



The Lily Pad

The Topeka Area Water Garden Society

Published Monthly – February to November

The objective of the society is to encourage a greater appreciation and interest in water gardening and aquatic plants, to disseminate information about those interests and to help our members stimulate the study and culture of water gardens.

Volume 9, Issue 4

May 1, 2006



Duane Eberhardt and Diane Gruver (foreground) pot lilies at Ward Meade Park while (l-r) Larry Sheets (in waders) and Floyd Gruver survey the situation. Backsides belong to Don Taliaferro, Michael Bradley, Jim Green and Barrie Gnaggy.

Lilies re-potted at Ward Meade

A beautiful day brought out several TAWGS members to help re-pot the lilies for the fountain at Ward Meade Park and Anna's Pond. This year we met in the big back yard of the white house just south of Ward Meade and it worked out very well. Ray Schroeder of Topeka Parks and Rec. provided the dirt and sand and Puddles-N-Pads contributed 11 5 gallon containers. Volunteers also brought containers and a few water garden plants to share. By 11:00 we had re-potted two lotus and 18 lilies for Ward Meade, 6 lilies for Lake Shawnee and 10 lilies for the plant sale. We also have lots of bare root lilies for the plant sale.

Volunteers for the morning's activities were: Duane Eberhardt, Helen Platis, Larry Sheets, Don Taliaferro, Jim Green, Michael Bradley, Mary Ann Bechtold, Helen Platis, Carol and Barrie Gnaggy, and Floyd and Diane Gruver. Douglas Plachy, a guest at the April meeting, and his son Dick (who took pictures) were also there. Thanks to all that pitched in to help!

Pond Tip

Clear pond water doesn't always indicate healthy water. Regular water testing can alert you to unseen problems before it is too late.

Monthly Meeting
6:30 p.m., May 17, 2006
Fish Fry and Pot luck at Ensley Garden House at Lake Shawnee
(Go east on SE 37th, jog right at the T and turn onto Yacht CT – 3720 SE Yacht CT
Program – Tour of Gardens
Dave Bartels, Shawnee Co. Rec
 Names A-M please bring salads.
 Names N-Z please bring dessert.
 Table service and drinks will be provided. Bob and Cheryl Saathoff will provide and fry fish for the supper.
Please RSVP to Saathoff's at 272-7125 by Saturday, May 13th so they will know how much fish to prepare.



2006 Door Greeters and Refreshments

| Month | Door Greeters | Refreshments |
|-------|----------------|------------------------|
| June | | Pettermans, Sheets |
| July | | Jiriks, Betty Karnes |
| Aug | Don Taliaferro | Taliaferros, Saathoffs |
| Sept. | | Pot Luck |
| Oct. | | Eberharts |
| Nov. | | Pot Luck |

As you can see, we need more door greeters so please contact Duane or Diane if you would like to be a greeter.



Rain garden concept growing

Rain gardens are a fairly new concept, Eric Wood, co-owner of Puddles-N-Pads Water Gardens, told TAWGS members at the April meeting. The purpose of a rain garden is to recoup surface water instead of letting it runoff into storm sewers, carrying contaminants with it. A rain garden is a shallow basin filled with native plants to hold and filter rain for a few hours before soaking into the ground. It is not a mosquito trap because the water does not stand long enough for the larvae to hatch.

The construction of a rain garden is very simple. The location should be far enough away from the house to avoid damage to the foundation, yet close enough that rain water from down spouts will drain into the basin. A stream bed could be used to funnel the water from the down spouts into a natural low spot in the yard or a man-made sunken area. The size of the rain garden depends on the size of the roof of the house and the ground surface area that drains into it.

Once you have determined the place for the rain garden you can remove a few inches of dirt and fill the area with water to see how long it will take it to percolate into the ground. The ideal time is between 12 and 24 hours. If it takes longer than that, till with compost six to eight inches deep and auger down (with an auger to plant tulips) to improve drainage. Use mostly native plants that can stand flooding for a few days or drought. The new plants will probably have to be watered the first year to help establish the roots. Plants such as hibiscus, iris, lobelia, sedum, ferns, hostas, daylilies, skunk cabbage and native grasses can be used. Trees such as red maples, swamp oak and bald cypress and some shrubs and dogwoods will also work. Use sun loving plants in a sunny garden and shade loving plants in a shady garden. The garden should be mature in 12 to 18 months, Eric said. Although a rain garden is different than a wetland filter, a wetland filter can be used if there is a large area draining into it.

"We have to find ways to improve our water quality," Eric said. "We are going to see lots of legislation coming through. There are currently five bills on ground water improvement," he said. Rain gardens can have a powerful cumulative effect in reducing pollutants such as fertilizer and animal waste in our rivers and streams.

Kansas City currently has a program called 10,000 Rain Gardens where they are encouraging homeowners, churches, businesses and schools to build rain gardens. Topeka has already planted an area north of the State House on Jackson with buffalo grass, coneflowers and rudbeckia. There are several good

websites for more information on rain gardens including www.rainkc.com or clean-water.uwex.edu/pubs/raingarden.

TAWGS Minutes 4-19-2006

President Duane Eberhardt called the meeting to order at 7:00 p.m. with self introductions. We had one guest, Douglas Plachy. Floyd Gruver introduced Eric Wood who gave an interesting program on Rain Gardens.

Following the program, Eric explained a little about NAWGS, which was formed by Aqua Scape. He said that the idea behind NAWGS is to have representation if and when legislation comes down the pike that could be detrimental to the hobby of water gardening. He said that NAWGS also has pre-packaged programs available to the membership and they also have a newsletter. He would like to see TAWGS become affiliated with NAWGS. Diane will check into the cost of an affiliate membership.

A break was taken after Eric's presentation for refreshments provided by Barrie and Carol Gnaggy and Gerald and Donnis Hodges. When the meeting resumed Tom Platis moved and Betty Karnes seconded that the March minutes be approved as printed in the April Lily Pad. Motion carried.

Floyd Gruver reported that next month the meeting will be a pot luck at 6:30 p.m. at the Ensley Garden House at Lake Shawnee. Dave Bartles of Shawnee Co. Parks and Recreation will give us a tour of the gardens. Floyd also reported that Diane had received word that the Lily Pad had tied for 3rd place in the IWGS newsletter contest.

Floyd also reminded everyone that we would meet at 8:30, Saturday, April 22, at Ward Meade to re-pot the lilies for the fountain and Anna's Pond. Ray Schroeder of Topeka Parks and Rec. will furnish the dirt and sand and Puddles-N-Pads contributed 11 5-gallon containers. We will pot 18 lilies for Ward Meade, 6 for Lake Shawnee and a few for the Council Plant Sale, which will be held on Saturday, April 29. Anyone who can help is encouraged to come help re-pot the lilies.

Treasurer Jim Green reported that we have \$3,117.71 in checking; \$1,156.49 in savings for a total of \$4,274.20. Marikay Peterman moved and Larry Sheets seconded that we accept the treasurer report. Motion carried.

Joe Breitenstein, chairman of the Council Plant Sale, reported that they will start setting up at 6:30 a.m. on the 29th at Fairlawn Plaza Shopping Center. If you have any extra water plants please bring them. Volunteers to help Floyd and Diane at the plant sale were: Larry Sheets, Pat Routh, Doug Peterman and Duane Eberhardt.

Michael Bradley said that Sat., the 22nd was Earth Day and the Villages, where he works, is sponsoring a fund raiser at the Stone Nature Center. He invited everyone to attend.

Jim Green moved and Doug Peterman seconded that the meeting adjourn. Motion carried.



Damp but not soaked, Larry and Caryn Sheets, Pat Routh, and Duane and Mary Eberhardt take a break at the plant sale.

Plant sale nets over \$270

People who have worked at the Garden Council Plant Sale over the years can pretty well predict that the weather is going to be wet, and this year was no different. A slight mist is sure better than a heavy downpour though so we really can't complain about the one little heavy shower that came our way.

Thanks to the extra lilies that we potted for the sale, the bare root lilies and lotus, iris from Joe Breitenstein, water clover, umbrella, horsetail and mint from Pat Routh and ribbon grass from the Sheets, we made \$272.25 before noon when we closed down.

Larry & Caryn Sheets, Duane & Mary Eberhardt, Pat Routh, Helen Platis and Floyd & Diane Gruver worked the whole morning. Others that helped for awhile were Betty Karnes, Don Taliaferro and Mary Bechtold. Thanks to all that helped or contributed in any way.

WATER PLANTS By Duane Van Dolah

WATER SNOWBALL



Gymnocoronis spilanthoides

When young, this herb is a marsh-growing perennial that forms a rounded bush. As it becomes older, the stems become prostrate. The stems are pale green, scrambling and branching at the nodes. They get 3 feet long. The stems are hollow and inflated, making them buoyant. The plant has leaves that are dark green, 5 to 8 inches long and 1 to 2 inches wide on short stalks. The leaves have serrated margins and are slightly waxy. Florets of white flowers are numerous and grouped into terminal heads 1/2 inch diameter. This plant is a native of

South America with hardiness in zones 9-11. It can be wintered over at the bottom of the pond in zone 5. Winter Snowball blooms in the summer and smells like baby powder. It grows in moist soil to up to 12 inches of water with a spread of 3 feet. The Water Snowball is another excellent plant to attract butterflies to your pond. Plant in full sun or full shade. Propagate by stem cuttings or by seed. *Gymnocoronis spilanthoides* 'Variegata' is another variety with white irregular margins on the leaves. Another cultivar has wine- red stems.

Select the Proper Pump

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The Water Garden watergarden.com

Step 1: Determining Desired Flow Rate There are several things to consider in order to make a good decision for a pump purchase. The first thing is to determine your required flow rate. You will want your minimum flow rate to be at least half of your pond volume (Pond Volume Calculator <watergarden.com/calculate/calculator_index.html>).

For example if you have a pond that contains 2,000 gallons of water then you will want to pump at least 1,000 gallons per hour (gph). This is a starting point. You may find that 1,000 gph is not enough if you plan to have a waterfall that is more than 10 inches wide. Generally for a waterfall you will want 100 - 150 gph per inch of width of the weir (the portion that the water spills over). This amount will vary depending on how smooth or rough the weir is. If you want less than a full flow then less flow is acceptable. You will also need to consider your filter and ultraviolet sterilizer (UV) to make sure that you are moving the right amount of water for these devices.

If your filter or UV has a maximum flow that is less than your required flow rate for good circulation of your pond water, then you will need to divert some of the water around these devices and back into the pond. This is accomplished by adding a tee fitting in the pipe coming from the pump and before your filter and/or UV. A ball valve is added between the tee and the filter. Another ball valve is installed on the other leg of the tee. Add more pipe to this leg of the tee and extend the pipe to the waterfall or to the pond. Adjust the ball valves to get the appropriate amount of water flowing to your filter.

Step 2: Calculating Head Pressure The next thing that you want to consider is the amount of head that your system will have so that the correct pump size can be determined. The three main sources of head are: **STATIC HEAD**- this is the vertical distance you raise the water above the pond surface; **FRICTION HEAD**- this is the resistance from pipe and fittings as the water flows through; **PRESSURE HEAD**- the additional pressure required by some filters, venturis, and other devices. Most pond applications can ignore **PRESSURE HEAD**. First determine the vertical distance in feet above the water surface, this is the **STATIC HEAD**. Next, use our **Friction Loss Chart** <watergarden.com/catalog/_pumps/friction.html> to determine your **FRICTION HEAD**. Add this to your **PRESSURE HEAD** and you can use this figure to size the pump. We highly recommend using flexible PVC

pipe that eliminates elbows and provides higher flow rates by reducing friction loss. Even though cost may be higher than rigid PVC pipe, it is much easier to install. There is no problem in using pipe larger than required but smaller will cut your flow rate.

Step 3: Submersible vs. External Before you choose your pump however, there are other things to consider. Should you use a submersible or an external pump?

Submersible pumps are usually less expensive and easier to install. However, some may cost more to operate and usually don't last as long as external pumps. There are a lot of variables in determining the longevity of a submersible pump. How dirty the water, how often the pump is cleaned, and if it is operated continuous or intermittently will all influence the lifespan of a pump.

External pumps are generally very energy efficient and long lasting, but involve a little more plumbing and you will generally want to find a way to disguise the pump from view.

It is often good to compare the warranty of the pumps you are considering as this can give an idea of which pump will last longer. We have found that on average a pump will last 2-4 times the stated warranty period. A pump that costs twice as much as another but lasts 3 times as long will be a better value.

Step 4: Calculating Operation Expenses You can determine the operating cost of any pump by using this formula: amps x volts divided by 1000 x KWH cost x 24 hours-a-day x 30.4 days-per-month = cost per month.

If the pump is rated in watts instead of amps use this formula: watts divided by 1000 x kWh x 24 hours-a-day x 30.4 days-per-month.

KWH is the kilowatt-hour cost, which you can get from an electric bill or by calling your local electric company. (Pump Operation Cost Calculator <watergarden.com/catalog/_pumps/cost_index.html>)

Step 5: Which Pump? The pumps in our online catalog have a performance chart associated with them that gives the flow rate for various head pressures. For example: you have a pond that is 1500 gallons and your waterfall weir is 10 inches wide. You will need ½ of 1500 gallons or 750 gph for good circulation of your pond but your waterfall requires 1000 to 1500 gph (based on 100 to 150 gph per inch of width of weir). You will want a pump that will provide somewhere around the 1000 gph or 1500 gph that the waterfall requires.

The next step is to determine your head pressure. Your waterfall is 4 feet above the pond water level and the waterfall will require 25 feet of plumbing from the pump to the waterfall. If you consult the Friction Loss Chart, you will see that 1 ½" pipe will be a good choice for 1500 gph.

You will have a FRICTION HEAD of approximately 1 foot if you use 1 ½" pipe. Add to this the 4 feet of STATIC HEAD and your total head pressure will be 5 feet.

The next step is to look at the flow charts for the various pumps. For instance the Savio SAP1450 delivers about 1200 gph @ 5 feet of head. Pondmaster PMP1800 delivers 1200 gph @ 5 feet of head. If an external pump is desired, you will find the Sequence MDM3600 delivers about 2700 gph @ 5 feet of head. While this is more than

necessary, the flow can be adjusted by installing a ball valve on the discharge line. Any of these pumps may work for this application.

Find two or three pumps that will deliver the required flow rate and calculate the operating cost for each pump. Compare this information with the purchase price of each pump and use this information to make an educated decision about which pump is best for your needs.

The Green, Green Days of Summer What can be done!

Reprinted from 5-14-04 Splash

Well, it is getting warm That is the good news! The bad news is that with the warmer weather and longer days ALGAE can get out of hand. Whether it is the green water kind or the stringy slimy sort, we do not like either!

We get literally hundreds of questions dealing with this almost universal pond problem, so here are some hints and tips for dealing with it.

1) The very first thing to do is to balance the pH. The ideal pH is 7.0, but that is often almost impossible to achieve in a pond. Most ponds will do just fine with a pH somewhere between 6.8 and 7.9!

2) In all but the coldest areas of the country a pond that does not have filtration with an Ultra-Violet-Clarifier should be 2/3 covered with plants by July 4th (general rule of thumb). The best plants for surface coverage are Water Lilies, Water Fringe, Water Hyacinth and Water Lettuce

(care must be taken in some of the southern areas as some of these plants are not legal there because they can be invasive where they do not die in the winter).

3) Establish a healthy beneficial bacteria colony! The pond filter should have plenty of surface area for the bacteria to grow. The filter must run 24/7 and the biological filter media should not be cleaned with city tap water (the chlorine in it will kill the beneficial bacteria). Beneficial bacteria can be added to the pond! Our favorite is "MicrobeLift!"

4) Use a flocculant when the pond first shows signs of greening over - it is much easier to stay ahead of the problem than to clean it up. We have found that "Accu Clear" is the most effective flocculant!

5) String algae loves high pH and can almost grow faster than one can get rid of it. We use "Pond Balance" - it slowly dissolves the string algae without hurting the plants (algaecides will kill your plants - be careful of what products to use in the pond).

6) When all else fails, an Ultra-Violet-Clarifier will solve the green water problem once and for all! (The bulb has to be replaced once a year, though).

Educational Opportunities

Puddles-N-Pads, Topeka – 785-233-3474

| | |
|---------------------|---------------------------|
| May 11 - 6:30 p.m. | Installing a water garden |
| May 20 - 8:30 a.m. | Installing a water garden |
| June 10 - 8:30 a.m. | Installing a water garden |

June 24 - 10:30 a.m. Fish 101
 June 24 - 12:30 a.m. Pond Plants
 June 24 - 2:30 p.m. So you're thinking about a pond
 June 24 - 3:00 p.m. Installing a water garden
 June 25 - 12:30 p.m. So you're thinking about a pond
 June 25 - 1:00 p.m. Installing a water garden
 June 27 - 6:30 p.m. Installing a water garden
 July 8 - 8:20 a.m. Installing a water garden
 July 31 - 6:30 p.m. Installing a water garden
 Aug. 5 - 8:30 a.m. Installing a water garden
 Aug. 31 - 6:30 p.m. Installing a water garden
 Sept. 9 - 8:30 a.m. Installing a water garden
 Sept. 14 - 6:30 p.m. Installing a water garden
 Sept. 23 - 8:30 a.m. Installing a water garden
 Oct. 5 - 6:30 p.m. Fall shut down
 October 7 - 8:30 a.m. Fall shut down
 Space is limited to 16 people per class so register early.

Waters Edge, Lawrence – 785-841-6777

May 6 - 10:30 a.m. Disappearing fountains and waterfalls
 May 6 - 11:30 a.m. Adding aquatics to the perennial garden
 May 13 - 10:30 a.m. Better filtration for your pond
 May 20 - 10:30 a.m. Bells and whistles (adding lighting, fogger, spitter, pump switch, auto-fill, skimmer)
 June 3 - 10:30 a.m. Rain gardens
 June 10 - 10:30 a.m. Early summer pond care and all about tropical waterlilies
 June 17 - 10:30 a.m. Go native
 June 24 - 11:00 a.m. Lotus – myth & mystique
 Aug. 5 - 10:30 Frogs, toads and tadpoles
 Sept. 16 - 10:30 a.m. Getting ready for fall and leaf netting
 Oct. 7 - 10:30 a.m. Bubbling bird baths and fountains
 Oct. 7 - 11:30 a.m. Building a tabletop fountain
 Oct. 21 - 10:30 a.m. Winterizing your garden pond

Guarding against sick fish

Reprinted from Watergarden News 4-18-06

Fish disease and death can be very frustrating. Unfortunately, it even causes some people to give up on fish-keeping altogether. But a little knowledge along with some basic precautions can be very powerful in the health of our goldfish and koi. Maintaining good water quality is extremely important. It's also important to make sure you are starting with healthy fish. If you purchase sick fish, it's going to be an uphill battle at best. Buy your fish from a dealer you trust. If you are keeping high-dollar fish then trust is not good enough. You should set up a quarantine pond for new fish before mixing them with your other fish. If a health problem does arise, your first step should be to test the water (you do this once a week anyway, right?).

| Symptoms | Possible Cause | Treatment |
|---|---|--|
| Cotton-like growths | Fungus | Medi-Koi, ProForm-C |
| Open wounds | Bacterial Infection | Melafix, Medi-Koi, Debride |
| Gasping at surface | Oxygen deficiency | More aeration, fewer fish |
| Bulging eyes | Pop-eye, Bacterial Infection | Melafix, Medi-Koi |
| Swollen body and scales protruding from body | Dropsy, Bacterial Infection | Melafix and Medi-Koi (mainly for the other fish as usually it is too late for this fish) |
| Fins deteriorating | Finrot, bacterial infection | Melafix, Medi-Koi |
| Floats upside down, trouble swimming upright | Swimbladder disorder | Sinking food |
| "Flashing" through the water (sudden sideways bursts) or jumping | <ol style="list-style-type: none"> Parasite infection Water toxin | <ol style="list-style-type: none"> Salt level to .3%*, Dimilin, ProForm-C, Prazi Pond Water Change |
| Colored fish turning white | Loss of pigment | More sunlight |
| Swollen gills | Flukes, parasite infection | Salt level to .3%*, Dimilin, ProForm-C, Prazi Pond |
| Lying on pond bottom | Flukes, parasite infection | Salt level to .3%*, Dimilin, ProForm-C, Prazi Pond |
| Scales raised (on only part of the body) | Parasite infection | Salt level to .3%*, Dimilin, ProForm-C, Prazi Pond |
| Strong red veins in the fins | <ol style="list-style-type: none"> Bacterial Infection Parasite Infection Ammonia or Nitrite poisoning | <ol style="list-style-type: none"> Melafix, Medi-Koi Salt level to .3%* Water Change, Ammo-Lock |
| White Spots (pinhole size only) | Ich, Parasite infection | Salt level to .3%*, ProForm-C |

*This level of salinity is not recommended with plants in the pond.

Topeka Area Water Garden Society
9900 SW K-4 Highway
Topeka, KS 66614

Calendar of Events

May 17 – TAWGS monthly meeting – Lake Shawnee
June 17-18 – TBA Garden Tour
June 21 – TAWGS monthly meeting
June 24-25 - Topeka Pond Tour
June 24-25 - Lawrence Pond Tour
June 24-25 – Wichita Pond Tour
July 8-9 – Kansas City Pond Tour
July 19 – TAWGS monthly meeting
July 19-25 IWGS Symposium, Ft. Lauderdale, FL
August 16 – TAWGS monthly meeting
September 20 – TAWGS monthly meeting – Lake Shawnee
October 18 – TAWGS monthly meeting
November 15 – TAWGS Pot Luck Supper

Pond Tip

If you have trouble with your underwater plants (i.e. anacharis) breaking out of their bunches, try placing groups of bunches in a pot of pea gravel to hold them in place.

Your Dues are Due if your label reads 4-06, 5-06 or 6-06

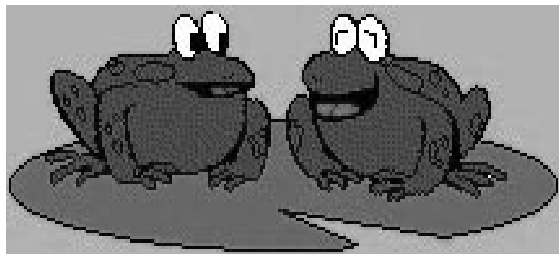
Please renew as soon as possible to continue receiving the newsletter.

Send dues to Jim Green, 5701 SW Arrowhead CT, Topeka, KS 66614

THE TOPEKA AREA WATER GARDEN SOCIETY 2006 OFFICERS:

| | |
|---------------------------|--------------------------------|
| Duane Eberhardt Topeka | President 785-246-0240 |
| Floyd Gruver Holton | Vice President 785-364-3046 |
| Diane Gruver Holton | Secretary 785-364-3046 |
| Jim Green Topeka | Treasurer 785-272-7139 |

Meetings are held the third Wednesday of each month at Old Prairie Town (Ward Meade Park) unless otherwise publicized. Dues are \$15 per single or \$20 per family and can be sent to Jim Green, 5701 SW Arrowhead CT, Topeka, KS 66614.



Check it out - www.tawas.org

The Lily Pad

Published Monthly, February to November by the Topeka Area Water Garden Society (TAWGS), a non-profit organization. TAWGS does not warrant the information in this newsletter. The opinions expressed are solely those of the authors and do not necessarily represent those of the Topeka Area Water Garden Society.

The Lily Pad encourages submission of articles pertaining to water gardening from the membership and other interested parties. Deadline is the third weekend of each month. Address input and/or questions to:

Diane Gruver, The Lily Pad Editor
408 Emerald, Holton, KS 66436
785 364-3046

fdgruver@earthlink.net

We reserve the right to edit input to meet publishing requirements. Copy cannot be returned.