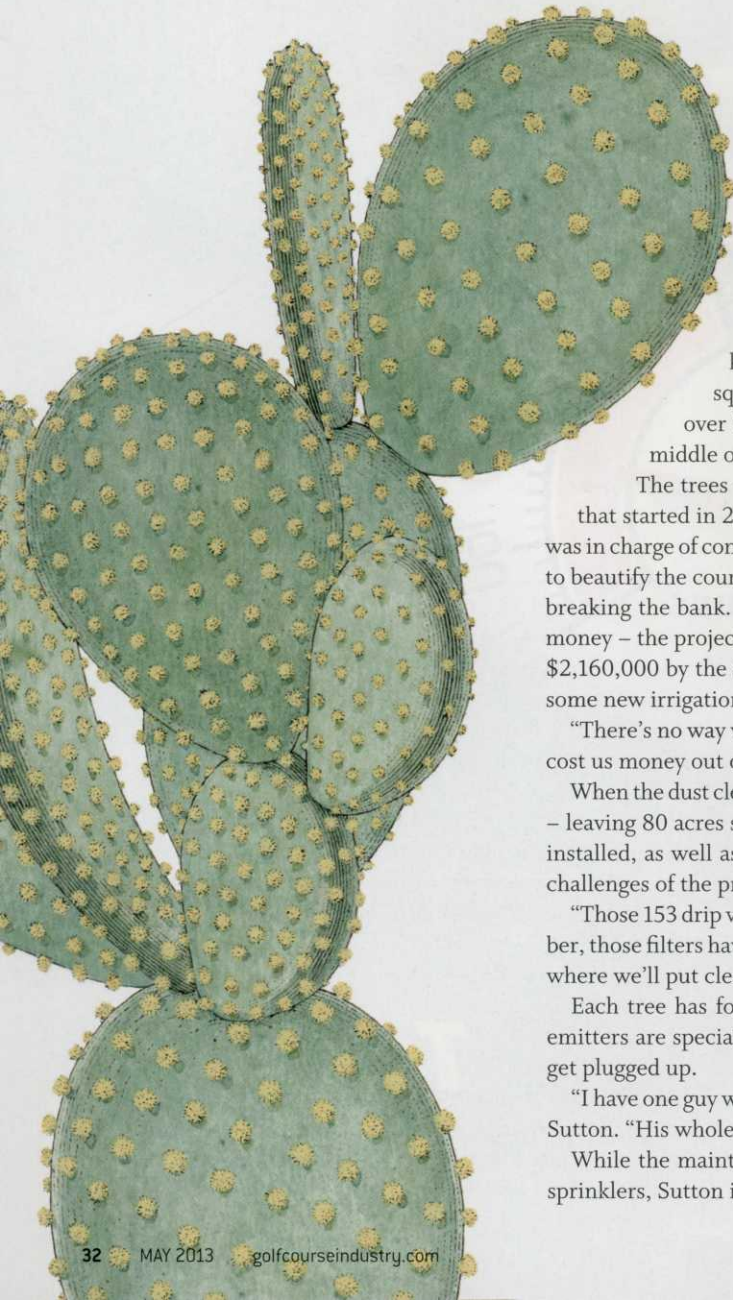




Desert *forest*

Wildhorse Golf Club's Scott Sutton says toodle-loo to 52 acres of turf in favor of desertscaapes and thousands of trees to save water and boost the course's wildlife population. by Jason Stahl



Scott Sutton is a self-professed tree lover. A golf course superintendent for more than 30 years and a Las Vegas native, he has built six courses and planted many trees all over the Las Vegas Valley since 1980.

"I've had the opportunity to see a lot of the trees I've put in grow and become beautiful specimens," says Sutton.

So when the Department of Forestry offered to donate nearly 350 trees last year to Sutton's course, Wildhorse Golf Club, he was all over it like a squirrel on an acorn. The donation bumped up his total tree count to just over 5,000, adding to what he calls his creation of a "suburban forest in the middle of Henderson, Nev."

The trees were just one part of an ambitious turf conversion project at Wildhorse that started in 2006 when Sutton contacted an ex-superintendent and friend of his who was in charge of conservation at the Southern Nevada Water Authority (SNWA). The idea was to beautify the course, reduce water usage and attract more wildlife to the property without breaking the bank. Not only did Sutton not break the bank, he made money – the project cost just over \$2 million, and he was reimbursed \$2,160,000 by the SNWA. With the extra money, Sutton purchased some new irrigation controllers and sprinklers.

"There's no way we would have been able to do this if it would have cost us money out of pocket," Sutton says.

When the dust cleared, 52 acres of turfgrass were converted to desertscaapes – leaving 80 acres still covered in turf. More than 5,000 trees and 3,000 desert plants were installed, as well as 153 drip valves. The irrigation switchover has been one of the biggest challenges of the project, especially considering the course uses reclaimed water.

"Those 153 drip valves each have a filter, and during the growing season from April to October, those filters have to be cleaned twice a month," says Sutton. "We actually have extra ones where we'll put clean ones in and take the others out and manually scrub and clean them."

Each tree has four emitters, which translates to more than 20,000 emitters total. The emitters are special ones from Toro that can be taken apart and cleaned as they frequently get plugged up.

"I have one guy who does this task full-time, and he will never in his lifetime catch up," says Sutton. "His whole life is cleaning filters and emitters and trying to keep everything alive."

While the maintenance on the drip irrigation system has been more intensive than the sprinklers, Sutton is banking on that changing one day.





Fifty-two acres of Wildhorse's turfgrass were converted to desertscapes.

“They have a 40- to 50-year lifespan, so they’re at the end of their lifespan. That’s one of the reasons we put in all these new trees: to kind of enhance all the older trees that are starting to check out.”

– Scott Sutton, Wildhorse Golf Club

“I’m hoping eventually that the trees will get big enough where they will sustain themselves and not need much maintenance,” he says. “As of right now, though, it is one of the biggest budget items.”

The trimming is also a constant chore. One person is dedicated full-time to training, trimming and staking all the trees.

“He comes in with truckload after truckload of branches,” says Sutton. “We recently had 60-mile-per-hour winds, so he had to go through and make sure all the trees were staked and that we didn’t lose any.”

Sutton says the trees don’t experience a lot of diseases due to their dry environment, but insects can wreak havoc on occasion. Elm trees that were planted when the course was built 54 years ago are currently deteriorating due to Dutch elm disease.

“They have a 40- to 50-year lifespan, so they’re at the end of their lifespan,” he says. “That’s one of the reasons we put in all these new trees: to kind of enhance all the older trees that are starting to check out.”

With more trees has come more wildlife, which was a big reason why Sutton started the project in the first place. He estimates the animal population has increased tenfold since 2006, especially the birds.

At last count, the course had 97 different species of birds, including herons, egrets and osprey that feast on the fish Sutton stocks in the nine lakes he cleaned up. There are no birdhouses on the course as they get



too hot for anything to live in, but there are bathhouses placed high in the trees on the course’s north side where it’s cool.

Sutton installed small, five-gallon trees and let them grow on their own – a method he is a big proponent of. Now, some of the trees that were planted in 2006 are big enough to offer significant shade that is appreciated by the rabbits and other animals, not to mention the humans.

Initially, the golfers were upset by the removal of turf since, in their minds, it created less playable lies for their errant shots. But Sutton says most of the turf was removed from out-of-play areas and also the property lines.

“But you can’t just leave it dirt,” says Sutton. “You’ve got to put in some decomposed granite or bark to cover it. We put in a fine screen decomposed granite of 5/16 minus, which enabled the golfers to hit right off the top of it. It’s just like playing off dirt.”

The homeowners also didn’t like the conversion initially because they says the trees blocked their view, but they eventually warmed to them when they realized they also blocked balls from hitting their houses.

“But as far as beautification, they absolutely loved it,” says Sutton.

Many courses in the Las Vegas Valley are now taking advantage of the water district program that Wildhorse did, but none have gone to the extent Sutton has to turn his course into a wildlife oasis. Also, the program has changed slightly with the downturn in the economy, with courses only allowed to perform up to \$300,000 per year (up to 300,000 square feet at \$1 per square foot) of turf replacement now.

“Before, they didn’t have a cap on it, so instead of only doing 6.7



acres per year, we were able to do that in just one phase over a couple months,” Sutton says. “There was a certain point in my project where it was going so good that they were paying up to \$2 per square foot.”

One of the program rules was that you had to put back at least 50 percent plant cover. In other words, once the plants reached full maturity, they had to cover 50 percent of the land.

“On our project, the water district estimated that we would have 87 percent coverage once our property’s plant material was full capacity because we put in a lot more trees,” says Sutton.

Sutton estimates that, after

taking out 40 percent of his turfgrass, he has reduced his water usage by 27 percent or 67 million gallons. Budget-wise, that translates to \$56,000 per year, plus a savings of \$14,000 per year on electricity. Unfortunately, he has not been able to utilize those savings as they have been absorbed in the budget.

Aside from the challenges the drip system has brought, another challenge has been weeds. Since 1959, the course’s turf had been fertilized and nurtured, so the soil is very fertile. Thus, when the turf was removed, any place that took water suddenly sprouted weeds like crazy. For the most part, Sutton has used

TAKE ACTION

Getting involved at your course

Incentive programs are available for a variety of projects throughout the country, from turf reduction to energy conservation programs, says Wildhorse Golf Club’s Scott Sutton.

“The first step is finding what is available in your area,” Sutton says. “For this program, you need to complete an application, host a site visit by a SNWA representative who will pre-measure the area to be converted and take pictures, and sign a consent agreeing that the land will never be converted back to turfgrass. Like a conservation easement, this consent transfers along with the land from owner to owner.”

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pre-emergent herbicides to keep the weeds under control, and the times he hasn't have cost him a ton of labor. However, he does have another control method.

"Because we're owned by the city of Henderson, I have access to labor from the court system – people who have to do community service as the result of offenses like speeding, domestic violence, DUI, etc.," Sullivan says. "This has saved me countless dollars in both labor and herbicide expense, and it's a more biological and environmental way of controlling the weeds."

As a result of Sutton and his crew's efforts, Wildhorse has been recognized as an Audubon Certified Cooperative Sanctuary. Sutton himself is one of

only two certified golf irrigation auditors in the state of Nevada.

Looking back on the project, Sutton, who confesses that he only likes to do things one time and thus makes sure it's right the first time, says there isn't much he would do differently with the project if he had to do it over again – other than maybe installing some different species of trees. Overall, he's incredibly thrilled with how it turned out.

"It didn't cost us anything to put in, so it's all gain for the property," he says. "It was all positive and good for the golfers, wildlife, etc. Everyone won." **GCI**

Jason Stahl is a Cleveland-based writer and frequent GCI contributor.



The irrigation switchover has been one of the biggest challenges of the project, especially considering the course uses reclaimed water.

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by John Torsiello

Burning man

Prairie Dunes GC's P. Stan George uses controlled burns to maintain his native areas.

When the legendary architect Perry Maxwell set out to design a golf course in the middle of the rolling prairies of Hutchinson, Kan., he visualized a supremely natural routing, one that would have a distinct links feel to it. Mules and horses moved soil and men worked by hand, scraping and forming the first nine holes.

When Maxwell's son, Press, added a new nine in 1957 to the original 1937 layout, he stayed true to his father's traditional course design, except this time he had more modern equipment at his disposal. So, it was in keeping with the history of Prairie Dunes that superintendent P. Stan George has maintained the natural look and feel of the course.

"Our program consists of burning all appropriate natural areas on a five-year schedule," he says. "We have more than 250 acres of natural prairie, much of which is contained

"As you might imagine, the golf course had a drastically different appearance for a few weeks after the burn."

— P. Stan George, *Prairie Dunes Golf Course*

in the golf course proper. Obviously, we have much more prairie than managed playing surface." Also, they use targeted mowing, target spraying and manual removal of invasive species in its management program.

The natural areas, i.e. prairie, have always

been a part of the charm of playing at Prairie Dunes, says George, calling the areas "an important, appreciated and almost sacred part of the golfing experience here." Thus, the efforts to maintain the course as it was originally designed; to not stand apart from the surrounding environment, but to be almost a part of it. The course has relied since its origins on the natural prairie, wind, design, and undulating greens to challenge players.

Said George, "Obviously, the natural areas were on-site originally, and they have never been seeded or re-established in large measure at any time. Mother Nature takes care of most issues with the exception of the management practices cited."

There is little cost involved in maintaining the natural areas. "We have minimal costs for spraying, mowing, etc. and they are included in the operating budget and not tracked as independent costs," George says.

There were some initial challenges with the burning program that was begun in 1993. "As you might imagine, the golf course had a drastically different appearance for a few weeks after the burn." However, re-growth was quick enough with flowers and grasses, and the program's benefits were rather quickly realized. Since the native areas have such an impact on aesthetics, playability (and scoring), there was also some concern regarding tournaments

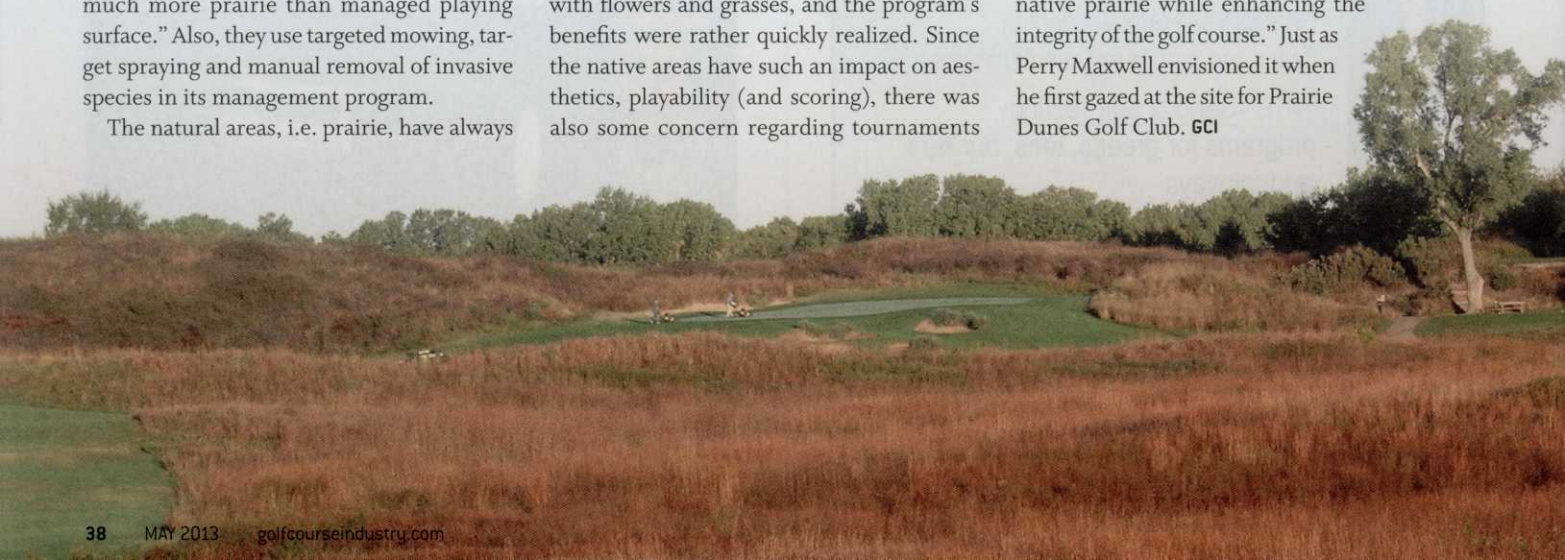
conducted shortly after the prescribed burns and before significant re-growth could impact wayward shots. As it turned out, tournament scores (a Big 8 Championship in early 1990's and later Big 12 Championships) were not noticeably affected during years that native areas was burned compared to non-burn years.



George adds, "The vast majority of the membership understands and appreciates the necessity of our programs." While it is not tracked, it is believed maintaining Prairie Dunes' natural areas has enhanced wildlife habitat, while significantly diminishing the encroachment of invasive species.

The club's efforts at maintaining the natural look and feel of Prairie Dunes has been widely appreciated. "The community generally recognizes Prairie Dunes as an organization that is serious about prairie renovation and prairie preservation and all of the benefits that come with this program" he says.

George would like to burn more often, but it's difficult due to the amount of play the course receives and the tournaments and other events it hosts on an annual basis. "The program has restored many acres to a more native prairie while enhancing the integrity of the golf course." Just as Perry Maxwell envisioned it when he first gazed at the site for Prairie Dunes Golf Club. **GCI**





By Helen M. Stone

Rough cut

TPC Southwind uses fine fescue as natural areas, and saves time, resources and money in the process.

Memphis – Mecca for music, barbecue, blue-suede shoes... and sustainable golf? Sure enough. TPC Southwind earned the Golf Digest/ Golf Course Superintendents Association of America (GCSAA) Environmental Leaders in Golf Award multiple years and was the first course in Tennessee to be certified as an Audubon Cooperative Sanctuary.

“As a TPC course mandate, we are expected to be environmentally conscious and take a leadership role in sustainability and making positive changes,” says TPC Southwind superintendent Jim Thomas, CGCS. The challenging private course has been working to conserve water, labor and resources since opening in 1988, with numerous upgrades and renovations.

In 2004, an ambitious project began to replace intensively maintained Bermudagrass in the roughs with fine fescue to save resources, money and time. “A few years ago, we did some more renovations and now we have about 20 acres in fine fescue,” says Thomas.

“This is a warm-season grass climate,” he says. “But we treat the fine fescue plantings as natural areas. We’ve let it grow up tall and kept the seedheads, which is a nice look. Most of the time, we mow it a few times a year to keep it around eight to 12 inches. I call it a managed native area.”

Since the original planting was well-adapted Bermudagrass, the renovation required several applications of glyphosate. “However, when you get a good solid, thick stand it does a good job of controlling weeds,” Thomas points out. “But if you get some damage or thinning you have to do some reestablishment.”

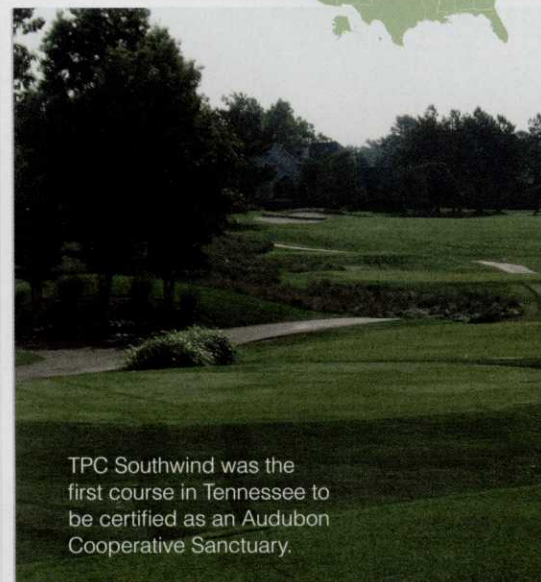
Thomas estimates that the latest renovation came in at about \$10,000, but the dollar savings keep on coming. “We save about \$7,500

or more a year just in mowing costs,” he says. “And that’s just in man hours; that doesn’t count fuel costs or depreciation.”

Since the fine fescue was installed after the course was constructed, Thomas says it’s difficult to quantify the exact water savings. “We’ve set up programs that separate the schedules for the fescue and the Bermuda, though,” he says. “We’ve seen some reduction in water. It’s hard to calculate, but I’d say about 30 percent savings – maybe more.”

The renovation has resulted in other benefits as well. “How do you put a value on aesthetics?” Thomas asks. “It definitely provides color contrast; especially in the winter when the Bermuda is dormant and the fine fescue is bright green. But even in the summer, it has a different color and grain. It breaks up and divides the golf holes.”

“There are some holes where we’ve utilized it to add to the strength or integrity of the hole. If we have a sharp dogleg, it adds



TPC Southwind was the first course in Tennessee to be certified as an Audubon Cooperative Sanctuary.

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“We save about \$7,500 or more a year just in mowing costs,” he says. “And that’s just in man hours; that doesn’t count fuel costs or depreciation.”

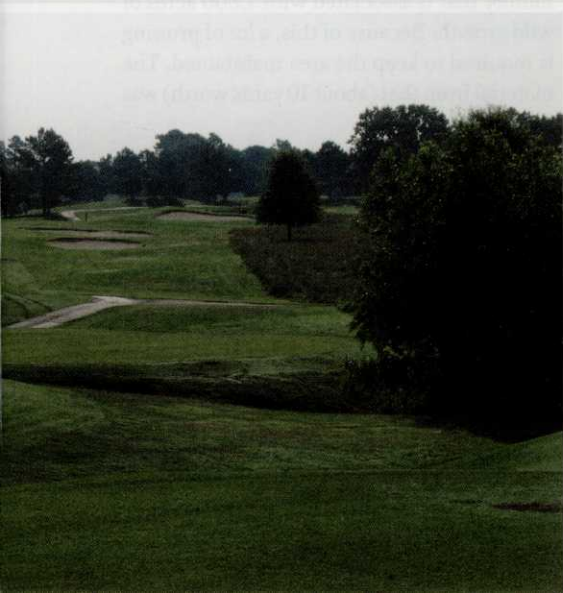
– Jim Thomas, CGCS,
TPC Southwind

a severe penalty if someone is trying to cut the corner. It makes that risk/reward shot cutting the corner have more risk – and more reward,” Thomas explains.

“There are a lot of options you can use to create natural areas,” Thomas says. “I don’t know if you can really call fine fescue a native species, but I really like it fine fescue. We’ve tried tall fescue and it gets clumpy and it has coarse blades. Fine fescue has a uniform look, a finer leaf texture and I like the contrast and color it produces.”

Thomas is quick to give others credit where credit is due. “You have to give Jeff Plotts, the original superintendent, a lot more credit than me,” he says. “They really did a great job with the original design. For the most part, it was out of way and out of play. And the areas brought into play were very well done.” **GCI**

Helen M. Stone is a freelance writer based on the West Coast and a frequent GCI contributor.



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By Katie Tuttle

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Instead of spending thousands on both removing dead brush and purchasing pine straw, The Club at Mediterra combines the two?

Imagine walking out to play a round of golf. You take your first swing...and your ball lands in the pine straw mulch. As you walk through it and try not to slip, you wonder to yourself why anyone would landscape with something that could be such a hazard to golfers.

The Club at Mediterra in Naples, Fla. has the solution. Frank Heery, the director of agronomy, has helped implement a program at the club that eliminates the need for pine straw mulch on the course. The best part? The program also has a large, positive environmental impact.

Pine straw is expensive, especially since it only has a six month residual. With Mediterra being about 40 acres, Heery guesses they were putting down upwards of \$200,000 a year.

"[I said] there's got to be a way to cut this cost," Heery says.

Mediterra is located near a housing community that is associated with 1,800 acres of wild growth. Because of this, a lot of pruning is required to keep the area maintained. The material from that (about 10 yards worth) was then hauled off-site.

One day, a man by the name of Robert Oleski stopped by the course. He had just started a new company, called Green Club Recycling. According to their website, the company "offers on-site horticulture shredding which may be used for landscape mulch or compost material." Oleski showed Heery a sample of the shredded product.

"It looks identical to pine straw," Heery says. "It would be safer for the golfer, and from a shot standpoint it works out better because it holds the ball up a little bit better."



THE SUSTAINABILITY ISSUE: COURSE

It's also less expensive. Mediterra has eliminated the cost of purchasing pine straw, and the previous cost of hauling the unused material off-site is roughly the same as the current cost to shred it. "We're saving \$100,000 a year," Heery says.

Mediterra has taken it a step further, now doing the same with a soil shredder. Any material that

is grass based and has soil, such as material from the beds, sodwork and grass clipping, are put into a bin and then shredded down to become composted soil. This summer they will use a manure spreader to topdress the rough.

"It should save us some fertilizer applications," Heery says. "We're fortifying the soil with composted material."

One problem Mediterra has run into so far is keeping the shredded material stockpiled. The material is kept in a 30-yard bin and Heery calls the company when the bin is full. Depending on thickness, the shredded material can cover half to a full acre.

Heery is hopeful that there will be a way to convince the community association landscapers to dump their material in the course's bin as well.

"You would be making a tremendous environmental impact because you'd be saving everything that comes off of the grounds and recycling it," he says.

Another problem is that currently, the course still needs to spray herbicides. Heery says they



Any material that is grass based and has soil with it is shredded down to become composted soil.

have a couple of ideas of how to fix that, but for now they still send guys around with sprayers.

"The next phase is to say, 'Alright, how do you get even more environmental and not have to get out and spray weeds,'" Heery says. **GCI**

Katie Tuttle is GCI's assistant editor.



The shredded material is stored in a 30-yard bin.



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