being successful agriculturally."

Frye called for more emphasis and recognition on "the kind of water qualities we are forced to deal with — whether it is deep well, brackish, or effluent."

Water quality, he said, "has a tendency to affect the efficacy of our fertilizer, insecticides, all our agronomic practices — our whole holistic approach to managing the course. We've got to really focus and direct a lot of research dollars in that area to have a good understanding of where we're going to be in the future."

What of desalinization, especially for courses near the ocean? "People talk about desalination, but how many people can afford a $1-million desalination plant?" Frye asked. "If you do that, you have to pass the expense on to someone."

Meanwhile, Frye also predicted "a big push into using more salt- and drought-tolerant grasses in the future."

When it was built, The Ocean Course became a point of focus, not only for the Ryder Cup matches that followed but also for its attempt to prevent its water runoff from affecting the surrounding environment.

"Pete [Dye] did a great job laying out the golf course in the environment that was already here, so it 'fits,'" Frye said. "He also designed the fairways from the inside out, so that when we do apply herbicides, insecticides, nitrates or nitrates, they buffer through the soil profile and are recycled and prevented from going out to non-fairway areas. They are taken up in the infrastructure of the golf course, so we're not anything recycling. We recycle about 250,000 gallons a day from the back nine to the front nine."

A four-year study by Clemson's Toxicology Institute for Wildlife and Environment, Frye said, "has very little runoff into non-target areas, whether internal or surrounding areas," Frye said.

STEWARDS OF THE ENVIRONMENT

Citing the chemical industry's ability to produce "environmentally sensitive products that have allowed every superintendent to fulfill the obligation of being good stewards," Frye called for even more tools.

"Not only are we superintendents, but we are acting as stewards of maintaining golf and the environment together as one entity," he said. "That is our responsibility as golf course superintendents... I think that is going to be one of our primary roles for the future. And that is why Audubon International has been so successful."

Because the idea of the Audubon Cooperative Sanctuary System is in a forest environment. If the bark were not there, the cart traffic and wind would erode away from the root system. On oak trees, a lot of nutrients and water is taken in through the feeder roots on the surface. It looks really good, but we're actually doing it to protect the tree."

The compelling testimony to this evolution are aerial photographs from the 1991 Ryder Cup and today. "Look at those photos and you'd wonder if they are the same golf course," Frye said. "We're constantly moving sand around, trying to keep dunes from blowing into a sand trap."

"We're constantly pushing sand around, grading cart paths, edging the fairways with Roundup to keep the 419 [Bermudagrass] from encroaching into the dunes," he added. "We're trying to give it a 'managed' look — not just a wild, unkempt look."

A NATIVE SON RETURNS

When Frye came to Kiawah Island in 1985 it was a return of a native son. He grew up in Robbins, N.C., worked at Pinehurst Resort summers, attended Campbell College for two years before transferring to North Carolina State University, where he graduated with a turfgrass degree in 1978. He worked at Kiawah Island, then transferred to the Ocean Course for four years, then with Robert Trent Jones Sr. on the grow-in and development of Crooked Oaks.

He also spent 1984-85 with architect Jay Morrish renovating the A.W. Tillinghast-designed Oak Hills Country Club in San Antonio, Texas, which hosted the 1985 Texas Open.

Upon his return, the 36-hole resort expanded to 54 with Tom Fazio's Osprey Point. Frye was involved in the construction, development and grow-in of that track, which opened in 1988. He saw the Ocean Course through construction, the Ryder Cup and Hurricane Hugo, and the Turtle Creek course through PGA Cup matches. It proves you can return home.

"Life, and golf, is good for the Frye family — wife Lou and sons George III, 16, and Mack, 13 — even with myriad challenges and deadlines."

"This has been the first year I've had a chance to sit back and breathe," Frye said. "But I owe a lot to that change. I've been very fortunate to be able to stay in the same place and have the number of challenges I've had. Others have had to move three or four times to get these challenges."

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