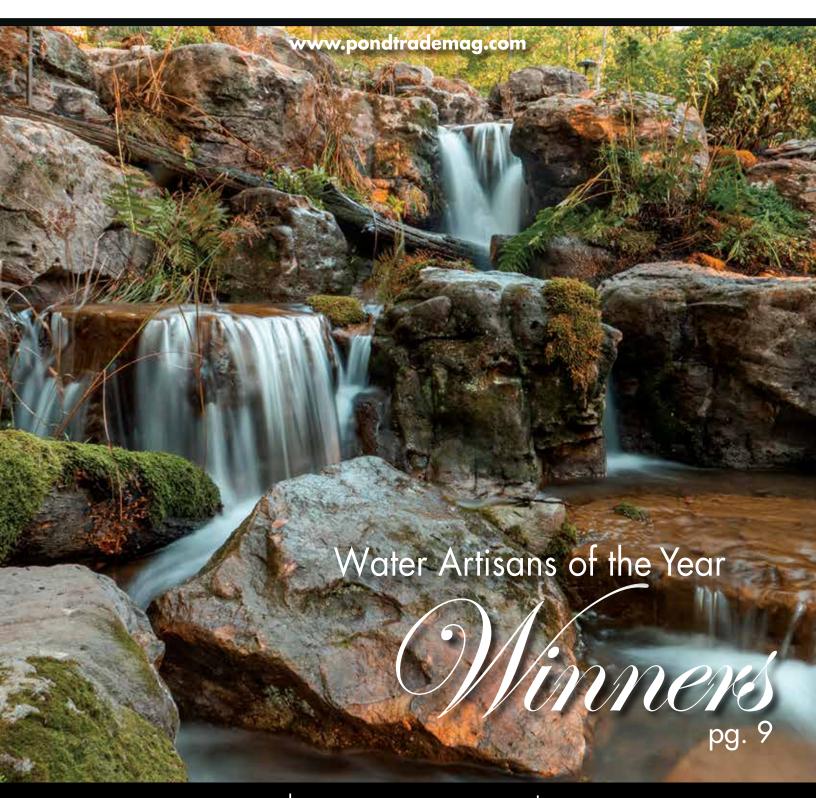
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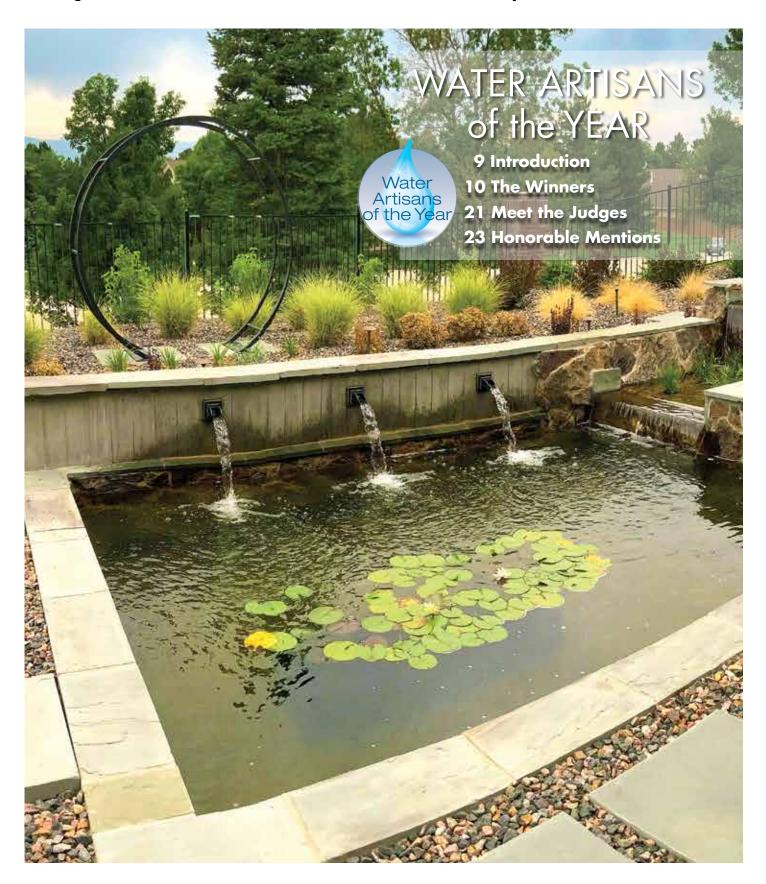


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# PONDTRADE

Serving Professionals in the Pond and Water Feature Industry



Volume 25 | Issue 2 March/April 2020



# 51

# FEATURES

Blast from the Past POND CONSTRUCTION

When Dan Johanson left his job to start his own water-feature business, he had no idea he would be called upon to revive one of his old employer's botched builds.

**Painting with Plants** 

If you want to transform a water garden without structurally overhauling it, consider adding variegated and other colorful foliage. **Kelly Billing** shows you how.

35 Selling in 17 Steps

Regardless of your sales style, it's essential to be thorough and make your customer consistently feel empowered. Use this list developed by **Kent Wallace** as a guide.

**△** 1 The Problem is Ammonia!

Algae blooms are a pond owner's worst nightmare, but as **Carolyn Weise** explains, the real culprit could be a critical chemical imbalance in the ecosystem.

45 Aquatic Acoustics

Water gardens are intended to evoke all five senses — including hearing. If you've never "tuned" a waterfall, **Tristan Adams** has some auditory advice.

51 The Pursuit of Perfection LANGUAGE OF KOI

We've heard a lot of myths about where you can (and can't) find high-quality koi. Joe Pawlak shares his experience and advice in seeking out that perfect fish.

59 Blazing New Trails

**Kelly Billing**, pulling double duty in this issue, recaps the 2019 New Waterlily Competition held by the International Waterlily and Water Gardening Society.

64 Can You Dig it? FLASHBACK!

In this issue's Flashback feature, we're going all the way back to May/June 2014. Aquascape's **Ed Beaulieu** outlines the basics of pond excavation.







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# Upcoming **Events**

# 2020

# March 7 - 8

# San Diego Koi Show

Del Mar Fairgrounds San Diego, California www.koiclubofsandiego.org/Koi-Shows

### March 13 – 15

### Central Florida Koi & Goldfish Show

Avanti Palms Resort Orando, Florida www.cfks.org/show-schedule.html

# May 5-7

### **National Hardware Show**

Las Vegas Convention Center Las Vegas, Nevada www.nationalhardwareshow.com

### June 27 - 28

### Pond-O- Rama Tour

20th Annual Garden and Pond Tour St. Louis, Missouri www.slwgs.com

# August 11 - 13

# IGC Center

McCormick Place / Lakeside Chicago, Illinois

# August 26 - 29

### Pondemonium The O Center

St Charles, Illinois www.aquascapeinc.com/professionals/ pondemonium

# September 9 – 11

# **Atlantic-OASE Professional Conference**

Cleveland, Ohio www.atlantic-oase.com

# October 21 - 23

# GIE+Expo / Hardscapes North America

Kentucky Exposition Center Louisville, Kentucky www.gie-expo.com

# November 8 – 13

# International Pool | Spa | Patio Expo

Mandalay Bay Convention Center Las Vegas, Nevada www.poolspapatio.com

www.igcshow.com

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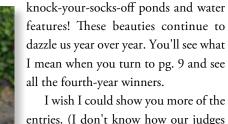
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# Publisher's Perspective

# Fabulous Four

Tep, it's hard to believe — it's already year four of the "Water Artisans of the Year" contest. Time flies when you're working hard!

It's really exciting to see what a lot of you have been up to over the past year. One thing hasn't changed: You all build some



I wish I could show you more of the entries. (I don't know how our judges narrowed it down!) Truth be told, we could fill an entire issue with all the amazing submissions we received, but you'll have to settle for the five winners and five runners-up. I don't think you'll be disappointed, though.

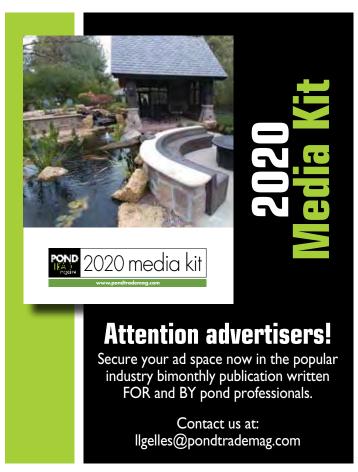
We like to shake up the categories just a bit each year, and this time we tried a new category, Ponds Revisited. It's nice to see how your work is flourishing a year, three years — even 10 years down the road, and how it withstands the test of time. It's also reassuring to know that your client still loves their pond as much as you enjoyed building it for them.

Thanks as always to our Supreme Stream Court for lending their time, discerning eyes and industry expertise (pg. 21). After you've finished admiring all the winning projects, you may want to jump in and show off your own best builds. Hold tight! Beginning this fall, we will begin accepting submissions for projects completed in 2020.

Don't miss everything else this issue has to offer! For all the artists and musicians out there, we've got a couple of features that may inspire your senses. Kelly Billing's article about variegated plants and adding greenery with splashes of color (pg. 31) reveals some visually stunning ways to transform a waterscape. I also enjoyed Tristan Adams' unique perspective about "tuning" the sound of waterfalls to achieve the effect you're looking for (pg. 45). Finally, do you often find yourself in search of the perfect koi? Joe Pawlak may have some valuable advice for you (pg. 51).

Happy PONDering!



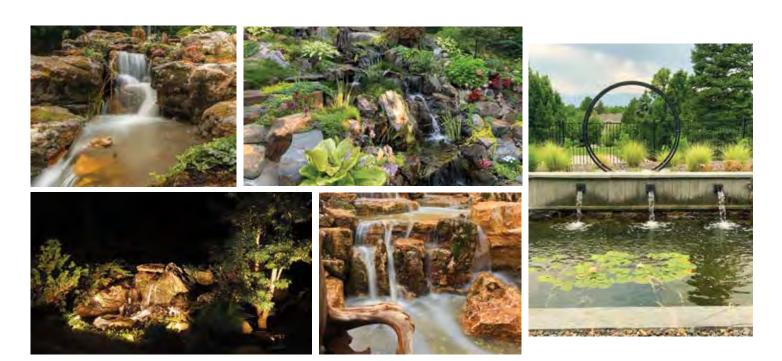




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# Water **Artisans**



# Water Artisans of the Year

Recognizing water gardening's best of the best

# by Jordan Morris,

Editor, POND Trade magazine

he secret is out — we love this time of year! Not only do we as a community start shaking off the frost and gearing up for the upcoming pond and water-gardening season, but we also get the privilege of bestowing accolades on the most noteworthy builds from the past year.

As you turn the following pages, the massively talented winners of the 2019 Water Artisans of the Year contest will wow you with their creativity and craftsmanship, and they could even inspire your next project. This year, four of the five winners join an elite club of two-time contest champs, with the fifth victor coming all the way from Denver — the westernmost project we've ever awarded.

Per the usual drill, we collected distinct project submissions in five categories and presented them to this year's independent judging panel with no brand names or contractors' identities revealed. This year's Supreme Stream Court brought together decades of experience from diverse backgrounds, so each submission received consideration from multiple different perspectives (Meet the judges on pg. 21!).

This year's returning categories were most naturalistic, best pondless, best project under \$15,000 and best hardscape combo. New this year, the "ponds revisited" category was dedicated to waterscapes from yesteryear that — like a fine wine — have aged beautifully over time.

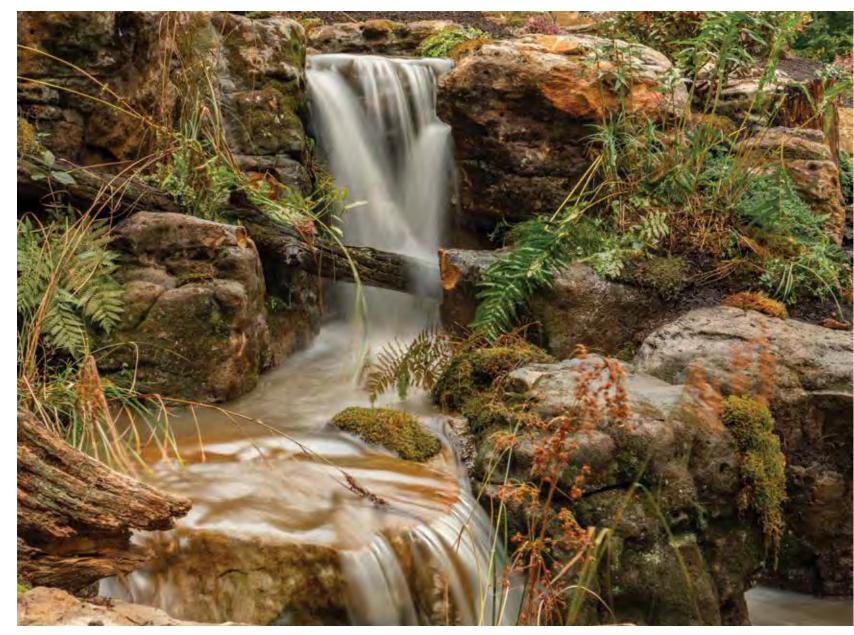
We required a \$25 fee with every submission, with all proceeds donated to St. Jude Children's Research Hospital, an award-winning charity that provides cutting-edge treatment to children without requiring payment. •3

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# **Weston Zimmerman**

This is Weston Zimmerman's second award in the Water Artisans of the Year contest. He and his team have been building water features for many years. Living in a rural area has allowed them the opportunity to grow up close to the outdoor world, and they still are drawn outside into nature for that inspiration. "There's something fulfilling about doing your best to recreate what inspires you in nature."



Sometimes the best projects materialize in the background while the spotlight is shining on something else.

Such was the case with this mystical pondless feature, which Tussey Landscaping's Weston Zimmerman originally upsold while on a consult for a patio project. Today, the patio is almost an afterthought, as the homeowner says he can no longer imagine this space without this trickling trophy of a water feature.

The 10-foot stream is outfitted with perfectly selected driftwood and mossy boulders and flows at about 7,000 gallons per hour. The feature comes alive at night with calming accent lighting — so calming, in fact, that the homeowner often falls asleep while relaxing beside it and listening to the water.



"It has completely transformed the space way beyond any way he could have imagined," Zimmerman said.







# **Shane Hemphill**

Shane Hemphill is with Colorado-based Art of the Yard LLC, the 2018 Atlantic Professional Contractor of the Year. With over 50 years of combined experience serving metro Denver and beyond, Art of the Yard strives to provide customers with the best in quality and service. This is Art of the Yard's first win in this contest.



When a customer presents very specific design criteria, the craftsman's artistic license is often suppressed. But in rare cases when there is synergy between customer's expectations and the contractor's creative freedom, the results can be absolutely spectacular.

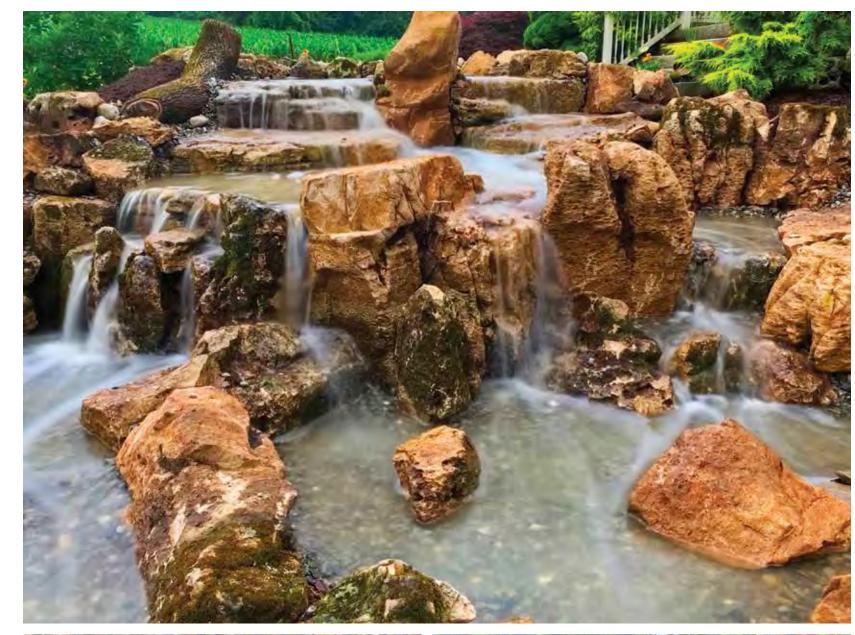
Such is the case here: a dedicated koi pond with clean lines and multiple levels, providing an ambiance of stately elegance in a formal setting. Shane Hemphill of Art of the Yard, the curator behind this blend between hardscape and waterscape, also designed an advanced filtration system that keeps this feature pristing on a perpetual hasis. The surrounding

filtration system that keeps this feature pristine on a perpetual basis. The surrounding hardscape motif is inspired by Denver's Clyfford Still Museum, giving a nod to the late artist's trademark abstract expressionism.

of the Year Water-wise with meaningfully placed flora, this masterpiece embodies western simplicity with a flair for the unconventional.

Water

Artisans







# **Bobby Kenyon**

Bobby Kenyon of C.E. Pontz Sons in Lancaster, Pennsylvania, won in the best under \$15,000 category in 2018. C.E. Pontz Sons has some of the most creative and well trained employees in the landscape and outdoor living industries. When it comes to water features and outdoor living spaces, they pride themselves on being different, not your everyday, run-of-themill, cookie-cutter landscaper.



Can we get a witness?

Artisans

of the Year

Because we've never seen anything quite like this enormous, disappearing waterfall that now anchors this Pennsylvania home's backyard. When you realize that this cascading scene was previously a drab flowerbed full of weeds, this waterscape appears all the more impressive.

The natural-looking, man-made arrangement of mossy boulders has truly transformed both the terrain of the property and advanced its sustainability. The intuitive design of the feature allows it to harvest rainwater from the low spots of the property that are hidden under the iconic

driftwood found along the edge.

"No need to pull out the hose to fill it up," Kenyon boasts, highlighting one of the many maintenance-friendly features of his custom creation.









Water

Artisans

# **Tom Dieck**

Tom Dieck won in the best pondless category in 2018. He has more than 33 years of professional experience and serves as the owner and chief designer of TRD Designs and Aquascapes East. His background includes a degree in landscape develop-

ment from the State University of New York (SUNY) at Cobleskill. Active in the green industry field since 1980, Tom is a Master Certified Aquascape Contractor and a two-time lead designer for ABC's "Extreme Makeover Home Edition."

Historically, the focus of this contest has been to showcase new waterscape construction projects. This year, we decided to mix it up a little with a new category dedicated to ponds of old that have aged beautifully over time.

The inaugural winner in this category is this dynamic, integrated, hill-side pondless waterfall system that was made over in 2005 by Tom Dieck of TRD Designs in New York. The history of this waterscape actually dates back to the 1980s when it was a concrete waterfall spilling into a simple pond.

Today, this bustling work of art integrates the rock that has existed in this landscape for centuries with an updated, handpicked vegetation selection to evoke an overwhelming aura of timelessness in this otherwise serene backyard.

"Knowing that the plantings around the water feature will ultimately determine how it blends into the hillside is something we take great pride in," Dieck said.





# Ely Ayala and Edwin Scott-Fortuna





Brothers Edwin and Ely of August Moon Designs have been building water features on Long Island since they were tall enough to reach the controls on a skidsteer. Together with their father, Demi Fortuna, they won the best renovation award in our inaugural 2017 contest.

This category serves as annual proof that it's not required to haul in massive boulders or perform high-end, intricate landscaping in order for a water feature to be considered noteworthy.

This year's shining example is this small but sleek moss rock waterfall that spills into a bird's feeding and bathing paradise, handcrafted by the brothers at August Moon Designs.

Edwin and Ely started by lowering the existing grade to elevate the feature and make it fully visible from the homeowner's window. A flattened stone to the left of the main falls receives its own separate flow to constantly refresh the shallow bathing area reserved for its many feathered visitors.

Lysimachia, iris and small grasses were planted around the perimeter, with a Lion's Head Maple and Hinoki Cypress chosen for the backdrop — not too shabby for a water feature on a budget.

Water Artisans of the Year feature on a budget.



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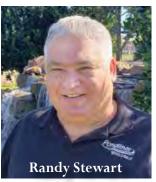


# The Judges















# The Supreme Stream Court

These 'wardens of water' lent their expertise

# by Jordan Morris,

Editor, POND Trade magazine

Just as in past years, we meticulously assembled a unique panel of leaders that we felt represented a wide cross section of the industry's capabilities and expertise.

Each "blind" entry presented to the panel consisted of a brief, contractor-supplied description with all names, companies and products hidden or removed, along with up to four photographs. Each judge submitted numerical rankings based on this informa-

tion alone. Our staff tallied up all the votes, and the entries with the most votes in each of the five categories (most naturalistic, best pondless, ponds revisited, best feature under \$15,000, and best hardscape combo) were crowned winners. Employees of POND Trade magazine with knowledge of the contestants' identities did not cast votes.

Keeping with tradition, the POND Trade Editorial Board invited two previous contest winners to serve on the fourth session of the "Supreme Stream Court," and we filled the remaining five spots with some of the leading builders, designers and busi-

ness professionals from around the industry. We'd like to send a shout out and special thanks to the seven aquatic authorities who dedicated their time and discerning eyes to this year's panel.

Mike Garcia, the founder of Enviroscape L.A., began his career in the horticultural field more than 25 years ago. Under his leadership, Enviroscape L.A. offers environmentally friendly, sustainable landscape design and water-feature installation services. The company has won numerous awards at the local, state, national and international levels.

**Dan Put** is the founder of Put's Ponds

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and Gardens based in Eastern Michigan. The company is a Certified Aquascape Contractor that draws on both traditional Japanese and classic English garden design to create special places of harmony and tranquility for people, birds and other wildlife.

Gregg Sawyer won last year in the best waterfall category for his brilliant makeover of a luxury subdivision entrance that channels the essence of Grand Teton State Park. His company, Sawyer Waterscaping, has installed and maintained water features throughout Southeastern Wyoming, Northern Colorado and Western Nebraska for the past 20 years.

Randy Stewart is the division manager at Unit Liner Company, the parent company of Shawnee, Oklahoma-based Pondliner. com, the host of the annual Water Garden Expo (WGE). Since 1998, Pondliner.com has served as the only wholesale distributor in the industry that operates both a retail e-commerce website and a local store.

Max Taylor of Magnolia Ponds and Water Gardens was victorious in last year's best under \$15,000 category. His industry experience dates back almost 40 years. Currently, his Woodland, Texas-based company specializes in complex backyard design makeovers and has won multiple national awards for design in both the pond and swimming pool industries.

Kent Wallace is a regular contributor to POND Trade magazine and has been building and designing ponds for almost 20 years. His first pond won Best Courtyard Nationwide in Better Homes & Gardens magazine. His Las Vegas-based company, Living Water Solutions, has a unique core competency in specifying right-sized filtration and equipment for projects of all sizes.

Jeff Weemhoff is the president of Atlantic Water Gardens, a recent addition to the OASE Group that offers a complete line of contractor-ready, professional-grade water feature products. Atlantic Water Gardens is based in Aurora, Ohio, and their innovative products are available at hundreds of distributor locations throughout North America and across the globe. 4

# **Runners**-Up

# **Runners-Up**

Admiring the view of these second-place finishers

# by Jordan Morris,

Editor, POND Trade magazine

Year over year, it's always the hardest part of administering the contest. No question, the winning projects are jaw-dropping, but how do we not show off a few of the other sensational entries we received? Limiting the love to just five winners simply isn't our style.

Here are the runners-up in each of our five categories, along with a sneak peek of their project submissions. You might notice a couple of familiar names. In a couple of cases, just one vote separated winners from second-place finishers.

POND Trade magazine is proud to host the annual Water Artisans of the Year contest, the pond and water-garden industry's only independent, unsponsored annual competition that levels the playing field for all contractors, regardless of company size or affiliation. We'd like to extend a special thanks to everyone who participated in this year's contest for their donations to St. Jude Children's Research Hospital.

Are you inspired yet? As pond season revs up, start saving your notes and photos of your most impressive projects, because we will announce the categories and start accepting entries for 2020 early this fall. Will we crown our first three-time winner? And do you have what it takes to be a Water Artisan of the Year?

Water Artisans of the Year

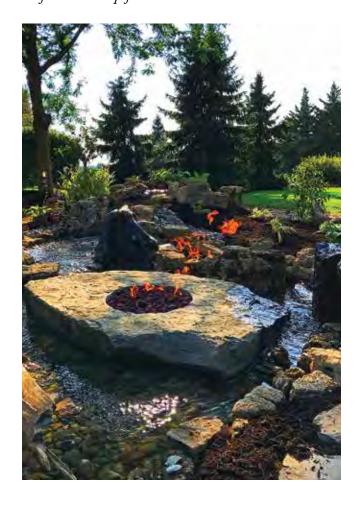
# Runner-up

# Best Hardscapes Combo

**Bobby Kenyon** C.E. Pontz Sons

www.cepontzsons.com

Installing outdoor porcelain tile over the top of an existing concrete patio created a perfect viewing area for this feature that combines fire and water. A gas burner cored into a natural boulder was integrated into the middle of the water feature, which also includes a two-column basalt fountain and a custom driftwood stump fountain.







This pond in Glen Ellyn, Illinois, has withstood the test of time, featuring updraft wetland bog filtration to maintain optimal water quality without a lot of hassle. Over the years, the surrounding landscape has evolved, growing in beautifully around the waterscape and showcasing just how lovely a pond can be when revisited.



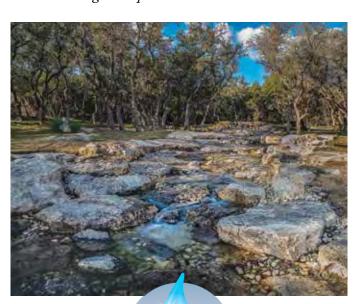
Runner-up **Pondless Tom Dieck** TRD Designs / Aquascape East www.landscape4life.com

Wrestling with this New York property's steep slope and tendency to flood, Dieck's team installed a giant waterfall with a 7-foot main drop viewable from a new, enchanting terraced garden. Visitors are rewarded for their effort to climb this harrowing path when they encounter the origin of the falls — a large, bubbling boulder that can only be seen while basking in the warm glow of the campfire.



Runner-up **Most Naturalistic** John Schwarzlose Freshwater Ecosystems www.lakesponds.com

In the backyard of a 50-acre homestead deep in the Texas Hill Country between Austin and San Antonio, this large-scale feature is inspired by the limestone creeks and rivers that meander throughout the surrounding area. Recirculating from a nearby 1-acre pond, it flows at about 190 gallons per minute.



Water Artisans of the Year



This front-yard pond is built up against the house's foundation, allowing the sights and sounds of this feature to seep right into the Artisans home office. Work breaks consist of the Year of gazing out the bay window, a vantage point that cantilevers the viewer over the pond. If the window

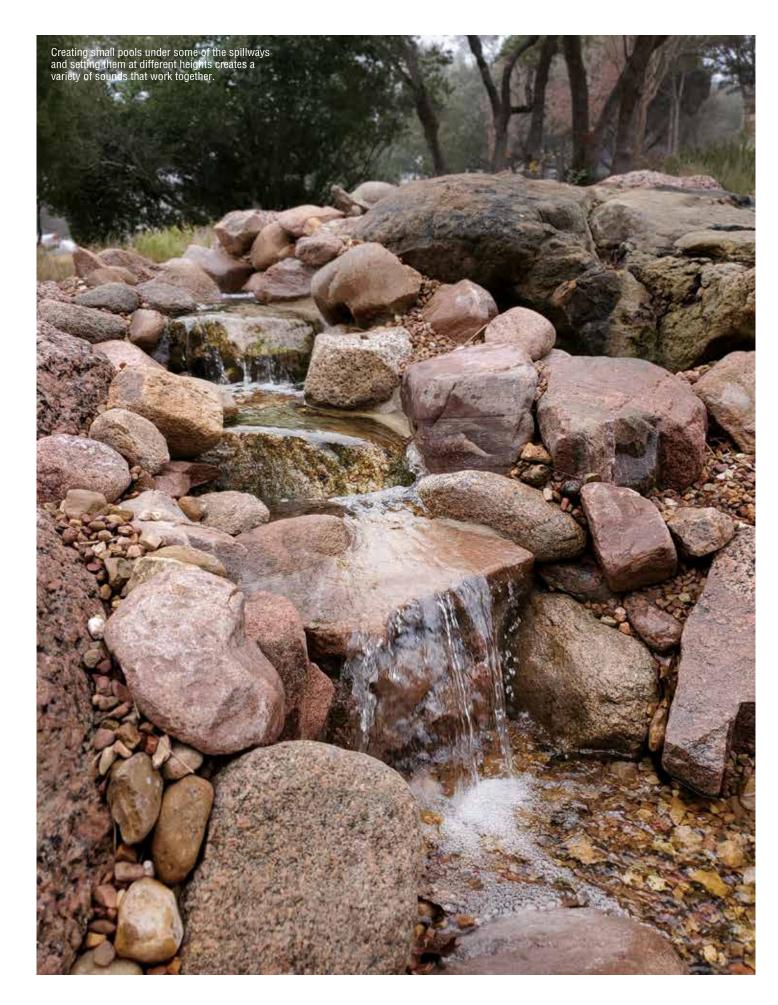
view isn't satisfying enough, an Adirondack chair awaits just on the other side of the front door.

Water





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# Blast from the Past

Overhauling a botched pondless waterfall

# by Dan Johanson,

Focal Point Features

Before starting my own water-feature business, I was the foreman for a high-end landscape company in town. I headed up the water-feature department and pushed to make it a bigger part of the business. It wasn't long after I had created a handful of really cool water features that my future wife Melissa, who has a very strong entrepreneurial spirit, got in my ear about doing it for myself. I knew that growth was limited within the company I was working for and wanted more for my future, so we decided to give it a go as a team.

Fast-forward a couple of years, and my new company, Focal Point Features, got a call from a delightful woman who was having some significant problems with a pondless waterfall that had been built for her.

# **Something Familiar**

I went for a consultation and quickly realized that it had been built by the company I'd used to work for. I remembered when they had started this project, because the foreman reached out to me for advice. (Unfortunately, it appeared that they did not follow through with my recommendations.) Don't get me wrong — this particular company's landscaping is some of the best I've ever seen — but water features should be left to the professionals. After all, as more landscaping companies add water features to their list of services, we have noticed a drastic rise in the number of calls for rebuilds and repairs.

The first thing I noticed was a huge sandstone boulder with a ½-inch hole drilled in the top to create a bubbling rock. The boulder was too big for the 4-by-4 box kit below it, which created excessive splashing and a huge leak. I examined the waterfall area and saw a handful of leaks in the stream area due to the low liner and poorly placed rock. I further noticed that they had an oversized pump with undersized plumbing, which had quickly burned out her pump. When I looked in the reservoir box, I saw a hole drilled below the water level to place the auto-fill. The water was continuously leaking through hole, keeping the

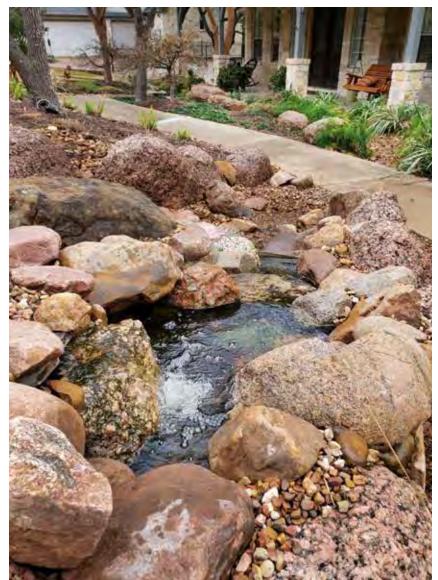


You can see an outline of the granite boulders we had to work with, along with the exposed liner peeking out from very questionable rock placements



The makeover of the feature is almost complete, with most of the spill-ways finished. Next, we just add gravel to cover the liner and reservoir.





Top: We achieve our signature style by positioning rocks as if they'd naturally fallen into place. Bottom: A reverse view from the top of the waterfall shows the porch swing where the customer sits to enjoy the sights and sounds of her new water feature.

auto-fill running constantly. Needless to say, she had an enormous water bill.

The outskirts of the water feature consisted of large granite boulders that were actually set nicely in the land-scape. This was fortunate, because it would have taken a lot of extra time and money to move them.

Visually, things went wrong with the falls and body of the stream. It appeared very two-dimensional, with no curves or shape to show intrigue or mystery. There were just too many types of rock — red sandstone, black slate and pink granite — that caused visual chaos. The details were lacking, with a lot of visible concrete and liner showing.

The homeowner's pain points started during the installation process with the landscapers. She sensed a breakdown in communication, and things weren't going the way she wanted. She made the best with what she was given, but the functional issues began right away. For her, this was a two-year headache of trying to repair these issues, with no real solutions.

I told her about my history with this feature, and we had a good laugh about the small world we live in. She said she was thrilled to have found me. I knew exactly what to do to get her waterfall looking great and functioning properly.

# **Rebuilding Commences**

First, I showed her what I had found and explained how and why there were so many issues. I wanted to be sure to prioritize a conversation about wants, needs and expectations so she'd be happy with the end result.

Bottom line, she said she wanted something more natural. We started the demo by removing all the rock we could and working around what we couldn't. Everything was removed from the center of the feature, including the sandstone, concrete, slate and liner. We discussed options with the homeowner and ultimately decided to repurpose the large bubbling sandstone boulder instead of bringing in machinery, breaking it up and hauling it off. By keeping it as an accent boulder, we could use it to our advantage and hide the beginning of the falls behind it, giving it a more engaging appeal and leaving the viewer curious about where it began. To achieve this effect, we used dirt and rock to add 1 foot of height and 2 feet of length to get the waterfall up and around the backside of the boulder. I filled the hole and covered it with gravel before drilling holes in the bottom of the basin so that stagnant water couldn't collect when it rained.

Next, we shaped the dirt in the stream area and added some curves to help with the natural look. I repaired the hole in the other reservoir and rerouted the plumbing up and over the lip of the box, disguising it with rock. To be safe and to ensure warranty, I

installed a new auto-fill.

Since the previously installed 3,000-gph pump was burned out, we replaced it with a 2,400-gph pump. The original plumbing was a no-kink ¾-inch Danner tubing, which is excellent for smaller water-feature designs, but in this case, it was too small. We replaced it with 1 ½-inch spa flex to provide the sound and flow rate she desired.

We set the liner into place and began to design the new waterfall and stream. I took a moment to sit on her front porch swing to get a feel for her view to help grasp the bigger picture and to gauge where and how I would like to see the water spill and drop. From there, we began to place boulders. We needed the rock to work together in order to look natural. We replaced the original sandstone and slate spillways with additional granite boulders to match the outer edges that were already set. We positioned them as if they had fallen into place.

The previous design had three spillways crashing into gravel, which is a great sound when combined with water-on-water sounds, but it can sound a bit busy and fast. To create a more melodic sound, I created pools of water underneath three out of the four spillways.

# **Full Circle**

I have done a lot of rebuilds, but this one takes the cake with regards to transformation — not only in the story, but in the water feature's essence. The visual change was a drastic improvement. Sitting on the front porch swing with the customer enjoying the sights and sounds of her new water feature, I felt a sense of calm come over her. This project was finally complete. She was so happy that she came to tears. After so many issues for so long, she finally got a problemfree water feature that she could enjoy. Not only was it fully functioning, but it had become what she had always wanted from a visual standpoint. As she stated in her testimonial, "In three days, he turned a really ugly situation into a more beautiful water feature than had existed prior."

To be able to come in and give this customer exactly what she wanted is one of the reasons why I do what I do. Even though

I was running crews as a foreman at the landscape company, I did not have the free rein I needed to do things the way they needed to be done. Watching this water feature come full circle reassures my decision to create my own path in the industry.

# **About the Author**

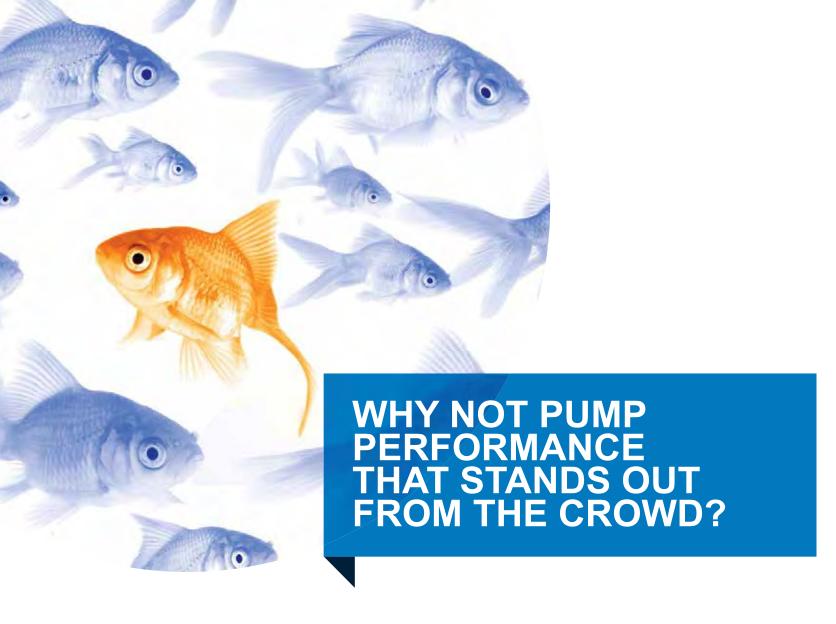
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started Focal
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plants combined with his experience with water features was something Austin, Texas, would truly benefit from. Melissa's passion for people and marketing put the company on the map. Recently married, they are great partners in life and business.







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# Variegated Foliage

# Painting with Plants

Transform a display with variegated and colored foliage

# by Kelly Billing,

Water Becomes a Garden

Plants with colored foliage are a luxury, an anomaly, and quite often, just the right splash of color or contrast to make magic happen. There are several ways they can effectively transform a display. Foliage, by any definition, has the ability to shape a landscape with its color, form or shape. Botanically speaking, variegated foliage can be defined as plants marked with patches, spots or stripes of different colors, or as a plants having or consisting of leaves edged or patterned in a second color, especially white and green.

Modern hybridizing techniques are changing the game. The traditional green and white is still as vibrant as ever, but the pallet has expanded

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substantially. Glowing chartreuse, yellow, cranberry-red, pink, burgundy, purple, orange, black and green in endless shades can blend together in subtle mutations an dramatic color combinations.

As evidenced very dramatically by Colocasia (or Taro), foliage color is highly diverse among variegated plants. Some examples seen above include Colocasia esculenta 'Illustris', Colocasia esculenta 'Red Stem', Colocasia 'Mojito', Colocasia 'Black Magic', Colocasia 'Elepaio', and Colocasia 'Black Beauty'.

# **Splashes of Color**

Dynamic foliage combinations that



carefully consider texture and color can be so effective that this role reversal can render flowering plants secondary in an arrangement. Hakonechloa macra 'All Gold' and Colocasia 'Jet Black Wonder' are sprinkled with vinca, begonia and petchoa (a petunia-Calibroachoa cross).

Forest Grass.

A flash of vibrant color (Colocasia 'Elena') can be the lighthouse that beckons a visitor closer. It signals in the distance, "Here I am! Come see me!" The variegated Iris laevigata offers just enough color to keep things from being too dark in the midfield view.

In some plants, light and foliage interact to create interesting effects. Colocasia 'Tea Cup' holds its leaves upright rather than vertically. The leaves become very large and quite tall. The sunlight illuminates them from the inside, and the dark veins and subtle changes in the greens are exaggerated for added interest.

Many cannas have variegated foliage, but none can compare to Canna 'Intrigue'. When the sun shines directly on the leaves, they are a mediocre, dusty gray-green with







subtle burgundy mixed in.

Cast the light from the side, and they begin to come alive. The green and red become bold, and the contrast is defined. When backlit completely, the leaves are on fire! The transformation is somewhat surreal. If they are planted on the north side of a water feature, the production will be lost. Place these beauties on the east or west side of the pond to see the daily rotation of color, or site them on the south side for a breathtaking mutation of orange, green, burgundy and red. Add a breeze, and the color magically

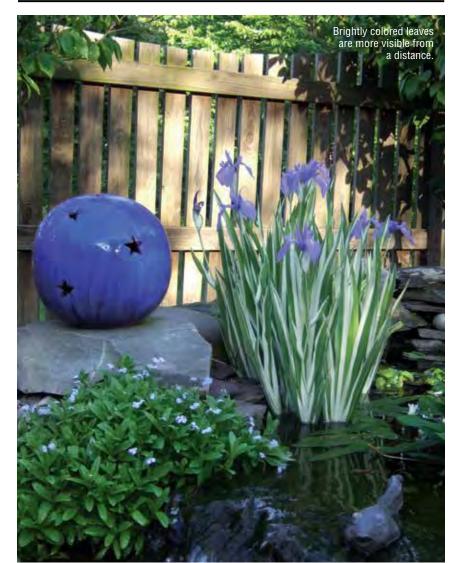
shifts on the leaves as they move.

# **Make a Statement**

A wise man once told me that most people spend more months indoors looking out at their gardens than outside interacting with them. Variegated plants are more effective at making a statement than their green counterparts, especially when they are viewed from a distance. The bright foliage colors are more visible, and therefore better at announcing things like, "Spring is here!"

In a shaded pond, lighter greens,

Variegated plants are more effective at making a statement than their green counterparts, especially when they are viewed from a distance.







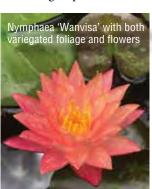
Nymphaea 'Foxfire' (above, left) is planted deliberately against the raised walkway (Photo credit: Stephen Dunn). The colors are layered from front to back (above, right) in this combination of Colocasia 'Elepaio', Canna 'Australia' and Baumea rubiginosa 'Variegata'.

bright yellows and splashes of white can provide focal points and liven up a dim corner. Saururus chinensis tolerates shade, has bright green leaves and throws a brightwhite leaf just before blooming. It's like a glowing surprise.



The variation of color doesn't end with shallow-water plants. Hardy, tropical and intersubgeneric species of waterlilies offer both subtle and breathtaking combinations of color on their foliage and flowers. More





and more new hybrids are making their way to market with exceptional color combinations. Over the past few years, several winners of the International Waterlily and Water Gardening Society's New Waterlily Competition have had strong variegated foliage and flowers (see pg. 59).

# **Plant With Purpose**

When pulling it all together, make certain that the plant combinations are complementary. Too many color splashes can get messylooking and distract from the focal point. Colored foliage should be used en masse and with purpose to highlight the structural differences of companion plants. Brighten a dark corner, or create a destination at the end of a bridge. Sometimes revealing just a hint of color can be enticing enough to lead you around the bend for a magnificent display.

A great garden starts with a well-executed plan. Create a lasting impression. 🗷

# **About the Author**



has 33 years of experience in the water gardening industry wholesale trade. She

**Kelly Billing** 

gardening industry
wholesale trade. She
is currently a lotus
grower and industry
consultant with a focus

on creative, site-appropriate use of aquatic plants for effective, long-term display. With a rich history in water quality research, she promotes the use of natural processes over chemicals to improve water quality.

She has co-written "The Lotus, Know It and Grow It" with Paula Biles and "Water Gardener's Bible" with Ben Helm. For information about way 'Water Becomes a Garden,' visit www.kellybilling.com





# Selling in 17 Steps How to empower your customer's choice

# by Kent Wallace,

Living Water Solutions

The water feature industry is relatively young when compared to most of the established trades within construction, so it's not uncommon to see seminars at sales conferences that focus on the bidding of a project, selling a project and closing on a deal.

# **SERIES:**Best Pond Practices

This is an installment of an ongoing, multi-part series. Be sure to watch for further installments in future issues! No question, the initial project consultation should instill confidence in the customer regarding your abilities as a contractor and show off your expertise in each aspect of the project. Every contractor has their own construction style and skill set, but the overall process tends to be the

same. The goal is to be the last contractor standing after the potential client has interviewed all the interested bidders.

# **Keep it Simple**

Have a list of topics ready to review with client in person, allowing them the opportunity to understand the importance of

each component of a successful pond. This list should include every potential detail, such as the method of skimming the surface and moving the water from the bottom of the pond to the top, oxygenation, circulation, prefiltration, biofiltration, redundancy and maintenance. It sounds like a lot of technical stuff, but once you get used to doing it, it will become more casual. The client will not only appreciate your expertise, but they will also feeling empowered with a level of knowledge that they will expect when interviewing your competition. Don't make the mistake of thinking you are giving up trade secrets — you're not going to talk about specific construction techniques unless you feel that it benefits you.

Over the years, I've developed my own list of questions that accompanies me to initial interviews with contractors, architects and their clients. I've found that the list makes the client more comfortable having a conversation with you. If the client has not hired an architect or contractor, they can apply the information you give them to clarify their expectations. This gives you the opportunity to establish a good rapport, with an early relationship established between you and the client. Others involved with the project will respect this relationship,

and you will establish a line of referrals for when your expertise is needed.

# What's on the List?

Every list needs a header, and it's best to try to fill it out beforehand. Make sure to include the client's name, contact information, the project type and description, and the names of other contractors or architects on the job.

Next, in no particular order, include line items for each of these 17 data points:

**Size** should include dimensions, depth and approximate square footage along with gallons per foot of depth. **Volume of filtration** and **target turnover rate** come next. If I receive a set of plans from an architect, landscape architect, pool contractor or general contractor, I can usually fill these out ahead of time.

**Filter location** may not be determined until you've had time to examine the project, but it definitely belongs on the list. Next, include the type, and location and number of **skimmers**, including the mid-water drain when appropriate.

Have sections dedicated to discuss **bottom pond water removal** and circulation, explaining the benefits of bottom drains, suction grids, aeration-only systems, vertical pond returns or whatever best fits the pond type and gets the job done. Do the same with **aeration**.

Include a conversation about the types of **prefiltration and biofiltration** that might best fit the project, and list the preferred locations. Then, specify whether a submersible, external, airlift or a combination **pump** is preferred, and include its location. For **circulation**, does the shape of the project need to be adjusted, or does the current plan just need a few returns? If you're using a UV light, which circuit will it be on?

Next, list strategies for **redundancy**. Can you put multiple pumps on separate ground fault circuit interrupters (GFCIs) or separate the aeration or UV light from the water pump? Mechanical and electrical devices all fail at some point, so making sure the whole system doesn't go down when one component fails is important.

Have a small section with what type of surface and sealing is planned — EPDM, polyurea or another type? Even concrete ponds crack over time and need to be sealed appropriately. Suggest the options for edge treatment based on the style of pond you're building. Is formal or landscape (garden) edging, or is it a combination. If the pond is raised, the exterior becomes an architectural element and needs to feel like it fits in with the surrounding landscape or hardscape.

To make sure everything is done by the book, discuss steps for egress, lighting and any other issues that might involve **local codes**. Are there additional water features or **alternate lighting** that might be integrated? What will the **maintenance** look like? (Who will do it? Is there a contract? Where will the cleanout water go? How will water changes be accomplished? What type of autofill will be used? Be as thorough as you can.)

Finally, perhaps most importantly, calculate the overall **budget range**. The system must be designed properly for the size of pond. If the budget isn't there for a given

size pond, the customer's expectations need to be adjusted now, and not later. At least get a ballpark price range in place before you spend a lot of time on a design the customer wants but can't afford.

# Wait — 17 Items?

If you think about it, these are all topics that you must address anyway, so why not do it with all the other parties involved? Once you get used to it, you'll be surprised at how fast you can go through these in front of a client, architect or contractor. The list also helps you stay focused and on target. Many times, the conversation will jump around a bit, because the client wants to talk about their favorite part or something that is troubling them about the project. Having the list helps you get back on track without leaving anything out.

It's a good idea to double or triple-space the lines to leave plenty of room to write and take notes. If you take a couple of copies with you, it's easy to clean it up a bit before you leave it behind to show the client that you are paying attention to their needs.

Another good use for your completed list is to send it directly to an architect or contractor before or after they've sent you a set of plans and get them to fill it out as much as they can before a meeting. This allows them to think about the requirements themselves and can lead to a better understanding of the needs and desires of their client — as clear communication with architects and contractors is often lacking in our industry. Over time, they will start to use your list before they call you with a new project.

By empowering your client, you stay ahead of your competition. This will set you apart from those who may not be as thorough. By using this list, your client will begin to recognize statements like, "you don't need all of that," and "this isn't important" when talking to other bidders, and they will know that they should expect more.

I encourage you to make your own list based on this article, or feel free to copy mine and modify it to fit your needs.

# **About the Author**

Kent Wallace was born and

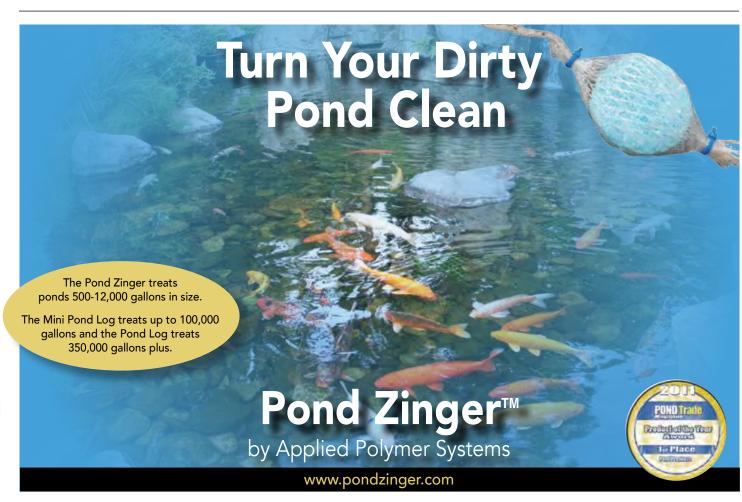


raised in Las
Vegas. Kent
spent most of
his adult life in
the automobile
industry at independent shops
and dealerships,
including his

own shop as a racecar fabricator at age 24. Then, in 2001, a neighbor asked Kent if he could build her a ko 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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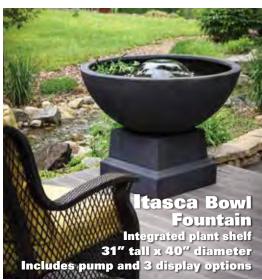




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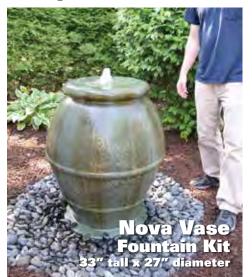
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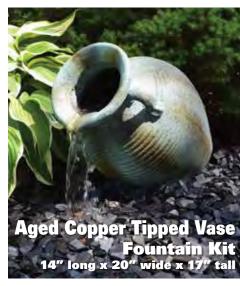




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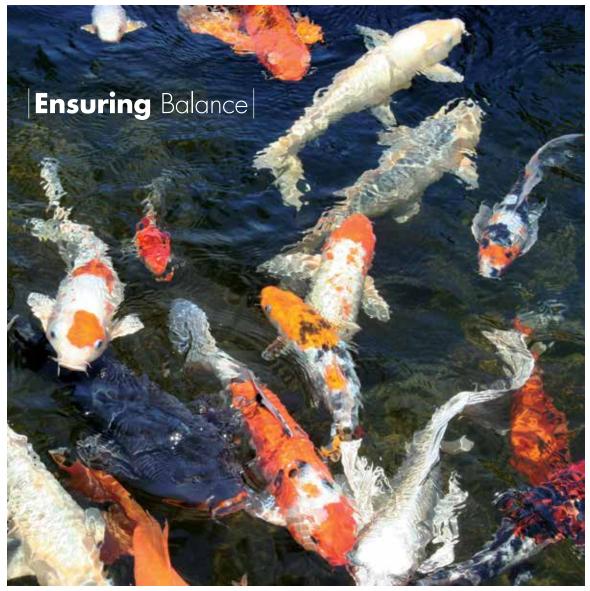
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A fully-stocked pond can still have both healthy fish and good water quality.

# The problem is **AMMONIA**

Striving for balance in an aquatic ecosystem

# by Carolyn Weise,

Ecological Laboratories, Inc.

o two ponds are alike. However, the common biological processes within every pond's ecosystem are essential and must be carefully monitored and maintained. No matter what type of construction or filtration you select, a success-

ful, healthy ecosystem will depend on the level of pond management, the fish load, the amount of food added and the extent that the aquatic ecosystem's biological food web can support marine life.

The first step to achievement of good water quality is understanding certain essential biological processes. The second step is taking the necessary actions to correct issues that may contribute to chemical imbalances in your pond — especially an

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This small goldfish pond (left) includes gambusia. These two species are capable of overwhelming a system, given one pump and no modern filtration. The food web participants are doing all the work. Just smell the ammonia in the bottle (middle) — do you want your fish swimming in that? Everything is thriving in this beautifully balanced pond (right), even though a light covering of algae is visible on the bottom.

overload of ammonia.

# Where Does it Come From?

Most ammonia is generated from the biological breakdown of fish food, which contains nitrogen-bearing materials that are biologically converted to amino acids, and then to ammonia. Thus, whether it goes through the fish or lays uneaten on the bottom of the pond, excess fish food is a huge generator of ammonia. Ammonification is the process of ammonia production. The removal process is called nitrification.

Microbes called consumers oxidize (or remove) organic waste matter produced by excessive fish food and marine life within the ecosystem. Then, there are very important microorganisms called nitrifiers that are responsible for the reduction of ammonia that is generated within this biological process. Ammonia is converted to nitrite and then to nitrate. These are key, essential members of the food web inventory.

These ammonia-oxidizing species are not the same as the microbes that oxidize organic waste produced by excessive fish food and marine life. And, while these microbes are not in the published food web, many forms of life in the marine web will not survive without the support of certain cultures and elements in the environment to stabilize them. This is certainly a missing link — or building block — that assures the ongoing health of the ecosystem, with or without the ing the underwater plants that play essential extraneous bells and whistles.

Let's say the aquatic ecosystem in your

customer's pond has two important essential biological processes taking place 24 hours a day to maintain the health of the environment. First, there's the biological removal of the organic waste matter that results from heterotrophs and the nutrients provided to support them within the ecosystem. In this process, the organic waste is biologically reduced, with the waste matter converted all the way to carbon dioxide, water and ammonia. Second, aerobic autotrophs remove ammonia from the water, making it safe for your fish and other marine life. This can only be done by your nitrifying bacteria.

# The Algae Connection

According to Karl Blankenship, the editor of the Bay Journal, while plants like nitrates, algae actually prefer ammonia. Algae prevention is in direct correlation with ammonia reduction.

"Algae have to convert nitrate ... into ammonium before they can use it," Blankenship said. "When ammonia hits in the water, it is ready to use. Algae do not have to spend any energy to convert it, so more of the nutrient is used for growth."

That's right. Simply put, ammonia has the capability to spur more algae growth than nitrate can. When there is more algae than the organisms can consume, one-celled plants like plankton can die. Algae can also cloud the water, blocking light from reachroles in balancing the ecosystem.

Dr. Hans Paerl, a researcher at the

University of North Carolina's Institute of Marine Sciences, said that an overabundance of any kind of nitrogen will probably enhance algae growth. "But it may turn out, depending on what the nitrogen source is, that (growth) may be expressed in different kinds of algae," he added.

Dr. Paerl also stated that historically, rain would have carried little nitrate or ammonia, causing almost all the nitrogen to wash out of the rivers. However, atmospheric deposition bypasses that route, directly delivering nutrients (including ammonia) to nitrogen-starved algae populations. Studies show that a large nitrogen pulse delivered during a storm can be consumed within a matter of hours, leading to the all-too-familiar algae blooms that pop up after heavy rains.

# How to Manage it

While almost everyone understands ammonia and its potential toxicity, ammonia management is where most pond problems occur. This is related to achieving and maintaining nitrification, the biological process for ammonia removal. We like to call it "cycling the pond."

Keep in mind that this biological process is a completely separate bioprocess from the biological waste-removal process, and it is carried out by a separate group of microorganisms that have different support requirements. These are essential to the process, because without them, nitrification will stop, ammonia levels will spike,

and fish mortality will occur.

For the sake of simplicity, remember that two groups of autotrophic bacteria are responsible for ammonia removal: Nitrosomonas, which oxidize ammonia into nitrites, and then Nitrobacter, which oxidize ammonia into less-harmful nitrates. The end process may generate some visible effects of algae and plant growth in the pond, since plants utilize nitrates in the process of photosynthesis.

In ammonia oxidation, carbonate hardness, or KH, is one of your tools. In order to achieve and maintain a healthy "cycle" in the pond, assure a safe level of KH, which is perhaps the most overlooked and yet vitally important parameter of the pond. If the KH drops below 80 ppm, a new cycle is set in motion — a downhill slide. Nitrobacter are unable to oxidize nitrites, so the nitrite levels will rapidly build to toxic levels and cease nitrate production.

As a rule, a pond requires 7.1 ppm KH to remove 1 ppm ammonia. Sources of ammonia in the pond include fish exhalation, organic waste reduction, uneaten food, dead insects and dying vegetation, and dirty filters and skimmers. A continual buildup of ammonia would rapidly become toxic, and it becomes even more toxic at higher temperatures and higher PH. Ammonia actually exists in water in two forms, NH3 and NH4+. The NH3 form is called free ammonia and is toxic to fish, while NH4+, or ammonium salts, is not. Ammonia below a pH of 7.6 will be in the non-toxic NH4+ form, while it will take the toxic N3 form above a pH of 7.8.

Heavily stocked ponds will naturally utilize more KH during nitrification on ongoing basis, putting their cycle at risk. Water changes can replenish depleted KH if the correct parameters are monitored. Check your tap water to make sure the incoming water has sufficient KH to replenish the pond. KH will buffer and stabilize the pH, preventing pH crashes.

# Respect the Little Guys

It is important to share your knowledge of the real facts with your clients. Let them know how a pond works and why they need to respect the "little guys" at the very bottom of the food web who are constantly doing their jobs (if we allow them, of course). Without algae, there is no pond, and there are no fish. When you build a beautiful, state-of-the-art pond and walk away, your client will need to care for it.

Adding koi to the ecosystem increases the organic waste matter, feeding all the microbes, especially those that chemically oxidize ammonia and nitrite. The goal is to achieve a balance between the producers (koi) and the consumers (nitrifiers) to ensure a successful pond. 🗷

# **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 has no plans to ever retire, because she loves her work. For additional information on pond management, nitrification and denitrification, contact her at Carolyn.Weise@ecologicallabs.com

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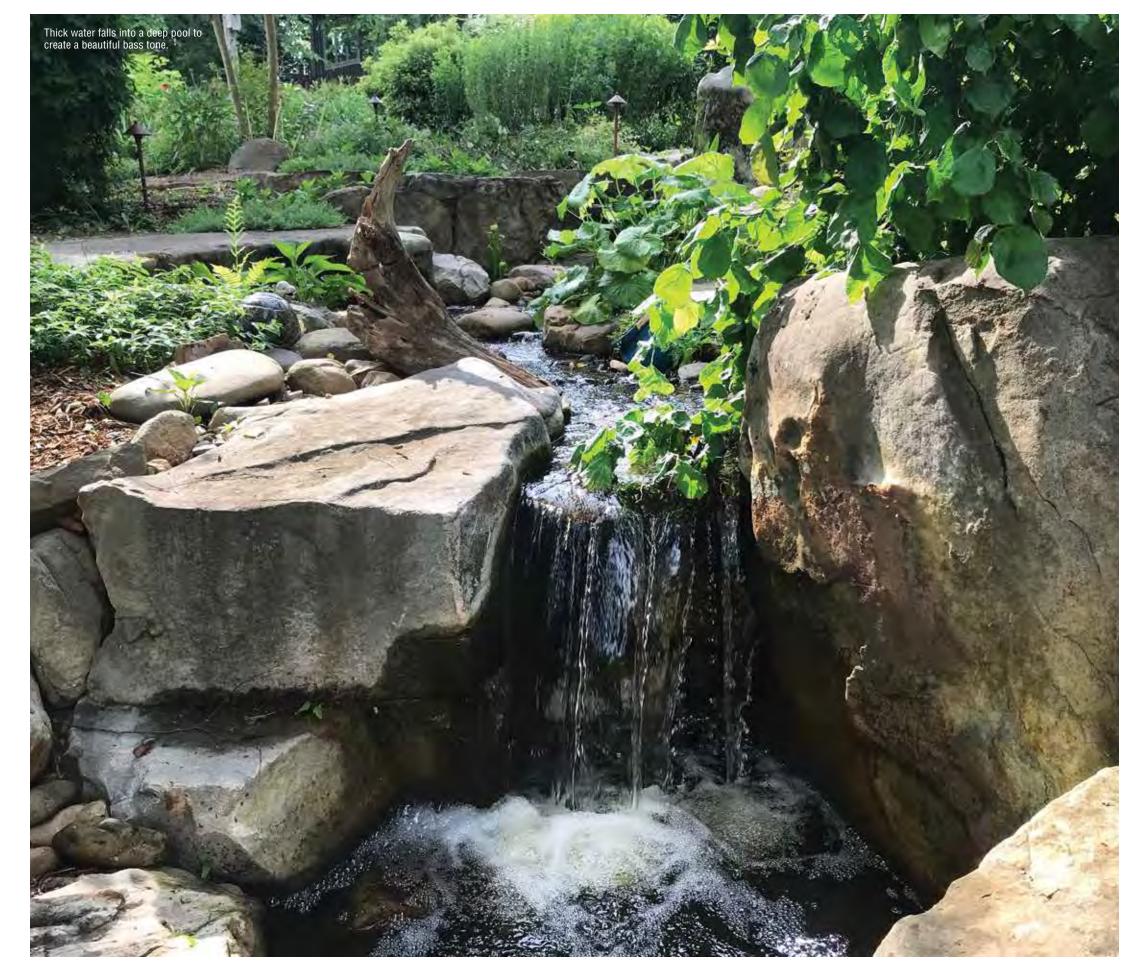
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Water Sounds

# Hauatic Secustics

# Playing to the **tune** of falling water

# by Tristan Adams,

Modern Design Aquascaping

ound is all around us, from birds chirping on a cool, crisp morning to waves crashing on the beach.

Most sounds are filtered or otherwise dismissed, but some bring us back to a place of comfort as soon as we hear them. For example, when I hear the soft crackling of an open fire, I think of the wood stove burning on a cold night at my father's house. Sometimes we rarely think of these sounds until we are reminiscing about times that are long past, and then we find ourselves longing for them.

# Key of the Fountain

Water has always been a passion of mine. About seven years into my career, I noticed something in particular that I loved about building ecosystems — the sounds of water. From the deep bass tone that comes from water falling into a 50-foot-long boulder stream or a

deep pool to the high-pitch splatter from water falling directly on other stones, each and every waterfall has a unique sound.

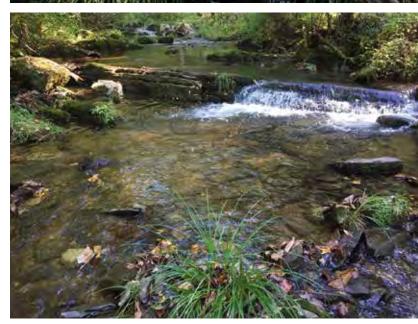
I first noticed this when I was playing guitar next to the splash pad at my father's house, listening to the birds chirping in the background along with the cicadas. As I tried to find a rhythm on my guitar to match the cicadas and birds, I realized that there was only one thing I could hear that had a set rhythm — the fountain splashing off the pavers. After a few minutes of picking around on my guitar, I discovered its tone, and then wrote a song in the "key of the fountain." No matter what I played within that scale, the fountain seemed to complement every note.

# **Build in Harmony**

Today, when I'm building waterfalls, I can almost hear these sounds from my past splashing down as I work. Whether it is a











Multiple different waterfalls work in unison (top, left) to create a much fuller sound, almost like strumming a chord on a guitar versus picking a single note. A natural waterfall (top, right) rushes deep in the mountains of Colombia. The very high-volume Abrams Falls (bottom, right) is in Cades Cove in the mountains of East Tennessee. I was actually on the way to a pond cleanout (bottom eft) when I noticed this beautiful natural waterfall and pool. I had to stop to admire the handy work of the man upstairs. A beautiful pond (middle, left) flourishes with aquatics and koi. Waterfalls come in from both sides of the pond, producing a combination of sound that changes depending on your vantage point.

5-foot babbling brook, there are so many different possibilities. I've noticed that I always end up "tuning" each waterfall a little differently from the previous one.

One of my favorite sounds is when two waterfalls with different tones complement each other. Just like in the world of music, you can play two completely different notes that may sound odd by themselves, but when you play them at the same time, they come together for a more sophisticated sound. Rarely is it perfect unison right off the bat, but after a bit of tweaking where the water lands, you can start to create beautiful harmonies. Personally, my ears prefer high and low-pitched notes simultaneously over having multiple high or low tones. In fact, every song I write and every waterfall I build has high notes overlapping low notes to achieve the sound I'm looking for. Diversifying the sound of a waterfall can be just as important as perfecting the way it looks.

# **Shrapnel Falls**

Many of my go-to styles and sounds have been inspired by other artists in the industry whom I have gotten the privilege of working with over the years.

Bolton Landing, New York, working on a large pond and waterfall build. As we constructed the stream, I was working side by side with Sean Frost of NatureScapes in New Hampshire. He had so many different styles that appealed to me not only visually, but phonetically as well. I noticed him smashing smaller stones into "shrapnel," and it sparked my curiosity.

Why would he take a bunch of intact stones and pummel them into a pile of sharp pieces? I asked myself. I watched him manipulate the sharp pieces in a way that would create white water as the water crashed into and over the pieces. We dubbed the style Shrapnel Falls right there on the spot. The sharp pieces had no correlation really, but they were placed between larger framing rocks taking the place of the waterfall stone.



A pondless waterfall flourishes after its first year of aquatic growth. Its sounds have changed as the plants filled in and redirected the water.

# **Tuning Tips**

Generally, I like to use three stones to construct the actual waterfall — two higher stones on the sides, with a lowerlying stone in the middle for the water to flow over. This can create many different styles of waterfalls, depend-Just over a year ago, I was in ing on the stone you choose. You can split up the same volume of water over a wider stone to slow it down, which actually can reduce sound output. Take the same amount of water and put it through a pinch falls, or two rocks almost touching, and the water will shoot out between them in a much more dramatic fashion, thus increasing the sound output.

> Most of the time when I'm designing a waterfall, I think of the sound it will make based on the impact it makes when hitting the stones or pool of water. In the case of the Shrapnel Falls style, water crashes into each sharp piece before it falls, causing white water and generating sound before the water even hits the bottom of the waterfall.

sound of a waterfall is by angling the framing stones toward the viewing area creating a very high-pitched splatter,

or placing stones outside the waterfall, directing the sound toward the viewing area. Sound bounces off stone, so you can direct it to where you want it. Even if the waterfall is around the corner of the house, a large, correctly placed stone nearby can project sound around the corner. This way, you can hear the gentle sound of moving water without the waterfall even in sight.

# **Earthly Encouragement**

As many techniques as I've learned through other contractors, I can't forget my biggest inspiration of all — Mother Nature. I love to hike and experience the different styles that occur naturally. One of my local favorites is a five-mile hike to Abrams Falls in Blount County, Tennessee. Just being in the presence of this waterfall alone is worth the trip, not to mention the beautiful pines and hemlocks that line the path along the way.

The waterfall itself is only about 20 feet high, but with the massive amount of water flowing over it, you can hear Another way I like to manipulate the it from a half mile away on a quiet day. Parts of the waterfall hit flat stones,







but most of the water falls straight into a deep pool at the base of the falls, giving off a very deep, bass-like tone that projects for incredible distances.

Looking at this waterfall, it appears as though it is composed of a singular stone that time and the elements have carved a path through. A stone of this magnitude would be next to impossible to recreate in a backyard scenario, but it certainly gets the creativity flowing nevertheless.

Another inspiring journey was to the Primavera

One of my favorite sounds is when two waterfalls with different tones complement each other. Just like in the world of music, you can play two completely different notes that may sound odd by themselves, but when you play them at the same time, they come together for a more sophisticated sound.

Urbana in Colombia, South America. We teamed up with some of the best water-feature builders from across the world to build an amazing pond and waterfall that became the show-stealer for a 10-story, openair mall located in Villavicencio.

On our first off day, we sat and discussed two options: hike to a remote waterfall miles into the mountains, or float down the river on inner tubes with some cold cervesa. Naturally, beer and relaxing sounded phenomenal after a long week of work, but the inner artists in us prevailed and chose the hike instead.

After many miles of making our way through the forest, from heavily-walked trails to trails used for herding cattle, we found ourselves at what appeared to be the very top of the mountain. Despite the high humidity and 95-degree weather, the water spewing from the top of this mountain felt as cold as ice. A giant rock face carved smooth by the many years of erosion stood tall at the end of our journey. You could

One of my favorite waterfalls (top) is located in Farragut, Tennessee. Over the 175 feet of waterfalls, no matter where you are, there is a different auditory effect thanks to the diversity in terrain. This natural waterfall (middle) in the Smoky Mountains has white water with almost a piercing pitch due to the speed of the water crashing down. Two years ago in Greenback, Tennessee, we built one of many waterfalls (bottom). This series of cascades was one of my biggest inspirations for manipulating the sounds of water.



Sheeting waterfalls produce a very consistent tone and appear almost like a sheet of glass when you look at them

hear the tones of this waterfall ringing from almost a mile away due to the height of the falls and coming down. It was one of the most challenging hikes I've ever been on, but when I approached the waterfall and the cold crisp mist from the waterfall encompassed me, it felt like I was instantly rejuvenated.

The waterfall had a beautiful mixture of sounds, from incred-

ibly deep-bass tones as the water fell into the pool beneath it, to the splatter off the boulders as it massive amount of water volume continued down the mountain, splitting off into smaller and smaller streams.

> This was one of the most beautiful places I have ever seen, and the memories and ambience at the top of that mountain will stay with me forever, serving as endless inspiration for "tuning" future water features. 🗷



# **About the Author**

Tristan Adams, the foreman of Modern Design Aquascaping, is from Friendsville, Tennessee. He has built pond and waterfalls for as long as he can remember, growing up the son of the company's owner, John Adams. Building and maintaining custom water features has now become his passion, as it feels more like a hobby than a job.







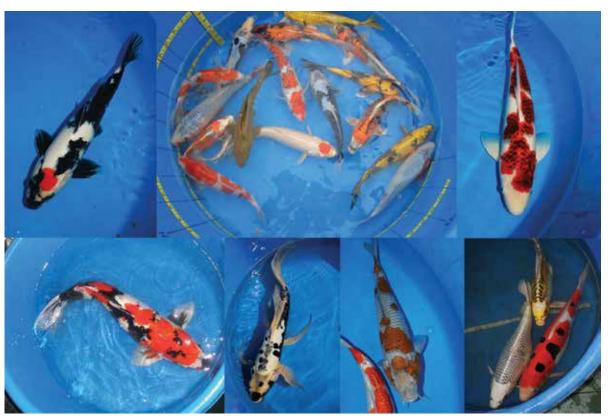
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# Language of **Koi**



Higher-quality fish of a wide variety are being produced right here in the United States. (Photo credit: Blackwater Creek Koi Farms) Inc.)

# The Pursuit of Perfection

How to source the best quality koi

# by Joe Pawlak,

Blackwater Creek Koi Farms

whether it's embodied in a car, a vacation, a job, or in our case — koi. Pursuit of such supremacy comes with costs, trade-offs and rules that govern all our decisions.

For starters, it is regularly said that koikeeping starts and finishes with Kohaku, a simple, two-colored fish. It is not overly difficult to produce, unless your idea of perfection includes the characteristics that a true champion Kohaku might possess — such as the red color approaching but not touching the eyes, a symmetrical three-step pattern, sharp color edges and so on. Even this can be an incredibly challenging pursuit if you are looking for that perfect fish.

So, what is the true cost of the perfect fish or collection of fish? What are you willing to do or risk to have it? I've learned a lot over the past three decades, so my pursuit of perfection has evolved.

Whether you are just starting out or you're already a seasoned pond professional, your mind, no doubt, has wandered toward this subject.

Whenever I start talking about highquality fish, one of the most common questions is, "What is the difference



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between Japanese koi and koi bred in the United States?" A grin often precedes my response, which is, "Oh, about 7,000 miles."

All jokes aside, I'll explain my general thought process when it comes to sourcing the highest-quality fish for retail purposes, or for your own private collection.

# Newbie Considerations

When I was new to koi, I wanted the best of every variety. I felt the need to buy from each producer or dealer that might have those few perfect fish. I had to find, visit and buy from each. These are all normal thoughts to have.

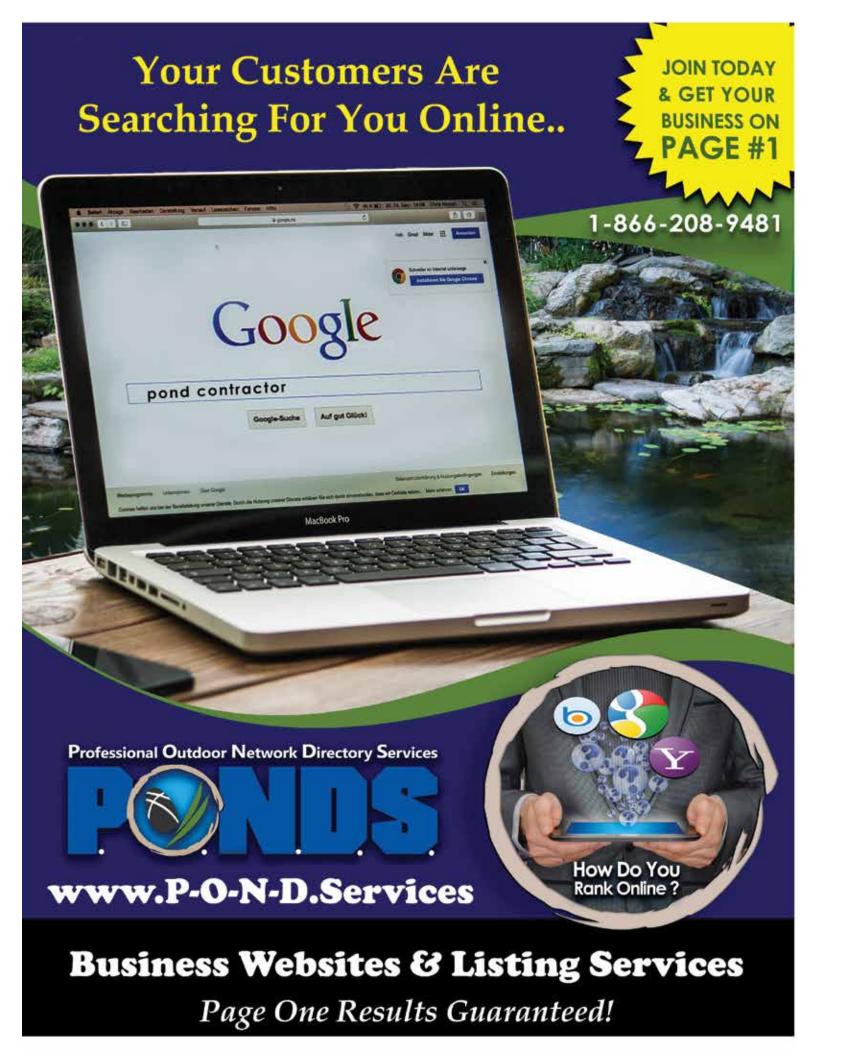
I visited farms all over the United States and Japan. I spent tens of thousands of dollars on fish — and

Visiting specific producers helped me gain a lot of knowledge of what constituted a quality fish, and what the specific selling cost might be. I also learned that everybody conducts business differently, and some are fairer than others.

some were darned good ones! I placed them in my high-tech holding systems with some of the best filtration. Visiting specific producers helped me gain a lot of knowledge of what constituted a quality fish, and what the specific selling cost might be. I also learned that everybody conducts business differently, and some are fairer than others.



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# **Narrowing My Focus**

However, while flying around the country and the world was fun for a while, it started feeling like work as I spent more and more time away from my family. Not only that, but I'd learned that airline shipping delays meant spending a lot of time waiting in my car for the next flight (or the one after that). Air-shipping fish can be extremely stressful to both the owner and the fish.

Suddenly, my questions got a little more

What if I could buy the best fish here in the United States in order to avoid shipping stress, permits, quarantine, language barriers and so forth? Could I find a producer that offered everything that would satisfy my clients?

This is the essence of the pursuit. producer offers Regardless of where a supplier is based, knowing their track record, their seasonal availability of fish (and the hassle factor), and whether you need a quarantine facility to separate their fish from other suppliers'

fish are critical factors in this process. I've mixed fish from multiple suppliers and thus exposed vulnerable fish to diseases of other fish, resulting in large losses and no ability to determine where the disease started.

Finding and partnering with a producer

with a history great reputation helped us avoid a lot of the business-killer experiences that many of us in the industry have seen in the past. Perhaps greatest of all, our us a quality mix



Perfection comes at a cost. From tens of thousands of individual fish (left) come just a few worthy of growing to a year old. From thousands of one-year-olds (top) come just a few worthy of top selection from two-year-olds (right). Some of the best fish with potential do not look as good when they are small





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of fish that has satisfied 90 percent of my customers.

# The Cost of Perfection

So what are you willing to do or risk for perfection?

From what we have seen as hobbyists and as longstanding growers, wholesalers and retailers of koi, I can confidently say that finding a quality supplier, or at most two suppliers, should enable you to acquire fish of a very high caliber. There is a large number of extremely high-quality koi produced right here in the United States every year. These fish find their way to discriminating pond owners as well as retail shops.

What you might not know is that these fish are often hidden and only offered to those buyers who are loyal, pay their bills, are enjoyable to do business with, and do not jeopardize the health of the fish that they worked so painstakingly hard to produce. It pays

off to form solid mutual relationships of trust. This may be the best way to start and finish the pursuit of perfection — through trust and compromise.

So if you own a retail shop, what should you say to a customer who just chose one of your best fish, but is badgering you about when your next shipment is? Your response should go a little something like this:

"We work diligently to maintain a healthy, quarantined collection of all grades of koi from a small number of suppliers. This allows us to ensure that our customers get fish that will happily live in a pond or tank with proper care. There are hundreds of suppliers selling koi and goldfish. It's our practice not to buy from numerous different places, as the risk of trouble increases. What you see online may not be what you see when you pick it up at the airport. Our selections provide a healthy, ready-to-enjoy pet." (3)

# **About the Author**



Joe Pawlak grew up raising tropical fish and fishing in Corning, New York. He and his wife Cheryl have owned and operated multiple businesses, including Blackwater Creek Koi Farms and Aquatic Nutrition. He has designed and helped build commercial-scale fish facilities throughout the world. He still enjoys koi and goldfish production, development of fish foods, fishing industry items and lots of time spent with his family.



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# New **Waterlilies**



# Blazing New Trails

Results of 2019 IWGS New Waterlily Competition

# by Kelly Billing,

IWGS Board of Directors

or the first time, in 2019, the International Waterlily and Water Gardening Society (IWGS) held its New Waterlily Competition at Naples Botanical Garden in Naples, Florida. Tim Jennings of Longwood Gardens in Kennett Square, Pennsylvania, the host of the competition for the past several years, confidently passed the torch to Danny Cox at the Naples Botanical Garden due to some ongoing major renovations at Longwood Gardens. Tim and Danny worked closely together to ensure a smooth transition to the new venue.





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A total of 21 entries were submitted from around the world by waterlily hybridizers across three categories: hardy, tropical and mixed class. The entries were grown under the supervision of Danny Cox, the Aquatic Areas Specialist at Naples Botanical Garden. The 12-member judging panel was composed of private collectors, hybridizers, nursery plant growers and botanical garden aquatic plant growers across six countries.

2019 IWGS NWC Judges:

Dave Brigante (Hughes Water Gardens, USA)

James Allison (Aquapic, UK) James Bennett (Bennett's Water Gardens,

James Knock (Water Garden Plants, UK) Joe Summers (Chalily, USA)

John Loggins (Lone Star Aquatic Nursery, USA)

Nopchai Charnsilpa (hybridizer, Thailand) Richard Gallehawk (Dorset Water Lily,

Sander Dekker (The Netherlands) Séverine Lyssens-Danneboom (Belgium) Tim Jennings (Longwood Gardens, USA) Tomas Escribano (Spain)

The highly anticipated results for the 2019 IWGS New Waterlily Competition are as follows:

2019 IWGS Best Overall New Waterlily:

Nymphaea 'Key West' by Florida Aquatic Nurseries (USA)

# 2019 IWGS New Hardy Waterlily:

1st Place – Nymphaea 'Bangkok Marble' by Jakkaphong Sangngam (Thailand) 2nd Place - Nymphaea 'A. Tongkam' by Pattanan Ganjanapas (Thailand) 3rd Place – Nymphaea 'Nongbualampu'

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by Pornchai Sukkasemsamranjit (Thailand)

# 2019 IWGS New Tropical Waterlily:

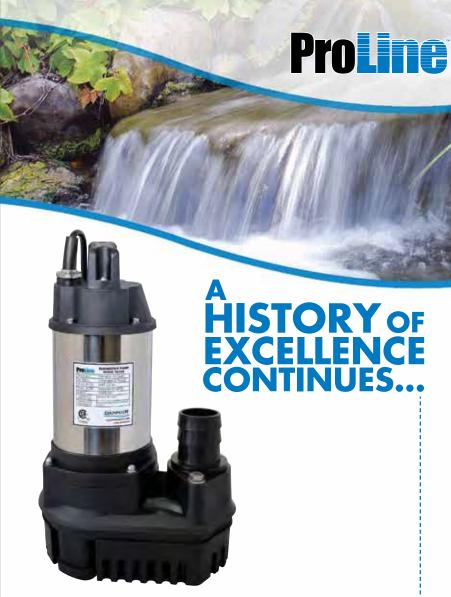
1st Place - Nymphaea 'Key West' by Florida Aquatic Nurseries (USA) 2nd Place - Nymphaea 'Purple Passion' by Florida Aquatic Nurseries (USA) 3rd Place - Nymphaea 'Peppermint Splash by Florida Aquatic Nurseries (USA)

# 2019 IWGS Mixed Class Waterlily:

1st Place - Nymphaea 'Red Blue Ocean' by Pornchai Sukkasemsamranjit (Thailand) 2nd Place - Nymphaea 'Confeito' by Zijun Li (China)

3rd Place - Nymphaea 'Cherry Boom Boom' by Zijun Li (China)

Naples Botanical Garden also offered voting for a People's Choice Award. To read more, visit www.naplesgarden.org/waterlily.



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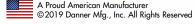
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As the competition draws to a close for 2019, the IWGS would like to thank Danny Cox and his team at Naples Botanical Garden for their support in hosting the New Waterlily Competition.

We also give thanks to the judges who volunteered their valuable time and knowledge to this competition. (Thank you, Mary Dominguez, for photographing the waterlilies for the judges!)

Finally, thanks to the sponsors for their generous donations that made the growing of the competition waterlilies possible. This includes in particular OASE (recirculating pumps, surface skimmers and bulkhead fittings), Plantabbs (fertilizer) and STM Plastics (planting containers). We appreciate your support!

In 2020, the IWGS New Waterlily Competition will return to Naples Botanical Garden, where the IWGS 2020 Annual Symposium attendees will get the opportunity to view the exciting new entries up close and personal. 63





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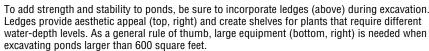


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# **Pond** Excavation

# POND TRADE FLASHBACK!

From the Archives
This article originally ran in
the May/June 2014 issue.

# Can You Dig it? The basics of pond excavation

# by Ed Beaulieu,

Aquascape Inc.

Te all know that a contractor can dig a hole, but do you really know the benefits of doing it right? A step-by-step excavation process will undoubtedly save you time, money, materials and headaches.

Before you begin digging, you'll want to perform a few easy tasks that will help to avoid surprises later on. First, be sure to assess the property where the pond will be located and take note of all the existing structures and utilities. Second, using a site or laser level, determine the high and low areas where the pond will most likely be positioned. This gives you a better idea of any obstacles or challenges

you might need to overcome when installing the pond.

Also remember to look at construction access points for the property; this will help you determine your options for the excavation process. Are there any gates, narrow walkways or steps that might block equipment access?

# **Site Assessment**

As you walk around the pond perimeter, determine the high and low areas in relation to the main viewing area. Most ponds are located next to a patio — this would be the starting point. We like the water to come right up to the viewing area, so we typically set the water level 2 to 3 inches below the level of the patio. Once the water level is established, make the entire pond perimeter a minimum

of 2 inches above the water level. At the back edge of the pond where the waterfall is located, the level should be much higher, depending on the final waterfall height. All measurements taken from this point forward are in direct relationship to the water level.

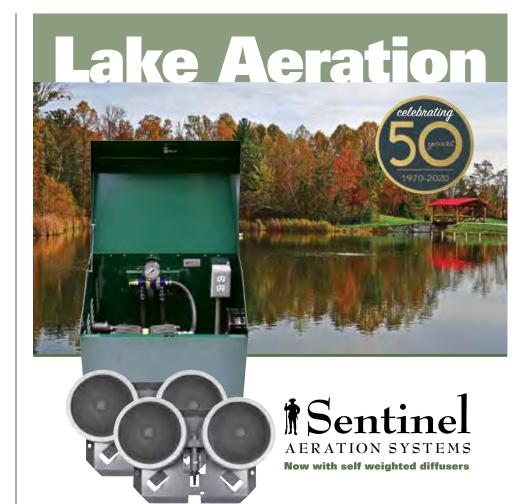
Most properties have a gentle slope leading away from the home for water drainage. Be sure to adjust your calculations to compensate for this slope. In severe situations, you will need to bring supplemental soil to the project to create the desired elevations. If the slope is coming toward the home, it will allow you to create dramatic waterfalls, but it will also increase the time of the excavation and the amount of soil generated.

# Why Build Ledges?

When you begin your pond excavation, be sure to include ledges along the perimeter. If someone were to accidentally or purposefully walk into the pond, you want to avoid a dangerous drop-off. Ledges act as a safe staircase, as opposed to a slippery slope. They also add strength and stability to the pond. Terracing is much more stable and less likely to collapse than a steep, tall wall.

In addition, ledges provide aesthetic appeal. If you create a proper ecosystem pond, the water will be clear, with the pond floor visible. Ledges provide layers and contours, adding interest to the pond's interior. Pond ledges also provide shelves for aquatic plants; different ledge depths are perfect for planting the many different species that are available. For example, marginals will grow in 1 to 12 inches of water, while waterlilies and oxygenators prefer 12 to 36 inches of water.

The first pond ledge is typically 6 to 10 inches deep and should be dug around the perimeter of the entire pond. Remember, this ledge should be covered in gravel, so a ledge that is 6 inches deep will become a 4-inch-deep ledge after the gravel is installed. Ledges can vary according to their usage, but they do not have to be perfect. The goal when creating a pond is to copy nature, and natural ponds don't have perfectly level or symmetrical ledges graduating toward the bottom of the



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pond. When the first ledge is completed, you can mark out the next area to be excavated.

Remember that the vertical walls of the ledges will be covered with boulders or larger rocks, and the flat areas will be covered in gravel. If you will be using all hand-placed stones, make sure you keep your ledges a maximum of 12 inches tall; otherwise, you'll be stacking multiple rocks on top of each other, which will increase the allotted amount of time for stone placement. Ideally, use one or two rocks to cover the vertical walls. If you have equipment on-site, you'll have more freedom to use larger boulders to create deeper ponds with taller vertical walls. Make sure the end price reflects the additional costs incurred by the increased time and materials necessary to complete the task.

The width of the ledges should also vary according to the pond design. I typically use narrow ledges that are 6 to 10 inches wide in the foreground and wider ledges of 16 to 24 inches in the background. The reasoning behind it is simple: the foreground area adjacent to the patio or viewing areas is where

your clients will spend their time feeding and viewing their fish. This allows ample space for the fish to swim up close to their owners.

The background area is the zone where the pond transitions into the surrounding landscape. The wide, shallow ledges are perfect for mass plantings of aquatic plants to help with this transition. The other area that needs careful consideration is the point where the stream or waterfall enters the pond.

This is a very important section for many reasons, from aesthetics, function and costs. From an aesthetic point of view, what type of water entry point is desired? A large, dramatic waterfall or a small riffle zone? The depth of the water at this entry point has a major impact on the success of these designs. If the water is deep at this point, it will dictate the size of the boulders necessary to frame the waterfall. It will also change the sound of the waterfall, with deeper water creating base tones and shallower water making treble tones.

Shallow water at the entry point of a swiftly moving riffle area will create a natural rippling effect on the water's surface and aid

in the overall pond circulation. I typically default to shallow water near the waterfall or stream entry, because it gives you the greatest number of options.

From a function and cost standpoint, deep water near the waterfall requires larger boulders and a longer amount of time. Water quality is typically better with shallow water, as it will help with overall pond circulation and debris removal.

# **Building the Berm**

The filters and piping are laid during the excavation phase as well. The biological filter is always set first, and the flexible piping follows. This is important for optimal efficiency of the crew. The excavated soil can be used to create a berm around the biological filter, and its size should be equivalent to the size of the pond. In other words, if the pond is 11-by-16 and 2 feet deep, the berm should be 11-by-16 and 2 feet high.

If the biological filter is set higher, more soil will be needed to disguise it, and it may seem out of place. If it's set lower, the berm will need to be more spread out in order to use the soil. Each site should be evaluated to determine how high or low the waterfall should be. Soil usage is often an overlooked part of the construction process, and you don't want to be left having to remove soil from a project.

If the quality of the soil is poor, organic topsoil can be brought in to be used for future plantings. The larger and broader the berm, the easier it will be to naturally incorporate plantings to help a water feature look as natural as possible.

# Challenges of Poor Soil Conditions

Digging can be fun, but there are many soil types that can cause all sorts of pond-excavation challenges.

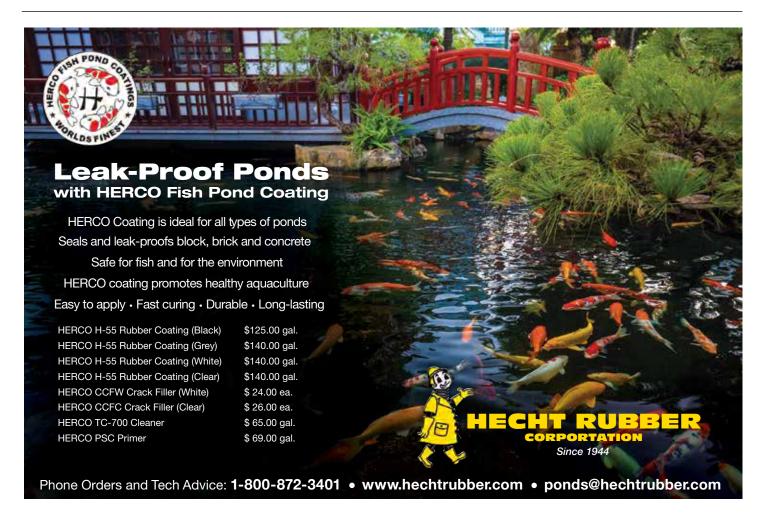
Clay Soil: Spring and fall are the best times for excavation because the clay is softer. Midsummer requires a pickax to chisel through the hardened clay. Clay soil in certain areas is notoriously bad, so the selling price of the job should reflect the extra time



needed to complete the excavation if the soil causes difficulties.

Rocky Soil: In addition to requiring a longer digging time, rocky soil brings other challenges, including a hard subsurface to deal with after the digging is complete. In this instance, you can lay several layers of underlayment to act as an additional cushion under the liner. In severe cases, place a layer of the fabric on top of the liner where larger boulders will be set.

Bedrock: This is the toughest, because it takes much longer to dig than any other type of soil. Depending on where the rock layer is found, the pond may need to be built completely or halfway above grade. The deeper you can dig, the better the pond will look. It's tough to make a pond look natural when it's sitting 18 inches above the surrounding soil. In certain parts of the country, jackhammers are a necessary piece of equipment. It's the only way to cut through



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the hard layers. It can be a slow process, but extreme conditions call for creative solutions.

Sandy Soil: In sandy, loose soils, the digging is a piece of cake, but it's almost impossible to cut a ledge into it. The easiest way to handle this problem is to dig the pond with a flat bottom, with the side gently sloping into the middle. Once the pond is dug, you have two options. Either place boulders on the sloping sides and put gravel on the bottom, or place boulders on the bottom and backfill behind the rocks, creating gravel and boulder terraces. Planting areas and irregular ledges can be created with this method.

# **Considerations for Large Projects**

For larger projects of 600 square feet or more, large equipment is needed to help with the excavation, large boulder placement and material handling. Once the decision is made to bring in a piece of machinery, you can take full advantage of it.

Typically, large projects run over \$10,000. Skid-steers and backhoes are the two most

common pieces of equipment, but cranes and loaders can be used as well. A skid-steer can be effective in excavating the top shelves of the pond, but the bottom and final shaping should still be done with hand tools. A good backhoe operator can maneuver around enough to do quite a bit of digging, but some handwork is still necessary to clean things up. If you don't own heavy machinery due to cost, you can subcontract the machine work. The cost of the subcontractor is calculated into the price of the project.

Whenever heavy equipment is added to a project, remember to add additional time to the project for equipment-related damage to the surrounding property that may need to be repaired or, at the very least, discussed with the clients. This includes ruts and compacted or destroyed turf.

Sometimes there is a little more to excavation than meets the eye, but it's still fairly basic and just requires some common sense. If you start your project on the right foot and avoid creating extra work for yourself, everything else will fall into place, and you'll undoubtedly save time and money in the process. 63

# **About the Author**

came to Aquascape in 1993 as a construction laborer, but a little creativity and a positive outlook on life and business

**Ed Beaulieu** 

helped catapult him to the position of director of contractor development and field research. Ed has successfully built more than 1,000 customdesigned ponds, from small backyard water gardens to large lakes and commercial water features. He holds a bachelor's of science in zoology with an emphasis in limnology and master's studies in marine biology.

Ed's work has been featured on the cover of Architectural Digest, Better Homes & Gardens special interest publications, Nature's Garden, Irrigation and Green Industry News and more.



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# Aquascape Inc. Introduces Inventive Faux Log Fish Cave

Aquascape, Inc., inventor of the green industry's No. 1 contractor-installed water garden, announces Faux Log Fish Cave as an innovative addition to their product line for 2020.

The Faux Log Fish Cave offers a heavy-duty, natural-looking shelter to protect pond fish from troublesome predators such as herons. "Too often, predator protection detracts from the appearance of a pond. The Faux Log Fish Cave extends safeguard to pond fish and functions as a decorative accent," says Dave Kelly, a vice president at Aquascape. This product joins a family of decorative faux wood items that includes the Faux Oak Stump Cover and Faux Driftwood.

For information about Aquascape, Inc., and its products and services, visit www.aquascapeinc.com or call 866/877-6637.



# Magnetic Drive Pumps by Matala

The Matala Magna-Flow series magnetic drive pumps are designed for quiet, low power consumption and reliable, around-the-clock performance, making them a good choice for small to medium ponds and fountains. The models MF-1100EZ and MF-1350EZ have a variable flow control. The highly effective EZ-Bio 11 prefilter prevents clogging and extends impeller life. Impeller replacement is easy, without the need for a specialty tool.

For more information: Matala USA www.matalausa.com



# HNA and GIE+EXPO Set for Oct. 21 - 23

Opportunities to explore new products, learn new techniques and business trends, and network with industry peers draw landscape and hardscape professionals from across the globe to Hardscape North America (HNA) and GIE+EXPO. The co-located trade shows are set for Oct. 21 to 23, 2020 at the Kentucky Exposition Center.

"We attended last year and decided to bring our crew this time because it's so important to stay up on what's happening in the industry," said attendee Ray Irvin of Outdoor Escapes in Oak Grove, Missouri. "We're finding new innovations that will make our jobs easier and learning about trends that will help us give our customers what they want."

More than 1,000 exhibits feature the newest innovations and technology indoors and out. The 20-acre Outdoor Demonstration Area offers the opportunity for hands-on testing. In addition, HNA's Hardscape House features the HNA Installer Championship and a series of hardscape demonstrations where attendees can watch and learn the latest techniques.

Education, beginning Tuesday and spanning all three days of the events, will include installer courses, business-related sessions, technology training and a motivational keynote.

Registration will open in April 2020. For more information, visit www.hardscapena. com and www.gie-expo.com, or call 812/949-9200.





# **Atlantic Redesigns Popular Ring Lights**

Atlantic Water Gardens' popular and unique Ring Lights, available in both warm white and color-changing models, have been completely redesigned. While still featuring an ultra-wide, 120-degree beam angle, the U.S.-made Cree light-emitting diodes have been upgraded. Internal heat transfer efficiency has increased, reducing power consumption without sacrificing brightness. The new InfiColor Smart Module now allows the color-changing Ring Light to produce more than 16 million colors. The new housing has been resized to fit a larger, 1.5-inch diameter PVC pipe through the center opening, illuminating greater flows than ever before. A snap-in bushing is included for use with a 1-inch pipe as well.

Atlantic-OASE 330/274-8317 info@atlanticwatergardens.com www.ATLANTIC-OASE.com



# EasyPro's 2020 Catalogs are Now Available

EasyPro Pond Products of Grant, Michigan, is again offering two specialized catalogs. Their large pond and water feature catalog is packed with professional and do-it-yourself pond products, including their signature line of Tranquil Decor water features and basalts. Inside, you'll also find everything you need for pond aeration, pond lighting and water treatments. The lake and pond management catalog is also available for those maintaining larger bodies of water. Check out their ever-expanding line of aeration products and water treatments. See how EasyPro's 50 years of experience can work for you! For more information, or to request a full-color catalog call 800/448-3873, or visit www.easypro.com.



### 2020 Pond-O-Rama Tour

The St. Louis Water Garden Society (SLWGS) is celebrating 30 years as a society sharing information about fish, ponds and gardens. SLWGS is also celebrating 20 years of the annual water garden and pond tour, 2020 Pond-O-Rama, Saturday, June 27 and Sunday, June

28 from 9 a.m. to 5 p.m. each day. The 2020 tour will feature the private gardens owned and maintained by society members. Tickets covering both days of the tour are \$15 each (18 years and older) and will be available in May 2020 at retail shops and garden centers throughout the metro area.

The gardens are located throughout the St. Louis area, including Illinois. This self-guided tour is arranged each day by geographic location. This year, many of our water features are "over the top," and many of our members are new to Pond-O-Rama. They are excited to share their new ponds and waterfalls.



There is a massive waterfall and swimming pond by one of our most creative contractors. There are also the quiet and quaint ponds and gentle streams to enjoy. Some members have new water gardens to share, and many have enhanced their current ponds and gardens into outdoor rooms and lovely zen woodland spaces. This year, you will see some very unique and creative designs in waterfalls and ponds, gorgeous koi fish and fantastic gardens. Many members are master gardeners, and many water gardens have been featured in St. Louis Home and Lifestyle magazine.

This event, is the only time during the year that St. Louis Water Garden Society members as a group open their gardens to the public. In addition to their water features, most of our hosts also are avid gardeners who maintain beautiful landscapes filled with perennials, annuals and shrubs. Our hosts will be available and delighted to share information and answer questions about their gardens, their water features, their fish and their beautiful plants. If you are thinking of adding water to your own garden, or you simply enjoy beautiful landscapes and a weekend filled with beauty, this is the tour for you!

This event provides funds for the St Louis Water Garden Society to continue their civic project to plant and maintain the reflecting pools at the Jewel Box in Forest Park.

The tour ticket booklet gives location addresses, descriptions and driving directions. For more information, call 314/995-2988. Tickets will be available in May 2020 by mail order from the society's website: www.slwgs.org.

# Trade News

# Savio Engineering Launches High-Output UV Clarifier

Savio Engineering is adding high-output clarification to its successful UVinex product line.

Three new Savio UVinex High-Output quartz ultraviolet lamps — 28, 35 and 55-watt — join the current Savio UVinex product line. The new lamps install easily in Savio's rugged stainless-steel nousing assembly and use current Savio

Typically, UV clarifiers in the pond and water feature industry are designated by the electrical power used to produce lamp output across the entire electromagnetic spectrum. "We turned our attention to the narrow wavelength ... where clarifying UV light is produced, and looked for the best solution for ponds and water features" said Jon Lottes, President & CEO of Anjon Manufacturing and Savio Engineering. "Our UVinex High-Output series is the result. By increasing power from 18 to 28 watts, along the greater UV intensity of our high output

lamps, we expect to double the UV effectiveness in our Compact Skimmerfilter! Overall, the High-Output series delivers 35 – 50 percent more UV output than standard UV bulbs."

Savio's coated bulb technology does away with fragile glass sleeves, eliminating the risk of shards from bulbs or quartz tubes harming the environment. The UVinex System is virtually maintenance free; simply wipe clean with a damp cloth to restore effectiveness.

Anjon Manufacturing and Savio Engineering joined forces in 2018. "Savio Engineering's respected pond equipment brands and strong reputation for product design innovation were major considerations for us," states Ion Lottes. "Savio holds the patent on in-skimmer UV clarification. No other manufacturer can deliver the ease of installation and UV effectiveness than you can get with the Savio Skimmerfilter and UVinex System."

For more information about Anjon Manufacturing and Savio Engineering, please visit www.anjonmfg.com or call 800/553-5605.



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