From Vicki…

“Winding Down” by Vicki Aber, CWGS President

The summer is winding down fast. We will be putting our ponds to bed for the winter soon. The same with the club; our September meeting is coming up, and we hold our annual elections at that time.

We will have at least a couple positions open on the board. (See the Board slate for 2011 on page 7 as it exists at the time we put this issue to print.) Please consider helping steer our ship. We have a lot of fun and lately have kept board meetings to a minimum, doing a lot of our communication by email.

For the Annual Meeting and elections we will be back at the Montview Church, 1980 Dahlia St., corner of Dahlia and Montview in the Park Hill district of Denver, on Thursday Sept. 9. (Map and information, below.) We’ll have an optional potluck dinner at 6:00 PM before the meeting and elections. Remember, the club provides utensils and drinks. Just bring a dish that appeals to you. It always works out deliciously.

At 7:00 we’ll review the proposed slate of candidates, receive nominations from the floor, and vote. The Annual Meeting portion of the evening will only take a few minutes after which we can visit and enjoy each other’s company while we go back for an extra slice of cake or another cookie.

Also, mark your calendars now for next month: On Thursday Oct 14 we’re going to have a special potluck and open planning meeting at Montview Church. Following dinner at 6:00, we’ll introduce new Board members and lead a planning session open to all members of the Club. Please join us. This is your chance to make your preferences known. Tell us how you think we did this year serving your interests and needs. Any and all suggestions are gladly received. By the end of this meeting we hope to assess 2010 and make some broad planning guidelines that will assist plans for 2011. The new year – and another ponding season – will be here before we know it!
A calendar of CWGS Activities and Events:

Sep. 9: Montview Church, 1980 Dahlia St., Denver
       Potluck dinner @ 6:00 PM
       Annual Board Elections @ 7:00

Dec. 9: Holiday Banquet

From…

TheWaterGarden
C/o Journal Editor
1210 Clayton Street
Denver, CO 80206-3214

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
**2010 Board of Directors:**

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**Vice President**
Janet Bathurst  303.421.1144

**Secretary**
Bill Bathurst  303.421.1144

**Treasurer**
Jim Wohlenhaus  303.429.9119

**Members-At-Large**
Brenda Parsons Hier  303.278.2106
Peter Hier  303.278.2106
Marge Oleson  303.989.4809
Jim Arneill  303.843.9619
Bill Powell  303.355.8098
Michael Weber  303.322.6769
Lynn Jewett  303.671.7964
Dorothy Martinez  303.279.3137

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**Newsletter Assembly**
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**Membership**
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**Publicity & Outreach**
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**Education**
Cyndie Thomas  303.755.1885

**Get Wet Event**
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**CWGS June Plant Sale**
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Janet Bathurst  303.421.1144
Dorothy Martinez  303.279.3137

**Pond Tour / Picnic**
Michael Weber  303.322.6769
Jim Wohlenhaus  303.429.9119
Dorothy Martinez  303.279.3137

**Water Blossom Festival**
Duff Kerr  303.871.0336
Marge Oleson  303.989.4809
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**Holiday Banquet**
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Bill Bathurst  303.421.1144
Janet Bathurst  303.421.1144

**DBG Plant Sale & Volunteers**
Bill Powell  303.355.8098
Marge Oleson  303.989.4809

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www.colowatergardensociety.org

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**CWGS Treasurer’s Report:**

As of July 31:  $13,433.30

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**Need to join or renew?…**

... The application is on page 9

*Does CWGS have your current email address? If you’re not sure, contact us.*

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**Changes are underway…**

Unless you have specifically requested continued receipt of The WaterGarden in paper form, you will now receive it electronically.

To request a change or to report a problem with downloading of the electronic journal, reply to Bill Bathurst at:

Bill.Bathurst@colowatergardensociety.org.
The Waterside Program Visits DU

by Bill Powell

On a recent sunny Sunday afternoon, the Waterside Program toured the grounds of Denver University’s central campus. It’s a verdant, designated arboretum with pleasant rolling lawns that also include a surprising number of large water features.

Beginning just to the west of the historic Mary Reed building, CWGS Board member Jim Arneill led the group past large architectural ponds. Water gushed from reflecting pools to water gardens, dropping from one terrace to another. Along the way were groupings of hardy marginals and occasional waterlilies. And, there were frogs - tiny, iridescent, and surprisingly still.

The reason for the stillness of the frogs was eventually revealed. Specimens of “Plasticus Aquaticus,” the frogs were a college prank, but their installation was surprisingly subtle. Only someone looking closely at the lily pads would have taken note of the trail of plastic creatures that ran the length of the display.

DU’s water gardens are a fairly recent development. Over the past few years, the campus arborist, with advice from Joe Tomocik, Curator of Water Gardens at Denver Botanic Gardens, has begun to stock the basins with hardy species of marginals, lilies, and lotuses. Tropical species are more problematic in that they have no easy way of overwintering. Nevertheless, the handsome water features are an attractive foil for the quiet formality of this campus setting. …And they provide a home for frogs (plastic and otherwise)!

Our thanks to Jim for his detailed tour of DU’s water gardens and arboretum and to Dorothy Martinez and John Funk for bringing refreshments.

Learn water gardening…the old-fashioned way

Soon the Sunday morning volunteer sessions will resume at Denver Botanic Gardens. Toward the end of September or the beginning of October, weather depending, many seasoned water gardeners (and we hope a few new faces!) will assemble to help Water Garden Curator Joe Tomocik begin the fall “bedding” tasks needed to ready the Garden’s aquatic display for its winter hiatus.

New gardeners can learn a lot about aquatic horticulture during these sessions. Typically the group helps trim vegetation, sink pots to proper depths in the pools, inventory and cull plants, and even harvest “corms” (small tubers) from tropical water lilies so that the cultivars may be sprouted in the early spring.

We’ll work mornings for about three hours each session over four Sundays. Why don’t you join us? For more information, call Bill Powell at 303 355-8098
**Focus on…**

**Nuphar polysepalum**

**Colorado’s Water Lily**

*by Joseph V. Tomocik*

I have been fortunate over the years to have made many trips into the nearby Rocky Mountains to enjoy the wildflowers, fish for native cutthroat trout, and during the past several summers to observe the only water lily indigenous to Colorado, the Western American Nuphar polysepalum (Engelm.) (Cow Lily, Yellow Pond-Lily, Spatterdock).

*Nuphar polysepalum* occurs as a native from South Dakota and Colorado to California and Alaska. In Colorado, it is found scattered in shallow sub-alpine ponds at 9,000 – 11,000 feet. Some specific locations include the Flat Tops Wilderness Area, Rocky Mountain National Park, and Routt and Roosevelt National Forests. My observations were made at Red Rocks Lake, a shallow lake of six acres at 10,300 feet elevation. The lake is east of the Continental Divide and less than a two-hour drive from Denver.

The Spatterdocks or *nuphars* (the genus name Nuphar is derived from the Arabic name for water lilies, “naufar” differs from other water lilies in that their flowers consist not of petals but rather of concave petal-like sepals. The true petals resemble stamens, except they lack anthers (the stamens are the pollen-bearing organ of a seed plant, consisting of anthers atop filaments). The sepals of N. Polysepalum are yellow and sometimes reddish-orange. The stamens number well over 200 and are yellow and black, tipped with orange. The glowing, golden stigma (the part of the flower that receives the pollen grains and provides conditions necessary for their germination) is disc-like with upwards of 15 rays. Colorado’s Spatterdocks begin blooming in June. By mid August blooming has ended and the seed pods are mature. Open blooms measure over three inches across and have a delightful, fruity fragrance.

The rhizomes of the Spatterdock are very stout and, in the case of Red Rocks Lake, provide for a network of intersecting plants which cover approximately half of the lake. The rhizomes were used as food by the early Indians. The broadly ovate (with an outline similar to that of a hen’s egg), green leaves that measure over 12 inches long and lie flat upon unfolding on the water’s surface. Strong winds (often accompanied by rain or hail) cause the leaves to lift on end with a characteristic “spattering” sound.

**Attempts at Cultivation**

Western nuphars are sparse bloomers, yet can offer a special beauty if established in natural ponds. Early efforts at growing *N. polysepalum* in the Denver area (5,280 Foot elevation) can be traced back to the early 1900’s and the experiences of water gardens enthusiast Rev. John H. Houghton, who for 25 years was rector of Denver’s St. Mark’s Episcopal Church.

(continued on page 8)
Notes from the lotus growers…
by Vicki Aber

We asked for people to share their experiences with the bowl lotus that the Club sold at Get Wet this spring. We didn’t get too much feedback but I’d like to report what I did hear.

One member bought 3 lotuses, lost 2, one grew well but without producing a bloom so far. Another member just bought one lotus, but it died.

Dorothy had the best luck. She bought both Crab Claws Red and Charming Lips, and both bloomed! See the photo at left.

I was going to report exuberant growth, but no bloom with my plant (Crab Claws), when just last week a bud started up. It hasn’t opened as of this writing, but should soon. If anyone out there has a lotus that’s growing well, don’t give up; it may yet bloom.

Dorothy kept her lotuses in a greenhouse initially. I kept mine inside and then in the cold frame with my vegetable starts until the tomatoes went out. Janet mentioned to everyone at Get Wet that it might be too much of a shock to put the tubers outside right away since they were coming from China and had been use to warmer temperatures. Looks like that was good advice.

From the
“It Was Ever Thus” Department…
by Bill Powell

Did you have problems growing lotus this year? Your plant didn’t bloom, or it didn’t grow, or it died outright? You’re not alone. Lotus-growing along the front range has been challenging from the beginning.

Around 1917 Dr. John H. Houghton, Rector of St Marks Episcopal, an avid water gardener and the author of one of the west’s earliest retail waterlily catalogs, commented for his “Rexleigh Water Garden Company”:

“We have many inquiries about Lotus. We have tried again and again, but our purse isn’t long enough to fill in the death rate from tubers bought in the East”

Dr. Houghton went on in his sales leaflet to explain his plans for improving his luck in the coming growing season and the lotus-culture practices of another sometimes-successful local nursery “Rose Acre.”

Houghton concluded with recommendations for over-wintering lotus and some final advice when all else fails “…and if [the lotus] is strong enough, it will show in the spring. If not, buy some more roots and try again.” It’s necessary advice, even today.

An aside: CWGS member Cyndie Thomas has researched the history of Dr. Houghton and Rexleigh Water Gardens. She suspects she knows one reason the Rector’s lotus may not have fared so well. There “were large trees along the ditch on the [Rexleigh] property. The trees were great shade for the picnics with his parishioners, but deprived the plants of their needs.”

Reference:
1. Quote excerpted from “Water Gardens – Past and Present,” published in Volume X Number 5, August 1993 of “The Water Garden”. The author of the article was not credited, but a reference at the end of the article said it was “based on information from the 1917 Rexleigh Water Garden Company catalogue, The Denver Post, October 24, 1912 and March 30, 1916 and the Garden and Home Builder, January, 1926,”
The rain, it’s plain,  
falls mainly down the drain…  
(but it doesn’t need to. You can detain rainwater  
for use in your garden more or less legally)

At the cusp of the practice of water gardening there’s growing interest in construction of a range of landscape features that use storm water attractively and for practical effect. The names for these features vary with the scale, type, and purpose of the installation. Bio-retention cells, storm water retention ponds, wetland filtration basins, and rain gardens all control and release storm water in ways designed to reduce the erosive effects of unchecked runoff. Increasingly, these features also help to remove pollutants like excess nutrients, soaps, oils, and heavy minerals and they do so using natural processes that every water gardener will recognize.

Many large retention ponds – particularly older ones - were designed merely to drain-down slowly, releasing water over time so as to decrease the need for down-stream storm handling capacity at “peak flow,” which would otherwise necessitate big culverts and large diameter concrete pipes. These retention ponds are often not very attractive, weren’t deliberately landscaped, and were ponds in name only. Bud and Debbi Kiebler of BR&D Landscape explain: “Large commercial projects are required to do storm water retention ponds… An actual retention pond is not an aesthetically appealing pond. They collect everything that runs into them and then slowly disperse the water back into the ground. Some of them actually empty completely several times during the year if we’re not having a lot of moisture.”

Newer, large-scale installations, particularly those intended to be a permanent part of storm water control and that are located near commercial or residential uses where appearance is an issue, now frequently incorporate lined ponds and/or ancillary wetlands areas into retention basins. BR&D’s Church Ranch Lake is an example of a storm water feature that retains open water even during drought, but that has sufficient overflow capacity within the catchment basin and wetlands bogs to mitigate flow from a sudden storm. McColley Gardens, which we visited on last month’s CWGS Pond Tour takes a similar approach.

Smaller storm water mitigation installations, including ones that you might find in someone’s backyard, may be as simple as an unlined swale (shallow ditch) or depression planted with vegetation that’s adapted to our seasonal feast and famine. Such installations may be bogs at one time of year and quite dry at another. Often planted with native species, these “rain gardens” or “bio-retention cells” slow both the volume and velocity of storm water runoff coming from roof downspouts, culverts, and pavement. The plantings’ root systems not only resist erosion; they also enhance infiltration of the water into the soil and they harbor diverse microbial populations that help to improve the water quality of runoff as well.

The discipline of bio-retention began in the early ‘90’s as part of a “green” movement aimed at creating lower impact development. Whole towns are now being designed to divert storm water “into natural

(continued on page 7)
The rain, it’s plain… – bio-retention

(bio-retention continues from page 6)

gardens. To the naked eye it just looks like a regular garden, but actually it’s very specially engineered to absorb a lot of water and naturally filter it before it gets into the water table, and to keep it from washing all those pollutants into the river.”

However, the concept of bio-retention runs afoul of Colorado water law, which bases use of natural flow from rainfall and snow melt on “prior appropriation doctrine, ‘first in time, first in right…”.” The effect of the law is that property owners are allowed a single use of moisture that falls onto the property. Impoundment of rainwater is not allowed because “All precipitation is assumed to ultimately contribute to stream flows and is part and parcel of the water that existing water rights are entitled to.”

The absolute restriction in Colorado against impoundment (or “water harvesting”) has recently been eased, but only slightly. Those of us who are on wells may now apply to the state for an exemption allowing legal harvesting of rainwater. For those of us on municipal water systems, water harvesting is still illegal – even in the most rudimentary form of placing a rain barrel at your downspout. However the degree to which you may slow, or “detain,” water that falls on your property is in a legal (and practical) gray area that rain gardens, bogs, and other porous containments can exploit.

Further information:

1. Those of you interested in water harvesting should visit www.truepump.com/news.htm Select the active link “Rainwater Harvesting” from the left margin. The link will take you to a page with additional links to information on the new state exemption for well owners and a detailed history on the subject of Colorado water law and rainwater harvesting.

2. If you’re interested in a “how-to” instruction for a rain garden or bio-retention cell (at least one that’s in Wisconsin), visit http://dnr.wi.gov/org/water/wm/dsflm/shore/documents/rgmanual.pdf

References:

1. Quote from Edmonston Maryland Mayor Adam Ortiz as reported by Shelby Lin Erdman in a CNN report dated November 28, 2009

2. From “Rainwater and Snowmelt Harvesting in Colorado” by Beorn Courtney, P.E., Headwaters Corp. as published online by True Pump, Inc.

CWGS Board Slate for 2011

Vice President Open
Secretary Dorothy Martinez
MAL 2 Jim Arneill.
MAL 4 Bill Powell
MAL 6 Marge Oleson
MAL 8 Michael Weber

Additional nominations for all of these Board positions are welcomed and encouraged!

All the above positions are open for nomination from the floor in addition to the slate as proposed above. Also, two other positions are available via appointment by the Board to fill the remainder of “odd-year” terms that will be up for election next year:

MAL 3 - one-year appointment, eligible for election to two-year term in Sept. of 2011
MAL 9 - one-year appointment, eligible for election to two-year term in Sept. of 2011
Can you identify this mystery lily?

When Vicki Aber asked about the results attendees to the DU Waterside visit got from Lotus tubers we sold earlier in the year at “Get Wet”, Less Lambert shared a photo he was carrying. It wasn’t of lotus, but it WAS the product of a CWGS offering at the June sale. Les’ beautiful photo is reproduced on the front page of this issue.

Unfortunately, the name of the lily was lost during cultivation.

Les’ front-page photo has been color-enhanced to heighten the intensity of color saturation, but the hues were not changed. The leaves are large, Les reports, and somewhat ruffled, and splotched with a purplish mottles.

The shot at left shows the same blossom, without color enhancement, several days later. And the leaves are visible.

Several of us thought Les’ prize is likely to be a tropical. What do you think? If you have an idea of what Les’ beautiful lily might be, email your thoughts to Bill Powell at. We’ll check your ID against the bill of lading we have of plants sold at the June Plant Sale.

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Nuphar polysepalum… Colorado’s Water Lily  (continued from page 4)

Dr. Henry S. Conard (Professor of Botany at Grinnel College) developed a correspondence with Rev. Houghton, and wrote (1917) that the Reverend had success in growing the Nuphar by dropping roots 10 feet deep into well water having a temperature of 55-60 degrees…

There does now exist in the Denver area a natural pond of Colorado Spatterdocks, the plants having been carried down from a remote mountain lake in the Routt National Forest. These water lilies bloom several weeks prior to the hybrid water lilies (the genus Nymphaea), but do not bloom for an extended period of time…

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**Editor’s Note**: This reprint was excerpted from a longer article published in the The WaterGarden Journal Vol III, No 2, June 1987 and then reprinted in Volume IX, Number 5, August 1992. My thanks to Marian Metsopoulos, former Editor of the Water Garden Journal, for bringing to my attention this and other articles that she archived by saving back issues.

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### NEW & RETURNING MEMBERS FOR AUGUST

- **Ben Coleman**  
  Longmont, CO

- **April & Jonathan Hough**  
  Boulder, CO

- **Ken Lange**  
  Denver, CO

**Correction:**

In the “New & Returning Members” section of last month’s journal, McColley Water Gardens was listed as located in Castle Rock. The Gardens are actually in Arvada. And they’re well worth visiting!
**Membership Application**

Make checks payable to:  
Colorado Water Garden Society

Return this form with your payment to:  
CWGS Membership  
100 Glencoe St.  
Denver, CO 80220

Name: ____________________________________________

Address: ____________________________________________

City: ____________________________________________

State: _________ ZIP ___________

Home Phone: (______) __________________

Email* ____________________________________________

* Required for electronic receipt of newsletter, beginning in 2010.  
(note: CWGS does not share or sell email addresses)

___ Check here if you are also a member of Denver Botanic Gardens

**Membership Fees:**  
$15.00 Individual; $20.00 Family

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 (late July) ___

**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