



The Water Garden

Volume 20 Number 3

May 2003

May 18 General Membership Meeting

Drought is almost “usual” condition for state

Every thirty years, or so, mother nature makes an overt attempt to remind us that Colorado is a semi-arid state. In historical perspective, somewhere in the state, we have experienced drought in 90 out of the last 110 years (for related information, refer to Page 5).

Drought in the front range area began in 2000, although we were not keenly aware of the situation. Most found the break from snow and harsh spring rain storms a welcome change.

“Drought is an insidious hazard of nature. Although it has scores of definitions, it originates from a deficiency of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group, or environmental sector. Drought should be considered relative to some long-term average condition of balance between precipitation and evapo-transpiration (i.e., evaporation + transpiration) in a particular area, a condition often perceived as “normal”. It is also related to the timing (i.e., principal season of occurrence, delays in the start of the rainy season, occurrence of rains in relation to principal crop growth stages) and the effectiveness (i.e., rainfall intensity, number of rainfall events) of the rains. Other climatic factors such as high temperature, high wind, and low relative humidity are often associated with it in many regions of the world and can significantly aggravate its severity.”

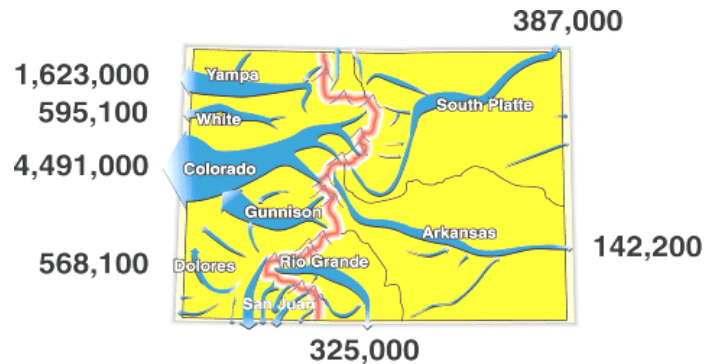
The National Drought Mitigation Center (NDMC)

Most of Colorado’s water is located on the west side of the Continental Divide in the Colorado River Basin, but the vast majority of its population is on the dryer, eastern side of the Rockies. Altogether, the rivers located in western Colorado account for over 90% of the water that leaves the state. (see graphic to right; numbers are acre-feet of water flowing out of the state yearly, totaling in excess of 10 million acre-feet per year).

Very little is being written about water gardens (not fountains) having xeriscape qualities. Yet, a properly designed and planted water garden uses nearly half the amount of water required to maintain bluegrass turf. We

find that more than 50% of the water garden designs use the excess dirt generated digging the pond to berm (or make rolling hills) behind or near the pond, to inset rocks to blend in the landscape. Plants for these areas have to be chosen for their resistance to drought due to the sloping ground. Pathways and viewing areas for the waterscape also decrease the area requiring irrigation.

Story continued on next page



Courtesy of: The State Engineer
Colorado Division of Water Resources

Drought information specific to ponds is topic of May 18 meeting

Rose Swenby and Cyndie Thomas will present a special program on Drought and Ponds: Conservation Tips for the Pond Owner, at the May 18 general membership meeting, 2:00 pm at the Waring House, 9th Ave. and York St. Tips will include planning and building a pond to decrease water use, as well as retrofitting a current pond installation.

Joe Sloan, Community Relations Liaison for the Denver Water Board, will also be a guest speaker at the meeting. He will talk specifically about Denver drought watering requirements, and generally about drought conditions in Colorado.

The CWGS Board of Directors will meet at 12:00 pm, also in the Waring House. Members are invited to attend.

Remember to mark your calendars for the Annual Plant Sale, Sunday, June 1. Members can shop at 9:30 am. If you would like to preview the selections as a volunteer helper on Saturday, call 303-755-1885.

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Drought is almost a "usual" condition for Colorado

Story continued from Page 1

Water gardens increase wildlife habitat that is lost during times of drought and through rampant development. Learn more about drought and predictions on relief at the University of Nebraska – Lincoln. <http://www.drought.unl.edu/dm/index.html>

Colorado State University also has an extensive site with drought information at <http://drought.colostate.edu/>

For more information on gardening, specifically on Xeriscape you will find research based information at the Colorado State University Cooperative Extension site.

<http://www.ext.colostate.edu/pubs/garden/pubgard.html>

7.228, Xeriscaping: Creative Landscaping.

7.229, Xeriscaping: Trees and Shrubs.

7.231, Xeriscaping: Garden Flowers.

7.230, Xeriscaping: Ground Cover Plants

7.234, Xeriscaping: Retrofit Your Yard.

Another means to conserve water is through the use of native plants. Native plants are more accepting of temperature and climatological changes. A Colorado native plant can be described as existing in Colorado prior to European settlement. Reasearching plants or purchasing plants from a reliable source will insure their authenticity. Be aware that a native plant of Grand Junction may not be a native of the Front Range area. Native plant communities make Colorado visually distinct, not only throughout the state, but from the eastern, southern or western United States.

Native plant gardens are wildlife habitats and each plant contributes to the biodiversity of the state.

Landscaping with natives on a large or small scale can maintain biodiversity that otherwise would be lost to development.

Drought Tolerant Perennial Plants

Artemisias - (*Artemisia* species)

Blanket flower - (*Gaillardia x grandiflora*)

Blue fescue - (*Festuca cinerea*)

Creeping phlox - (*Phlox subulata*)

Creeping potentilla - (*Potentilla neumanniana*)

German Statice - (*Goniolimon tataricum*)

Globe Thistle - (*Echinops ritro*)

Hens and Chicks - (*Sempervivum tectorum*)

Ice plant - (*Delosperma* species)

Lambs ear - (*Stachys byzantina*)

Lavender cotton - (*Santolina chamaecyparissus*)

Little bluestem - (*Schizachyrium scoparium*)

Oriental Poppy - (*Papaver orientale*)

Ozark primrose - (*Oenothera missouriensis*)

Penstemon (*Penstemon* species)

Plumbago - (*Ceratostigma plumbaginoides*)

Poppy mallow - (*Callirhoe involucrata*)

Prairie coneflower - (*Ratibida columnifera*)

Prairie dropseed - (*Sporobolus heterolepsis*)

Purple coneflower - (*Echinacea purpurea*)

Russian sage - (*Perovskia atriplicifolia*)

Snow-in-summer - (*Cerastium tomentosum*)

Stonecrop - (*Sedum* species)

Yarrow - (*Achillea* species)

Welcome to CWGS!!

New Members

Cindy Banfield
Anthony & Pamela Kay
Barbara Meyer
Mark & Judy Richards
Tom & Judy Richter
Marvin & Marty Umholtz

Renewing Members

Dan & Vicki Aber
Lynn Bartelt
John Bayard
Robert & Kathryn Beebe
Chris & Sue Blakeslee
Leslie Clemensen
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Dave & Debra Foster
Damon & Nancy Ginnow
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Irma L. Miller
Mary A. Miller
Diane Mudd
Marge Oleson
David & Jill Pepper
Amy Reed
Patricia Roth
Craig & Millie Russell
Allen & Andrea Schultz
Joseph & Melissa Shopnitz
Elliott & Betty Sutta
Nancy Tucker
Carol Tuttle
James & Obie Waples
Chauncey Walden
Victoria Wasinski
Beth Wright

Blast from the past...

A contest to design a logo for CWGS was announced in the Fall of 1985. The first newsletter of 1986, in April, reminded members of the contest, stating:

"The CWGS is in need of a logo to identify us to the world! The logo would have to be simple in design so that it could be reduced to fit on a business card or stationary and enlarge well enough to put on a t-shirt or aprong. We could wear these at the DBG and CWGS sales to identify us to the general public."

The winning entry would receive a Formosa Lily from John Mirgon as the prize. The final entries were reviewed by the Board and a final decision was made on April 13 (see below). Over the years, it has undergone a couple of transitions, but the same basic logo still appears on all of our communications and apparel. Oh, yes, the winning entry was submitted by then-CWGS president Ellen Westbrook.



Source: April 1986 newsletter, Colorado Water Garden Society



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Water Garden Problem Solver

Pond Balance....or, How to Prevent Green Water and Algae (yeah, right!)

A major concern of potential pond owners (and those who are new to the hobby!) can be summed up in one word - Algae! At several home-and-garden-type shows lately, this was usually the first question as they stopped at the CWGS booth.

What I told the people was that algae is usually caused by lack of pond coverage by plants and leaves (too much sunlight) or excess bioload from too many fish, making the water just a bit too nutritious.

What I also told the people was that a little algae is good for you, and shows you have a healthy pond. A healthy pond comes from a healthy balance of all the elements of an ecosystem - plants, animals, insects, etc. Too much of any one element disrupts the balance, and another element tends to try to "take over" the environment.

That's why too much sun is bad - plants need sunlight to grow, and they really do well if they get a lot of sun. The Sun also warms the water, and everything does better in warmer water. Plants also need food to grow (you fertilize your lilies, don't you?), so fish fertilizer also helps them grow. Algae is a plant that is present in your pond, so it grows, too, only faster and thicker than anything else in

the pond!

One day at a local garden center, I saw a water garden handout that brought a little more science and detail to the process of balancing a pond. Let me share some of the points they made here:

- It takes time for the pond to "adjust" to the change of seasons, so algae tends to be a bit worse early-on;
- Keep run-off water from getting in the pond. It carries silt, fertilizers and other chemicals that throw the pond off-balance;
- If the pond is in full-sun, 50-70 percent of the pond surface should be covered by plants and leaves. Fewer plants are OK in a partially-shaded area;
- Use one bunch (what's a "bunch" equivalent to?) of oxygenators for each two square feet of pond surface. Use more for smaller ponds (I assume this is because smaller ponds warm up faster);
- Use no more than one inch of fish per square foot of surface to begin with. (We like to see lots of fish swimming around, but fish excrement and leftover food feeds the "algae bloom" too). Don't feed your fish more than what they can eat in about five minutes;
- Add biological filtration. (This can be almost anything, from simple lava rock and polyester fill filter elements to the high-end charcoal filters with plastic balls with millions of square inches of surface area to breed bacteria. Take your pick!); and, last (one of the easiest solutions),
- Keep dead organic matter out of your pond.

If you have questions regarding water gardening, send them to: michael.thomas@attbi.com. They will be answered in future newsletters.

-- POND SERVICE --

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to schedule a technician

BR&D Landscape, Inc.

www.coloradoparadeofponds.com

Have your pond and yard listed as a Backyard Wildlife Habitat

www.nwf.org/education

go to: "backyardhabitat wildlife program"

WANTED!

Your overstock of water plants and critters for the annual plant sale.

Bring them to the Morrison Center,
11th Avenue & York Street,
Saturday, May 31,
10:00 am - 2:00 pm
when volunteers will be available
to accept them.

If you would like to help Saturday
and/or Sunday morning before the
sale, please call:
303-755-1885

Historical data shows Colorado is no stranger to drought conditions

Refer to related story, Page 1

Colorado has been in a drought or semi-drought condition somewhere in the state 90 of the past 110 years, as indicated by the chart below (information is taken from a sampling of observation sites). The span of time varies between each incidence, making it difficult for water users and providers to predict future availability.

Fraction of Colorado Dry for 24 Months			
Dates	Dry	Wet	Duration
1893-1905	X		12 years
1905-1931		X	26 years
1931-1941	X		10 years
1941-1951		X	10 years
1951-1957	X		6 years
1957-1959		X	2 years
1963-1965	X		2 years
1965-1975		X	10 years
1975-1978	X		3 years
1979-1999		X	20 years
1999-present	X		???

Source: Colorado Water Resources Research Institute

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Colorado Water Garden Society - Meeting Dates 2003

May 18, 2003 - Drought and Water Gardens (Guest: Joe Sloan, Denver Water Department)
2:00 pm, Waring House, Main Room, 9th & York St., Denver Botanic Gardens

June 1, 2003 - Annual Plant Sale (9:30 am - Members Only; 10:00 am - Open to the Public)
Morrison Center, 11th & York St., Denver Botanic Gardens

July 13, 2003 - Annual Pond Tour - Southwest Denver and Lakewood

August 10, 2003 -
2:00 pm, Morrison Center, 11th & York St., Denver Botanic Gardens

September 20, 2003 - Annual Pond Expo (Discuss water gardening with contractors and vendors)
12:00 - 4:00 pm, Mitchell Hall, Denver Botanic Gardens

December 6, 2003 - Annual Christmas Party

Board Meetings are held at 12:00 pm prior to general meetings. Members are welcome to attend.



**Colorado Water Garden Society
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First Class Mail