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PART 1 Getting Out the Word

About This Series

I've heard it and you've heard it: Future wars will be fought over fresh water. People aren't just being dramatic when they say this. They believe it's inevitable.

The golf course industry, of course, uses its share of fresh water to maintain turfgrass for playability and aesthetics as part of a \$65 billion industry. But golf courses are often targeted as water wasters.

Beginning with the following stories in this section, *Golfdom* embarks on a three-part series under the heading of "Water Wise" to delve deeper into this matter and educate superintendents and other industry personnel on several fronts.

Part One, titled "Getting Out the Word," reports on what the golf industry needs to do to get out the message to golfers and non-golfers alike that it uses water wisely. The story details how superintendents can change their image from water wasters to responsible irrigators.

Part Two, titled "Less Is More," goes on the premise that while most golf courses use water wisely, they can do more to be even better stewards. The story tells what creative things some superintendents are doing to reduce water usage.

Part Three, "Golf Course Irrigation in 2025," reveals what the future holds for golf course irrigation from environmental, technological and philosophical standpoints.

— Larry Aylward, Editor in Chief

Led by superintendents, the golf industry must change its image from water wasters to responsible irrigators. | [See page 28](#)

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You Can Make a Difference

By Kathy Conard

Because water use and quality are serious issues facing the game of golf today, Aquatrols, through its Water Impact Alliance, has recently begun to help golf course superintendents and others in the green industry to develop plans of action against negative press and strict water regulations through comprehensive public relations.

As environmental groups, the general public and the regulatory community become increasingly concerned and vocal about water use and quality, superintendents must speak up in order to protect their courses' water rights, ensuring that water regulators give their needs equal representation and consideration before any restrictions or conservation measures are mandated. The question is how do you do this? It is much easier than it sounds. In fact, some of you may already be participating in these water conservation practices, but you simply need to be pointed in the right direction on communicating your efforts.

First, you must prove your commitment to water and environmental stewardship by voluntarily implementing water conservation practices and integrating them into your daily maintenance regime. In addition to displaying your commitment to efficient water use, you are sending a positive message to state regulatory agencies and the general public. When you enhance your reputation as water-use experts and communicate that message, you



increase your chances of having an equal seat at the table when water policy discussions arise.

Second, realize that no matter how conscientious you are about conserving water on your course, golf courses are likely targets for criticism, particularly during periods of drought when neighbors are being cautioned to restrict water use, and they see sprinklers continuing to fling water across your course. If enough of these

ent to re-evaluate the water management and cultural practices on your golf course with the goal of being able to demonstrate responsible water use while providing quality playing conditions. As golfers and golf course managers, you owe it to the game to be good stewards of the environment and to educate those outside the industry about the importance and benefits of golf and golf turf. If properly done, the public and policymakers may place our industry a little higher on the

“When you enhance your reputation as water-use experts and communicate that message, you increase your chances of having an equal seat at the table when water policy discussions arise.”

neighbors and concerned environmentalists complain to legislators, the legislators can't help but listen—it's part of their jobs. And if the complainant's voice is louder and clearer than yours, it could kill your chances of negotiating a fair deal as water regulations, or any other political mandates for that matter, are implemented.

Third, do not be afraid to ask for help. Solicit the involvement of your general managers and owners as well as members. Good communication is the best tool you have for diffusing any problems. Keep in mind that the members who enjoy your course may be the best connections you can make to protect it.

No one knows what the future holds, but there is no better time than the pres-

ent to re-evaluate the water management and cultural practices on your golf course with the goal of being able to demonstrate responsible water use while providing quality playing conditions. As golfers and golf course managers, you owe it to the game to be good stewards of the environment and to educate those outside the industry about the importance and benefits of golf and golf turf. If properly done, the public and policymakers may place our industry a little higher on the

Conard is Aquatrols' marketing manager for turf and ornamental. If you have questions or want more information on Aquatrols products or the Water Impact Alliance, contact www.aquatrols.com or call Conard at 800-257-7797.



It's Time to Raise Awareness

By Michael Roberts

Rain Bird has built a reputation for delivering effective and efficient irrigation systems. We also feel it's our duty to encourage the entire irrigation industry — and the customers we serve — to use water responsibly. This commitment to The Intelligent Use of Water™ campaign is woven into the very fabric of our company, and it is at the core of our ongoing partnership with the team at *Golfdom*.

Through this three-part "Water Wise" series, Rain Bird and *Golfdom* hope to raise awareness of the issues surrounding the use of water on golf courses — from availability and cost to quality and consumption.

Over the next few months, we'll focus



on how the implementation of water-efficient practices and technologies can help superintendents positively impact the environment while still maintaining beautiful, healthy courses for their customers.

There are financial as well as ecological benefits to the responsible use of water. Simply put, promoting water efficiency is smart business for anyone who manufactures, installs, services or uses the products that rely on the Earth's limited water supply.

Irrigation is Rain Bird's only business. Every day we leverage state-of-the-art technologies to innovate and develop products and systems that exceed customer expectations by applying water in the most effective and efficient manner possible. Our efforts

“Promoting water efficiency is smart business for anyone who manufactures, installs, services or uses the products that rely on the Earth's limited water supply.”

have earned us not only the respect of the industry, but also the confidence and trust of our customers. That's why we support The Intelligent Use of Water in everything we do.

We hope that you benefit from the "Water Wise" series — and that you are inspired to educate consumers and your fellow irrigation professionals about our shared responsibility to use water wisely.

We welcome your feedback and comments.

Michael Roberts is director of golf irrigation for Rain Bird. For more information on Rain Bird's products or the Intelligent Use of Water campaign, contact www.rainbird.com.

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Getting Out the Word

Led by superintendents, the golf industry must change its image from water wasters to responsible irrigators

BY LARRY AYLWARD, EDITOR IN CHIEF

It doesn't matter if Mark Jarrell is in a deep sleep or his body begs him not to rise from his bed at 3 a.m. If a thunderstorm awakens Jarrell in the middle of the night, he will get up, put on some clothes and make the short drive to the maintenance facility to shut off his golf course's irrigation system. The last thing Jarrell wants to do is squander water on his golf course, the Palm Beach National Golf and Coun-

try Club in Lake Worth, Fla., where he is the certified superintendent.

"I'll drag my butt out of bed to come over and turn it off," Jarrell says.

Nobody would know if Jarrell elected to stay in bed. But he would know, and it would bother Jarrell if he didn't do the right thing.

Jarrell realizes that the freshwater supply is dwindling in this world, and he wants to do his part to conserve what is now being called a "precious commodity."

Jarrell is not alone. Not only do most golf course superintendents believe that it's environmentally wrong to waste water, they also know that applying too much is not good for the health of their golf courses or their maintenance budgets.

Ironically, just as nobody knows that superintendents like Jarrell will get out of bed to turn off the water in the middle of the night, few people outside the golf industry realize that superintendents strive to be responsible water users. In fact, many non-golfers believe that golf courses just turn on the sprinklers and let them run, not caring how much water they use as long as their courses are lush, thick and vibrant green.

"We're just too visible," Jarrell says.

Superintendents are bothered by the water-wasting perception, and they

realize it's time to fight the stigma. But what can they do? And where should they start to convey the message that most golf courses and their superintendents use water wisely?

There are several avenues to pursue to communicate the message. But superintendents believe that getting out the message should not fall squarely on their shoulders. They say they need help from their professional peers — including owners, pros and general managers at the local, regional and national levels — to spread the word.

Shawn Emerson, director of agronomy at the Desert Mountain Club in Scottsdale, Ariz., believes people in the golf industry shied away from talking about water use in the past because they didn't want to bring up the issue for fear of being attacked by environmental groups. But now it's time to step up the message. "I think we need to be a little aggressive," Emerson adds.

And the message needs to be consistent — that is, superintendents, owners and pros need to be on the same page, says Greg Lyman, director of environmental programs for the Golf Course Superintendents Association of America. "[The message] also needs to be communicated to many different segments of our community — golfers, non-golfers, legislators and environmental advocacy groups," Lyman adds.

Plenty to say

Superintendents have a variety of material to communicate their message that they are efficient irrigators. It's just a matter of organizing that material and executing a plan.

Mark Esoda, certified superintendent for the Atlanta Country Club, says it's high time that superintendents step up to execute that plan.

"Superintendents are really good at the group hug and patting themselves on the back," Esoda says. "But we're not good at standing up and saying, 'Do you know what? We were green before green was even popular.'"

Esoda is doing his part to get out the message. Thanks in part to him, superintendents are considered irrigation experts in Georgia. Esoda spearheaded an effort by the Georgia Golf Course Superintendents Association to enact Best Management Practices for irrigation, a move that has benefitted the golf industry's image statewide. It wasn't an easy task and it took several years to accomplish, but 246 of the 256 Georgia GCSA member properties stepped up to participate in surveys that documented their water use and irrigation-reduction practices.

Participating golf courses disclosed how they effectively used irrigation systems, new grass varieties, wetting agents and plant growth regulators to use less water. They also documented

their usage patterns and areas where they decreased irrigation during the 2007 drought, including how they discontinued the practice of overseeding to save water resources.

The Georgia GCSA partnered with the Georgia Environmental Protection Division (GEPD) in the project, and their relationship has blossomed into one of respect. So much so that during the 2007 drought throughout the Southeast, Georgia superintendents were given leeway during a level-four water restriction. The GEPD knew enough about superintendents and their irrigation practices to realize that superintendents would use water as sparingly as possible.

"[The GEPD] has realized we were not the water abuser they thought we were," Esoda says.

Word of the Georgia GCSA's effort made it to the mainstream media. Under the headline, "Water Conservation Par for the Course," The Atlanta Journal-

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Mark Jarrell is one of many superintendents bothered by the water-wasting label.



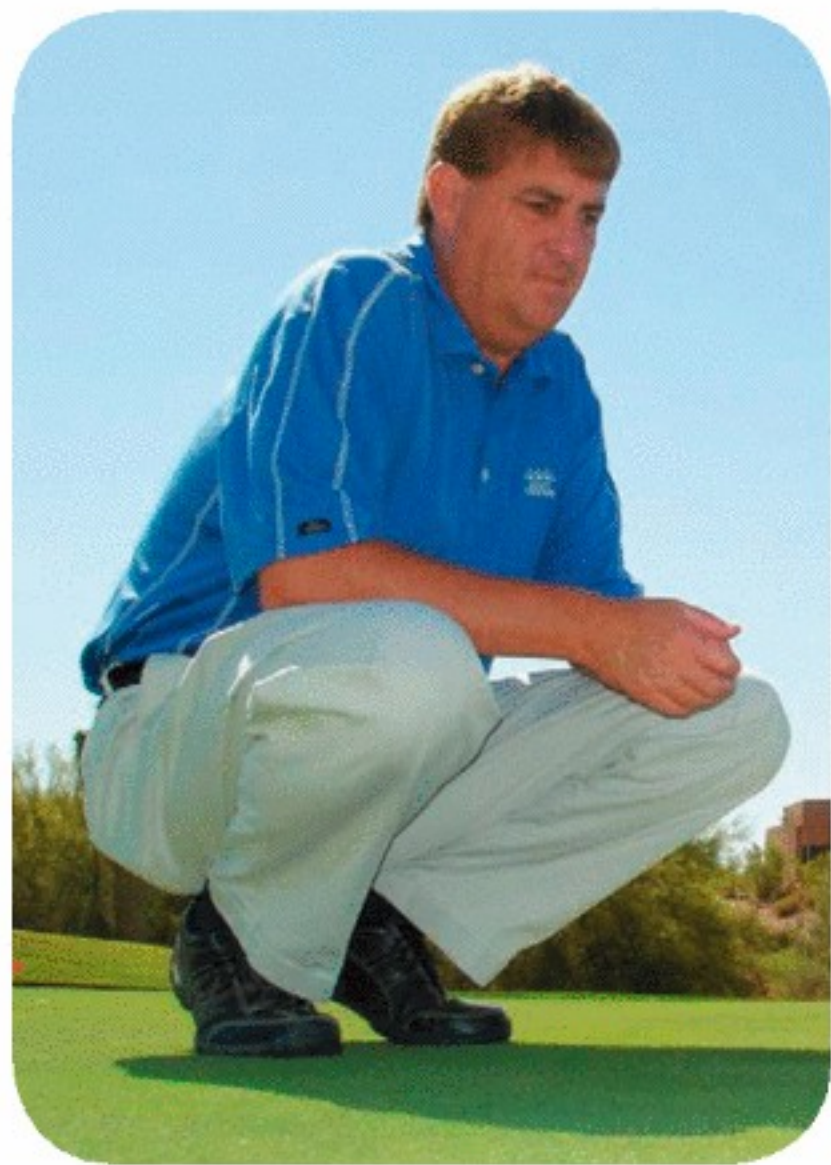
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Constitution reported on the Georgia GCSA receiving a commendation from the governor for the organization's water conservation efforts.

Esoda and the Georgia GCSA continue to take their message to the public. Esoda says the Georgia GCSA is telling its story to water councils, environmentalists and the general public.

"We're targeting them with a public relations campaign," he says. "We want to bring them out to golf courses to show them that we don't waste resources like water."

Esoda says the association also wants to hire a public relations firm in Georgia to create "a fun and edgy message." The Georgia GCSA also plans a Georgia Golf Saves Water Day next year to promote golf courses as efficient water users.



Superintendents shied away from talking about water use in the past, says Shawn Emerson, director of agronomy at the Desert Mountain Club. They can't afford to be shy now.

“The mainstream media in Southern California has printed more stories about more golf courses using reclaimed water for irrigation, which has helped educate the public.”

Lyman says the Georgia GCSA has created a meaningful best management practice document for other chapter associations to adopt. "It's a fantastic template for all of us to follow . . . and should be energizing to other states," he adds.

Other golf courses have solid environmental stories to tell about their water use. For instance, the Broken Sound Club in Boca Raton, Fla., is implementing a massive \$13.5 million reclaimed water project, paid for by the city. For years, the city of Boca Raton has been dumping about 6 million gallons of treated wastewater into the ocean, which has been a waste of money and resources, says Joe Hubbard, the club's director of golf course maintenance. Much of that water will now be directed to Broken Sound and used for golf course irrigation, among other things.

"This means we won't be pulling water out of the aquifer anymore," Hubbard says. It also means the golf course is using wastewater that was previously dumped on the ocean's coral reefs. "The environmentalists should love that," Hubbard adds.

In parched Southern California, regulatory agencies have newfound

respect for superintendents as wise water users, says David Davis, an irrigation consultant based in Crestline, Calif., and immediate past president of the American Society of Irrigation Consultants. But superintendents have helped their own cause by educating regulatory officials about golf course irrigation, Davis adds, noting that those same officials are also participating in educational sessions at various conferences to learn about golf course irrigation.

The mainstream media in Southern California has printed with stories about more golf courses using reclaimed water for irrigation, which has helped educate the public about their water use, Davis notes.

"Superintendents are like farmers — they won't use any more fresh water than they have to because it comes out of the profit picture," Davis says.

Going local

If the message of superintendents as responsible water users is going to be successful, it must be pitched at the local level, says Chuck Green, director of golf operations at Sage Valley Country Club in Graniteville, S.C.

Going local with the message means that superintendents are at the forefront of communicating it, Green says. They could do this locally by holding media days at their courses or making presentations at local government meetings.

"People will listen to you more if you're right there with them," Green says.

Green likes the idea of a media day, where reporters can talk to "the people who are pulling the trigger on letting the water fly," he says. But depending on which medium they're addressing, superintendents would have to make their message succinct. For instance, that message would have to be brief



Time for Superintendents to Get Out in Front of This Topic

The mainstream media loves to haul out the dirty laundry. But newspapers, magazines, television and radio enjoy stories that offers "good" news, too.

Considering the environment is a hot topic these days, golf course superintendents would be wise to get on the offensive in regard to the topic to tell their stories about the "good" environmental initiatives they're doing at their courses. Watering wisely is under that category.

Maybe this means these superintendents should make presentations about their irrigation tendencies at city council meetings, which reporters often cover, to get the word out that they're not wasting water.

Maybe it means they should invite the press to their courses for a media day. They can provide the press with lunch, offer everyone a polo shirt and tell them how watchful they are not to over-irrigate for the sake of their communities and the environment.

It's time these superintendents step forward and dispute the public's assumption that all golf courses waste water.

— Larry Aylward

and to the point if a superintendent was speaking to a radio reporter. But a superintendent could speak more in-depth about water use if a newspaper or magazine reporter was interviewing him or her.

Lyman suggests that four or five courses within a local chapter unite for a media event to discuss the proactive approach they take collectively to irrigate efficiently.

"If we can just peel back a couple layers of the onion and show people what we have and how we operate, I think they would be amazed at the level of technology and control we have with irrigation systems, especially when you compare that to other irrigators, such as home lawn systems," Lyman says.

The first group of people to be targeted locally should be the people with the power to regulate the resource, says Mike Hughes, executive director of the National Golf Course Owners Association. "I would hone a very tight message to them to show a couple of things: one,

that we don't waste resources; and two, that there's a tremendous societal benefit from the use of the resource in a golf context," he says.

Regarding the latter, industry people agree golf courses also need to send the message that the water they use is for good reason — to provide recreation and generate revenue to local economies. The golf industry, after all, is a \$65 billion industry.

Hughes predicts there will be heavy competition between freshwater users in the future and that golf courses must prove their worth to get their due.

"How do we best position ourselves to win the competition for the resource?" Hughes asks. "We have to work with the regulators and the legislators and educate them so they understand the issue and understand how golf works in that context."

Whether it's a local or national message, Lyman says superintendents can use new GCSAA data that proves superintendents are responsible irrigators. In its report, "Golf Course Water Use and Conservation Study," the GCSAA reports that golf courses use about 1.5 percent of all fresh water dedicated to irrigation nationally. Golf courses use 0.5 percent of total fresh water consumed.

The NGCOA also recently issued a special report entitled, "Troubled Waters: Golf's Future in a Thirsty World," that urges golf courses to act proactively in face of the freshwater shortage.

"We conducted the study because we think golf is a little vulnerable in this issue," Hughes says. "We needed to shore up our position."

Hughes says some golf course owners have been slow to realize the issue's importance. "Like a lot of things in life, unless it's something that's biting at your heels right now, it's something you can easily put in the background and not think about too much," he says.

The PGA factor

Earlier this year at the Golf Industry Show in Orlando, professional golfer Greg Norman told reporters that the PGA Tour could help educate people about golf and its role in the environment during its television broadcasts. In fact, Norman, who is a board member and the past chairman of the Environmental Institute for Golf (EIFG), said the EIFG talked to the PGA Tour about having golf television announcers, including Gary McCord and Ian Baker Finch, wax about golf's role in the

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Thanks in part to Mark Esoda, the certified superintendent of the Atlanta Country Club, Georgia superintendents are considered irrigation experts.



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environment during weekend broadcasts. Obviously, this would be an excellent opportunity to get out the message to viewers that superintendents are responsible water users.

"We have to get networks and the mainstream media behind this," Norman says.

Superintendents have an ally in Norman, who says golf courses "get a bad rap" for using too much water. So you can bet he's spreading that message to the right people when he gets the chance.

Sage Valley's Green is all for the PGA Tour helping the cause. Not only can announcers and professional golfers drive home the point that superinten-

dents are responsible with their water use, they can also make the point that a little brown on a golf course from lack of water isn't so bad.

"People listen to what the PGA says," Green adds.

Green also says a PGA Tour player could get involved, possibly through a sponsor, to help superintendents convey the message. Being a superintendent, Green says he would like to believe that people would listen more to a superintendent than a touring professional on this matter. But with no offense to his peers, Green says a pro would be a bigger draw.

Longtime superintendent Cal Roth, vice president of agronomy for the PGA Tour, says he would love to see his employer get more involved in getting out the message. Contrary to what many golfers and non-golfers might believe, Roth says television stations don't direct the PGA Tour to "green up" its courses for televised events.

"I've done hundreds of tournaments, and I've never heard a director or producer come to us and say that we need the golf course greener," he says. "We try to get by with as little water as we can leading up to the tournament."

Roth says he would welcome the opportunity to be a television spokesperson to spread the message that



Greg Norman says golf courses "get a bad rap" for using too much water. "We have to get networks and the mainstream media behind this," he adds.

“The message that superintendents and golf courses are responsible water users must be more than a one-shot deal. A once-in-every-10-years campaign isn't going to help much.”

superintendents are responsible water users. In fact, Roth says he plans to bring up the idea to the PGA Tour's communications department.

"I would look forward to that opportunity," he says. "It would be fantastic."

A prolonging effect

The message that superintendents and golf courses are responsible water users must be more than a one-shot deal. A once-every-10-years campaign isn't going to help much.

Industry people agree the message must be conveyed repeatedly. Rick Slattery, superintendent of Locust Hill Golf Club in Fairport, N.Y., says a recurring message is necessary so it has time to take hold.

"This isn't going to be like flipping on a light switch," he says. "The message has to be repeated and repeated and repeated. That's how you drive home a point."

Only then will it be a point well taken. ■

Did You Know . . .

1.5%

of all fresh water dedicated to irrigation is used on golf courses.

0.5%

of the nation's total fresh water is used on golf courses.



In Their Own Words: Why Superintendents Use **Water** Wisely

BY LARRY AYLWARD, EDITOR IN CHIEF

Joe Homeowner, the guy who irrigates the concrete sidewalk along with his lawn, doesn't hesitate to point his finger at golf courses for wasting water. But golf course superintendents say Joe Homeowner should point his finger at himself.

"I can't tell you how many times I drive by people's residences and their sprinklers are running while it's pouring down rain," says Chuck Green, director of golf course operations for Sage Valley Country Club in Graniteville, S.C.

Green, on the other hand, turns off his irrigation system when he sees the dark clouds coming. And he says he keeps it off until his course's turfgrass needs a drink.

"Superintendents are one of the most responsible groups around when it comes to water consumption," Green contends.

Many superintendents, Green included, resent being labeled as water wasters by golfers and non-golfers alike. Most superintendents agree that the majority of their brethren are responsible irrigators. Sure, there are some superintendents who admit to watering away to achieve the greenest and lushest

turfgrass possible. But most superintendents say there are too many reasons to apply water responsibly, from doing the right thing economically to doing the right thing environmentally.

"I believe superintendents overall are diligent about being good stewards when it comes to water use," says Mark Jarrell, the certified golf course superintendent for Palm Beach National Golf

and Country Club in Lake Worth, Fla. "Why wouldn't they be?"

Jarrell quickly answers his own question with a list of reasons why superintendents do not over-water:

- They don't want to create disease problems.
- They don't want to waste money — from the cost of the water itself to the cost of the power used to irrigate.
- They don't want to attract bad press.

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"We're just not pushing buttons and letting the sprinklers run," says Chuck Green.



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"It's just not in any superintendent's best interest to waste water," Jarrell says.

Joe Hubbard, director of golf course maintenance for the Broken Sound Club in Boca Raton, Fla., says golf courses are easy to pick on because they are so visible.

"[Golf courses] take up such a large area," he says.

And golf course irrigation heads are more widespread, which give people the perception they use a lot more water.

But what those blamers don't understand is that those irrigation heads are running on 20-minute cycles, Hubbard says. And they don't realize that the courses with the big irrigation heads might not be watering with fresh

water at all. If it's in Florida or Arizona, there's a good chance it's effluent water. "People blame golf courses all the time," Hubbard says. "But they just don't get it."

Shawn Emerson, director of agronomy at the six-course Desert Mountain Golf Club in Scottsdale, Ariz., says some superintendents are under pressure from their members and their employers to use more water to green up courses because "green sells."

"But most superintendents want to use less water," Emerson adds. "Agronomically, using less water is better."

Longtime superintendent Cal Roth, vice president of agronomy for the PGA Tour, says most superintendents realize that too much water causes poor play-

ing conditions. "I think everybody in the business who's striving to produce quality playing conditions is going to work to keep the amount of water they put on the golf course to a minimum," Roth says.

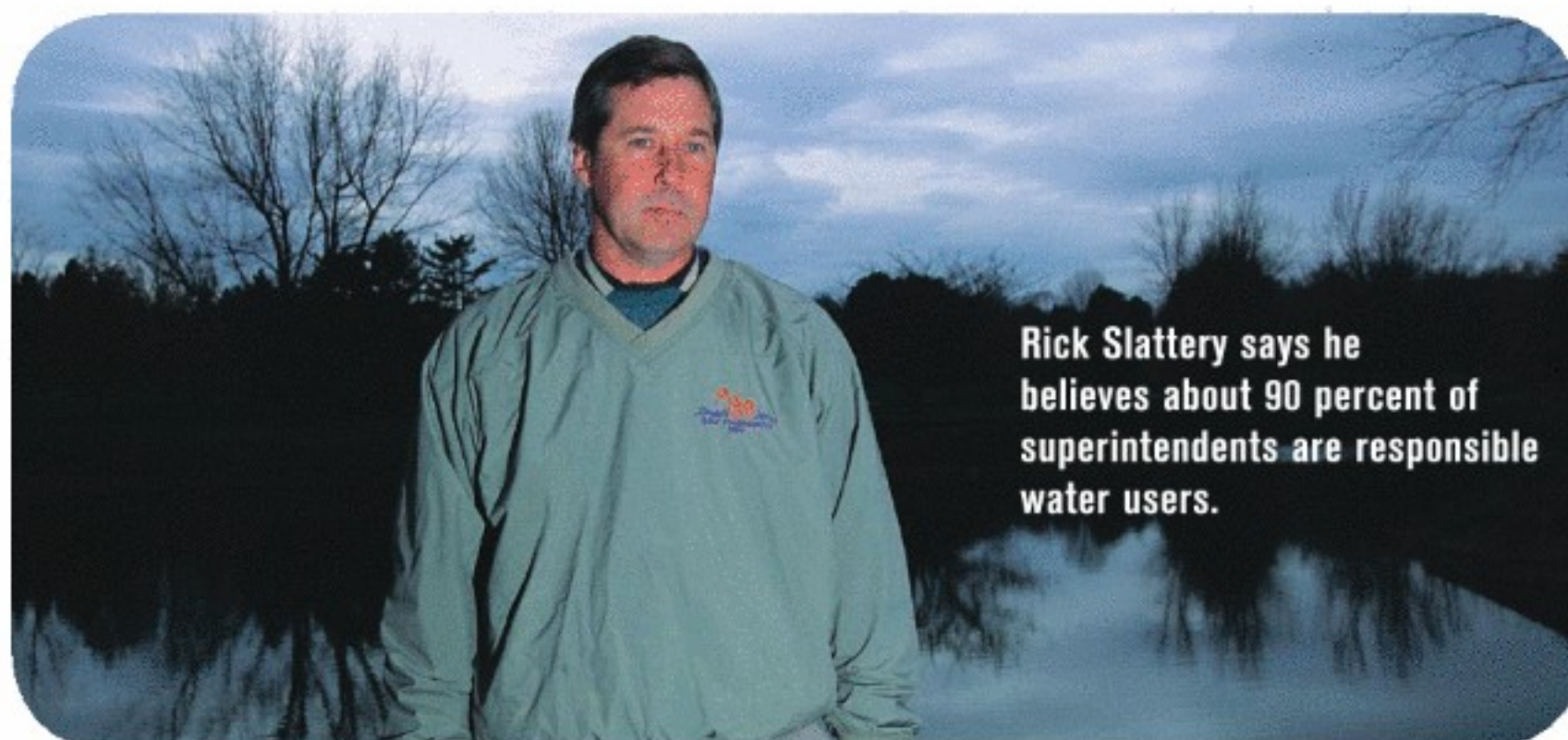
Case in point: At Sage Valley, Green says his maintenance staff hand waters areas so they don't waste water. "We're just not pushing buttons and letting the sprinklers run," he adds.

Rick Slattery, superintendent of Locust Hill Country Club in Fairport, N.Y., says he believes about 90 percent of superintendents are responsible water users. The other 10 percent are under pressure to over water from members or golfers or they are just inexperienced about irrigation, Slattery adds.

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Rick Slattery says he believes about 90 percent of superintendents are responsible water users.

Greg Lyman, director of environmental programs for the Golf Course Superintendents Association of America, says statistics prove that most superintendents are efficient irrigators.

According to "Golf Course Water Use and Conservation Study," a recent study conducted by the GCSAA, golf courses use about 1.5 percent of fresh water used nationally for irrigation. Golf courses

use 0.5 percent of total fresh water.

Lyman cites the increased cost of water, especially in the West and Southeast, as good reasons for superintendents to use as little as they can. "It behooves those superintendents to be careful with the resource because it's just good business," he adds.

It troubles Jarrell that the critics don't realize that the almost 1,500 golf courses in Florida use only about 3 percent of the state's fresh water. On top of that, Jarrell says much of the water put on the golf course makes its way back into ponds and ground water. Yet, golf courses continually face water restrictions in south Florida.

"I'm collecting water that's being filtered and cleaned," Jarrell says. "I'm part of the solution." ■

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23%

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