



22



38



44



64



68

# Helen Nash's Pond & Garden

"Creating backyard havens"

Volume 1, Issue 3

## Features

From Ditch to Debutante by Kit Knotts .....22

Tulsa, Oklahoma, Pond Tour by Joe Van Hook .....24

Pondering the Surface by Dr. W. Patrick McCafferty .....32

Evolution of a Garden...and a Gardener by Mike Mullen ...38

Just Add Water by Harry Heit .....44

Pool to Pond...by Choice by Joyce A. Mills .....52

Native Landscaping, the Brouwer Residence  
by JoAnn Gillespie .....58

How to Make a Reservoir Container Garden  
by Carol Felsing .....61

Predators, So You Think That You Have a Problem?  
by Steve Childers .....64

Amazon Adventure—In Search of the Giant Victoria  
by Rich Sacher .....68

Finding and Preventing Pond Leaks  
by Shawn Howard and Dave Young .....76

Your Own Koi Pond Emergency Manual by Pam Spindola ...81

Bass Beneath the Big Top? by Kristy Hill .....84

## Departments

Editorial .....2

Pond Chat: Bacteria 101 by Linda Siler .....8

Seasonal Pondkeeping by Scott Bates .....10

Fancy That! Goldfish Keeping by Vivian McCord .....12

Koi Keeping by Bob Spindola .....14

Ask Chuck—Pondkeeping Q and A by Chuck Rush .....16

Ah, Birds! Granville Barger's Gourd Birdhouses  
by Marilyn Cook .....18

Club Index .....87

Local Retail Sources .....92

Shopping Mart .....98

Subscription & Reader Appreciation Drawing Page .....100

Our Pond: Water Gardening, Ducks and Geese!  
by Joan Nelson, Montgomery, CA .....103

Cover: Chuck and Shirley Rush's garden will be featured in Part 2 of our Tulsa Pond Tour in the next issue of Pond & Garden. Photo by H. Nash.

## Editorial

Poor Dave. At five a.m. he plodded down the hall with sleep-ridden eyes, pointed only in the direction of the coffee pot. "Honey, Honey!!!" I squealed. "Stop!" I whisked open the sliding door and grinned up at him. "Frogs?" he mumbled. "Spring peepers!" I proclaimed.

The Irish may note March 17th as a holiday, but this year it was even more special—only the third year in twelve that we have heard the peepers in our ponds.

The peepers were a special treat the first year we moved to the country. Sleeping with open windows, we had heard them in the early morning darkness—plaintive, hungry, baby-bird cheeps. It was weeks before a neighbor showed me the tiny frog responsible for my misplaced concern. That year we issued a ban on walking around the ponds as the wee ones covered the ground in their transformation from tadpoles to frogs. They were mysteriously absent for the next nine years.

Adding water to our backyard landscapes invites delightful surprises—the peepers, toads, and many other species of frogs. We have learned not to take them for granted. Just as the peepers disappeared for a time, we've noticed

recent years when the American toads, leopard frogs, and bullfrogs did not breed. Even the prolific tree frog whose clatters could be heard by telephone callers through our closed windows were barely evident last summer.

The city has found its way to our driveway gate. A new subdivision now perches in the former alfalfa field across the road. I'm beginning to wonder if I should become a phantom pond digger and install water gardens in all our new neighbors' back yards. Maybe then the return of the peepers could again become commonplace.

*Enjoy and cherish the life of your garden! 🌿*



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# POND CHAT

by Linda Siler

The other day a customer came into the shop and said, “I think your bacteria are killing my water hyacinths.” Whoa, wait a minute, I think we need to review bacteria.

Beneficial bacteria do not kill plants. They thrive and live on fish waste and are part of Nature’s way of cleansing our waters. Mother Nature provides our rivers, lakes, streams ... and ponds with these bacteria. It’s a way of life. Companies colonize these strains of beneficial bacteria and make them available for our ponds so that we can speed up the process.

Some say, well, I can’t tell the difference in my pond, and I’ve been putting bacteria in for over a week now. It generally takes 4 to 6 weeks for the bacteria to colonize enough to make a visual impact in your pond. While this naturally happens to some degree in our ponds, bio-filters provide a home for these bacteria to enhance Nature’s cleansing work. It takes time and patience to balance a pond. Overnight results do not happen. Quick results can be achieved with UV lights, but you still need a mechanical filter, a bio-filter and, yes, bacteria.

Now, back to the dying hyacinths. Let’s go over water quality’s Nitrogen cycle—the process that breaks down fish wastes and other debris to cleanse the aquatic system. Ammonia is produced by fish and released through their gills and vents. Nitrosomonas bacteria break down the ammonia before it has a chance to accumulate and harm the fish. This results in the production

of nitrites. Nitrobacter, a second cousin bacteria, break down the nitrites into harmless nitrates before the nitrites can accumulate and also harm the fish. Nitrates are simply plant and algae food. In the presence of phosphates, plants use nitrates to grow, but without plants, nitrates could accumulate and cause sickness, bloody fins, and weakness in the fish.

The cycle takes 4 to 6 weeks. All the plants (water lilies, marginals, algae, and, yes, even your water hyacinths) are using these nitrates to grow. Over a period of time, the amount of nutrients in your pond lessens as the plants use them up, leaving less food available for your water hyacinths. Often, people who complain of yellowing and dying water hyacinths also comment that their pond water is crystal clear. Obviously, if there is not enough nutrient in the water to grow algae, there may be less food available for the hyacinths, too!

Also, fish chew on the roots of hyacinths and water lettuce. This, in combination with a nutrient shortage, is what really kills hyacinths.

To fix this problem, throw your hyacinths into your filter or vegetable system where they will thrive in nutrient-rich running water. This also isolates them from root-nibbling fish. Yet another solution is to rotate your pond hyacinths from nutrient-rich tubs.

We want our ponds to be perfect all the time, but it doesn’t usually happen. The interactions of fish, plants, filter system, bacteria, and Mother Nature all play an important role in the life of our ponds. Understanding this helps us to manage our ponds. ♡

*A version of this article appeared in the newsletter of the Springfield Watergarden Society. Linda Siler is their president and the manager of O’Quinn’s Orchids and Water Gardens in Springfield, MO.*



# SEASONAL PONDKEEPING

*by Scott Bates, Grass Roots Nursery*

The first spring chirpers have been heard in the northern climates, and the bullfrogs' deep drum can be heard in the South. We have already prepared the pond for spring with our annual clean up regime—cleaning our filters, removing organic matter, performing partial water changes, trimming old foliage, and starting our biological filters. Doing these things early in the spring gives us a jump on our first, inevitable, but temporary, algae bloom.

Understanding that this is the way that aquatic systems work offers comfort to first-time water gardeners. Seed your ponds with nitrifying bacteria to break down solid wastes, dissolved protein (foam on the water), ammonia, nitrites, and nitrates ... and in the process, starve algae out of the pond. In order for these super guys to help us out, we need to give them a hand. Operating the biofilter's pump 24 hours a day keeps necessary, oxygen-rich water moving by them. Adding the nitrifying bacteria throughout the season helps supplement the different strains at work on the nutrients in the pond cycle. If you use a UV light system, do not use it until the bacteria have a chance to adequately colonize since the ultraviolet rays kill all bacteria moving through them—good guys and bad guys alike.

Water lilies in the south are showing flowers; lilies in the north are not far behind. Be patient for signs of life with your lotuses. They like it hot, and they like lots of light, none of which are abundant in early spring. As the heat of the sum-

mer approaches, they will revive. Fertilize them at the first signs of life. Feed your other pond plants and transplant any that are root bound or divide them to ensure plant vigor. Don't place tropical plants in the pond until after your area's last frost date.

Your fish reflect the changing seasons, too. Now that the water is warmer, they may beg for food. Feed them as much as they will eat in 5 to 10 minutes once a day. Remember that excess, decomposing food fouls the water. I prefer to keep our fish a little hungry so they will help clean up the pond and come see me at feeding time. As the water warms and the appetites increase, you may also see the fish chasing each other around the pond in a friendly game of tag. This is spawning. It is usually followed by a large egg mass on the floating plants and then a batch of tiny fry—that is, if the eggs are not eaten by the parents. Sometimes it's just tough to be a fish, I guess. ♡

*Scott Bates, along with parents Gary and Rosemary, owns Grass Roots Nursery in New Boston, Michigan.*



# FANCY THAT! GOLDFISH KEEPING



not snapped up  
by predators as easily  
as the more fancy  
breeds of goldfish.

by Vivian McCord

## Best Pond Pick for 1999— the Comet

**F**ancier in finnage and much more colorful than the common goldfish, yet still as absolutely tough, the comet is an eye-pleasing choice over its more delicate cousins. The first comets were an American development from Hugo Mullert who worked for the government fish commission in Washington in the 1880's, developing the comet from common stock within a decade.

Comets are available in a few color variations, but none are as gorgeous as the Sarassa comet or the red and silver longer finned variety. A good specimen appears long and streamlined with a tail fin as long or longer than its body and striking red coloration on the top half with a silver belly. The Sarassa actually resembles the Kohaku color pattern found in koi. Some other color combinations of the comet are the orange and white variegated, and a variety whose coloring resembles the red cap oranda without the hood. All comets are single finned, extremely hardy, and very unfussy about diet.

Comets can grow to ten inches in length. While they don't need the space of larger fish, such as koi, they do need the space of at least a small to medium sized pond for their active, fast swimming. Outswimming nearly all predators, they are

Caring for your comets is quite easy. They tolerate almost any water quality, but like any fish, will thrive better in cleaner water. High ammonia levels in the water stresses any fish, reducing growth and chances of spawning. Comets are physiologically not as vulnerable to parasites and disease, though again, a good diet and better water quality really help to reduce these threats. They can overwinter in most in-ground ponds in all parts of the U.S.

A recommended diet is, as with most goldfish, a good quality pellet food containing beta carotene for health and color, offered once a day, preferably in the morning. Think of it as their cereal. Add a fresh or frozen treat, such as bloodworms or binned shrimp, at least once every three days or as often as once a day in the afternoon. Remember, the more you feed the fish, the more maintenance you create and the bigger fish you grow! The naturally occurring pond insects and algae should handle the rest of your fish's diet. As a general rule, because comets are very aggressive feeders, it is best not to keep them with slower swimming breeds of goldfish.

With their extreme hardiness, both in temperature and water quality, their affordable cost, their easy overwintering, and their willingness to breed easily and eat almost anything, comet goldfish are the best pond fish for the money. ♡

*Vivian McCord combines her artistry and goldfish hobby in Cody, Wyoming.*

# KOI KEEPING

*by Bob Spindola*

Many years ago, a well known Japanese koi breeder and pond designer living in the United States was giving a lecture on basic koi pond designs at a local koi club meeting. "Do you want your koi to be swimming in a toilet?" he asked the members. Of course, we all made grimaces because we had never thought of the pond as a large toilet. He then said, "Then you must always include a bottom drain in your koi pond design to maintain ideal water conditions."

Basically, the bottom drain serves to transport the solid wastes, debris, and unfiltered water to the pond purification system twenty-four hours a day. With no bottom drain, the fish are sitting in putrefying waste. In this unhealthy environment, they will be susceptible to disease and infections.

I am always astounded at the quantity of people, even today, who go to great lengths in building their beautiful ponds and neglect to install a bottom drain. Although these people are trying to recreate a natural setting, one must remember that even natural ponds have their share of algae and green water problems. We try to improve nature's plan.

The location of the drain should be in the middle of the pond with the bottom slope about 30 degree to the lowest point. The maximum pull is about ten to twelve feet. Therefore, larger ponds may require multiple drains.



There are many designs of the bottom drain. I designed two for Tetra. One is the drain for an original installation of a liner pond. The second drain is for established ponds with no drain. This 'Vac Drain' sits on the bottom of the pond with the plumbing installed along the sides. The beauty of the pond is not altered. The drain cover should be dome-shaped and supported on little legs about 3/4 inch high. The dome in the lowest part of the pond contributes to a swirling or vortex action for the swiftest removal of the water. The opening of the drain measures anywhere from 2" to 4". There should be no grate over the opening because leaves and debris can eventually clog the opening. Some drains have a small collection box serving as a sump. I am not in favor of this design as I think some of the debris doesn't get washed away to the filter. The drain that I designed has a direct line from the pond to the purification system. Care must be taken if you have very small koi, under five inches, in the pond. You don't want to lose them down the drain. One solution is to shave the legs supporting the dome in order to make the opening smaller. ♡

*This was the last column Bob had prepared for P & G. In our next issue, Pam Spindola will assume the Koi Keeping column*

# ASK CHUCK: PONDKEEPING Q&A



by Chuck Rush

**Q** I'm interested in creating an economical aesthetic water garden on my small residential property in central Texas for the purpose of raising talapia as a protein food source as a hedge to Y2K. What do you think about this, and how should I approach it?

**A** Frankly, I think your fears of Y2K are a little overblown. I program for a living and from my experience I don't think much will happen. There will be some spotty problems, but in the main and here in the U.S., we should be OK. And any problems that do arise will probably be mainly annoying. Most U.S. companies are fixing their software because they don't want to be sued. Laws passed this year protect U.S. companies from Y2K suits if they make documented, good-faith efforts to fix things now.

Y2K will not cause food or water shortages, power outages, or anything else the goofy doom-sayers are spouting. The only thing I'm doing for Y2K will be to have a bit of extra cash on hand so I don't have to wait in line with the disaster nuts. I'm also keeping paper records of my bank and credit card accounts and other such accounts for the year preceding. In case there is a problem with any of them, I can get it corrected easily.

So back to your pond...if you're really concerned, your fish idea is not the way to go. You'll spend more getting set up than it's worth, and your local zoning codes probably wouldn't allow it.

If you're still worried that the world as we know it will end, it'd be better, and cheaper, to stock your freezer a bit more and get a generator.

If, after the paranoia goes away in March 2000, and you want to build that ornamental pond, there are some great resources on the net and in your library. My own site is a good place to begin. It's at <http://members.home.net/crush11/>.

**Q** When is the best time to put fish (koi) in your pond?

**A** I personally don't put fish into my ponds until the weather is warm. In cold weather, the fish are in semi-hibernation and are already under stress. Catching for purchase in cool water, transporting in a warmer vehicle, then transferring back into cold water of a different chemistry is even more stress. If you wait until warmer weather, after your pond water gets above 55 degrees, the fish will undergo less stress. The reason I emphasize stress is that it is one of the leading causes of disease in your fish. If they're under stress, they are less likely to resist diseases. ♡

*Send your questions to Chuck Rush in care of Pond & Garden or to his E-mail address: [Crush@dallas.net](mailto:Crush@dallas.net). Many of Chuck's Q and A's appear courtesy of the North Texas Water Garden Society.*

# AH, BIRDS!

by Marilyn Cook

## Granville Barger's Gourd Birdhouses

Imagine a hundred white-painted gourds hung from television antenna-like poles, engulfed in graceful, swooping purple martins. Granville Barger, a retired gentleman with twinkly blue eyes, bib overalls, and a khaki fisherman's hat, carefully grows these unusually thick-walled, birdhouse gourds that last for many years. The purple martins love the gourds, readily accepting them as home, uncannily knowing which belongs to whom. Granville has even used the gourds successfully as blue bird houses!

### Granville shares his secrets:

1. Start 3 or 4 seeds in half of a two-liter plastic pop bottle, indoors, in January or February, depending on your zone's last frost date. This allows the plants to grow longer on the vine (and develop thicker walls) than in traditional outdoor starting.
2. Move the young plants outside into a large cold frame after they show strong growth.
3. Use a fertilizer high in nitrogen to develop thick, heavy walls in the gourds.
4. After the last frost, prepare the garden and plant seedlings into mounds several feet



apart. Plant one pop bottle's plants per mound.

Granville's gourd birdhouses attract a sizeable community of purple martins every year.



Granville starts his seeds indoors in pop bottle containers that he sets outside in a cold frame until after the last frost.

5. Use ammonia or other high nitrogen fertilizer if necessary.
6. After the stems turn brown, pick the gourds and leave them on the ground to dry.
7. Two-inch entry holes can be cut either during the drying period or after they are fully dry.
8. Clean out the inside and drill four holes in the top for the wire hangers. Also, drill four holes in the bottom for drainage.
9. Scrape away the outer skin to prevent the paint from peeling later.
10. Paint with white latex paint, insert wires and twist together at the top to secure on pole hanger.
11. Clean the houses each fall to prepare for next season's nesting.
12. The houses will last several years even if left outside. You can, however, store them in the garage until early spring before the martins return. ♪



# ECLECTIC GARDENER



by Kay Elser

## The Four-Season Gardener

Each season breathes new life into lovers of the plant and animal kingdoms. An eclectic attitude alters and changes your seasonal and world visions. While in his 60's, my father became a world class decoy carver. He was able to accomplish this because of his lack of visual barriers. When Dad looks at an object, he really sees the entire picture—the shape, the color, and the attitude. A duck suddenly becomes more than just a duck. This same attitude can expand our garden experience.

For example, putting the gardens in order for the cold months to come can be a daunting task. Often the things we remove are the very things that keep the landscape alive for our winter pleasure. Frost-bitten annuals can be put to rest in the compost bin. Half-hardy annuals, such as Perilla, are spared, their seeds eagerly eaten by finches. Allowing these plants to remain assures you a bumper crop of seedlings in the spring. Relocate those little sprouts or share them with friends. Remember, the intense maroon foliage of Perilla accents green foliage plants in summer, feeds birds in the fall, and spends the winter as a bent-over structure covered in ice and snow.

Likewise, plants that add texture and ambiance to our summer gardens may be spared autumn's pruning shears to become winter garden statues. Tall grasses sparkle with ice from a cold rain.

Milk weed (*Asclepias tuberosa*) seed pods gape through sprinklings of new snow. To remove these stems after bloom would eliminate part of our winter garden enjoyment.

Indoor arrangements come to life when adorned with the fruits of perennials and shrubs. Tucking a piece of burnt-orange rose hips into a circle of green sets creativity in motion. You suddenly recall seeing Queen Anne's Lace (*Daucus carota*) and teasel (*Dipsacus fullonum*) growing along the roadside.

The glove compartment of my car holds necessary information pertaining to the vehicle, but the most essential item is a pair of pruning shears. If I had a bumper sticker, it would read, "This car stops for all interesting weeds"! Plant material possibilities are endless as you travel and scour the landscape. This practice is lucrative throughout the year. Late summer finds my home decorated with vases of bright yellow goldenrod (*Solidago sp*). This plant dries very nicely and can be stashed away to appear later in an arrangement. While foraging for bitter-sweet last fall, I met some folks who were doing the same thing. Imagine that!

Giving in to an eclectic way of life removes visual barriers. Removing these barriers gives us a new appreciation of what takes place in the plant kingdom throughout the year. Our gardens become multi-dimensional and our lives are enhanced accordingly. ♡

*Master Gardener, Kay Elser, lives and gardens in York, Pennsylvania.*