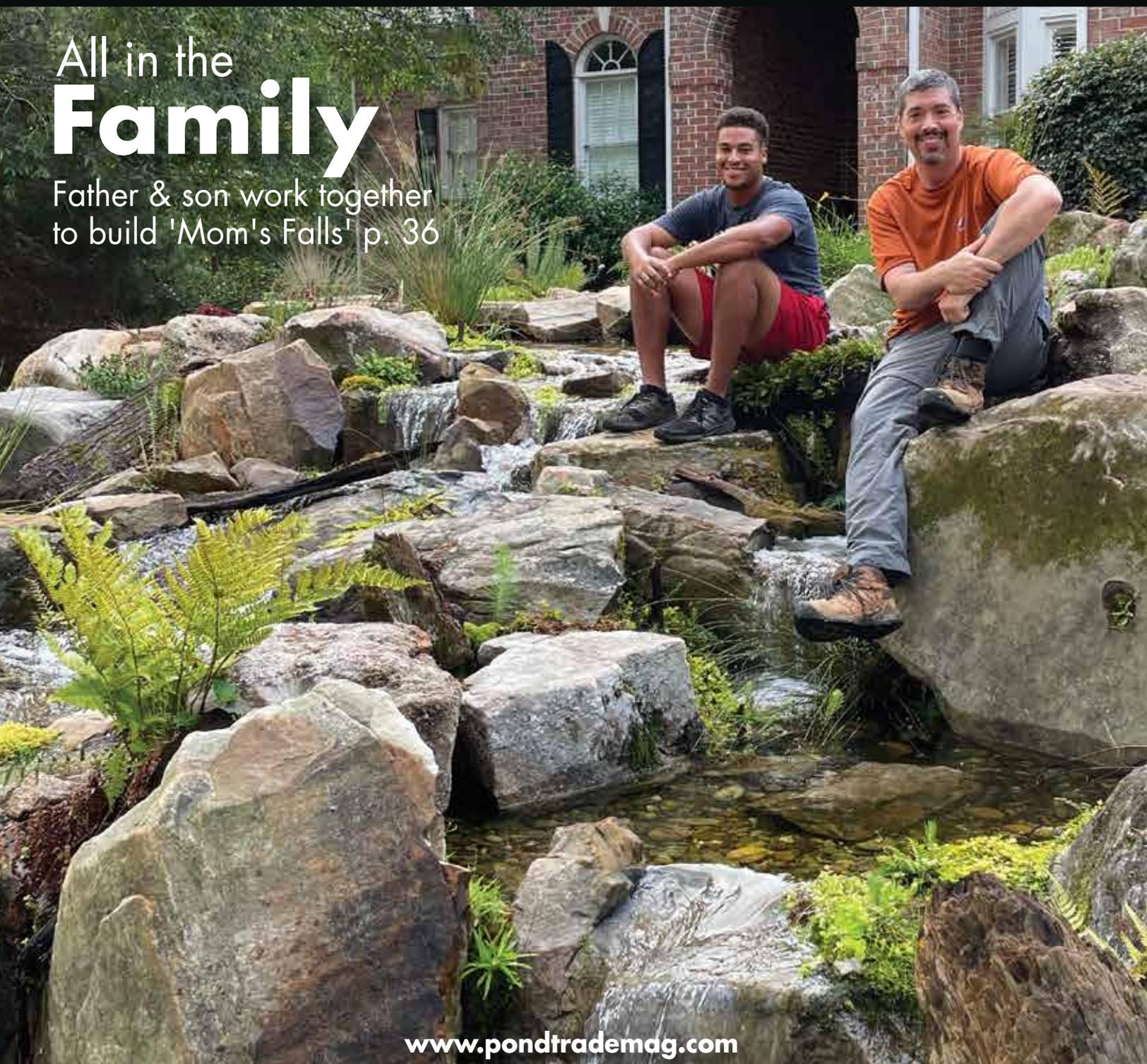


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Father & son work together to build 'Mom's Falls' p. 36



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8

FEATURES

8 The Crown Jewel of Renovations POND CONSTRUCTION

Daniel Upsher had a golden opportunity to renovate and rehabilitate a beautiful 150-foot-long, formal-style rill in southern England. Today, the feature doubles as an ecosystem pond with pristine water quality and a flurry of natural activity.

15 Make it Official

Building water features is a simple transaction, right? Do a good job, and you'll get paid. Well, not exactly, as **Mark Gibson** warns. Not all customers have good intentions. It's important to protect yourself and your business in the form of a simple contract.

20 The Commercial Break

When **Mark Giordano & Amber Swain** took over an existing company three years ago, they focused on building relationships with commercial clients like housing developers and homeowner's associations. To date, the reward has been massive.

26 In the Clear

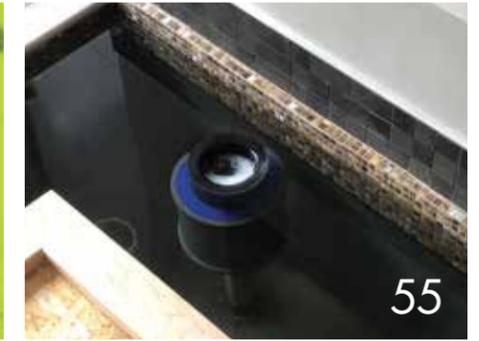
Atlantic|Oase's **Demi Fortuna** dives beneath the surface of large-scale water feature filtration to explore the pros and cons of undergravel systems before testing them out in the extreme climate of Mexico.



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36 All in the Family

John Magyar mobilized his son and nephew to help build "Mom's Falls," a large-scale waterfall project in his front yard that serves as a tribute to his late mother.

43 Speaking the Language of Koi LANGUAGE OF KOI

We feature a new "Language of Koi" segment in every issue — but what exactly is meant by this phrase? **Carolyn Weise** takes a stab at explaining koi terminology in the context of a client's trip to Japan.

49 Peril in the Pond

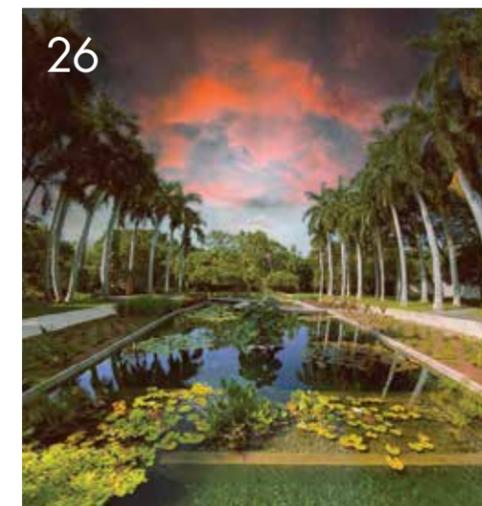
Pond water the color of pea soup could be an indicator of the presence of harmful algae blooms, as **Jim Kennedy** explains. Educate yourself and your colleagues on this potential health hazard for fish, humans and pets.

55 Tea Time! BEST POND PRACTICES

After a short hiatus, **Kent Wallace** is back with a new segment of Best Pond Practices. Take a trip to a traditional Japanese-style tea room complete with a stunning, serene formal koi pond.

60 Show and Tell

We caught up with a few of the 2021 Water Artisans of the Year winners. Check out their testimonials and get inspired to enter the 2022 contest!



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Upcoming Events

2022

July - August (5 Saturdays)
Turtle Crawl Water Garden Tour
 Kansas City Water Garden Society
 Various locations
www.kcwatergardens.com

August 24 - 28
IWGS Symposium
 Naples, Florida
www.iwgs.org/symposium

August 27 - 30
Pondemonium
 Q Center
 St Charles, Illinois
www.aquascapeinc.com

October 19 - 20
Your Pond Farm Tradeshow
 Barto, Pennsylvania
www.yourpondfarm.com

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Hardscape North America
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www.hardscapena.com

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PONDTRADE™

STAFF

Publisher
 Lora Lee Gelles 708/873-1921
llgelles@pondtrademag.com

Editor
 Jordan Morris
jmorris@pondtrademag.com

Advertising Sales
 Lora Lee Gelles 708/873-1921
llgelles@pondtrademag.com

Graphic Design
 Gelles Graphics
llgelles@comcast.net

Accounts Receivable
 Lois Spano
lspano@pondtrademag.com

Web Editor
 Grant Gerke
ggerke@acceleratedcontent.com

Printer
 Sutherland Printing
 Montezuma, Iowa

For your
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 see our
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Publisher's Perspective

It's a Family Affair

Family with a capital F! (Hopefully you noticed our cover and didn't immediately open the issue to read my column first.) What a great experience John Magyar and his son Elijah had working together to create a memorial pond and waterfall for John's mother. What a



priceless time to bond with your son and also learn from the experience. Pond building is such a great trade to share with your children and develop the next generation of pond artisans. Check out our cover story on pg. 36.

And, as you can see from the photo at left, I've become a GRANDMA since I last wrote my column. My son and daughter-in-law welcomed Miles Edward Gelles into the world in May 2022. I'm looking forward to sharing

my pond with Miles when he is old enough to look for frogs and touch the fish!

This issue has loads of good articles that will help you wade into the summer season. Mark Gibson wrote an informative article about customer contracts that every pond builder needs to read. It's so important to get all the details down in writing and get it signed before you set foot in a customer's yard. You won't want to overlook the essential things Mark includes in all of his contracts on pg. 15.

We are also featuring our first-ever commercial ponds article in this issue. Starting on pg. 20, Mark Giordano and Amber Swain tell the story of their company, Pond Elegance, and how revenue really picked up after they launched a commercial pond side of their business.

I also enjoyed Demi Fortuna's lengthy article on pond filtration (pg. 26) and Jim Kennedy's profile on cyanobacteria and toxic algae blooms (pg. 49). Finally, let's all welcome back Kent Wallace, who is BACK with a new segment of Best Pond Practices. We've been waiting almost two years for the construction of Kent's client's tea house to be completed, and we are thrilled to finally run the article on pg. 55. What a beautiful undertaking!

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With a rocky base, this feature has sloping sides that lead up to a belvedere.

| **Pond** Construction |

The *Crown* *Jewel* of *Renovations*

Ecosystem pond build brings formal feature back to life

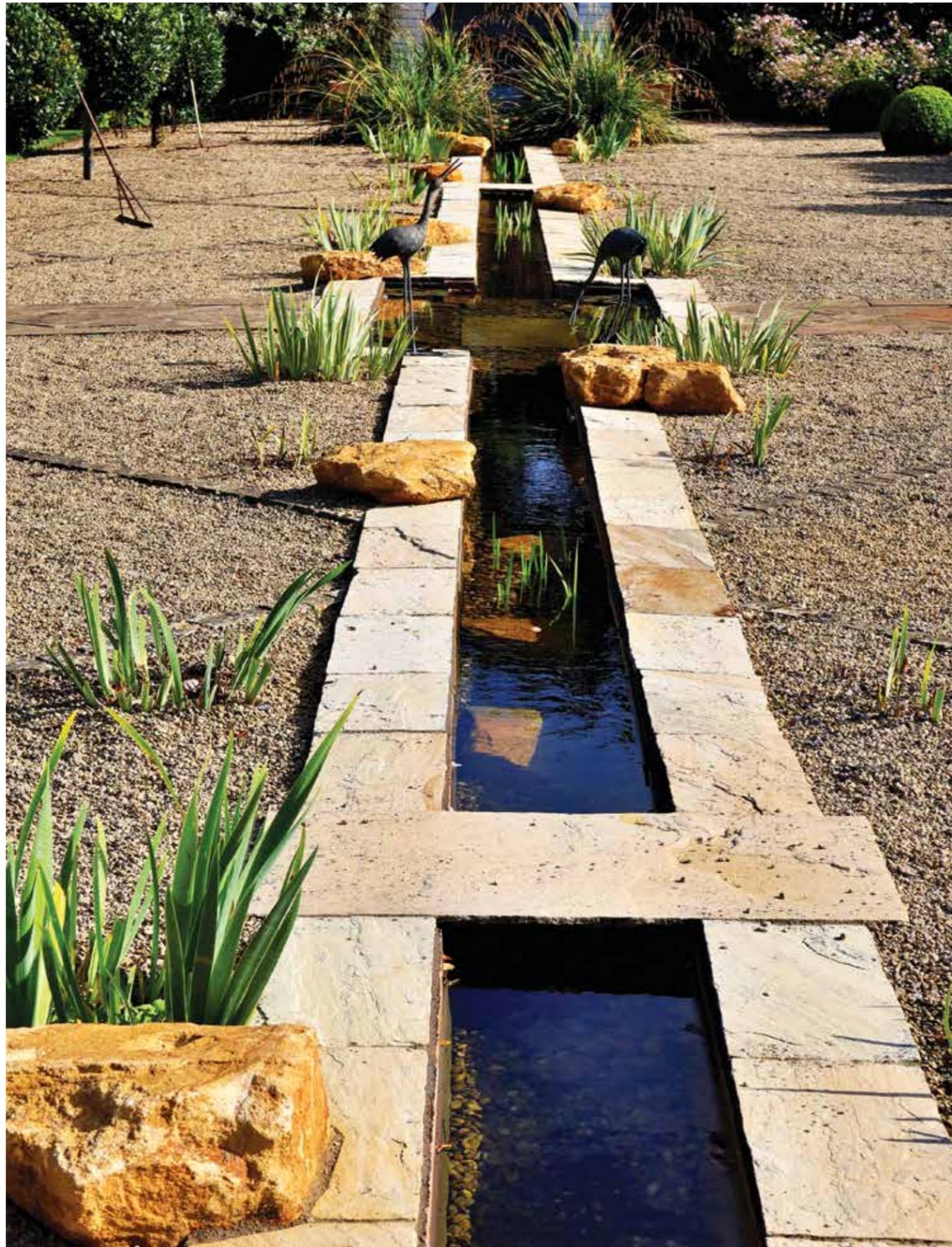
by **Daniel Upsher,**
DU Waterscapes

Helen and Derek inherited a beautiful 150-foot-long, formal-style rill and pool complex with their home in Somerset, England, which overlooks their formal terraced garden and out to the rolling hills beyond. With a belvedere to the side of this lower terrace overlooking the rill and view, they wanted to bring this water feature back to life as a safe haven for animals while retaining some of the formal styling appropriate to the architecture of their home.

With advice from another pond company, they had added aquatic plants. However, without addressing the leaking sides and inefficient pump, it hadn't worked, leaving the water covered in blanket weed and starved of oxygen. This was their last attempt at reaching out to create a watery haven before they were ready to abandon the project and use it as a flower bed.

A Natural Twist

With DU Waterscapes on site, I soon came up with an exciting idea of how they could bring a natural twist to this



An oversized constructed wetland was created at the head of the rill to act as the kidneys of the system, cleaning and oxygenizing the water to keep the quality and clarity at their desired level – pristine!

formal feature as well as add a natural filtration system aided with some products that would help combat the issues with blanket weed, all with minimal maintenance. By practically applying sciences from my master's degree in freshwater habitat enhancement and restoration along with the technologies developed by Aquascape Inc. for their ecosystem ponds, we began to transform the defunct system into a uniquely formal and naturally managed system.

On a hot week in June 2020, our team at DU Waterscapes started work to bring this project to life. An oversized constructed wetland was created at the head of the rill to act as the kidneys of the system, cleaning and oxygenizing the water to keep the quality and clarity at their desired level – pristine! The water rises through the different layers of filtrations, each with a high surface area so that beneficial bacteria can thrive on the organic waste.

This oxygenated water keeps anaerobic bacteria, such as those that create blanket weed, to a minimum. Plants with high nitrogen-absorbing roots were planted to further enhance the clarity of the water while also creating perfect homes for bees and dragonflies. Large stones were used to channel the water through the wetland and down into the rill, which was newly lined with slabs each cut to size. We laid them the full length of the feature to hide any unsightly black liner.

Eco-enhancement

The now crystal-clear water flows down the 50-foot rill channel and is

pushed along by circulation jets so that the water stays aerated and clear through to the central pool, which is known as the Lily Pool. With specially made planting pockets, small water-lilies cover the surface in summer and create dappled shade below. This provides shelter for animals such as frogs, a resting place for damson flies and a heavenly scent as you journey over the central stepping stone to cross the garden.

The water continues its journey through the second stone-lined rill before entering the final pool. This once formal end has now become a wildlife haven with its rocky base and sloping sides creating the perfect habitat for frogs and newts. There are lots of nooks and crannies for animals to hide, rocks for birds to perch and drink and plantings for bugs to feed on.

Maintenance is easy, as there is a skimmer where all the water with any floating debris is pushed, making an easily accessible place to remove dead leaves and other organic matter before it sinks and rots. With the large debris removed, the water is pumped back up the length of the rill to the wetland, where it can return to be cleaned multiple times a day. Helen and Derek wanted this rill to be as low maintenance as possible, so they chose to also have an auto-doser and Ion-gen system installed. These two systems automatically add beneficial bacteria and copper ions to the water throughout the seasons to help keep any remaining blanket weed at bay and keep maintenance to a minimum throughout the year.

Opposite page: The newly lined rill leads to the central Lily Pool and its decorative metal herons.



In the before photo (top, left), green water leaks out of the rill. The wetland's easy-to-clean Aquascape Centipede and Snorkel (bottom, left) are shown during construction. Locally sourced Hamstone (top, right) was handpicked from the quarry. The completed gentle stream (bottom, right) guides crystal clear water into the rill.

Helen and Derek finally had the wildlife haven they wanted in this formal setting, which they can enjoy from both the house and the belvedere with minimal maintenance.

Colors Abound

To bed this rill into the surrounding gardens, accent boulders were placed throughout the length of the water feature, increasing in number toward the ecosystem pond as it blends from formal to natural. DU Waterscapes also added a higher density of aquatic planting to enhance the visual aesthetic of the feature while adding further biodiversity to the side. We worked alongside the original scaled terrestrial planting plan, which had Dutch Iris grading in color from ice-white by the wetland to white-mauve before becoming solid purple and ending at the ecosystem pond with an almost black flower. Dan added a specimen white flowering *Zantedeschia Aethiopica* in the wetland to contrast with the new superb *Iris louisiana* 'Black Gamecock'

in the ecosystem pond, with pinks and purples continuing down the length between.

Helen and Derek finally had the wildlife haven they wanted in this formal setting, which they can enjoy from both the house and the belvedere with minimal maintenance. They have joined DU Waterscapes' Very Important Pond (VIP) Maintenance package, which ensures the filters and dosers are working at their best and gives it a deep drain down and clean every other year to help keep the water at the highest clarity possible.

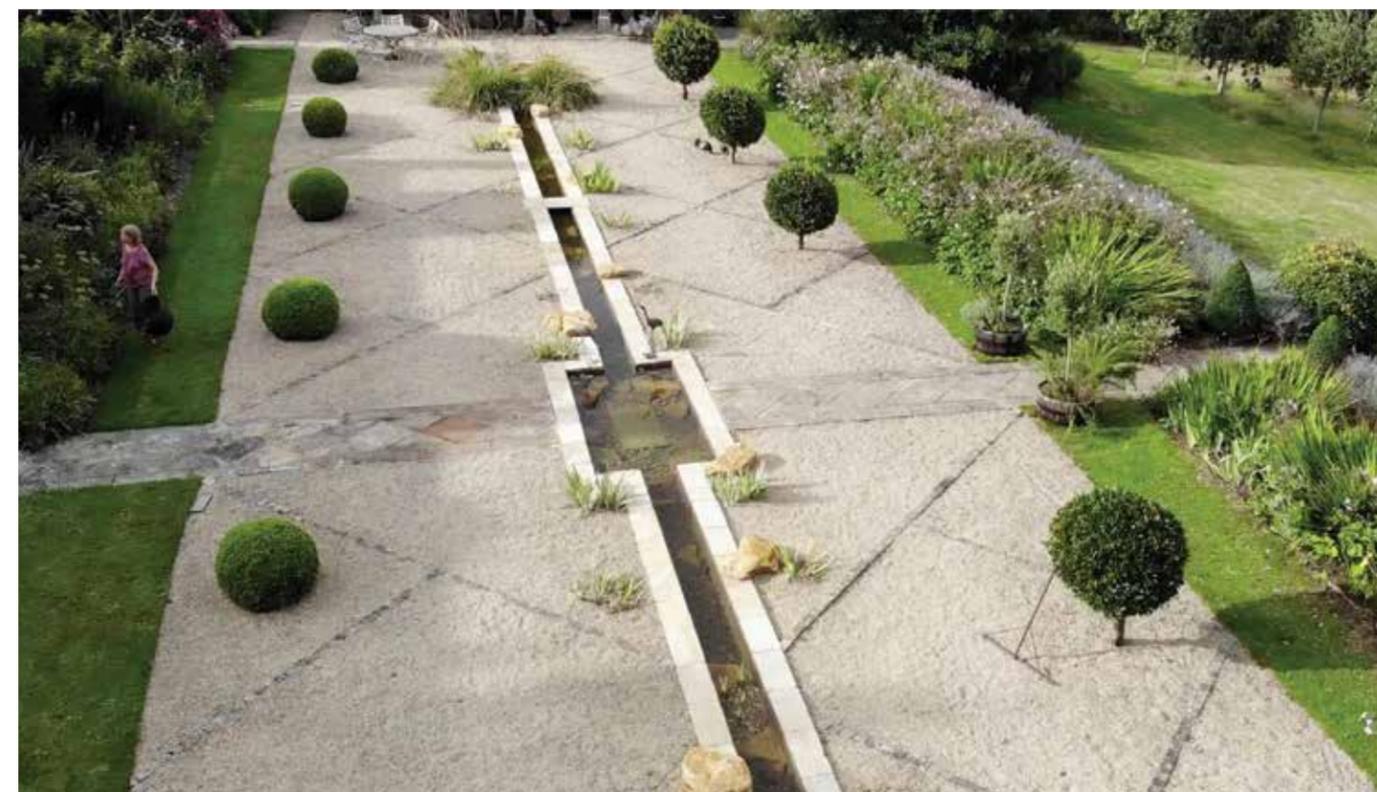
The customer said it best. "Dan and his team came and completely refurbished a large rill and pond project in our garden. They were professional and knowledgeable throughout, and we have ended up with the most beau-

tiful natural stream and pond system that we and our garden wildlife are just loving! Thank you, Dan and Matt, for all your hard work, advice and attention." ☞

About the Author

Daniel Upsher

has always had a keen fascination for wildlife, ponds and wetland areas. With a bachelor's degree in aquatic zoology and a master's degree in aquatic habitat management and restoration, he is well equipped to create and maintain safe havens for both aquatic and terrestrial species. His company, DU Waterscapes, is based in England and integrates innovative and unique designs and technologies in its ponds and water features for clients who relish the opportunity to have a piece of nature in their own gardens.



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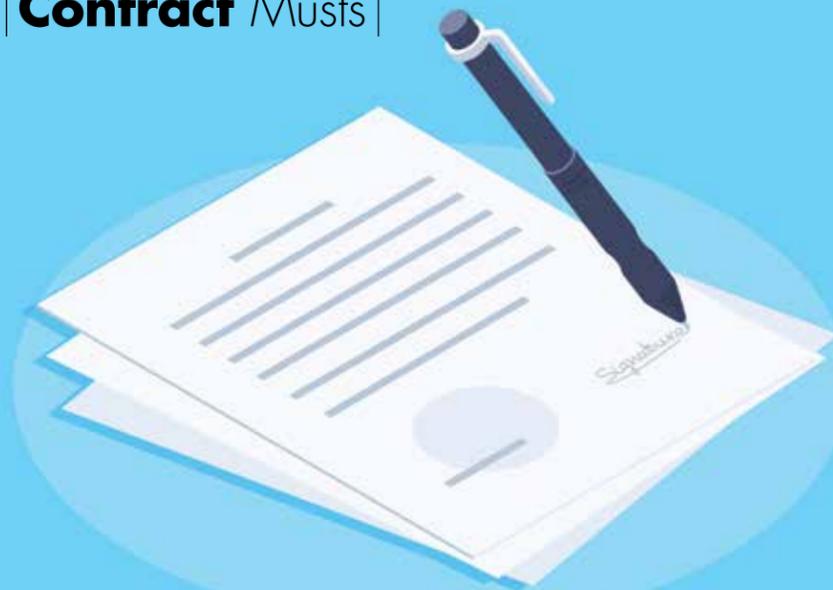
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Contract Musts |



Make it **Official**
Protect your business with customer contracts

by **Mark Gibson,**
Green Thumb

The first time I built a pond, I thought it was magnificent. I charged what I thought was a fair price. Unfortunately, it leaked. The water turned green. There was no skimmer box or waterfall box back then, so I had to improvise. I can't tell you how many times I went back to work on that work of art. But now, when I look back at all the mistakes I made, my head hangs in shame, as I really did not know what I was doing.

Today, I get up every morning, drink coffee, work, do a good job and get paid. I have been in business since 1974. I have a very good reputation and, until more recently, have only had to hire one lawyer to handle my parents' estate, as we had to go to probate to settle the loose ends. My father once told me that if you look a man in the eyes and shake his hands, you

will have no problems with the job. There is no need to bill until the end of the job. Well, times have definitely changed.

Law & Disorder

In 2017, Act 808 came to be in the Arkansas legislature. It stated that any landscaper had to give notice that they would be sued if they did not pay for the work and materials provided. This means that any work done from any electrician, painter, plumber or whom-ever would be free of charge if the contractor did not make the client sign this piece of paper.

So, what is the easiest way to lose money? Find out that the legislature just passed a bill that states that if you don't have the client sign a contract with certain language, they don't owe you a dime.

Grab a glass of water because this is going to be a dry read.

Case(s) in Point

Years back, I hired an attorney to represent me in a lawsuit brought by a customer who did not want to pay his bill. He hired a very expensive lawyer who knew the law. Unfortunately, I hired a wet-behind-the-ears, \$250-per-hour lawyer who was referred to me by a \$350-per-hour lawyer. I signed a contract with them stating that I'd use them for my representation. I was told not to talk to the client who brought the lawsuit.

Unfortunately, my lawyer, who was not privy to how lawyer tricks are played, hardly checked on my pending case. The presiding judge was a known acquaintance and referred the case to another judge, who did a summary judgement without us ever going to court. My lawyer had five days to appeal, starting the day the judgement was signed, which was on a Thursday. The following Wednesday, the case was dismissed, and I lost the

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suit. Essentially, my attorney was outplayed. I ended up paying for not only an entire landscape job and pond build, but also my attorney's fees and the opposing attorney's fees as well.

Then in 2019, I was contracted to install a pond for a wealthy client. I gave them a written estimate of the size and price. They gave me a verbal go-ahead to do the job. However, we were delayed because the utility marking company found a live cable running right through the pond area. I took it upon myself to call the cable provider several times to be assured they would move the cable, but no one showed up. Finally, I found out that only the homeowner could make the call. This took two weeks to find out and another week to have the cable moved. So far, payments from customer totaled \$0.

I went to the job site and marked the outline of the pond again in white paint. The customer then stated they wanted the pond moved a little — about 4 feet from the house. So, I moved the outline and started digging. After getting the hole dug, it rained, then rained, then rained some more. We finally found an afternoon to go and pump out the pond and drop in the underlayment and liner. The customer came out and stated that we hadn't moved the pond far enough, even though he had given us an exact distance to move it, and even after we had painted the area, and even after they had agreed to the location.

We had to install a block wall and move the pond back another 2 feet. As time moved on, the pond was enlarged to the customer's revised specifications, thus including a larger pump, filter, UV light, more rock — and now plants had to be ordered and installed. They decided they wanted additional landscaping and lights, along with drainage around the perimeter.

Finally, six weeks after we broke ground, the customer's wife came back from a two-week trip to Paris

and was thrilled. She posted on Facebook that it was the dream of a lifetime, and my company had made it come true. I sent them a revised bill detailing all the items we put in the pond, along with the additions of a rock wall, lights, 200 yards of sod, 50 flats of mondo grass, several large expensive shrubs between the patio stone we installed, and all the other landscaping we did. So far, payments from customer totaled \$0.

I heard nothing for five weeks until a FedEx envelope showed up with a letter from a law firm stating that I had not made the customer sign a form saying they should have to pay for the work I had done. In fact, the customers stated I'd done damage to their property, showing construction photos that I had personally taken during the build. Bear in mind, I had received no calls from the customer — no emails, no communications. Just a law firm letter stating that we had damaged their property.

The long and short of this is that between attorney's fees and the loss of six weeks of labor and materials, I forfeited \$55,000. What did I do wrong? I had shaken hands

What's Included in a Good Contract?

- The customer's name, address, billing address, email and phone number
- The full scope of the work, including the work I will not do
- The full price of the job, with progress payments due at specified times. Once I show up, I expect a down payment for materials. Once the hole is dug and the liner goes in, I expect a second draw. At this point, I have 90% collected, so if they balk, I can walk away having recovered my cost of materials and labor. If they don't pay on time, I walk away.
- Plainly state that all materials belong to you until the final payment is made.
- If you hit a buried line, such as a water line or sewer line, it must be repaired by the customer at their expense. I remember Eric Triplett asking what would happen if I hit a buried pot of gold. To whom would it belong? The customer always says it would belong to them — then, so would the busted line!
- State that there must be room for your vehicles to park at the location. You must be allowed access to the job.
- Demand that if there is any legal action, you are to use a verifiable arbitrator. Try to avoid having lawyers and judges involved in conflict negotiations.
- State that there is no time limit for finishing the job. You have no control over whether it rains 30 out of 45 days at the job site.
- State that you are not responsible for any work other contractors or the owner has done.
- Put in a paragraph with uppercase, bold letters that states that if they don't pay, you will file a lien on their house and sell it on the courthouse steps for payment.

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with this man and looked him in the eye. He seemed honest and lived in a half-million-dollar home. His well-known insurance agency had four locations. However, I didn't have a contract in place that stipulated the payment process — a progressive pay schedule, what I would and would not do, and the consequences of him not paying me.

Lessons Learned

What did I learn from this? There are laws, but there is no justice. When you enter into halls of justice, you should find the most experienced lawyer you can and make him sign your contract to fully represent you. I promise you, he will bill you for every minute, every postage stamp and every phone call he makes. After all, good attorneys are worth the money. Cheap lawyers are where the good lawyer jokes come from.

So, what do I do now? First and foremost, I make clients sign a contract,

including a provision that if they want any changes, there must be a signed change order. Do I do this on every job? If the price is less than \$1,000, I might forgo it. But if I feel like they are not to be trusted, I do make them sign a contract and initial every paragraph. If they don't sign, I've not lost anything but a little time.

I am willing to share my latest contract with anyone who wants a copy. This is tailored for Arkansas, but you can change the heading and any verbiage you desire to fit your state. Simply email me at mark@greenthumb-blr.com and put "contract" in subject line, and I'll fire off a copy to you.

Now for the best part — I've named a fish after the lawyers who worked for the other team. Plecostomus are our algae-eating fish. When people come into the fish house, I generally recommend these fish as "lawyer fish" — bottom-feeding, scum-sucking fish. The customers generally always laugh and buy a few! 

About the Author

Mark Gibson is a lifelong horticulturist. After he realized that chopping cotton was not the life he wanted, he went to college and earned a degree in computer science. He has been active in the retail garden space since 1974, when his family purchased a small garden center with the Green Thumb moniker. In 1995, he started a retail division devoted to ponds, fish and water plants. He is an enthusiastic gardener who, along with his sister, owns and operates Arkansas' only exclusive water garden center. They have a combined 80 years of retail, horticultural and aquatic experience.



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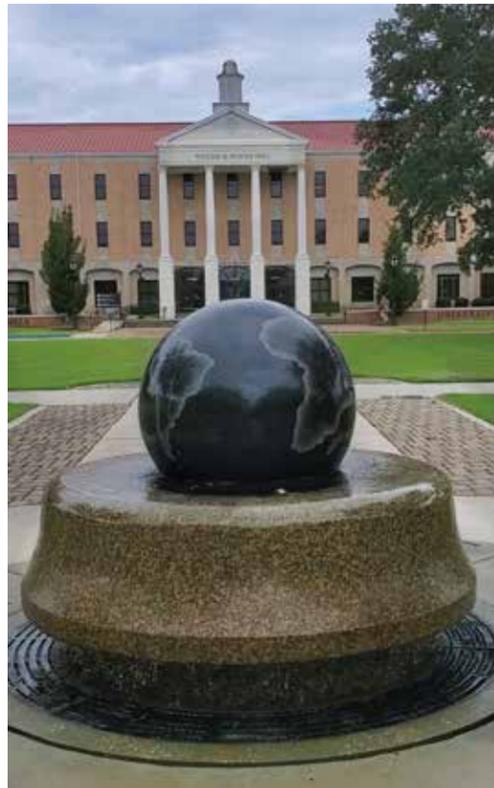
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| **Commercial** Builds |

The Commercial Break

Building for businesses can boost revenue streams

by **Mark Giordano and Amber Swain,**
Pond Elegance

After multiple owners, 36 years and hundreds of pond builds, Pond Elegance has earned its place as a leader in our industry. Since 1986, our company has been providing residential pond and water feature owners with koi, goldfish, plants and other supplies, along with design, construction and maintenance services.

We took over the business in April 2019, and we were aware that we had a legacy to uphold. We came into ownership with the idea that we would offer our customers a higher standard of care, which had recently dwindled. Our goal was simple. In addition to serving our loyal residential customers with reliable and consistent maintenance and service packages, we would also offer a consistent presence and operating hours. It was important for us to be there for our clients when they

visited our 1 ½-acre property and its 12 water features, or when they called on us for our extensive knowledge. We immediately created a presence on social media and ultimately caught the right attention of residential clients along with a new client base.

The Business Angle

When we had met this initial goal, we sat down with our team to brainstorm new opportunities.

Our technical manager reminded us of a project that was built by Pond Elegance years before our leadership change. Cornerstone Gardens and Arboretum is home to a privately owned koi pond, lotus pond and other fountain features. Our relationship with them has been fortified with regular and consistent maintenance. That commercial build is like a planted tree that bears fruit for us to continue to collect.

From there, we set our goal to do more commercial work with the potential to establish ongoing relationships similar to this arrangement.

While our residential design and installation business is our bread and butter, it can be inconsistent, with inclement weather and supply issues. Maintenance and service income, whether residential or commercial, is a

The types of projects targeted for public spaces by neighborhood developers and businesses offer us new builds with a strong possibility for long-term residual income.

more consistent residual income.

Ultimately, residential and commercial clients both want to experience the tranquil sound of water flowing. The types of projects targeted for public spaces by neighborhood developers and businesses offer us new builds with a strong possibility for long-term residual income.

Building Bigger

Development home builders are using water features in ways that just aren't possible for residential customers. Their projects tend to be much larger in scale. A much smaller percentage of commercial clients use koi and goldfish. They want more showpieces and fewer habitats. The work they commission has to include a wow factor with fountains, waterfalls and higher quality materials.

These commercial clients add water features to their community entrance signs to create visual focal points. Developers are also using large-scale fountains in community centers,

adding an air of luxury to public spaces. Ponds and waterfalls of significantly larger proportions to residential ponds are serving as neighborhood gathering and social spaces. These builds produce a steady revenue stream throughout the project.

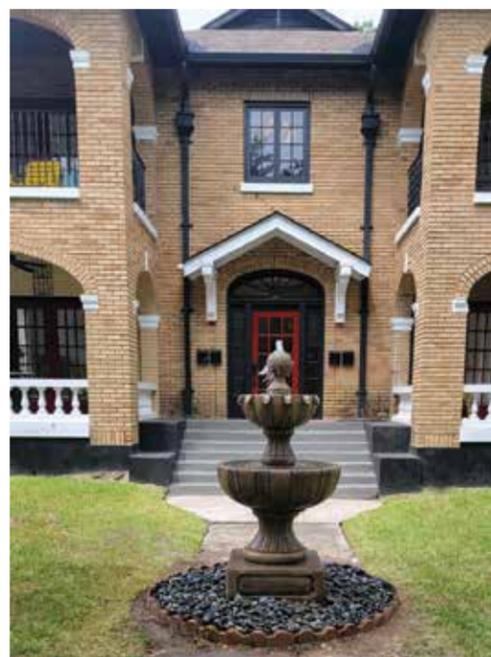
Housing Developers

Like with Cornerstone Gardens and Arboretum, development projects tend to become maintenance clients that are easy to work with. Our commercial clients are some of our best customers. Unexpectedly, they are a great referral source to us as well.

Specifically, D.R. Horton, a prominent home construction company

Opposite page: A floating globe (top) spins in the quad at the University of Mobile. The Courtyard at Condé-Charlotte Museum (middle) is the gateway to Mobile's history. An outdoor learning center (bottom left) flows at Robert E. Lee Elementary in nearby Satsuma. The community lawn at the Central Park Condominium Complex (bottom right) dazzles the residents.

Below: Features thrive at a historical brownstone (left) and the Spring Hill Business Park (right) in Downtown Mobile, Alabama.



on the Gulf Coast, reached out to us looking for a company to build a community water feature sign. Since that initial project, we have completed four other projects for D.R. Horton in the past 18 months. We have three additional projects on schedule for them starting summer 2022.

privity to what water features can do for a community. Quite frequently, HOAs will call us to inquire about possible projects. We aren't shy about sending emails with our portfolio of work, either.

Our technicians have come across dated community water features while servicing residential ponds and water

tain and repair that floating fountain.

HOA retention ponds and spring-fed reservoirs are typically serviced monthly. We have the chance to maintain cleanliness and biodiversity. Most of our commercial maintenance typically includes cleaning fountain basins and filters. Our maintenance technicians also replenish chlorinators and remove leaves and other debris.

We offer both residential and commercial clients monthly, biweekly and sometimes weekly maintenance if the feature is surrounded by large trees. Being the designer and installer of these features gives us an intimate understanding of the upkeep needs. In the long run, this is quick and easy work for our maintenance team.

Competitive Advantage

Notably, our only competition for this type of work is pool companies. We have found that the full-service nature of our business, as well as the materials we use, is what sets us apart. Being a full-service business means that we design, install and maintain water features. Our brick-and-mortar store also serves as a differentiator in the market. Our wide and well-maintained grounds showcase the quality of our builds and the thoroughness of our maintenance.

We have established ourselves as not only a pond and koi business but also as a water feature company. Pool and landscape companies don't have the same knowledge that is gained from more than 20 years of water-feature design experience. Our business is uniquely suited for commercial water feature projects of all proportions.

In about 18 months, our position in the water feature market has changed for the better. Our social media presence, online footprint and word-of-mouth referrals have provided many opportunities that helped us achieve our goal. We remain consistent so our current and potential clients know where to find us.

Higher Learning

Because of a teacher who was a residential customer, we now have school

clients from preschool to high school. Teachers use our features as learning tools and hands-on experience for students. Our pond installations serve as outdoor classrooms where students learn about chemistry. They study the pH balance and learn how to adjust it. They also use the plants and the wildlife that the water features attract to better understand biology.

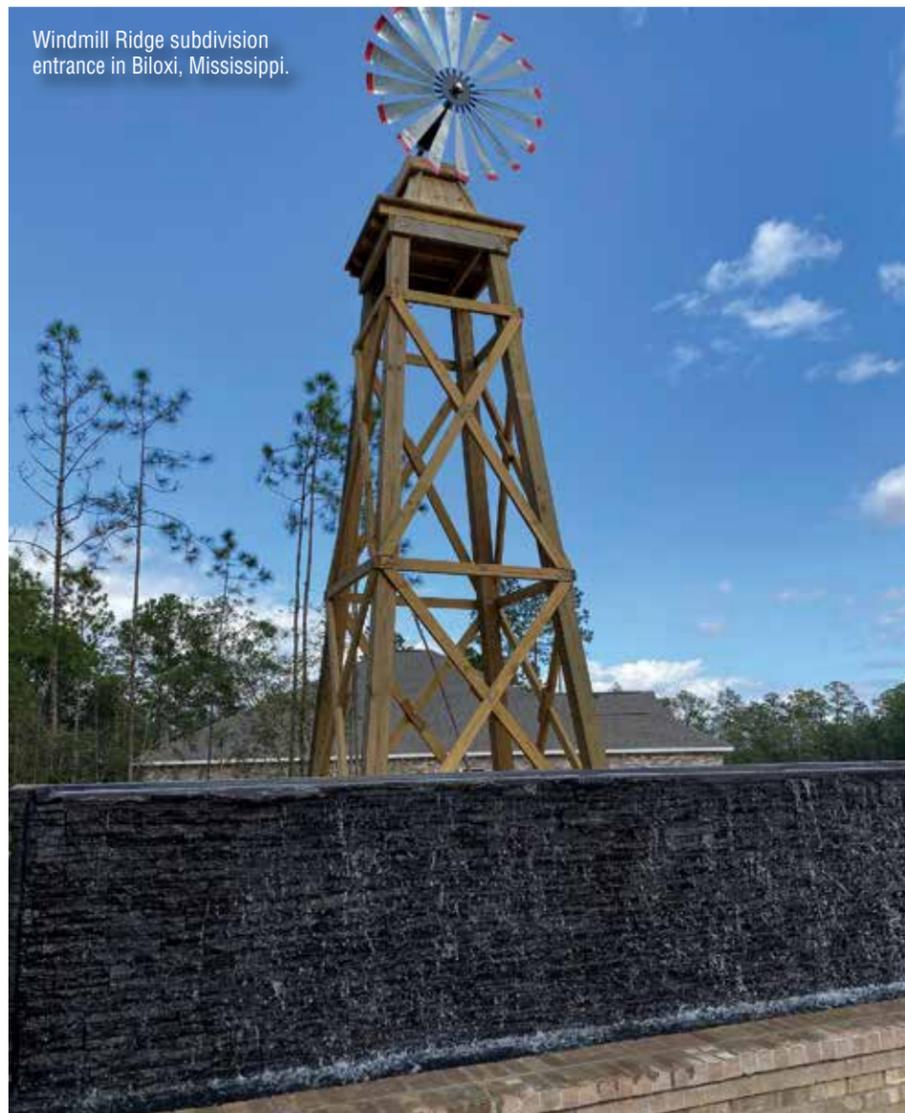
The Mobile Public School System is a recurring customer for pond builds. Equipment ages, and they trust us to update their water-feature needs. Knowing that some of our projects serve such a significant role in local education brings a special kind of pride to our work. We also work with two universities and one college.

Spring Hill College Business Park is home to an above-ground, oval-shaped, fountain pool outside its entrance. This feature adds to their aesthetic of professionalism. The University of South Alabama has a shooting fountain in the center of a large pond. The feature adds a sense of wonder to the entrance of the Research Park. Finally, at the University of Mobile, a large black globe set on a granite pedestal gives students a sense of calm as water cascades down the sculpture.

Another commercial project that serves as a marketing tool is a water feature with the Condé-Charlotte Museum. They are a nonprofit organization educating visitors on local and regional history. Because of the nature of their business, we maintain their water feature at supply costs. Their feature includes a fountain with a small terra-cotta pot as well as a lion's head wall fountain that empties into two bowls. One of our residential customers who is a member of the museum recommended us for the work. We continue to reap the benefits of word-of-mouth advertisement from this commercial arrangement.

More Referral Revenue

Our commercial projects are always one of a kind and attract a lot of attention. We once had the pleasure



Windmill Ridge subdivision entrance in Biloxi, Mississippi.

We are grateful for this client because they recognize the good work that we do and continue to include us in their building process. As soon as an address is assigned, before the first spec home is built, this consistent commercial client involves our team.

Homeowner's Associations

Similarly, homeowner's associations (HOAs) in our operation area are now

features. When that has happened, we have taken the opportunity to seek the appropriate contact and offer our services. This approach has granted us 10 maintenance clients in our three years of management of Pond Elegance.

Not all commercial projects are large-scale. For example, one HOA only needed us to install a floating fountain on an existing pond. Although a small project, we are now in a position to clean, main-



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of completing an indoor-to-outdoor water feature for a hotel. We built the pond inside the lobby and drilled holes through the wall to the outside of the building for the equipment. It is about 800 gallons with a waterfall at one end. It stands about 18 inches above grade. Hotel guests use the ledge as a place to sit and drink coffee as they watch the koi we stocked in the pond.

Our biggest asset in securing commercial projects has been the work we've completed in the past. We maintain a small pond in an office complex where a dentist's office was once located. When the practice moved into another building they had built, the dentist sought us to build a pond of his own. He wanted a special experience for his patients when they visited, so he designed the pond to be visible to patients as they sat in the exam chair. We were able to execute his vision and now provide monthly maintenance to that pond.

When a mini-golf and entertainment complex needed their existing water feature repaired, they found us through our online presence. The tall waterfall and long pond needed complete rehabilitation. We were able to rebuild the feature from the liner to the coping edge and plumbing. That client is proud of

our work, and we are, too. Next to the water feature is a sign that reads, "Built by Pond Elegance."

We have learned to ask our customers to refer us and share their experiences working with us. Maintaining our Google Business page, social media and website has garnered us the opportunities we needed to sustain as a business. D.R. Horton has referred us to other local builders. Our portfolio of work keeps growing. Our maintenance and repair schedule continues to grow as well.

New Growth Goals

The addition of commercial clients has raised our business' value. In the beginning, moving our position in the market was a lot of brainstorming, trial and error and some struggle. In the end, we found that the needs of our commercial clients aligned with those of our residential customers, just on a larger scale. The growth we have seen from working with commercial clients is now ushering us toward a new lane. Our next avenue is natural pond and lake management.

We were not afraid to pick up a phone. We were consistent and showy with our online presence. Although everyone we contacted did not need our

services, many did. Our persistence and emphasis on customer service are still paying off. Ultimately, it is the continued referrals from our commercial clients that make all the difference in the growth of our operation. ☞

About the Author

Mark Giordano loves the opportunity to express his creativity within the waterscape industry. In 2006, he founded Sunshine Pond LLC in Miami Beach, Florida. After 15 years in the Sunshine State, specifically South Florida, he briefly worked for Pond Elegance in Mobile, Alabama, until he was displaced in New Orleans due to Hurricane Katrina. In 2019, he returned to Mobile to buy Pond Elegance with his partner, Tammie Townsend.



Pond Elegance, LLC is a full-service water garden and pond retail store serving South Alabama and the Gulf Coast. They offer design, construction repair and service for all types of water features for residential and commercial customers.



District Office courtyard Mobile County Public School System.

The Victoria Pool at the world-renowned Jardín Botánico of Culiacán in Sinaloa, Mexico is now a favorite of photographers.



| Pond **Filtration** |

In the Clear

Gravel sediment traps for large-scale pond filtration

by **Demi Fortuna,**
Atlantic | Oase,
August Moon Designs

Big ponds and lakes have the same water quality and clarity issues as smaller features, but most of our small-scale solutions don't scale up well. We've had to develop a different strategy that combines biology and physics to deliver clear water in features over 50,000 gallons.

The Culprits

When it comes to a lack of clarity, water is beset by two major offenders: suspended solids and living organisms. Most living organisms are relatively minor offenders. Clouds of *Daphnia* and other protozoans are a welcome sight for informed contractors and hobbyists who know they help consume and clear up plankton blooms. They're also a near-perfect food for smaller fish and fry.

The No. 1 culprit of pond complaints, algae are a different story. There are almost as many ways to control that pesky green water and its slimy brethren as there are species of pond algae. Ultraviolet light that disrupts algal reproduction, ionizers that breach cell walls, barley and other organics that inhibit growth, a multitude of chemical algacides — all can treat or prevent algae blooms. The best way to deny sufficient nutrients for algae blooms to occur in the first place is as easy as properly planting the pond. One needs only to determine what, where and how much to plant.

Suspended solids don't respond to any of those treatments, but they do follow simple physical laws. The larger the solid, the easier it is to trap in filter media. The heavier it is, the faster it will fall out of suspension. This is why we use flocculants, which clump particles together, facilitating their settling and removal.

The velocity of the water also plays a huge role. The faster water moves, the more solids it can carry along with it. The slower the velocity, the less sediment it can carry. Water that is perfectly still will eventually drop all its suspended solids. This makes good intuitive sense. Rushing floodwaters scour everything in their path, dumping mud and debris only when and where the water slows.

There are only two ways to remove suspended solids from the water column. The first is to filter out the gunk by intercepting in filter media, which will need to be cleaned or replaced. The second is to slow down the flow to drop the solids out of suspension, the process of sedimentation. The water will clear, sometimes amazingly quickly. What happens to the settled solids becomes the next very important question.

Filtration's Size Limitations

Whether filtered out or trapped in a still pocket, the stuff that settles out of pond water is a chore to clean. Inherently sticky

fish wastes and clay cling to surfaces tenaciously, usually requiring high-pressure water to flush them away. Hand cleaning filter media, whether pads, ceramics or lava rock, requires a spray head and a strong jet of water; even self-cleaning drum filters need to use high-pressure pumps delivering 60 psi or more to blast screens clean.

Not only are filters a pain to clean, but there's also a practical limit to the size of pond that can be filtered this way. In my personal experience, ponds larger than 50,000 gallons start to become maintenance hogs if filter cleaning is part of their weekly or monthly regimen. At some point, the debris that builds up in the larger fishponds in this area of the world (100,000 gallons and



The green water was an unsightly background for the wedding photos that are often taken here.

up) surrounded by trees and shrubs, littered weekly with grass clippings, overfilled with multiplying koi or goldfish (not to mention the almost universal overfeeding of the same) simply overwhelms the ability of 'black boxes' to keep up. I'd like to share a simple, scalable solution to clarify any sized pond.

A Rose by Any Other Name

Whatever you call them — gravel bogs, veggie filters, regeneration zones — we are all talking about planted gravel sediment traps. They're extremely effective at removing solids by both interception and sedimentation, and they can be scaled up to clear

bodies of water of any size.

It's all about the physics. The faster water moves, the more total suspended solids it can carry. Slow the water, drop out the solids. Sedimentation, the chief method used in wastewater treatment, is very effective. There, water slows to zero velocity in settling tanks, where all the solids drop out of suspension. Gravel beds work the same way, though less efficiently than a settling tank. Water slows as it passes through, under and around the gravel, dropping suspended solids into the gravel as velocity decreases. At the same time, larger particles are intercepted and physically trapped in the smallest spaces between the stones. When properly designed, over time, gravel beds can

clear the water of any pond or lake, as long as the rate of removal exceeds the flow of sediment into the lake.

Considered passive when the water simply flows over the gravel, it's the active variety, where water is pumped through the gravel, that's most efficient, as long as the flow of water can be slowed by the gravel. Too much flow or too little gravel will allow the water to channel and escape without slowing and dropping its solids.

Plantings Are Essential

Planting the gravel optimizes not only the trapping of solids, but the removal of toxins and nutrients as

well. Roots grow down into the bed between the stones, further slowing the water. They keep the flow from channeling by growing fastest in the areas of greatest flow, where more nutrients will pass over them. In this way, a planted gravel bed is self-regulating and self-balancing, growing in proportion to the nutrients in the water and turning hard-to-remove organic compounds into easily harvested and composted greens.

Well-planted beds will remove all the nutrients in the water, outcompeting and starving all the algae in the pond — not just the one-celled "green-water" species. Unlike ultraviolet light, which only affects the unicellular algae pumped past the lamp, planted gravel beds also suppress floating mats of blanketweed and attached string algae. Also known as veggie filters, they've always been popular with in-the-know pond builders precisely because they filter out so much, yet they don't have to be cleaned as often as other



The graveled and planted edges of the stream in the Butterfly House hide the Eco-Blox sediment traps that provide clear water. These photos were taken years apart — and the water is still clear!



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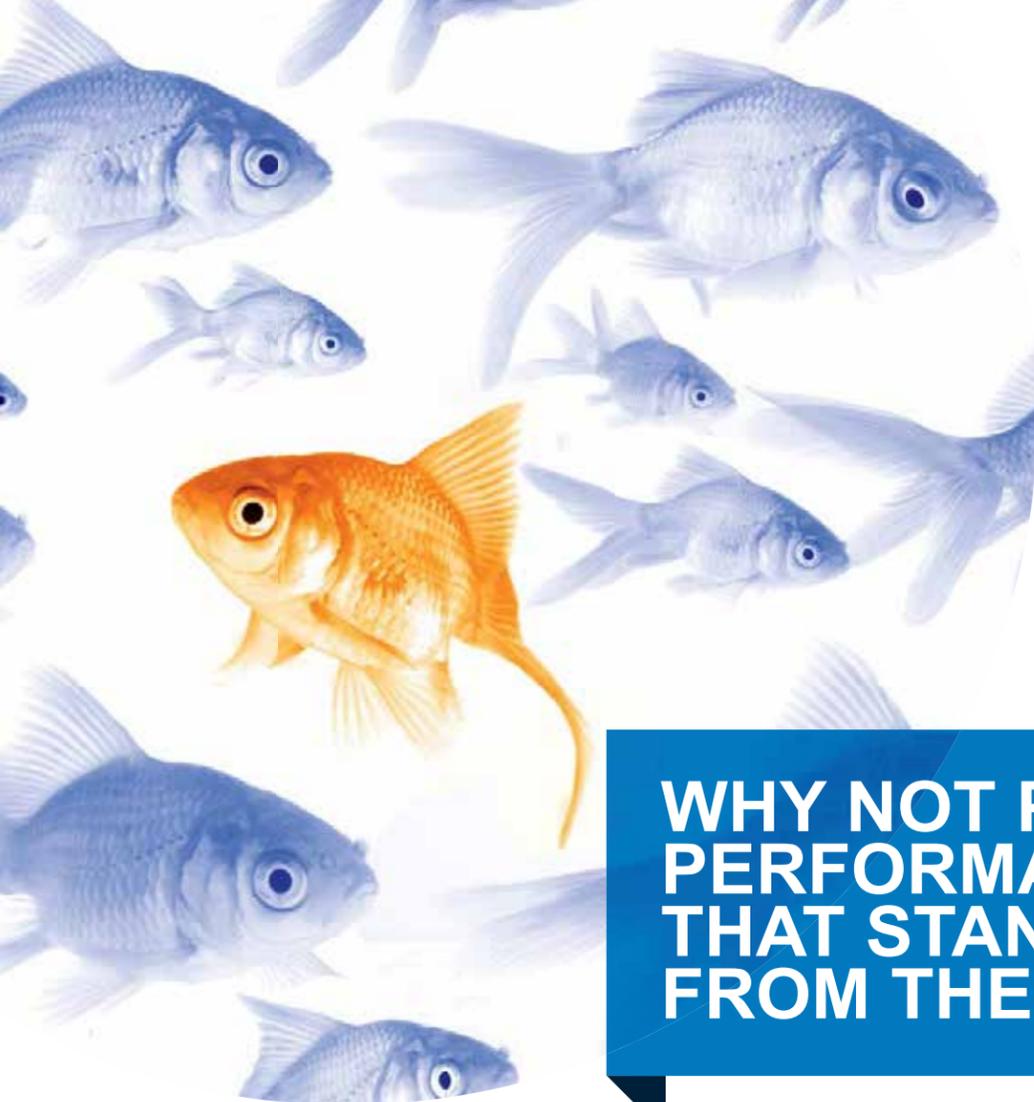
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filters. It's not unusual for gravel bogs to go years between cleanings, though their effectiveness may steadily diminish over time.

The reason their effectiveness declines is because, strictly speaking, these aren't bogs at all — at least not on purpose. Botanically, bogs are flooded beds of vegetation decomposing slowly or not at all because of a lack of oxygen. That can and does happen in an older, neglected or poorly designed gravel sediment trap. Without enough oxygen in the gravel, trapped organic wastes produce smelly and dangerous methane and hydrogen sulfide. Pathogenic, disease-causing bacteria prefer these anaerobic conditions as well.

Under ideal conditions, planted gravel beds are exactly the opposite of true bogs. Good circulation of oxygen-rich water is the key. Aerobic, oxygenated water flowing slowly through the gravel and plant roots provides the perfect environment for plants, zooplankton and beneficial bacteria to thrive, removing nutrients and toxins and polishing the water.

Downflow vs. Upflow

For all their advantages, gravel beds still have their drawbacks, precisely because they are so good at trapping solids, planted or not. The two types of sediment traps are distinguished by the location and direction of water flow.

Downflow bogs are large pockets of gravel inside the pond at least 1 foot deep to as much as 4 or 5 feet deep. Water is drawn down through the gravel to a pump or intake manifold at the bottom of the gravel bed, giving rise to the term intake bog. Initially extremely effective because their sheer size enables them to hold enormous amounts of debris, these traps eventually succumb to their own success. No matter how large, the tons of debris generated every year in a well-stocked pond on a wooded site adjacent to any size lawn will eventually fill the spaces in even the largest intake bog.

Then what? Does the gravel bed just stop working? Apparently not. In many cases, water keeps reaching the pump or intake indefinitely. We've seen time and again that water will always find a path.



Twenty-four thousand gallons of water per hour flow through the Eco-Blox chamber below, then up through the gravel, dropping out suspended solids while bacteria and plants remove ammonia, nitrite and nitrate.

A few open channels develop through what was once an open, three-dimensional lattice of gravel, but the velocity in the channels will be too high for the solids to drop out. No longer a filter, the gravel bed becomes just an intake.

No harm done, right? Not exactly. All the organic waste filling the rest of the spaces is cut off from oxygenated water. As in any real bog, it slowly begins decomposing anaerobically. Methane and hydrogen sulfide begin to build up, and the acidity steadily increases, eventually affecting the water quality of the rest of the pond. It may take years, but a decrease in water quality is unavoidable, and there's no way to clean a submerged gravel bed 4 feet deep without major reconstruction.

Upflow bogs specifically address the long-term maintenance issue and have many other advantages over downflow

bogs. The flow is, obviously, opposite. Water is pumped up through a shallow gravel bed typically only 4 to 8 inches deep, often through a slotted or perforated distributor. It slows as it flows up and out of the gravel, so solids drop out, assisted by gravity. Then, the cleaned water flows back into the pond. Because the water is being pumped through the gravel, there's no need or reason to submerge the bed deeply. Upflow bogs often start a stream or waterfall, capturing solids before they re-enter the pond.

Unlike the downflow variety, upflow bogs are accessible and generally easy to clean. The shallow bed can be agitated to release accumulated debris, which can be vacuumed or diverted before flowing back into the pond. Anaerobic zones don't develop because the gravel is so shallow; oxygenated water gets pretty much everywhere. The gravel can never block the outflow from the pump, as it might block an intake, with one caveat — always use a check valve

on the pump. That way, gravel can't get sucked back down the pipe and into the volute of the pump when the power is turned off.

Most importantly, upflow beds can be located anywhere water will flow back into the pond — during initial construction or anytime afterwards. A new stream or waterfall can be proposed, adding visual interest as well as filtration. If a visual accent isn't needed or desired, long, narrow gravel beds can be added along the perimeter of any existing pond or lake. Simply overlap a piece of liner over the water's edge to ensure that water pumped into the gravel bed can only flow back into the pond. When planted, the gravel is practically invisible — the filter just looks like natural shoreline vegetation.

The drawback to all these shallow upflow bogs? They don't trap and hold a tremendous quantity of waste, so they need to be cleaned. Even then, it's difficult to keep the goop from re-entering the feature.



The Victoria Pool (above, left, with before photo insert) is now clear to the bottom 4 feet down thanks to the easily cleaned regeneration zones at either end. The contest-winning photo (top, right) of the finished, crystal-clear pond really pops. The “perimeter bogs” (bottom, right) in the Butterfly House keep the 18-foot tall, 30-foot wide waterfall clean and odor free, while drains underneath remove settled solids, eliminating the need for cleanups.

Enter the Eco-Blox!

Here’s where the innovation comes in. Years ago, we noticed that whenever we built a deep headwater pool at the beginning of a stream, it would capture tons of sediment — more than a shallow gravel bed alone could — and the pond would stay noticeably clearer.

We had “discovered” the wastewater settling tank. The amount of muck collected was impressive, and the deeper we made the pocket, the better it worked. But the depth itself was a drawback. The tall sidewalls were difficult to cover with stone, and stepping into one by mistake was a real eye-opener — especially on a cold day.

Eco-Blox were the perfect upgrade to the headwater sludge collection pool, eliminating both concerns. All we needed was enough depth for the block, some gravel and a couple of inches of water — a minimum of 24 inches total, which was rarely an issue since the stream or waterfall was always elevated

anyway. The mesh walls and partitions of the blocks slowed water even more quickly than the open pool, making the sedimentation process more effective. If the waterfall was higher than 2 feet above grade, we could even increase the rate of sedimentation by stacking the blocks in towers. And because we were starting at grade, we realized we could put a drain in these chambers to sluice out the collected sediment simply by opening a valve. Finally, it occurred to us that the bulkhead fitting in the bottom could also be used to bring water into the chamber. A tee on the outside of the liner at the bulkhead fitting would let water enter straight through, with the leg of the tee fitted with a buried valve and a pipe out to daylight. The system was born.

The Eco-Blox gave us a shallow headwater pool with a deep collection pocket ready for gravel and plants. Water pumped up from the bottom would slow as it rose into the block, shedding suspended solids as it worked its way up through the gravel and plant roots.

Turning off the pump and opening the valve allowed me to backwash the pocket, pouring all that fertile goop right into the garden whenever I wanted. Turning the pump back on for a second flushed the block and plumbing. I just had to close the valve, and it was ready to go again.

From there, it was a very short leap to the Eco-Blox settling chambers we install in almost all our ponds these days. We’ve made some changes to the original setup. Now, we use 3 or 4-inch Schedule 80 flanges (or larger) to make the bottom drain perforation bulletproof, and I bury cast-iron mechanical joint valves with 2-inch operating nuts and a 100-year service life for the ultimate in low maintenance. Other than size and capacity, they are the same gravel-topped settlement traps as before, but nowadays we market them as regeneration zones, borrowing from the natural swimming pool lexicon. It made sense to test the chambers where there are many huge handmade water features in a challenging climate with tons of nutrients, so we went to Mexico

to put them through their paces under the most rigorous conditions. Let’s take a look at two new installations at a theme park that wanted to add water features to its new aviary and butterfly houses.

The Butterfly House

The fair at Xmatkuil, Mérida, Mexico had been a statewide favorite every November for many years when the local government decided to open it year-round. They felt it would need new attractions to keep folks coming, so they planned a water park, an aviary and a butterfly house for the fairgrounds.

My good friends from neighboring Mérida Yucatán, Lidia and Nacho of Jose M. Barroso, a multifaceted company specializing in high-end pool construction, asked me to help with the waterfalls and ponds. Since this was a new installation, I was able to design Eco-Blox chambers in multiple locations around the pond and in the waterfall itself. The design called for the ponds to be raised about 24 inches above the original grade to keep the occasional torrential rains from flooding them, so this was the perfect application for perimeter bogs. We built shelves along the edge of the ponds wide enough for the blocks, plus space for the narrow wall that separates the block chambers from the rest of the pond. Water pumped into the chambers from adjacent skimmers flows up and out the tops of the Eco-Blox, passing through a 6-inch layer of gravel before re-entering the pond. Plantings in the gravel easily handle the light organic loads produced by decaying vegetation, fish and insects. The Mariposario, or Butterfly House, has stayed crystal clear from the beginning, with never a hint of either turbidity or algae even when temperatures exceed 100 degrees for a month at a time.

To be fair, I can’t say the same about the water quality of the aviary, which is stocked with many species of waterfowl. All are fed daily, and all eat plants. The marginal aquatic plants in our perimeter gravel beds were mere appetizers — a first course for the voracious birds. The 30-odd swans, geese and ducks demolished everything green smaller than a

tree. And, as you can imagine, the organic loads were huge. The gravel worked great trapping solids, and the bacteria growing in the beds kept the ammonia and nitrites (and smell) down, but ultimately, that only contributed more nitrates to the soup. The well-meaning staff replanted the beds two or three times, but as they couldn’t find plants the fowl wouldn’t eat, they just gave up. Without other plants to pull nutrients out of the water, nitrates and 90-degree days mean lovely green water. The point is, plants are as much a part of regeneration zones as bacteria, gravel and waste. If there are no ornamental plants to consume the nutrients, algae will happily fill that role.

Victoria Pool

Next up, another worst-case scenario: a retrofit to an existing pond fed by river water with severe turbidity and nutrient loads in an extremely hot climate.

I met Erika Pagaza during an International Water Garden and Waterlily Symposium (IWGS) at Longwood Gardens, where we were viewing the plantings and fountain renovation of the DuPont estate. Pagaza, the curator of an internationally renowned botanical garden in Culiacan Sinaloa on the west coast of Mexico, was there looking for advice. She cared for a pool designed specifically to showcase the garden’s Victorias, the world’s largest waterlily whose leaves can reach 6 feet in diameter. The pool was large — about 155 feet long and 50 feet wide, where a wide footbridge zig-zagged across the middle. Its 3-to-4-foot depth was perfect for growing the huge Amazon lilies in the extreme heat of Culiacan.

The problem was the sediment-laden brown water drawn in daily directly from the Culiacan River. The lilies didn’t mind, but the dirty-looking and unsightly pool was a cause of constant comment and complaint by garden visitors, especially the wedding photographers who used the bridge and pool for a backdrop. Cleaning the copious brown muck that settled to the bottom was a costly, time-consuming affair that required the area to be closed and fenced

off every few months.

I told Pagaza that we had the solution. We came up with a plan to build a chamber at each end of the large pool filled with Eco-Blox and fed by 9,000-gph pumps, two to each huge skimmer. The pool had been leaking and needed repair anyway, so we took the opportunity to install 4-inch bottom drains in every section of the pond. Each bottom drain had its own 4-inch valve but was also teed into a skimmer. That way, the skimmers would draw sediment-laden water from the bottom as well as from the surface. We installed additional bottom drains in the gravel-topped and planted Eco-Blox settling chambers to simplify cleaning them out. We explained that it could take the entire season for the plants to grow and the chambers to reach full-cleaning capacity.

We were way off. The pool was clear in a week, with the bottom visible for the first time Pagaza could remember. The leak wasn’t totally repaired, so muddy brown river water tops it off daily, but you’d never know it, aside from a slight tea-colored tint to the otherwise crystal-clear water. We were concerned that the full exposure to the Mexican sun and average temperatures over 95 degrees for six months of the year would allow some algae blooms to form; however, in the year and a half since we finished, the water has never clouded.

If this method will work under those conditions, chances are it will work for you! 

About the Author

Whether building waterfalls in the Yucatan, working with his sons on Long Island, or serving as the Director of Product Information for industry leader Atlantic Water Gardens, **Demi**



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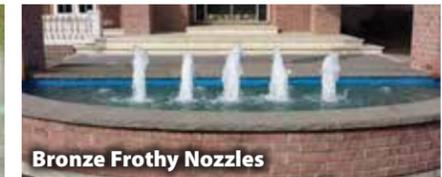
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All in the Family

Father & son work together to build 'Mom's Falls'

by John Magyar,
Universal Aquatics

When we purchased our house in 2016, I just knew the front yard would be perfect for a pondless waterfall system. After living in the house for a year or so, my 13-year-old son and I built a 95-foot pondless feature in the backyard. Soon after, we built a much smaller-sized pondless feature in the front yard from the stone left over from the backyard project. The front yard feature was roughly 25 feet long and fit well in the space. Needless to say, we both learned a few life lessons along the way and shared several bonding moments during the construction process of the falls.

After four years or so, my wife decided she would like to see a larger feature in place of the 25-footer. We ended up deciding on a rough idea of what we wanted to create and set a general construction timeline. The initial plan was to create a new 10-to-12-foot-wide pondless feature that split a few times with a small tree of some sort in the center of two distinct waterfalls. (It

was basically a smaller version of what we had built in Chicago at the Q Center one year.)

The project was scheduled to be installed in fall 2019. We bought the supplies and a few truckloads of stone. We were well on our way, but we ended up pushing the construction

With our new goal of creating something ginormous, we headed off to the stone yard the following week and picked out several more truckloads of stone. The largest weighed in right at 4,000 lbs!

back due to a lack of available time to focus on the project. We rescheduled everything to late summer 2020. I'm sure the neighbors were wondering what on Earth we were planning on building with all of the stone staged in our front yard for a year. Luckily, our front yard is on an acre of wooded land, so we definitely had the space to store it as well as the trees to



Day 1: Elijah and John carve out the basin area for Mom's Falls.



On Top of the Mountain: Elijah and John Magyar enjoy their creation to remember their grandmother and mother.



John takes some time to educate youngsters while installing a stone bridge.

partially hide it.

The summer of 2020 came and went without working on the project. We were simply too busy. The project would have to wait. Fall it is, then!

Life Changes Plans

On Sept. 16, 2020, my mother, Carol Magyar, suddenly passed away. With life smacking me right between the eyes,

the front-yard project was again placed on hold until a good portion of my mother's estate was taken care of. We revisited the project a few days before Thanksgiving week, and by that time, it had taken on a whole other meaning. The project became much more than a new pondless waterfall in my front yard — it became Mom's Falls.

We decided with only a few days'

notice that my son and I would begin to tackle the project that Thanksgiving week while he was off from school during his junior year. I got on the phone and lined up the machines we would need to get started.

We were off to the races — kind of. With a ridiculous amount of work that we weren't going to be able to finish in a week, we got to it.



Paying attention to natural details was extremely important during the construction of the feature.



These resurrection ferns on a log were a great find for the feature!

We worked pretty well for a few days until I got an unexpected call the night of Thanksgiving. It was my nephew, my mom's grandson, in Tennessee. He was going through a rough patch and needed a place to stay for a while. So, we paused the construction of the feature and drove from Atlanta to Tennessee to pick him up around midnight or so before immediately turning around and heading back. We had a project to work on, after all!

Now we had an extra hand to work on the project — kind of. He was 19 and had zero experience in the water-feature world, but he could help out every now and then.

Bring on the Rocks!

It took us a few days to get to the point where we were setting rocks. With the space we were looking to fill defined, we knew extremely early on that we didn't have the right sized stone we needed to get the job done the way we envisioned. We also saw how everything was taking shape, and we decided to expand the area, making it one larger sized feature instead of the originally planned two splitting waterfalls. With our new goal of creating something ginormous, we

headed off to the stone yard the following week and picked out several more truckloads of stone. The largest weighed in right at 4,000 lbs!

One interesting thing about truckloads of rocks showing up at your house is that it really piques the curiosity of the neighborhood. Several neighbors stopped by to see what we were doing. Most knew about our other feature in the back, but they were interested to see what we had planned with all the new material. We ended up meeting several new neighbors during the process.

After the week of Thanksgiving, my son officially became a part-timer on the project. My nephew ended up becoming the only other full-timer on the feature other than myself.

Slipping & Sliding

The entire project was built on a nice-sized slope. Whenever it rained, which was often, we couldn't use our excavating equipment very well. Our roads were all sloped, so after a slow drizzle, we were slipping and sliding all over the place. It was fun and challenging at the same time.

A stone sidewalk that takes you to the front door from the driveway stopped

DO'S AND DON'TS OF WORKING WITH YOUNGER FAMILY MEMBERS

- Have patience. You're going to need it!
- Take the opportunity to really get to know them if you don't already or haven't spent much time with them lately.
- Look at this one-on-one time as a bonding and teaching opportunity for skills they can take with them outside the project.
- Show your best self. They're always watching and learning from you.
- Open your eyes and ears. Don't forget that you can learn from them as well!
- Have fun!

us from utilizing that space to set larger boulders from the top side. Due to the limited access, we had to essentially remove more than half of the hillside to set our boulders. We then backfilled behind everything, graded accordingly and created the hill again beside the feature. It was a tedious process. Once again, rain slowed that process to a crawl on many occasions.

With multiple rain days, a few slippery slopes and other pond work that had to get completed, the project ended up taking about two months to get roughed in with the pumps working. It took another month or two working part time to button everything up. A year and a half later, we still occasionally add finishing touches here and there.

Key Design Features

When we designed the project, we wanted to create a space where we could enjoy the feature while being relatively close to the falls themselves. We also wanted to be able to hear the many drops from far away. We managed to accomplish both.

We used a large piece of driftwood to create a seating nook to help define the space. Two chairs and a table connect

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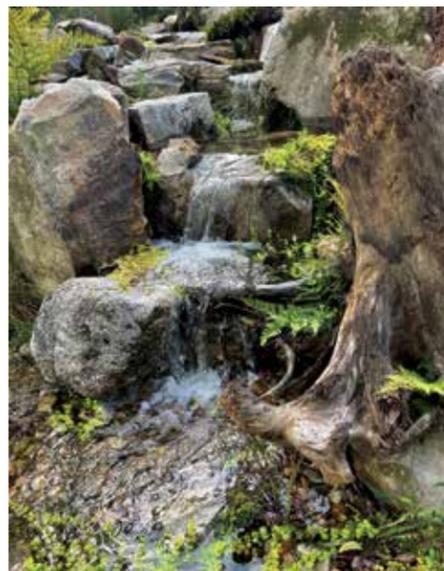


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to a gravel pathway that lead directly in front of the feature. The pathway also leads up several large stone steps and onto a stone bridge, continuing on to the second pondless feature in the backyard.

The sound from the feature with the four pumps cranked up is huge. It easily can be heard at the end of the street in the evening hours. It's also perfect in the seating area as well. Some water features we've seen over the years are so loud that you can't have a normal conversation without yelling. However, this seating space is set far enough away from the falls



The design was split into left and right sections that showcase different waterfall drops. Both can be enjoyed from different areas on the property.

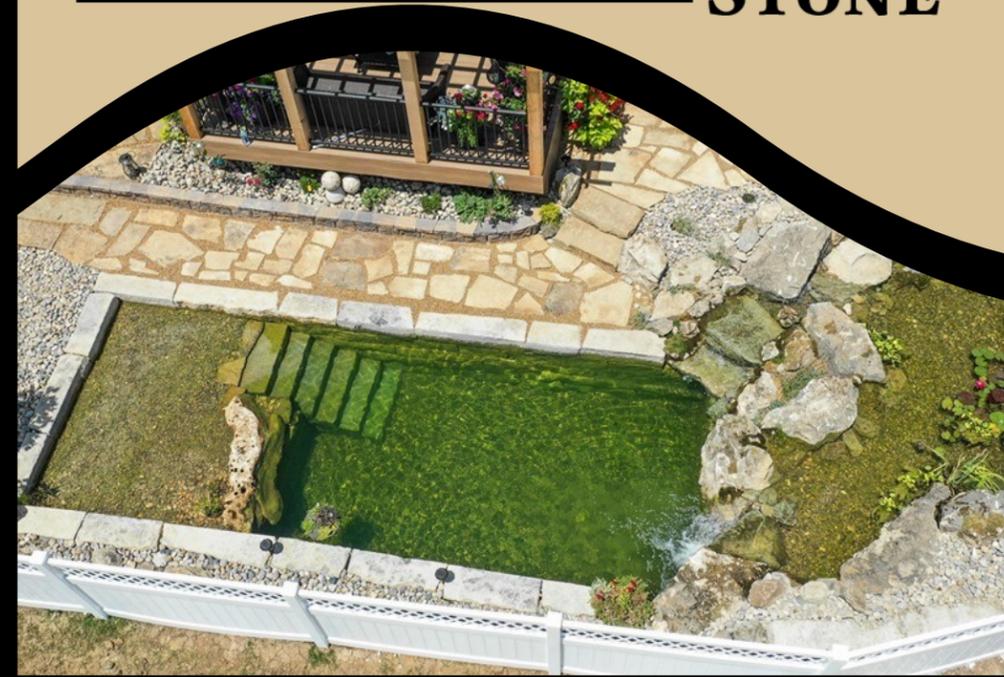
so that you can have a normal conversation without raising your voice. As you walk up the stone steps, the sound of the falls gradually increases as you get closer to certain areas. When crossing the stone bridge, the sound changes as well.

The space is great for winding down in the evening after getting home from work. When I'm around the feature, I instantly feel relaxed. I also occasionally find myself jumping around directly in the middle of the feature, feeling like I'm 12 years old in the creek by my grandpa's house in Tennessee. It's a great feeling!

A year and a half or so after the initial completion of the project, the feature is starting to age well. We were able to harvest some local ferns and moss from the property to add a natural touch. They



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We found a large tree stump that had been chewed on by a beaver — another great find for this project!

have started to flourish this season. The moss is starting to creep along the boulders, and the plants are all starting to fill in the space.

A week or so after my mom's funeral, we ended up buying several bags of assorted Tennessee ferns at a local store in the town she lived for future use on the project. They are growing and doing well this season, too.

Family Ties

Working with the youngsters, my son Elijah and my nephew Kieran, was a bit challenging at times to say the least. It was honestly like herding feral cats that clearly didn't want to be there most of the time. While challenging, working with those guys allowed many opportunities to teach and mentor. The challenges were all worth it.

We created a one-of-a-kind piece of natural art that the family can relax around while honoring my mother at the same time. Mom's Falls also reinforced the fact that water-feature ideas at my house tend to grow much larger and take much longer to finish than originally planned! ☺

About the Author

John Magyar,

owner of Universal Aquatics LLC in Atlanta, Georgia, is a biologist with more than 15 years of experience in pond design and installation and maintenance of koi ponds, pondless waterfalls, water gardens and water fountains. His expertise stems from years of work in the zoo and public aquarium industry throughout the United States.



John has worked as a biologist at the Georgia Aquarium, the San Antonio Zoo and the Flint RiverQuarium in Albany, Georgia. Working at public aquariums gave him a chance to care for exotic animals, while developing a truly hands-on approach to designing, creating and maintaining water features.

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| Language of **Koi** |

How to Speak the Language of Koi

A vocabulary lesson from Japan

by **Carolyn Weise**,
Ecological Laboratories

We all know that koi can't talk. So, what do we mean by the language of koi? Before you bought your first koi (and became koi kichi), I'm sure you saw the big red and white fish at the koi shows and went home to tell your friends about the beautiful, "big red and white fish," right? You might have been confused had you attended the show banquet, where they showed pictures of the winners — perhaps including that big red and white fish — but the judge called it a "kō-haa-koo" (Kohaku). Another winner, the large red and white fish with a little black, was called a "san-kay" (Sanke), but most of the others you couldn't understand. You attended all the seminars, but the speakers were also speaking a language you couldn't understand. My client had that same experience, too!

Studying Abroad

He was smitten by the fish, so he decided he might go to Japan and learn about them! He had heard others talk about their trips to Japan — buying this fish at that dealer and that fish at another. So, he found a dealer at a koi show who was willing to take him along. He didn't even have a pond yet, and he was already planning his trip to Japan with one of the top guides in the business! Fast forward six months. With passport in hand and bags packed, he left for the airport to meet one of the top guides in the industry. Decked out in his light clothes and Baja slip-ons, he was off to Niigata to learn



the language — or part of it. There was a car waiting for them when they arrived and took them to the hotel. After a quick shower and meal, they hit the road to meet the first koi dealer.

In the Deep End

If understanding the names of the winners at the koi show was difficult, grasping what the Japanese koi dealers had to say was going to be nearly impossible. After staying silent for a long time, the dealer pointed to one fish in the middle of a million others and said something with a strong accent. Then he almost immediately jumped to another fish and said something else.

Was he saying the fish's name? Or the price of the fish? My client hadn't a clue. Finally, he jumped in the conversation and asked about one of the fish. Swallowing his pride, he pointed toward a specific fish and asked what it was called. The dealer looked at him like he had two heads and grinned. "Yamabuki," he said.

It was a good thing he'd brought his dealer with him as a guide!

"Yamabuki, also known as Yellow Ogon, are koi of a solid-yellow metallic color, or a single-colored yellow fish," the guide explained.

Now the Japanese lessons had begun! He pointed to



another fish that was a whitish silver. "Mukashi Ogon, a fast-growing variety of doitsu, or scaleless fish," the guide explained.

He then pointed to an orange doitsu with a strong zipper line down its back. "Mizuho Ogon," the dealer said.

The next dealer had one called "Gin Matsuba" — a white koi with scales that almost looked like netting — and some shiny ones called "Gin Rin" (even though it sounded like "ginling").

Language of Koi

The language of koi is a unique language, taking select Japanese words and mashing them up with our own mis-dialects, so that everyone in the industry says the same thing — but differently.

In Japanese, the word *koi* is a homophone for another word that means affection or love. This helps to explain why koi are symbols of love and friendship in Japan. Colored ornamental carp were originally called *irokoi* (colored carp), *hanakoi* (floral carp) and *moyōkoi* (patterned carp).

It starts to get more confusing when you learn the words for colors. For instance, the word for red is *hi*, like Hi Utsuri, unless you're describing the different varieties of red: *shuiro* (vermillion), *akaneiro* (madder red), *enji* (dark red), *karakurenai* (crimson) and *hiiro* (scarlet) are among of them.

That's just the beginning. The fish could be *aka*, as in Aka Bekko, Aka Matsuba or Aka Goromo. My favorites include the Ai Goromo and Budo Goromo, both of which start as red on white fish. It could be *beni*, as in Beni Kumonryu, Beni Kikokoryu or the Kichi beni ("lipstick on a koi"). Did you know that *ryu* means dragon, as seen on the end of Kumonryu?

How about the color black? A black koi might be Karasu (kah-rah-soo) or Karasugoi, or it may be a Magoi. According to Full Service Aquatics, "The base stock from which all modern-day koi come are called Magoi. Magoi is what the Japanese and Chinese consider the common carp, known to be a black



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carp. However, Magoi will typically exhibit a bit of bronze in its coloring and an easily distinguishable orange and white belly color. Magoi is not truly black koi." (I have seen brown fish called Magoi, too.)

What do we call the black color on a koi? It is called sumi. In the Japanese language, Kuro is also black, as is Kuroi and Kuroba mu. But we don't apply these to koi? The sumi should be deep, shiny black on the koi. Black is the most

unstable color on your fish. The sumi comes up later in life and can disappear as easily as it arrived. One day it is there, and the next day, it is gone!

When showing koi, if Showa, you would like the sumi to look its best. If the sumi is not quite right the month before the show, and it happens to "pop" on the weekend of the show, taking GC (grand champion) or Reserve GC, that's how the sumi can make or break a champion fish. Of course, the hi and white have to look clean and sharp, too.

What do you call white on your koi? (My head is already spinning.) It is the shiro! On a three-colored fish, such as Sanke, you want to have a shiro body with hi and sumi markings with nice, clear edges. The words koi and Nishikigoi come from the Japanese words for carp and brocade carp.

The Bottom Line

The language of koi is ever growing and evolving. My client said his trip

was certainly educational, but in the end, he has still decided to call his koi "Goldie," "Happy," "Sweetie," "Baby," and so forth ...

About the Author

Carolyn Weise is the customer relations manager for Ecological Laboratories, Inc. She studied ornamental horticulture at the State University of New York at Farmingdale. She moved to Florida in 2006 to work at the Cape Coral campus of Ecological Laboratories. Today, Carolyn serves as a liaison to koi clubs and recently joined the master gardener's program in Lee County. She loves her work. For additional information on pond management, nitrification and denitrification, contact her at carolyn.weise@ecologicalabs.com



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| Algae Blooms |

The water beneath this surface bloom looks clear. The situation is not toxic until the bacteria particles clump together.



PERIL in the POND

Avoid the dangers of harmful algae blooms

by Jim Kennedy,
National Pond Service

Do you know what you're looking at? This is not green algae or duckweed — it's a bloom forming cyanobacteria, or sometimes called a harmful algae bloom. Pond contractors working in aquatic environments should be aware of the dangers associated with cyanobacteria for their own health and for their customers' safety.

What Are Cyanobacteria?

Cyanobacteria are group of photosynthetic bacteria found worldwide that can grow quickly when warm water combines with sunlight and nutrients like phosphorous and nitrogen. Cyanobacteria are naturally occurring organisms that have the ability to make their own food using organic compounds and sunlight. This form of bacte-

ria has been on Earth since before the dinosaurs existed.

Whether you are working on a neglected garden pond or a larger pond, you could become exposed to a potential cyanotoxin. Some of the more common cyanotoxins are Dolichospermum, Oscillatoria, Microcystis and Chrysochlorum, which produce cyanotoxins like anatoxin, cylindrospermopsin and microcystin. If you become exposed to some of these bacteria, you may experience strong headaches, vomiting and nausea, diarrhea, slurred speech and — hopefully not, but possibly — respiratory paralysis.

During September 2020, a suspected cyanobacteria bloom in Botswana was responsible for the death of 330 elephants that had consumed water from an infected pond. Our company was working during this time for a client in central New York State who had the same cyanotoxin in their pond that was responsible for killing the elephants.



What Should I Look For?

Educate yourself and your employees to be capable of recognizing the water conditions that exist to support a cyanobacteria bloom and cyanotoxins. They could manifest in a scum-forming surface bloom that resembles poured paint or a wispy bubble pattern on top of the water. Elevated cyanotoxin levels may persist for several weeks after a surface bloom subsides. A bloom may not always be visible, as in the case of pico-cyanobacteria, which may resemble planktonic pea-green water.

Bloom or no bloom, you should recognize what is in the water and make smart safety decisions. A recent U.S. Environmental Protection Agency publication called "Health Effects from Cyanotoxins" can provide

you with good information to learn from and to share.

If you find yourself working on a pond that looks like it might have a harmful algae bloom developing, but you are not sure, you should wear personal protective equipment (PPE) and reduce your exposure. This includes preventing pond water from getting into your mouth and eyes and protecting against dermal exposure by wearing disposable gloves and protective clothing. You may want to wear a face respirator with organic vapor cartridges to reduce inhalation exposure from aerosol particles.

Look at the color turbidity of the water. Avoid it if it appears olive to dark green with less than 4 inches of visibility. If the water smells like the inside of your truck on a wet day, or you notice subsurface green particles

the size of frozen peas, avoid it! According to Dr. Nancy Leland from Lim-Tex, cyanobacteria toxicity levels may increase with turbidity and particle size.

A Health Hazard

During the past five years, we have been researching and developing a foundation of knowledge because of the increased exposure to cyanobacteria from working on ponds and aquatic habitats.

Personally, I have gotten sick from only a 15-minute contact with airborne cyanotoxins while collecting a water sample from a bloom forming surface scum on a large pond. After dinner that night, I said to my wife, "I feel like I've been drinking all day!" I had a wicked headache, felt dizzy and found myself talking really slowly. I ended up going to bed at

6:30 p.m. without unloading my truck or returning any calls. The next morning, I spoke with Dr. Leland, who said I had probably been exposed to a neurotoxin like BMAA from the surface scum.

This really hit home and reminded me of when a husband of a friend died from Lou Gehrig's disease, or ALS, a few years back. This guy was in great shape and a very healthy outdoor enthusiast, but he had become overexposed to cyanotoxins while doing something he was really good at — waterskiing. It's still puzzling to explain how he contracted ALS, but one of the best spots to waterski is warm, calm water, which is ideal for sustaining cyanobacteria blooms.

Research scientists from the University of New Hampshire have found a strong connection between cyanobacteria and



Subsurface cyanobacteria lead to an increased chance of toxicity, serving as a hazard to people and wildlife.

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ALS. Dr. Jim Haney, professor of biological sciences at UNH, and his team have been working on a system for collecting aerosols produced by cyanobacteria to gain a better understanding of how the transfer of airborne cyanotoxins affects wildlife, crops and people living near bodies of water with high concentrations of microcystins. Species of cyanobacteria have been detected in lettuce irrigated with infected lake water. High levels of microcystins have been measured in blueberries grown near a lake with frequent harmful algae blooms.

Much of this is new and evolving science that we, as pond professionals, need to be aware of. Think about ticks and Lyme disease and how awareness has grown over the

past few decades.

How Do I Know?

Without collecting a water sample and sending it to a lab for testing, you may not have enough information to make a good decision. There are several types of “dipstick” field test kits available that will give you a quick indication of the presence of cyanobacteria in pond water. Of course, if you have the time, a better comprehensive option is to collect a water sample and send it to a testing laboratory for the evaluation of species type and toxicity. Try to find the closest testing lab to your location to reduce processing time and sample deterioration. Samples can be express-shipped to firms like Lim-TEX Labs, Eurofins Abraxis and Green Water Laboratories.

There are several types of “dipstick” field test kits available that will give you a quick indication of the presence of cyanobacteria in pond water.



A surface bloom is less likely to be toxic due to lower turbidity.

After you have educated yourself about cyanobacteria and cyanotoxins, take the opportunity to turn lemons into lemonade by sharing your knowledge with your clients through social media and simple, factual company handouts. Please don't scare them to the point that they are willing to “fill in the pond.” Instead, show your customer the pond condition and ask to collect a sample for testing. Until the water samples are processed, inform them to avoid contact with the water and to prevent pets or livestock from accessing the pond water. After all, dogs can be very susceptible to cyanotoxin poisoning. Schedule a follow-up meeting to discuss the test results and formulate a plan for improving the water quality.

In 2021, the Centers for Disease Control released preliminary guideline addressing the problem with cyanobacteria. We are in the elementary stage of understanding the health concerns associated with cyanotoxins (especially aerosol inhalation). Until more guidance is released, be smart and stay safe. ☺

About the Author

Jim Kennedy is the owner of National Pond Service and Willow Pond Koi Farms. He has been active in the pond industry since 1992. Through field work and research programs, he enjoys helping people enjoy their ponds naturally. Info@nationalpondservice.com



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Custom tatami mats from Japan cover the floor surrounded by the fish pond.

Tea Time!

Brewing a formal, Japanese-style koi pond

by **Kent Wallace**,
Living Water Solutions

About a year and a half ago, I received a call from interior designer Lisa Bozak of Design Therapy here in Las Vegas. Her client was doing a backyard makeover that surrounded the back side of his swimming pool, and the new addition included a pool house with a Japanese-style tea house incorporated into the design. The client wanted a narrow koi pond surrounding the square center of the room with a floor covered in tatami mats.

building was formed, and the layout for the koi pond was just being created. This was good timing, because the foundation hadn't been poured yet, and no plumbing had yet begun.

Sealing the Deal

The pond was only about 24 inches wide inside and slightly rectangular, with each side about 15 to 16 feet long. A sliding door next to the pool had a floor-level bridge that was to be poured with the foundation and another slightly wider-slab bridge that led into a kitchen area. Because the interior koi pond was part of the foundation on the left and back sides, it would have to be sealed with polyurea. I could just envision how irritated Paul Parszik of Artisan Aquatics would be, crawling

SERIES:
Best Pond Practices
This is an installment of an ongoing, multi-part series. Be sure to watch for further installments in future issues!



The floor is finished (top left), and the pond is coated in polyurea. Gravity-flow plumbing (top right) with foam hats create cavities in the concrete. An Aqua-niche skimmer (bottom left) is placed in a corner. The foundation and pond form (below right) is shown with walls being framed in.



Gravity-flow prefilters and biofilters (top) were installed in-ground. A copper tiled custom spill box (bottom) has a removable lid for maintenance.

through the narrow tunnels under the bridges at just more than 2 feet deep to spray the top and sides.

A small spill in the center of the back wall was the only water feature. For circulation, I decided to rotate the pond slowly counterclockwise with a gravity-flow, 2-inch return in each corner. I placed two 3-inch aerated bottom drains in opposite corners and two 5-inch aeration discs in cups flush mounted in the floor in the other two corners. An Aqua-Niche skimmer would go in the corner to the left of the sliding door for easy access.

Foam hats were used behind the forms on each pipe and in the floor to pour the concrete around. After the forms are removed, these foam inserts are dug out, leaving a cavity slightly larger than the fitting. Once the pipe is trimmed back and the fitting glued on, expandable foam is used to fill the gap left between the fitting and the concrete. Once the foam has cured, it can be trimmed back to the surface with a razor knife. Once the surface gets parged, any remaining holes or imperfections can be smoothed out.

The nice thing about using expandable foam is the fact that polyurea likes it and bonds well. So, if any foam is exposed on the surface, it doesn't pose an issue.

Once the polyurea was applied, clamp rings were installed as mechanical clamps to prevent any delamination over time. The upper 5 inches down from the top edge were coated with a strip of Laticrete 9235 as an attachment surface for the tile that was to be installed around the upper inside edge. There is a short window of time where the Laticrete will stick to the polyurea, creating a surface to which the tile and bonding agent will stick well.

Filtration

Each 3-inch bottom drain connects to a 55-gallon-drum radial separator. The prefilter barrels are connected at the bottom with 3-inch fittings and a 3-inch stainless knife valve inside one of the tanks, which is used to combine them when flushing. This allows for the use of one discharge pump instead of two when cleaning.

The auto-fill float is in one of the prefilter tanks with a separate 3/4-inch valve for quick filling after maintenance. A WLim Wave 1 1/6 Horsepower pump at approximately 4,000 gallons per hour pulls from each radial separator and from the skimmer through a plenum manifold with three 2-inch valves for balance and maintenance.

The WLim pump pushes the water to two biofilters, with a third valve on the outlet side going directly to the spill on the back wall of the pond. The first filter is an air-driven dilution reactor filled with 2-inch chunks of floating Matala mat aerated with a 60-liter-per-minute Medo air pump. This filter is the pond's real-time source of dissolved oxygen, which is required in a formal pond. The second filter is an up-flow sand and gravel filter for fines control. The 57-Watt, FlowFree UV light was placed in a down-flow position inside this tank with a small bleed hole in the top edge to prevent air from accumulating in the UV housing. The air bleeds out along with some water directly back into the filter. The water from the biofilters flows back to the pond via gravity flow.

Each filter empties into a 4-inch



An antique Japanese fireman's kimono is showcased above the copper spill.

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The filters and spills balanced out nicely, and when filled, the pond came in right at 2,000 gallons, giving it a two-times-per-hour turnover rate.

air purge chamber, eliminating any visible air bubbles before the water reaches the pond. Each air purge is reduced from 4-inch to 3-inch piping as they lead to the pond. Each of the two 3-inch lines divides into two of the corner returns at the pond. Using pipe size to divide the water flow eliminates the need for individual valves on each line for balance.

Spilling Tea

The spillway on the back wall was a little difficult. Most spills are made for pressurized flow, not gravity flow. The inlet fittings on most spills are never large enough for gravity flow. In the past, I would buy another manufacturer's spill box and modify it. In this case, I had limited space and couldn't find one that would work, leaving me to build one myself. I constructed the spill box using a 1/4-inch PVC sheet and plastic-welded the pieces together. Because it was to be installed inside the wall behind tile, I sealed the inside with a plastic sealer coat as insurance against any bleeding at the seams over time. A 2-inch fitting was installed in the bottom with a trimmed and drilled 2-inch tee as a diffuser. An angled plate fits inside the box, directing the water sideways and back to evenly distribute the flow before it reaches the spill. I made the spill lip out of a narrow piece of copper to match the copper tiles that were chosen for the spill surroundings. The tile guys did a great job hiding all my parts and made a nice matching cover for the spill box that can be easily removed for maintenance.

The filters and spills balanced out nicely, and when filled, the pond came in right at 2,000 gallons, giving it a two-times-per-hour turnover rate. The spill is very quiet, with the low sound of running water in the background. It should make for a nice meditation area once finished with the custom wood trim, ceiling treatment, tatami mats and well-chosen koi. ☪



Bonsai sculptures (top) are on shelves between the left wall and walkway to the tatami mats. The hole in the center will get a custom wood table. The pool and patio area (bottom) leads to the tea house through sliding doors.

About the Author

Kent Wallace was born and raised in Las Vegas. Kent spent most of his adult life in the automobile industry at independent shops and dealerships, including his own shop as a race car fabricator at age 24. Then, in 2001 a neighbor asked Kent if he could build her a koi pond like the one Kent's father had.



From that point on, pond building became his new passion. That first pond he built was submitted to Better Homes & Gardens magazine and won Best Courtyard Nationwide in their special interest publication.

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"We are honored to receive this recognition from this great pond community we love being a part of. Don't stop pushing your limits, trying new products and trying new techniques. The great thing about building water features is that two of them will never look the same."



Tim Wood, Aquatic Edge Consulting

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Dan Peterson & Diego Asturias, Fontana Ponds & Water Features

"We are so humbled to receive this award and recognition by our peers. We are so lucky to be able to pursue our passion for a living in this amazing industry! We are so grateful for those who have spent the time to teach the next generation of pond builders, and we will continue to pass it along!"



Jonathan Marston, FallingWater Scapes

"I'm grateful and humbled to have received this award from POND Trade Magazine. It's even more gratifying to know that my work has been judged by an elite group of water artisans whose features I have admired for years. Thank you again for the recognition - I look forward to being a part of the panel that will judge the incredible projects to come from a new set of artists next year!"

Erick Santana, Bella's Aquatic Gardens

"I have no words to express the thrill of winning this award. So happy to be a Water Artisans of the Year winner!"



New Matala BioSteps Kits

New BioSteps pond kits are ideal for water garden ponds up to 2,000 gallons and koi ponds up to 1,000 gallons!

These new offerings from Matala are available in four models: BioSteps Plus Kit, BioSteps Plus-WF Kit, BioSteps Pro Kit and BioSteps Premium Kit.

The BioSteps Premium Kit is the basic model with the 16-watt EZClear UV clarifier and the waterfall spillway. It comes complete with the new BioSteps filter, MF-1100EZ submersible pump and 25 feet of 3/4-inch, quality "kink-free" hose and connectors to make installation quick and easy.

The BioSteps Plus Kit includes a BioSteps filter with six Matala filter pads for "Progressive Filtration," two green Matala pads, two blue Matala pads and two gray Matala pads. It has amazing filter capacity and improved management of solids settling within the filter chamber. With a flow rate of 800 to 900 gallons per hour, it has an open-flow gravity return to the pond.

A new "Swivel Inlet Fitting" has barb sizes that include 3/4 inch, 1 inch, 1 1/4 inches and 1 1/2 inches. The outlet fitting is for a 1 1/2 or 2-inch pipe connection or a connection to the optional waterfall spillway. Its tank is made from automotive-grade plastic capable of cold and hot environments. For more info: www.matalausa.com

New Name and New Look: Mr. Kodama Koi Foods

Going back to the founder's belief that high-quality and healthy ingredients are the key to growing our beloved koi big, beautiful and healthy, Kodama Koi Farm is launching a new and refined brand identity of koi food, "Mr. Kodama Koi Food" in July 2022.

Mr. Mamoru Kodama, the founder of Kodama Koi Farm and the developer of the food, says, "Quality of koi food depends on the quality of ingredients.

My decades of journey were all about finding the right ingredients to raise koi big, beautiful and healthy."

The food is named after Mr. Mamoru Kodama, and the new look ensures that the food contains only the freshest and high-quality ingredients. Unlike defatted wheat germ in other brands, for example, raw wheat germ in Mr. Kodama Koi Food is 35 times richer in vitamin E, which enhances immunity and improves skin luster. Fresh fishmeal in Mr. Kodama Koi Food has only 1/10 of histamine content, which lowers the risk of your koi's health drastically. Spirulina is a high-protein, digestible superfood. Carotenoids in spirulina enhance the red color of koi. The carotenoid concentration of Mr. Kodama is about 2 times higher than that of commonly used spirulina.



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Introducing Atlantic's Newly Redesigned Pump Vaults

Atlantic Water Gardens is proud to introduce two totally redesigned pump vaults and a new vault extension that fits them both! The new PV7500 and PV15000 vaults occupy the same footprint as Eco-Blox, so the vaults can easily fit in rectangular excavations. Vaults are rotomolded of virtually indestructible polyethylene and heavily ribbed for long, worry-free service. Slotted on two sides with oversized inlets for maximum flow capacity, flat panels accommodate automatic fill valves and up to 3-inch plumbing. An extremely strong low-profile, injection-molded vault lid supports gravel and foot traffic, fits all sizes and can be removed without gravel



falling into vault. The pump vault extension increases the height of the larger PV15000 vault in deeper, larger basins, with each extension, adding the height of one Eco-Blox. The larger vault accommodates all pumps from the Atlantic-OASE line and can easily handle two smaller pumps. The smaller PV7500 vault has all the attributes of its larger sibling, but with a shorter height. Designed for use with our new Small Eco-Blox, the PV7500 is perfect for shallower excavations and the new lower profile Eco-Rise system.



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Fitz's Fish Ponds Opens a New Retail Location in Colts Neck, New Jersey

Fitz's Fish Ponds opened its third retail location in Colts Neck New Jersey, in March 2022. FFP entered into the retail business with its first store in Green Brook, and since has expanded to Fairfield, The Farm in Milford and now also Colts Neck, New Jersey.



"We are so excited to become a part of this new area and provide a positive shopping experience for those in and around the Colts Neck area," said Brian Fitzsimmons, owner of FFP. "We are also excited to bring more of our pond construction and landscape design and stonework services to this area as well."

The Colts Neck Retail Store is located on 315 NJ-34 Suite 101, Colts Neck, New Jersey and carries a wide variety of products, including Evolution Aqua, Bermuda, Atlantic, Oase and more. It also carries a large selection of Japanese imported koi housed in 7,000-gallon display tanks. Some of their prized koi are also kept on display in a beautiful indoor display pond. Tom, the FFP Colts Neck Manager, is extremely knowledgeable about everything from the inner workings of a pond and its equipment to koi fish care and is always happy to provide any advice a customer may need.

On April 23, 2022, FFP held a Grand Opening event for the new store. FFP was so appreciative for all the customers, old and new, who came out to partake in the event and show their support. They offered one free koi to each of the first 100 people in the door, and sure enough, people started lining up around 8 a.m. to collect their free koi. One father and son got there just shy of 5 a.m. to ensure their koi. Within the first half hour, all the koi were given out!

FFP prides itself on the connections they make with customers. "We are fortunate to be part of such a great network!" the company said. "We are happy to welcome our Colts Neck area customers to our FFP Family, and we are excited to see what is in store for us here!"

Ed Beaulieu Designs and Installs Unique Otter Pond for Blake's Exotic Animal Ranch

Ed Beaulieu, vice president of field research and contractor development at Aquascape Inc. in St. Charles, Illinois, designed and installed an interactive otter pond at Blake's Exotic Animal Ranch in Florida. This marks Beaulieu's third animal water feature collaboration with popular YouTuber, Blake Kaldirimoglu, who owns a collection of exotic animals. Previous projects include a capybara/duck pond, and an aviary pond.

Beaulieu designed the otter pond with a 1,500-gallon rainwater harvesting system to replicate a flooded forest, which is the typical habitat of the small-clawed, southeast Asian otter. A shallow, pooling stream connects to a 15-by-15-foot pond to provide an opportunity for the otters to swim and explore. A constructed wetland filter was incorporated to clean and improve water quality for regular animal use. Beaulieu added a short cement wall with a large viewing window on one end of the pond so that visitors can watch the underwater activity of the otters from a custom sunken seating area.

"The challenge of this particular water feature was to create a highly filtrated and interactive environment that engages all the sensory functions of the otter," Beaulieu explained. "Otters are prone to disease when they become bored. They're climbers as well as swimmers, so a small portion of a fallen tree and logs were added to the stream."

In addition to the otter pond at Blake's Exotic Animal Ranch, Beaulieu has designed numerous animal water features, including habitats at Lincoln Park Zoo in Chicago, Brevard County Zoo in Florida, the St. Augustine Alligator Farm Zoological Park, indoor and outdoor turtle ponds across the country, a reptile pond for YouTuber Kenan Harkin in Florida, a mink pond for YouTuber Joe Cotter in Utah, and more.

To watch the multi-part otter pond installation, visit the Ed The Pond Professor and Blake's Exotic Animal Ranch YouTube channels.



New 2, 3 & 5-Horsepower LakeSeries Fountains

Airmax is pleased to announce its LakeSeries Fountains. The LakeSeries Fountain is the premier lineup in the Airmax offering, stepping up in class with higher horsepower options, larger spray patterns and industry-exclusive design.

The new ISP (Independent Stability Pontoon) Float System's innovative design has reshaped the pond and lake industry, allowing for greater horsepower fountain displays without float rocking or the drumming sound of water hitting the float — two problems that have plagued larger-Horsepower fountains for decades.

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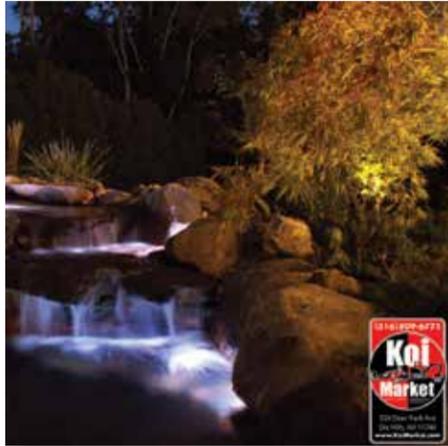
- Bottom-draw design pulls water from deeper in the lake for better aeration.
- Greater performance with lower operating costs than comparable fountains.
- High-quality control panels with standard dual digital timers to accommodate fountain and lights.

The LakeSeries is ideal for commercial applications, golf courses, housing communities, municipal spaces or any large pond or lake. Optional RGBW color-changing LED light sets are available for a nighttime display.

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The Airmax Fountain lineup consists of the EcoSeries (1/2 HP), PondSeries (1/2-2 HP), and LakeSeries (2-5 HP). The three series fit almost any budget, pond size or desired pattern. To view the entire Airmax fountain lineup, visit www.Airmaxeco.com.

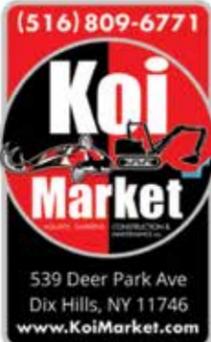




Koi Market Aquatic Gardens Moving to a New Location

Koi Market Aquatic Gardens plunged into the world of koi and ponds nearly a decade ago — a world in which it would quickly establish itself as a leader by becoming the largest Japanese koi dealer in New York.

During that time, Koi Market has succeeded in establishing long-lasting, trusted relationships with the best koi farms in Japan, from where Shawn himself, Koi Market's president and passionate koi expert, alongside his colleagues handpick only the very best Japanese koi to bring back to Long Island, and following a rigorous quarantine process and all relevant KHV tests, make available to koi lovers across the United States.



But Koi Market's passion for koi has always run deeper than simply serving established koi hobbyists; that's why, from its premises, it has enabled thousands of enthusiasts to get started with koi by being there to answer all their questions, deal with their problems, design, build, upgrade and maintain their ponds. It also acts as a one-stop pond supplier for filters, UV lights, skimmers, air pumps, aquatic plants, fish medications and so much more.

It therefore comes as no surprise that, for Koi Market, the time for change has come. Having progressed exponentially as a business and outgrown their premises in Huntington, they are now moving to a location.

The new premises are significantly larger and much improved, offering essentially an open canvas not only for more koi fish (although there will be plenty of that, too!) but also for building the ultimate destination to support the koi and pond market. The new facility includes a brand new section for bonsai trees, a large showroom to demonstrate pond designs and water features and so much more!

The property is located in a prime, very convenient location that is easily accessible from the Long Island Expressway 495 and the Northern Parkway.

You can now find their new and improved location at 539 Deer Park Ave, Dix Hills, New York.

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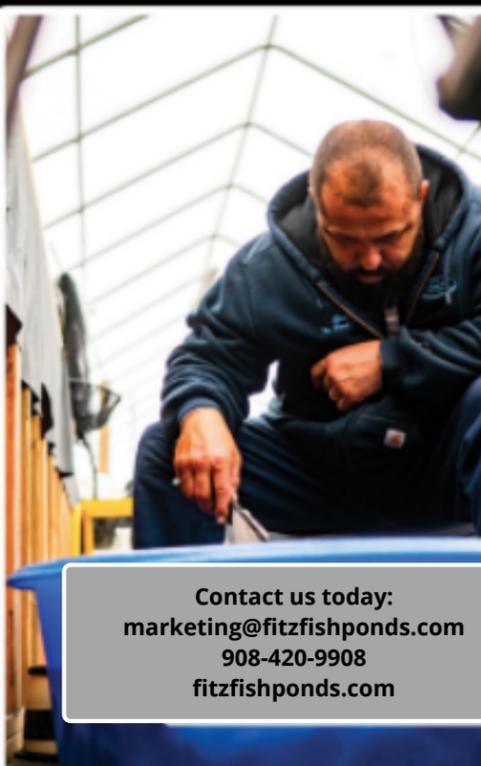


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