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Handsome Hero Lotus, (photo courtesy of Bergen Water Gardens & Nursery)

Denver Botanic Gardens' Spring Plant Sale

by Dorothy Martinez

Be sure to mark Friday May 6th and Saturday, May 7th on your calendar. These are the dates of the Denver Botanic Gardens' Spring Plant Sale. The sale will be open from 8:00 am to 5:00 pm each day.

Please stop by the Aquatics division (located near Marnie's Pavilion) to purchase a great selection of pond plants. There will be a large selection of plants to choose from including lotus ('Handsome Hero', 'Charming Lips', 'Autumn in Molding', 'Butterfly's Love', and 'Raining Love'), carnivorous plants (Venus flytrap 'King Henry', Dwarf hardy pitcher plant 'Scarlet Belle', Sundew 'Fraser Island Form'), Japanese iris 'Geisha Gown', Variegated arrowhead 'Crushed Ice', Canna 'Chiquita Punch', Taro ('Chicago Harlequin', 'Mojito', 'Sangria'), and Water Hawthorne.

For more information, please contact Brenda Parsons-Hier at (303) 278-2106 or moose4bph@q.com.

Video Presentation
'Exploring the Use of Aquatic Marginals'

Cottonwood Classroom
Lower Level of Boettcher
Memorial Center
Denver Botanic Gardens
Denver, CO

6:30 PM – 9:00 PM

Park in the Parking Garage
between York Street and
Josephine Street and enter the
Gardens through the Pinion
Gate, located just North of the
Visitor Center entrance.

Online at:
www.colowatergardensociety.org

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www.colowatergardensociety.org

CWGS Treasurer's Report:
Balance as of April 10, 2016 -
\$11,155.09

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| | |
|--|--------------|
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| Hudson Gardens' Volunteers | |
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Remember...

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dorothy.martinez@colowatergardensociety.org.

April Meeting – Video Presentation ‘Exploring the Use of Aquatic Marginals’

by Dorothy Martinez



King Henry Venus Fly Trap, (photo courtesy of Plant Delights Nursery, Inc.)

Don't miss our next meeting scheduled for April 21st. The meeting will be held in the Cottonwood Classroom located on the lower level of Boettcher Memorial Center at Denver Botanic Gardens. Find the stairway by the Helen Fowler library, go down one level, go through the door straight ahead and turn left.

This will be a taped presentation given by Deb Spencer and Joe Zarda entitled "Exploring the Use of Aquatic Marginals". This talk was originally given during the August 2014 IWGS Symposium held in Denver.

Deb and Joe are from Water's Edge located in Lawrence, Kansas. They present some great original ideas, and in many cases, use plants you may not consider aquatic. The presentation is very informative, entertaining, and educational.

Deb, along with Susan Davis and Joe Zarda own and operate Water's Edge. Water's Edge is committed to providing the best pond related plants, materials, and assisting their customers with the information needed to build and maintain healthy ecosystems. Water's Edge also assists customers with design ideas and can offer technical advice when needed. Their website is an excellent resource and has a lot of useful information. The website is located at <http://watersedge.com/>.

For more information, please contact Vicki Aber at (303) 423-9216 or docvicki@msn.com.



Mojito Taro, (photo courtesy of Brent & Becky's Bulbs)

How to Save Your Pond if a Natural Disaster Strikes, Would You Know How to Protect Your Pond?

by Eve Adamson (reprinted from Fall 2008 "*Ponds Magazine*")

In his 12 years as a fish veterinarian in Southern California, Robert Hildreth, DVM, has seen a lot of disasters: earthquakes that crack and drain ponds in minutes, the eucalyptus tree limb that fell on a transformer and knocked out power for 16 hours, the pond contaminated when the next-door neighbors painted their house on a windy day and paint blew into the pond.

Then there was the drunk driver who landed his car in someone's pond. "I got a call in the middle of the night. The fish were going belly up, and the pond owners wanted to know what they should do," Hildreth said. "It's certainly not something you would expect to happen."

While pond owners cannot predict every disaster, they can prepare for the worst with the right equipment and knowledge to get themselves, and their fish, through almost anything – from floods, windstorms, environmental contamination and power outages to tornadoes, earthquakes and hurricanes. "If you suddenly are faced with an emergency, that is not the time to decide you need to buy the equipment to move your fish," Hildreth said. "You need to be prepared."

Fire doesn't have to reach your property to cause a problem. Ash and other airborne debris might contaminate your pond.



Chiquita Punch Canna, (photo courtesy of Oregon Aquatics)

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How to Save Your Pond if a Natural Disaster Strikes

(continued from page 3)



Hailstorm, (photo courtesy of <http://wigley.us/archives/17>)

Battening Down, Powering Up

Have an alternate energy source available to power your pond's pump in case an electrical outage occurs. Pond plants can help fish survive longer if a power failure occurs.

When a storm strikes, humans may shudder indoors, but fish in a pond might barely notice the ripples on the surface – unless lawn chairs and tree branches plummet into the pond. “Wind can blow patio furniture and other debris into the pond, and that can damage not only the fish but the water quality,” said Denise Petty, DVM, and aquaculture extension veterinarian at the University of Florida Department of Fisheries and Aquatic Sciences in Gainesville, FL. Petty advised tying down movable objects in the vicinity when a storm approaches and quickly removing debris from the pond after a storm. A simple hailstorm can wreak havoc in a pond.

Wind, lightning, floods, tornadoes, hail, even technical problems at a power station can result in an even more critical situation: power loss. “Power outages are a major concern, especially during temperature extremes,” said Connie Blankenship Ausema of Prairieville, LA, a garden writer and pond hobbyist who gives seminars on water gardening.

When Ausema lived in the Ozarks, she experienced frequent power outages lasting three to four days, often during winter ice storms. After an outage during a cold snap, Ausema discovered her pond totally frozen over, despite her passive solar floating bubble. “I sat in my yard weeping over these fish that I had loved for years,” Ausema said.

To guard against power loss, Petty suggested purchasing a marine deep-cycle battery at a boating store. Coupled with a power inverter, this battery will provide power to run a pump and keep the pond properly aerated. “Sufficient aeration is important during power loss,” Perry said. “Look at the wattage that your pump requires, and match the inverter to it.”

Another option, Hildreth said, is a battery-operated pump kept fully charged. “Keep this in your pond, and if the electricity goes off, it automatically kicks in. It’s good for about 12 to 24 hours without needing a charge.

Hildreth lives in an isolated area in California and experiences frequent power outages. “I keep the pump plugged in all the time and run air lines out to my air stones, so it’s always charging and ready to go. It’s a great invention.”

A power converter that hooks up to a car battery can run a pump and other appliances for short periods, Hildreth said. “You can find these at Home Depot for \$15 to \$70. You plug them into your ashtray and turn on your car engine, and you’ve got electricity to crank up the pond.”

For those with a significant investment in koi, especially those at risk for more extended power outages, consider a gas generator, Hildreth said. “These can run \$500 or \$600. That’s the ultimate solution.”

Temporary Quarters

In Union Township, NJ, spring is always welcome, except when rain coupled with snow thaw causes the groundwater levels to rise. Flooding can jettison fish right out of a pond or push them out from underneath. Excessive rain can flood a pond, pushing fish and other items out of the pond.



Flooding, (photo courtesy of <http://www.ctvnews.ca>)



Tornado, (photo courtesy of <http://johnstonhealth.org>)

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How to Save Your Pond if a Natural Disaster Strikes

(continued from page 4)

“My pond liner rises up and pushes out virtually all the water in my 7-by-12-foot pond,” said hobbyist Glen Pritchard. “I have over 100 goldfish averaging about 6 inches, but I put them all in a large plastic garbage can with a heavy-duty air pump, and they survived for days with no loss.”

That’s just the kind of preparation that Hildreth and Petty recommend. Hildreth said, “Fish may need to be evacuated from a pond for any number of reasons, like a crack in the liner or contamination. To do this, you need a vessel to hold the fish.”

For smaller fish, Hildreth recommended a large cooler, which has the added benefit of insulation and a lid to keep fish from jumping out. Drill a hole in the lid for oxygen exchange and the air stone tube (and make sure that the drain plug is closed tight).

For larger fish, Hildreth recommended 55-gallon drums or large clean plastic garbage cans: “Both are easily stored in a corner of the garage and are big enough in diameter that they can hold fish up to 15 inches.”

Petty recommended livestock watering tanks. The 200-gallon size, available at farm supply houses, usually cost about a dollar per gallon. “That may sound like a lot, but if you have a lot of fish, this is a good investment,” she said. “The tanks are stackable when not in use.”

Keep enough containers to hold all your fish. Hildreth said you can put about three 18-inch koi (or 40 inches of fish) in a 55-gallon container, with one or two air stones in each.

“If you also have to evacuate,” Hildreth said, “you can even put the coolers or garbage cans in the back of a pickup truck or the trunk of your car, load the fish and battery-powered air pumps, treat the water with a double dose of Amquel Plus Ammonia Detoxifier, and drive to where you need to go.”

Moving fish to separate containers also requires careful water-quality monitoring. “Don’t feed fish in temporary tanks,” Petty said. “Fish excrete ammonia as a byproduct of protein metabolism, but the more they eat, the more they are going to excrete. If you have limited water supply during an emergency, you don’t want the fish polluting the water faster than necessary, and you’d be surprised how long you can go without feeding koi.” Petty believes that most fish are overfed and said adult fish should be fine for five to seven days without losing significant weight.

“Even without feeding, water quality can be a problem,” Hildreth said. Keep a cycled filter running in your pond at all times that you can move into a temporary tank to help manage ammonia load. Also, treat the water with a water conditioner that binds chloramines, chlorine, ammonia and nitrite.

“You need a water kit to monitor your ammonia, nitrite and pH,” Hildreth said. “Use a three-part liquid reagent kit to measure free ammonia rather than total ammonia. Binding agents won’t influence the readings.”

Temperature also can be a concern, especially during hot weather. “In Florida, we have a problem keeping water from getting overheated,” Petty said. “Don’t locate temporary tubs in the sun, because overheated water will raise the metabolic rate of the fish, and pathogens thrive in those conditions.” Keep tanks in the shade and, if necessary, hook up a simple box fan to a battery for evaporative cooling.

Remember a net. “You’d be surprised how many times I make a house call to treat a fish and the pond owner doesn’t have a net,” Hildreth said. “In case of emergency, have a net.”

With daily water testing and water quality maintenance, fish can survive for several weeks in temporary holding tanks, according to Hildreth. That should be plenty of time to clean and repair a damaged or contaminated pond.

(continued on page 6)

How to Save Your Pond if a Natural Disaster Strikes

(continued from page 5)

Although a natural disaster can be frightening and feel isolating, hooking up with a local koi club, or at least other hobbyists, can be a lifeline in times of trouble.

“People in a koi club are likely to have the resources you need and can come to your aid,” said Hildreth. “If it’s a major disaster, you can depend on each other. If it’s a disaster at just one person’s house, experienced hobbyists are likely to come quickly to help you. Keep their phone numbers easily accessible.”

Nature Takes its Course

Sometimes, however, natural disasters do not allow for prevention. Hurricanes, earthquakes and other catastrophic events can wipe out a pond without warning. “Human safety must always be the first concern,” Petty said. “Only then can you worry about the animals.”

Sometimes ponds weather natural disasters just fine. When Betty Edens was evacuated from her Danbury, TX home during Hurricane Rita, she took her pregnant daughter, three grandchildren, six horses and three dogs, and headed out without knowing where she was going. She could not take the fish. “I lived far enough off the coast that even though we lost power and the pumps stopped, all the plants in the water kept the fish alive. They don’t call them oxygenators for nothing,” Edens said. “My fish were large, and as soon as it was safe, my son who lived nearby came over and restarted the pump, and all was well.”

Nature can be frightening and human error can be even more destructive. With a little preparation – and a little luck – your pond and your fish just might weather the storm.

Emergency Supply List

Stock up on a few key supplies to maximize your chances of keeping your pond intact and your fish alive in the event of an emergency.

- A source of power, such as a marine deep-cycle battery, car battery or generator.
- A power inverter for running equipment like pumps or chargers off your power source. Check auto supply stores.
- A battery-operated air pump with air stones.
- A submersible filter. Keep it in the pond, and it will be pre-cycled.
- Containers large enough to hold your fish, such as large coolers, 55-gallon drums, clean plastic garbage cans with lids, or livestock watering tanks.
- A net to catch the fish.
- Water conditioner to detoxify tap water.
- Water test kit to monitor ammonia, nitrate and pH.

New and Returning Members for Nov. 2015, February & March 2016

November 2015

Gabriella Bertelmann
Denver, CO

(Returning)

March 2016 (cont'd)

Sybil Jacobson
Longmont, CO

(NEW!)

February 2016

Jim Carlson
Denver, CO

(Returning)

Georgia Keller
Lakewood, CO

(Returning)

March 2016

Vicki & Dan Aber
Arvada, CO

(Returning)

Carolyn Lupe
Denver, CO

(Returning)

Louise & Leon Thomas
Centennial, CO

(Returning)

Susie & Mike Hawes
Cherry Hills Village, CO

(Returning)



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We also run single-event ads.

*For details regarding rates, sizes, and formats of ads, contact Dorothy Martinez
dorothy.martinez@colowatergardensociety.org*

Make checks payable to:
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___ *Check here if you are also a member of Denver Botanic Gardens*

Check one:

___ ***I would like my contact information included in a membership list that will be distributed only to the members.***

___ ***I do not want my contact information published in the membership list.***

Contact me concerning volunteer opportunities I've checked below:

- DBG Volunteer Sundays ___
- Water Plants booth, DBG May Sale ___
- Hudson Gardens ___
- CWGS Plant Sale (June) ___
- Pond Tour (July) ___
- Water Blossom Festival (August) ___

Note: Your newsletter will be made available to you electronically unless you check otherwise below.

___ ***I request to receive a paper copy of the newsletter***

Membership Fees
 \$15.00 Individual; \$20.00 Family

THIS YEAR

A calendar of CWGS Activities and Events:

April 21: Presentation 'Exploring the Use of Aquatic Marginals'
Cottonwood Classroom, Lower Level Boettcher Memorial Center
Denver Botanic Gardens

6:00 PM – 7:00 PM, Potluck

7:00 pm – 8:30 PM, Presentation

May 6 & May 7: DBG Annual Plant Sale – Area near Marnie's Pavilion,
DBG, 8:00 AM – 5:00 PM on Friday and Saturday

May 19: Potluck & Annual Plant Swap – Plant Society Building, DBG,
6:00 PM – 8:00 PM

June 5: CWGS Annual Plant Sale – Business Office/Residence, The
Hudson Gardens & Event Center, Littleton, CO, Members only 9:00 AM –
10:00 AM, General Public 10:00 AM – 2:00 PM

June 25: Pond Side Program – Neupert Residence, Picnic Potluck,
Boulder, CO, 11:00 AM – 3:00 PM

July 16: CWGS Pond Tour & Picnic – Southeast Denver & Aurora Area,
Pond Tour 10:00 AM – 4:30 PM, Picnic 5:00 PM – 7:00 PM

August 6: Water Blossom Festival – Monet Pond Area, Tours of
Aquatic Greenhouse & DBG Gardens, DBG, 9:00 AM – 1:00 PM

August 27: Pond Side Program – Bathurst Residence, Picnic Potluck,
Arvada, CO, 11:00 PM – 3:00 PM

**Sept. 22: Potluck, Annual Board Elections, Presentation, & 2017
Planning Meeting** – Plant Society Building, DBG, 6:00 PM – 9:00 PM

Oct. 13: Potluck & Planning Meeting – Great Room, Waring House,
DBG, 6:00 PM – 8:30 PM

Dec. 15: Holiday Banquet & Volunteer Recognition, – Plant Society
Building, DBG, 6:00 PM – 9:00 PM



FIRST CLASS MAIL

From...

The Water Garden

c/o Dorothy Martinez, Editor
14837 W. 57th Drive
Golden, CO 80403-3001

*The Colorado Water Garden Society
(CWGS) is a non-profit 501 (c) (3)
organization founded in 1983 to
encourage appreciation and interest in
the use of water in the landscape.*

To learn more, visit us at
www.colowatergardensociety.org