

After the Deluge

By Curt Harler, Contributing Editor



The shock and awe of **large-scale flooding** can be blinding to superintendents. But it can also open their eyes on how to **prepare for future rain events**

Catastrophic flooding across the country in 2009 brought back bad memories for Brad Babeck, golf course superintendent of the Territory Golf and Country Club in Duncan, Okla. Last year's flooding reminded Babeck of the four rain events that dumped between seven and 10 inches of rain on his course in the spring and summer of 2006.

Fortunately, Babeck's golf course wasn't damaged badly. The flooding his course experienced also didn't compare to the flooding that courses in Georgia,

Iowa and others states experienced last year. Still, Babeck says the flooding was enough to make him want to renovate his course to keep flood damage from ever happening.

The superintendents whose courses were flooded last year find themselves thinking like Babeck. And they expect to continue such repairs and renovations well into 2010.

Last September, a flood in Georgia, classified by the U.S. Geological Service as a "once in 500 years flood," wreaked havoc on state golf courses, which were left covered by dirt. The putting greens

were under water so long that they suffocated and died. Bridges on the courses were washed away and electrical infrastructure was destroyed.

Already soaked from a wet season, there was nowhere for water to go long before the flooding occurred. Four holes at the Atlanta Country Club were under water, says Mark Esoda, the course's certified golf course superintendent. The flooding produced rapid-moving and standing water that, in some cases, stayed for days.

Once silt and debris — including

Continued on page 51

After the Deluge

Damaged turfgrass at Atlanta National Golf Club in Alpharetta, Ga., took most of the winter to repair.

Continued from page 48

limbs, plastic bottles, soccer balls and basketballs — were removed, Esoda's crew shifted into DEFCON 1 to administer first aid.

The soil was tested for disease and a steady regiment of aerification began. Esoda says he used an aggressive fertilization program last fall to counteract moist conditions. He also controlled golfer traffic on the greens.

"We hurt, but we didn't lose any greens," Esoda says. "They were thin and nasty looking, but they didn't die."

Dennis Martin, Ph.D., extension turfgrass specialist at Oklahoma State University's Division of Agricultural Sciences and Natural Resources, encourages superintendents to look at the big picture when assessing damage. The sheer shock and awe of large-scale flooding can be blinding.

"You're faced with so much work so quickly and really no hope of bringing things back to complete normalcy right away," Martin says. "That's why a prioritization strategy is important. You try to save your infrastructure because that's the most expensive thing to deal with."

His top suggestions for immediate flood response include:

- ▶ get debris off if you can;
- ▶ use large quantities of high-pressure water to clean turf;
- ▶ salvage the construction profile

of the greens, otherwise problems will remain for years; and

- ▶ remove silt so weed problems will be minimal.

Alfredo Martinez, Ph.D., turfgrass disease specialist for the College of Agricultural & Environmental Sciences at the University of Georgia, says superintendents may not realize how vulnerable turfgrass can be when it's soggy from flooding. Hence, proactive and repeated soil testing is key to managing and fighting bacterial threats to the grass. These actions may delay a course from reopening sooner, but Martinez says they're vital to the turf's overall health.

In Oklahoma last year, some of the hardest-hit courses during spring flooding were those under construction. Four inches of rain that fell in three hours — on already moist ground — derailed the summer opening of Patriot Golf Course in Owasso. The course knits together marsh, woodlands, prairie and limestone canyons that fueled the flash flood, washing away newly laid sod.

"Once the water started moving, the damage was done," says superintendent Jeremy Dobson.

Drainage inlets became clogged with sod and rocks, and boulders that had moved to the bottom of the canyons during construction littered the greens. One

Continued on page 52

BETTER CHOICES

Nufarm

TM+IP E-Pro

Nufarm

Iprodione Pro

Nufarm

T-Methyl E-Pro

Nufarm

Propiconazole Pro

**The only difference
you'll notice is the price.**

Make your maintenance budget go further with disease control solutions from Nufarm. We use our worldwide reach and expertise to provide top-performing products, backed with outstanding sales and technical support, and we do it all for less. That's what we call: Better Choices, Better Business. See your distributor or www.nufarm.com/us for more information.

**Better Choices.
Better Business.**



www.nufarm.com/us

©2010 Nufarm.

Important: Always read and follow label instructions.

After the Deluge

Continued from page 51

rock blocked a 36-inch drainage inlet.

"It was kind of a blessing in disguise as it really identified the problem areas and gave us a chance to address those," Dobson says.

Construction crews used the destroyed areas as access points to create check dams with large boulders to slow water for the next rain event.

While other courses may have rehabilitated or replaced greens, Dobson pursued a different approach to fighting the silt layer and anything it may have left behind.

"Being a new course, I suggested to the ownership that we take the opportunity to recore the greens and fill them up with the proper mix rather than dealing with this layer of silt over them," he says. "They supported that decision, which was the most important decision that was made as far as the future health of

Proactive and repeated soil testing are key to managing and fighting bacterial threats to the grass.

ALFREDO MARTINEZ,
UNIVERSITY OF GEORGIA

the greens on this property."

Dobson had an opportunity to gauge whether the changes to the course's construction were effective in the fall when the course received more than 3 inches of rain.

"Everything we had done seemed to

hold up, and we had what I consider minimal damage," he says. "It was routine damage cleanup. The turf held up well. I feel confident that everything that was done to help us through the rain events held up and served its purpose."

Working with the ebb and flow of the terrain at a golf course is often one of the best remedies for managing floods.

For Babeck, flash flooding has been a familiar experience. A creek that feeds a major source of water for the surrounding community bisects his course. After watching major floodwaters surge four times, he identified what would redirect the water.

"We went in and raised the elevation of the fairway and did some sloping so the water would move across the area so it wouldn't back up," he says. "We've had a couple of decent rains but nothing quite like we had in 2006. For the

Continued on page 54



Circulate water for clearest results

You'll love your pond again.

The GridBee™ submersible circulator creates a gentle, near-laminar flow that prevents stagnant water zones and restores your pond or lake's biodiversity. And because the GridBee circulator works from beneath the surface, there's nothing to interfere with the natural look of your recreational water.

For a clear solution that's easy, economical and effective, call us today at **888-495-0104**.

Download our
white paper,
"Why circulation works."
www.gridbee.com/golf

GridBee™
Submersible Circulators

After the Deluge



Some of the hardest-hit courses during spring flooding in Oklahoma last year were those under construction, such as the Patriot Golf Course in Owasso, Okla. The photographs here tell the story.



Continued from page 52

smaller events we helped ourselves out a little bit.”

The course’s crew was able to move silt off of the greens with minimal turf loss. In some areas the flood delivered 3 to 5 feet of dirt in areas as wide as 450 feet.

Three of the four bridges on the course had to be replaced because of tree damage. But the way they were constructed originally didn’t make sense for hazardous flood conditions. So they were replaced by concrete low-water crossings.

“They aren’t as pretty as before, but they’re a lot more functional,” Babeck says.

Reflecting on Mother Nature’s wrath is a lot less painful than watching it float by. That said, Babeck realizes it’s nobody’s fault when flooding damages property like a golf course.

“There’s nothing you can do but go back and fix it,” Babeck says. “But when you put it back together, you can try to make improvements.” ■

Harler is a contributing editor to Golfdom and managing editor for Golfdom’s TurfGrass Trends.

PHOTOS COURTESY: PATRIOT GOLF CLUB

TRIMEC[®] HERBICIDES

Reliable, Dependable, Predictable 40 Years of Quality

► pbigordon.com/trimec