

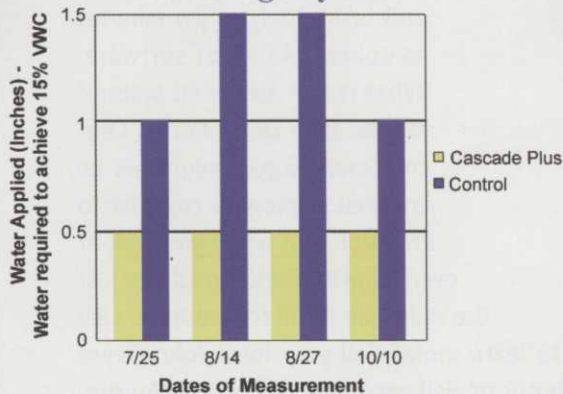
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There's a spot for a new controller on your course. How will you fill it?

Fact is, this used to be an easy answer. There were only a few choices in irrigation system controllers, and more or less they performed roughly the same. Well, that has changed quite a bit.

The demand for increased water conservation, more flexibility, and better efficiency has led to dramatic breakthrough technologies, and many new options.

So what used to be a routine decision isn't. (And, of course, irrigation controller technology isn't something most of us stay as up-to-date on as say who's at the top of the leaderboard at a PGA TOUR event, or who was just voted off the island last night.)

So where to go from here? That's the million-dollar question. Literally — the right controller system can have that much of an effect. First off, don't just consider the brand. Instead, look at capabilities too. If you do, you'll discover your choice is simpler than you might think. Because there are significant differences. For instance, there's a control system that can offer much greater precision (to the second instead of the minute) in setting rotor run times. Why is this important?

Because shaving seconds of program run time can save hundreds of thousands of gallons of water over

a year. Sometimes as much as 40% in total power and water costs. This same system also allows any controller to act as a central control for all the rest. Why does this matter? It's

a huge time saver if you operate without a central, or during a renovation. Instead of having to visit each and every stand-alone controller on the course, you can just go to one. (Or simply hook one up to a maintenance radio and control them all. Or even better, connect one to the internet with a modem, and manage the whole irrigation system from anywhere you can access the internet, like the clubhouse—or perhaps the couch in front of your TV at home.) Then, there's the question of how easy the controller is to upgrade in the future—as more and more sensor and web-based technology comes online. Here again, the answer is simpler than you might expect. Only one control system is totally software-based. Which means upgrading is just a matter of connecting the controller to a laptop and taking only a few minutes to upload the latest software. What is this advanced system? It's the John Deere Aurora Control Series. Sure it might not be the first name you consider in irrigation, but when you look at everything it offers, it might be just the right one to fill the position. Like to learn more? Call your local John Deere Golf distributor or visit www.JohnDeere.com/Aurora.



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JOHN DEERE
GOLF

THE PRICE IS RIGHT

(continued from page 42)

That's not the case for the Kensington Metropark Golf Course in Milford, Mich., which is wrapping up an irrigation renovation this month. The facility benefitted from a dry construction market this spring.

Paul Dushane, golf course superintendent for the parks authority-owned golf course, is grateful the facility didn't go through with its irrigation renovation last year. It was put out to bid last August and bids came back much higher than expected.

"Copper was high and it was also a time when contractors had jobs, so they weren't hungry for work," Dushane says.

Based on advice from vendors and consultants, Kensington's decision makers opted to hold back on the project until spring.

The difference in the price tag was "shocking," Dushane says.

"It was around \$1.2 million down to about \$850,000 just for the installation of sprinklers and pipe," he says, noting that the pump house renovation was completed last year. "We saved almost \$400,000."

Kensington's system was designed in-house by former superintendent Mike Brahm-Henkel, who's now an engineer with the parks system. Waterford, Mich.-based Marc Dutton Irrigation is the contractor.

"We couldn't be happier about the deal we got," Dushane says.

The private, 27-hole New Richmond (Wis.) Country Club recently overhauled its 23-year-old irrigation system to a new, double-row design.

Though golf course superintendent Tom Johnson says the club didn't meet the window of opportunity for excellent pipe/fitting prices, he believes the facility benefitted from the slow construction market.

Though Johnson says it's difficult to determine a dollar figure for how much the club saved by squeezing into the prime time for building, he says one indicator is the quality of contractor that won the project.

"Contractors – not only irrigation but also golf course builders – looked at their businesses and said we can go after these smaller projects," he says. "They had to do some adjusting."

"I consider Leibold one of the best, and at the onset we didn't think we were going to get them," Johnson says, adding the club's total project cost about \$800,000 (not including a

pump station). "But we did – it was a fair bid, but it was the low bid. It was just right for this golf club.

"As it turns out, I think we did a pretty good job of timing everything."

TIGHT PURSE STRINGS

Despite excellent prices on irrigation construction, observers report there's a hesitation to move forward with projects – even at financially healthy golf facilities.

In Phoenix, Kaye estimates, 70 percent of golf facilities are hurting and 30 percent are doing well.

"Even for the third that aren't hurting, the perception that things are bad is making them keep a tight grip on purse strings," he says.

At private clubs, many members have had their personal stock portfolios battered.

"That has a psychological effect on how they want to spend money, even the club's money," Kaye says.

Municipal golf facilities are taking a hit because their tax revenue is collapsing.

"When you're losing teachers and police, you're not going to redo a part of your golf course – that's politically untenable," he says.

Wilson is seeing the same trend. "There are some pretty high-profile clubs that can easily do any scope of work on their course and already have the plans and funds in place to do the project but have backed away because it's just not the prudent thing to do right now as perceived by the membership during these times of economic uncertainty.

"No doubt that's understandable and commendable," he says. "But on the other hand it can be argued it's not being prudent business-wise and not the best use of the membership's money when bypassing great opportunities and value when the times offer it and then paying significantly more for the same service and product later on."

A rocky economy didn't stop Wichita Falls (Texas) Country Club from moving forward with its renovation plans last year, says Nathan Neumann, golf course superintendent.

It's a good thing because he believes his club benefitted from excellent pricing during its irrigation overhaul, which was part of a greater renovation completed in December by Wadsworth Golf Construction Co.

Though the club hadn't previously priced out the project to compare what it would have cost several years earlier to what it actually paid – \$3.5 million for the whole project with \$1.3

million going toward the irrigation upgrade – he believes the timing was right.

Neumann worked with architect Steve Wolfard and Christensen, who served as the irrigation consultant on the project, to keep a close eye on industry trends and current pricing.

"It was a team effort on our part to educate the members and effectively communicate that it was a good time to do a renovation," he says.

The result is a happy membership that has felt the sting of the recession, but not as badly as other clubs.

"The renovation has helped," Neumann says. "We've picked up a few new members, which is positive because it's balanced out a few that we've lost due to the economy."

WHEN WILL PRICES GO BACK UP?

Kaye says irrigation contractors have been strapped for a solid year, and he expects the situation to remain this way for at least six more months.

Kevin Plageman, principal in West Coast irrigation consulting company Zellers-Plageman, expects it to take longer. "The prices are so low right now and it's the time to get great construction prices, but purse strings are tight."

Though he's not sure how long commodities prices will remain low, he expects aggressive bidding among contractors to remain.

"I'd say it'll be this way for a couple of years," he says.

"That's just my opinion, but I think it'll be this way until real estate turns around. Especially in California, which is overbuilt [with golf courses], many of them are closing down, or converting from 36 to 18 holes."

Both Leibold's Boyer and LU's Wilson expect the construction market to improve moving into 2010 with the disclaimer that consumer confidence will play a major role in how it bounces back.

"We're seeing a little more activity coming on line this fall and more into next year as we receive requests for proposals for those times," Wilson says. "But confidence in the economy and a little more flexibility in bank lending will have an impact on that."

Christensen expects the prime pricing window to close in the next four to six months.

"Commodities and whole good are going to go up, availability is going to go down," he says. "People who are trying to make good business decisions need to focus on the fact that this really is the time to buy." **GCI**

War on algae

Superintendents struggle to keep their ponds clean, even with aeration, biological strategies and hand removal in their arsenals. By David McPherson

The list of specialized knowledge a superintendent needs to maintain a golf course keeps growing. Not only must superintendents understand agronomy and manage the inner workings of growing turf, but for those whose courses include water hazards, they must also understand how to manage ponds.

Ponds are not only a hazard for golfers, but these bodies of water present a host of problems for superintendents. High levels of nutrients from Canada geese droppings, fertilizer, septic systems and other sources

In 2006, Keller Golf Club in St. Paul, Minn., implemented a native shoreline restoration program on the pond that sits between the tee and green on its 15th hole. The buffer zone has helped the algae problem, but duckweed continues to be a nuisance.



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often cause algae problems, which are aesthetically unappealing, smell and, if not treated properly, often lead to other concerns, such as creating a breeding ground for insects.

When maintained properly, ponds add to a golfer's experience. As Paul Scenna, superintendent at Beacon Hall Golf Club in Aurora, Ontario, says, "We're in the business of looking good."

Superintendents struggle to find the right solution to keep these ponds looking good, especially in tough economic times when many course managers are faced with shrinking operating budgets.

Since turf comes first, managing ponds is low on the priority list. As this problem persists, some facilities have begun allocating specific funds for pond management. Superintendents estimate the average cost to manage a pond effectively is \$5,000 per year per pond, minimum, but it depends on the size of the pond and the scope of the problem.

Many superintendents have tried everything, including aeration/fountains, bioaugmentation (adding bacteria cultures or compounds like

alum), hand removal by raking, cutting, etc. and biological strategies (adding grass carp or dyes to the pond).

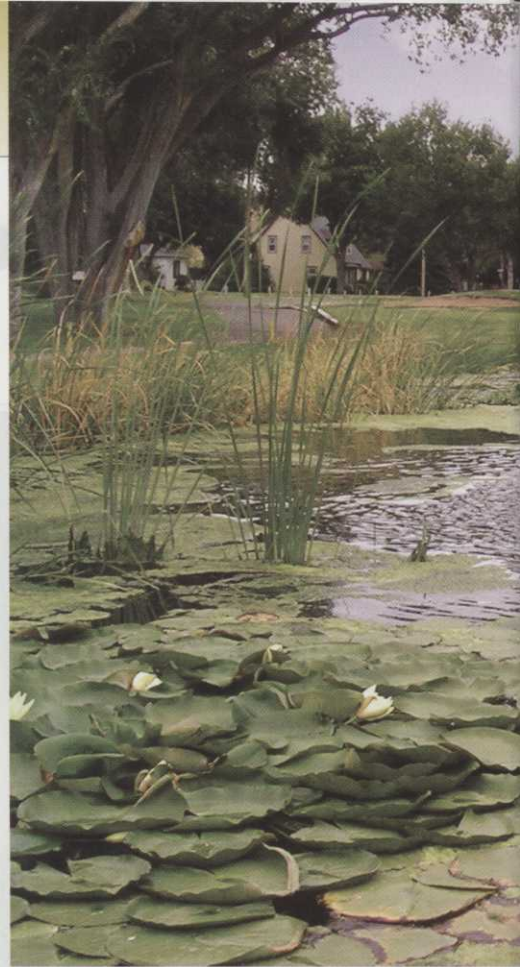
While each of these strategies provides a temporary stopgap, none completely solve the problem.

"I wish I could say these practices have provided us perfect water features, but the quest for high-quality ponds is a continuous struggle," says James Beebe, golf course manager at Priddis Greens Golf & Country Club, a private course outside Calgary, Alberta. "We've won some battles but the war isn't going well."

Thankfully, there are experts in this growing field to help superintendents win this war.

Bernie Hertzman is one of these specialists; he operates AMA Sales, a pond-management business in Toronto. The 53-year-old is a lifelong golfer who had an epiphany about seven years ago while he was chasing the little white ball.

"I was paying a lot of money to play at various courses and seeing gigantic globs of algae all over ponds," he recalls. "The season ended and I said to one superintendent, 'You have a



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Golf courses commonly add aerators and surface fountains to ponds to improve circulation and mitigate algae problems.

lot of algae in your pond, is there anyone in this business?' He said no. I looked into it and one thing lead to another. I got really involved and studied what algae is, what water is, to better comprehend what superintendents faced."

Today, he services ponds at many of the private and public courses throughout the Toronto area, including Glen Abbey Golf Course, host to the 2009 PGA Canadian Open. He takes a strategic approach to pond management, customizing the solution for each course and for each pond.

"I sell a pond service," he explains. "It's a yearly service. With all the heavy restrictions we have these days, there are a number of reasons why algae happens. The No. 1 reason algae

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exists is because of phosphorous nitrogen. I offer a service of adjusting the water, balancing the water properly without any miracles. I use a liquid organic product and have the tools and knowledge, but it's more about working with the superintendents."

The vast majority of ponds on golf courses exhibit what Hertzman calls the "beach" scenario. The ponds have not been dug down deep

enough on the edges, so the slope is too gradual and the water is as little as 2 or 3 inches deep at the shore. When the sun hits the shallow water, it helps anything under the surface grow.

"In this case, you don't need chemicals, you don't need to blow the pond up, you just need to dig that out and clean the sides up," Hertzman explains.

Keller Golf Club in St. Paul, Minn., offers

a good case study. As a certified Audubon Cooperative Sanctuary, the course tries to minimize its use of pesticides, including aquatic herbicides.

For years, superintendent Paul Diegnau struggled to find the right solution to manage his ponds. Since he came to the course 13 years ago, he's tried many techniques, with mixed results.

"We have five ponds on the property ranging in size between 0.75 and 0.1 acres," Diegnau says. "Three of the ponds are original to the 1929 design and have trees in the vicinity. Leaf drop in the fall adds tremendous amounts of organic material and phosphorous to these surface waters, which tends to overwhelm the aquatic system and results in heavy accumulations of bottom muck, or loon shit as it's called in these parts. Muck levels vary between 1 and 3 feet in depth and the ponds are less than 5 feet deep. This excessive bottom sediment is a never-ending source of phosphorous."

When Diegnau arrived at Keller, all turf was mowed to the water line. In his second year, he decided to create grass buffer strips around the water features. Buffer zones can have physical characteristics (such as varied height or pockets of shrubs) that serve as a point of reference for where a player's ball tends to enter the water. Native plants contribute to the overall habitat value of the property. In Diegnau's case, the buffer zone initially helped improve the water quality and the look of the pond, but the algal blooms were still a problem.

Next, the Diegnau installed surface fountains in four of the five ponds; they were ineffective and eventually removed. Over the next five-plus years, Diegnau experimented with biological control products.

"I tried many different products on the market with limited success," he says. "I tried doing alum applications in house, but never achieved the results we experienced years previous. I experimented with pond dyes also, but the watershed district frowns on this method due to its effect on submergent vegetation. By this time the filamentous algae outbreaks were diminishing in severity and duckweed was increasing. Duckweed is much more tolerable visually and our mallard and wood duck populations thrived."

In 2006, in conjunction with his local watershed district, Diegnau implemented a successful native shoreline restoration program on the 0.75 acre pond that sits between tee and green on its par-3 15th hole.

"Approximately 2,700 native prairie plants and 700 wetland plants were planted," says

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Diegnau. "Then, in 2008, a cedar split-rail fence was added for visual appeal and to keep golfers out. This area is now one of the focal points of the golf course and the water quality is good. Duckweed continues to be the primary nuisance weeds, but it's kept in check most of the summer by the duck population."

This year, the superintendent is planning to restore another pond shoreline on the 6th hole. Prior to planting, Diegnau is investigating the feasibility of vacuuming the muck off the bottom. He says estimates the price of this job at \$3,000 to \$4,000 for a 0.2 acre pond, depending on the depth of the muck.

Other options he's considering include: experimenting with a bottom bubbler system in one of his deeper ponds and looking at floating vacuum systems that collect floating plant material and pump it to land.

EVALUATING BIOAUGMENTATION

Bioaugmentation, the process of adding bacteria cultures to form compounds, is a new business. Hertzman is leery of these services. "I compare the golf course pond business

now to the bottled water industry when it first launched," he says. "One day Perrier came out and the next day every food broker was offering bottled water and was an expert. Everyone claims to be a professional offering new bacteria for your pond water, but what people don't understand is these are products developed by golf distributors who don't care about what they are – it's just a product line in their gamut of products they try to sell while hitting the super to buy fertilizer.

"There's no effective biological/enzyme in the marketplace in North America anywhere registered that is really effective to cure algae problems," Hertzman adds. "It's not a hoax, but people are presenting these products as a natural substitute for harsh, toxic chemicals – throw your products away and use this natural stuff. In reality, it is a slow digestive – it breaks down small amounts of algae at a slow rate, but in the enzyme world, enzymes become dormant within a 72-hour span therefore you have to repeat that process endlessly."

Other techniques superintendents have tried include: dying ponds and introducing carp to

eat the algae. Again, these provide short-term solutions, but are not long-term cures.

"The reason people dye the ponds or use carp is because it's a simplistic solution," says Hertzman. "The reality though is it just covered up or masked the problem. Dying ponds shades the surface area of the sunlight, but it can't penetrate all the way down to the bottom of the pond, so the weeds just keep growing. Carp can only eat so much and the more they eat the more they excrete acidic poo."

So, what's a superintendent to do with no clear-cut solution in sight?

"Every pond is different," says Hertzman. "It's important, no matter what strategy you choose, to look at the root of the problem, rather than just reacting to the surface algae.

"You may get rid of the surface algae, but it doesn't do anything to eradicate what is going to come back up," he says. "You need to take a strategic approach and find the solution that is right for your course." **GCI**

David McPherson is a freelance writer based in Toronto.

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