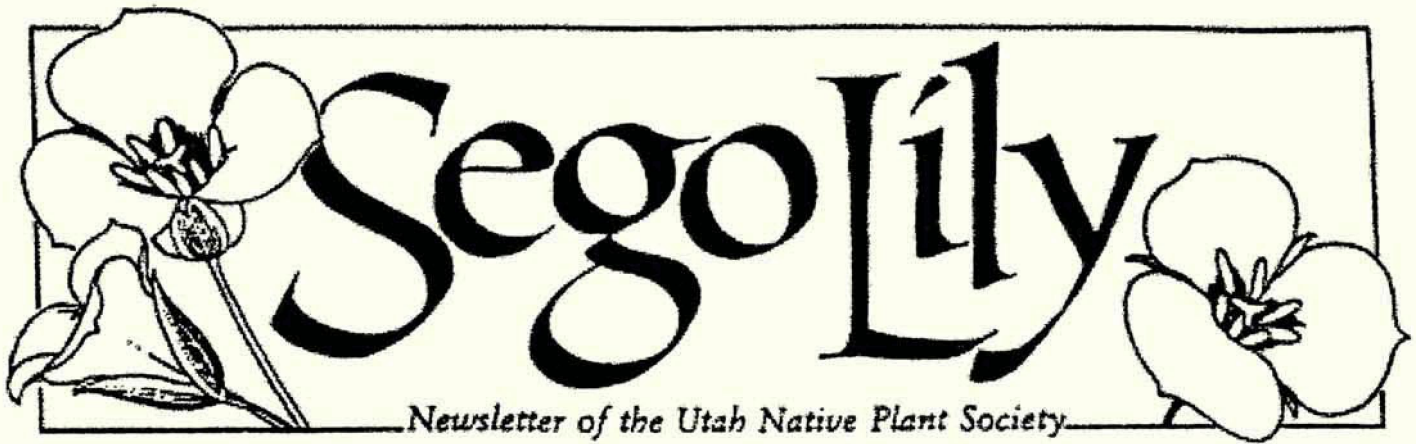




VOL. 24 No. 1

Jan/Feb 2001

CALENDAR OF EVENTS

Monday March 5, 7 PM

Mountain Chapter meeting. Park City Library. 1255 Park Avenue. Room 209. Landscaping with Native Plants. Marv Poulsen. Contact Abby Moore (435) 649-8859, balsamorhiza@hotmail.com for more information.

Tuesday, March 6, 6 PM

Board of Directors meeting, USFS Shrub Lab, Provo

**Thursday, March 15
6 PM**

Volunteer WEED TEAM organization meeting for the Layton Wetlands Preserve at the Nature Conservancy office, 559 East South Temple with preserve manager Joel Peterson. The "WEED TEAM" will work at the preserve (about 45 minutes north of Salt Lake City), with Joel, for 1/2 days, usually once or twice per month from spring until fall. See Back Page for information or call Elaine or Joel at (801) 531-0999.

Saturday, March 24 10 AM

Stansbury Island field trip with Bill King and the Wasatch Rock Garden Society. Meet at Sugarhouse Garden Center at 10:00 AM, 1602 E. 2100 S. Salt Lake, and car pool from there. We will be back in Salt Lake about 2 or 3 PM. Call Bill King at 582-0432 in case you have questions about the trip.

Interagency botany project benefits several rare plant species in south central Utah

Deborah J. Clark
Bureau of Land Management, 150 East 900 North, Richfield, UT 84701

INTRODUCTION

In 2000, Capitol Reef National Park (CARE) received funding for a three year (through 2002) rare plant species inventory through the National Park Service (NPS). The Bureau of Land Management (BLM), U. S. D. A. Forest Service, Dixie National Forest (DNF) and Fishlake National Forest (FNF), and CARE share management responsibilities for many of the same Threatened, Endangered & Sensitive plant species (TE&S). To enable each of these agencies to better manage their shared TE&S species, they decided to create an interagency botany position and hire an employee to survey and/or monitor for these species throughout their ranges, regardless of agency boundaries. A BLM employee was hired for this position and stationed at CARE to act as project leader for the project. Through the interagency agreement, the agencies are able to pool funding in order to extend surveys onto federal lands adjacent to CARE. This has expanded the scope of the NPS project to include FNF, DNF and BLM around CARE.

CARE is located in south central Utah, in the Colorado Plateau region, 45 miles west of Hanksville on U.S. Highway 24. It was established to protect the longest exposed monocline in North America and is approximately 241,903 acres in size. This wrinkle in the earth's crust runs about 100 miles north to south and is named the Waterpocket Fold. Unique geological conditions in combination with the arid climate within the fold have created microhabitats that support over 40 rare and endemic plant species. BLM, and the Forest Service border CARE so these agencies also contain unique geology and the corresponding endemic plant species.

The park is primarily a backcountry park that receives about three-quarters of a million visitors each year. Many of these visitors hike the trails and backcountry, and many of these areas have rare plant populations within or adjacent to them. Therefore, information on the whereabouts of rare plants in these high use areas and whether they are being affected by visitation is essential for park management. Three of the target plant species occur in the northern portion of the park and on adjacent BLM lands, and are in active cattle grazing allotments. For these three species it is also essential for park and BLM management to know the whereabouts of these species and whether cattle grazing may affect them.

Eight federally listed and one candidate for federal listing species were selected as the primary focus for this study, *Cycladenia humilis* var. *jonesii* (Jones cycladenia), *Erigeron maguirei* (Maguire's daisy), *Pediocactus despainii* (San Rafael cactus), *Pediocactus winkleri* (Winklers cactus), *Sclerocactus wrightiae* (Wright's fishhook cactus), *Spiranthes diluvialis* (Ute ladies-tresses), *Townsendia aprica* (Last Chance townsendia), *Schoenocrambe barnebyi* (Barneby's reed-mustard), and *Gilia caespitosa* (Rabbit Valley gilia). An additional 18 sensitive species occur within the study area and will be recorded when found during surveys. The Utah State Natural Heritage Division ranks these 18 species as Global 1 or 2/State 1 or 2. This ranking is defined as (1) critically endangered throughout its range, with 5 or fewer occurrences known; and (2) endangered throughout its range, imperiled globally/statewide because of rarity with only 6 to 20 known occurrences. *Gilia caespitosa* Gray is the candidate for federal listing under the FWS Endangered Species Act (ESA). The BLM, USDAFS, FWS and NPS wrote a conservation agreement and strategy for Rabbit Valley gilia in 1996 (USDAFS et. al. 1996). This agreement addresses protection measures designed to achieve

long-term conservation of the species so that listing under ESA would not be warranted.

Methods

The primary purposes of this project are to conduct intensive surveys for the target species on potential habitat within the study area and to determine potential for impact by visitor, recreational or livestock use if possible. Surveys are conducted by the interagency biologist employed by BLM, a seasonal crew leader and three seasonal crew members hired by CARE.

Prior to beginning field surveys available information and location data on the nine target species was compiled. The study began during the 2000 field season when the interagency biologist mapped as many known locations of the target species as possible using a global positioning system (GPS). All known location data was then entered into the geographic information system (GIS) and overlaid with geologic formations, slope, aspect, and elevation to create a profile of potential habitat by species. In addition to accurately depicting known and potential habitats, this refined the range of the target species and helped resource managers plan how many people would be needed to accomplish the tasks.

After completing this initial work, field crews conducted surveys in potential habitat for the target species. By surveying from April through July when the majority of plants were in full bloom crews ensured proper plant identification and increased survey accuracy. Surveys began in the early spring at lower elevations and as the season progressed the crew moved to higher elevations thus ensuring proper search times for each species. Each area was surveyed both by walking wandering transects through all accessible areas and/or by using binoculars to search inaccessible cliffs. The crews hiked established hiking trails and other off-trail routes in CARE during the appropriate blooming time for each species. If a trail or route passed through potential habitat for two or more species and those species bloomed at different times, then those trails and routes were hiked multiple times to ensure surveys were as thorough as possible for each species. For future reference, crews noted on maps all areas surveyed.

For each new occurrence of a species, crew members completed a modified version of the Utah Natural Heritage Division Site Visit Account Survey Form, took photographs, and mapped its location on 7.5' quadrangle maps. Wherever possible, a GPS was used to map the precise location of each new occurrence. All new localities will be entered into each agencies GIS along with a

summary of data about the locality. This ensures long-term retrieval capabilities for future resource managers.

Results

The first seasons' surveys began on April 10 and continued through August 4, 2000. Calendar year 2000 was a very difficult year to survey for plants since it was an extremely dry year, following a dry year in 1999. Many of the plants targeted for surveys either didn't bloom or if they did bloom it was for a short time period. To compensate for this, the crew moved to higher elevations sooner than originally planned and adjusted the list of species to look for to those species that still came up and bloomed.

The field crew surveyed approximately 9,760 acres, and recorded 109 new site locations for 11 TE & S species. New locations for four of the primary targeted species were found and recorded. The remaining seven species recorded are sensitive species.

Findings by species

Cycladenia humilis var. *jonesii* is restricted to gypsiferous clay or saline soils in Summerville, Cutler and Chinle formations. It is known from only a few scattered populations in south central Utah and one near Pipe Springs, Arizona. Areas where Jones cycladenia persist tend to be sparsely vegetated to barren slopes between 4,400 and 6,600 ft elevation. This is a strongly rhizomatous species, so counting the number of above ground stems doesn't give an accurate picture of individuals. FWS (1985a) recognizes this feature and states there are approximately 3,000 "above-ground plants" known. This number probably far outnumbers the actual number of individual plants. No work was done on this species in 2000, however surveys are planned for Jones cycladenia in 2001 and 2002.

Erigeron maguirei is restricted to decaying talus slopes or in cracks/crevices in Navajo Sandstone formation within Emery and Wayne counties, Utah. Surveys were focused in this formation in pinyon-juniper, ponderosa pine, and desert scrub communities on CARE, DNF and on FNF. Prior to these surveys it was known to occur between 5,400 and 7,100 ft elevation (Van Buren and Harper 2000). As a result of this project, the elevational range has been extended to 8,680 ft elevation onto FNF. These are the first recorded locations of Maguire's daisy on FNF. The recovery plan (FWS 1995) for Maguire's daisy estimates 5,000 individual plants known from 33 locations, representing seven separate populations. To date, the field crew has located 17 new sites on CARE

and FNF containing approximately 4,400 individual plants.

Gilia caespitosa occurs primarily on Navajo formation although one large population has been found in Kayenta formation. It grows in cracks/crevices in sandstone cliffs or on talus slopes below these cliffs in pinyon-juniper woodland or mountain mahogany scrub between 5,700 and 9,000 ft elevation. Rabbit Valley gilia only occurs in Wayne County, Utah on FNF, DNF, BLM and CARE. Prior to this survey there were 34 known locations containing approximately 8,200 individual plants. The largest known site is on FNF in Kayenta formation, containing approximately 3,000 individuals. Surveys this year located two new sites in CARE containing approximately 50 individuals.

Pediocactus winkleri and *Pediocactus despainii* occur in Wayne and Emery counties in south central Utah. Approximately two-thirds of the known populations of both species are located on lands administered by the BLM and the rest occur within CARE or on State lands. Both species occur in desert scrub or open pinyon-juniper woodland communities, between 4,500 ft and 6,850 ft elevation. BLM and CARE conducted an intensive two year study on these two species in 1998 and 1999 (Clark 1998, Clark 1999). This project will focus on specific sites not completed during the earlier study, however no sites were recorded on these species this year.

Sclerocactus wrightiae is found in Emery and Wayne counties, Utah in desert scrub or open Pinyon-Juniper woodland communities, between 4,800 and 6,100 ft elevation. This species occurs on numerous geologic formations and has a much wider distribution than other target species. The recovery plan (FWS 1985b) for Wright's fishhook cactus states there are 13 locations in Emery and Wayne Counties, Utah, without an estimate of the total number of individuals. One new site of *Sclerocactus wrightiae* was found in CARE.

Spiranthes diluvialis is found in moist soils along streambeds, in bogs and open seep areas in cottonwood, tamarisk, willow and pinyon-juniper communities where vegetation is fairly open. Its distribution is much wider than any of the other targeted species as it occurs in Utah, Colorado, Wyoming, Montana, Washington and Nebraska. Ute ladies-tresses has a wide elevational range from 4,400 and 7,000 ft elevation. Extensive surveys were conducted this year on BLM, DNF and CARE, but no plants were found.

Schoenocrambe barnebyi is restricted to cool, north-facing, steep talus slopes in Moenkopi formation. It is associated with low desert scrub

and pinyon-juniper communities between 5,590 and 6,510 ft elevation. The recovery plan for Barneby reed-mustard (FWS 1994) estimates 2,000 total plants known from two locations, one in CARE and one on BLM in the San Rafael Swell. No surveys were done for this species in 2000, however select areas on BLM will be targeted for surveys in 2001 and 2002.

Townsendia aprica occurs on a wider range of geologic formations than most of the other targeted species. It is found on fine textured shale soils in pinyon-juniper woodland between 6,100 and 8,000 ft elevation. Its range consists of a long narrow band stretching north-south through Wayne, Sevier and Emery counties, Utah. There are a few scattered locations east of this main cluster. FWS (1993) stated in the recovery plan that there were 15 populations containing about 6,000 plants. Most populations occur on BLM, CARE, and FNF. Surveys this year resulted in the discovery of 11 new Last Chance *Townsendia* sites containing a total of approximately 650 individuals. Eight of these new locations are on CARE, one on BLM, one on Utah State Land, and one on DNF. The site recorded on DNF is the first known record of this species on the Forest.

Discussion

Work accomplished during the 2000 field season resulted in the discovery and documentation of several new localities of sensitive species. Some of the target species were recorded for the first time on CARE and DNF, confirming that more work needs to be done before these species ranges and niches are completely understood. Preliminary habitat data modeling was extremely useful in selecting survey areas for seven of nine target species. As more data is added to these models, habitat niches and ranges of each of these species can be further refined.

The creation of an interagency crew for this project has proven beneficial to all participating agencies. There are numerous TE&S plant species whose distributions overlap agency jurisdictions, so it is to the mutual scientific and economic benefit of the agencies to manage these TE&S plant species cooperatively on an ecosystem basis. Fieldwork is conducted throughout the range of each target species regardless of agency boundaries so a more accurate picture of the species is gained. Agencies can pool scarce funding for TE&S plant species, so each agency gets more comprehensive information about each species and increased services for each individual agency dollar spent.

Information gathered during this three-year study will enable the participating agencies to meet

legal requirements of the Endangered Species Act, comply with NPS, BLM and USFS management policies, and address Government Performance and Results Act goals. Knowledge gained about these species and their specific habitat requirements will enable federal officials to ensure that these plants are protected and will assist in predicting which areas may contain additional occurrences. Results from this study will also help in determining which species should have monitoring plots to determine impacts.

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THE SEGO LILY IN ITS 20th YEAR: A LOOK BACK

by Tony Frates

In January of 1982 the UNPS newsletter first proudly displayed the words:

"THE SEGO LILY"

So it is with this issue of *The Sego Lily* that the publication begins its remarkable twentieth year.

Our logo on that issue for still several months to come and which had been the official UNPS symbol over the prior several years was a beautiful drawing of *Penstemon utahensis* by the indefatigable (and even then legendary) Kaye Thorne. She would later design the first "Sego Lily" logo which remained in use from the June/July 1982 issue through the end of 1986; the masthead which has then remained in continuous use ever since was designed by the talented Lisa McClanahan.

That was certainly not however the first UNPS newsletter. Since the society's first meeting on September 30, 1978 (see Stan Welsh's opening remarks, the full text of which is on our web site at <http://www.unps.org> and which was published in the March 1979 newsletter and again later in the Sept/Oct 1998 issue), the very first newsletter (we're talking Vol. 1 No. 1) was dated November of 1978. And some newsletters, mostly concentrating on threatened and endangered plant species had been circulated in 1979 and 1980 (although my collection only contains four or five newsletters from 1979 to 1980).

It was the fall of 1981. Since the beginning of the field season that year, no newsletter had been sent out. Dick Hildreth, director of the State Arboretum and a founding father of the organization (who I first met in the winter of 1980-81 in his cozy greenhouse behind the Park Building at the University of Utah) was chairman of the board. Duane Atwood was vice president. Barbara Halliday was the president and Glen Halliday, her husband, was the treasurer. Dave Anderson then of Native Plants Inc. was secretary. Pam Poulson, whose long- time and tireless service to UNPS later as a chapter/state president and as a chairperson/board member which has been matched by only a very few others (Dick and Duane are two of the few exceptions along with Dick Page who was a board member at this time), was then the photography committee chairperson.

In an Executive Committee meeting held at Barbara's house in November of 1981 (which in addition to Barbara and Glen included as far as I can remember Dick and possibly Duane and Dave as well as myself), we recognized the critical nature that the newsletter played in maintaining the vitality of the organization. For many members it is/was, their only tangible benefit. Absent a strong base of members, UNPS would likely not be able to accomplish its conservation-centered goals. Therefore an informative, interesting newsletter with a greater variety of content and a regular system of circulation was essential we felt to the organization's survival.

Further we felt that the newsletter needed a name. We all had our own ideas (none of which I don't believe included the obvious) but felt that we needed to exempt ourselves and so in the December 1981 newsletter we had a "name the newsletter" contest.

In choosing the winner (I can't even remember what the other proposed names even were), it was self-evident what the name should be. The contest winner, Helen Shields (the wife of Lester Shields, the Salt Lake chapter president of the time, who recently passed away) said it best as published in the January, 1982 newsletter:

"Not only is the Sego Lily one of the most beautiful of flowers, but our state flower, and becoming a rare and endangered plant - particularly around Salt Lake City."

When a logo was being selected for the then unnamed newsletter and for letterhead, the Sego Lily wasn't even one of the four finalist plants that members had apparently voted on (see the March 1979 newsletter). But clearly the name "Sego Lily" would identify the newsletter as really nothing else could even though technically it was not an endangered or threatened plant species.

As the society actively embarks on its 23rd year of existence, the newsletter has successfully recorded and communicated the thoughts, activities, and accomplishments (and setbacks) of its botanist and non-botanist members and has been the fabric holding us together regardless of the level of our individual involvement. And it will continue to do so. It is in that sense perhaps one of the greatest overall/single achievements by UNPS over the past twenty-plus years.

As I have attempted to cursorily re-review all of these newsletters (other than those that I have to my dismay lost or misplaced over the years) in my search part for references and to identify potential articles for inclusion on our web site, I was struck by the sheer wealth of information these newsletters represent. Who would have thought in those pre-Internet days how valuable some of this information might become.

(In 1981, the mention of surfing might conjure up The Beach Boys, PC meant "professional corporation," and chatting was something that you did in a hallway with friends; the word processor that Barbara Halliday used in 1981-1982 involved the kind of dedicated word processing software that was a one trick pony which only ran on a specific hardware platform and which could be afforded usually only by large corporations, law firms and government agencies, and had names like Wang, Dictaphone, NBI, CPT, Lanier and Redactron. How times have changed.)

It was further recognized by the original UNPS board (Dick Page, Art Holmgren, Walt Miller, Duane Atwood, Stan Welsh, Elizabeth Neese, Dick Hildreth, Mike Alder, Ed Schlatterer and Bob Thompson) that the newsletter could serve as a source document for recommendations of candidate plant species under the Endangered Species Act as well as identify "sensitive" plant species in general that various government agencies should take into account in their management plans and other actions. (UNPS in fact was formed due to a growing concern for the protection of rare plant species.)

And in fact, the newsletter (especially from lists published in the 80's) has served that purpose as well. As one example, the Sego Lily was cited as a reference in support of a US Fish & Wildlife Service action (see <http://www.epa.gov/fedrgstr/EPA-SPECIES/1999/October/Day-20/e27187.htm>).

The newsletter has also served in its more recent history as a place to publish articles that have appeared nowhere else often relating to studies that UNPS has funded. The sheer ability of UNPS to be able to fund studies relating to, for example, rare plants, was not possible until member and other activities (for example poster sales) in part made this even possible.

While there have been many, many authors of articles who have made countless contributions to the content of our newsletters, we must recognize the ultimate heroes who have served as a combination newsletter editor, publisher, author, designer, organizer, stapler, copier, mailer and more. Typically this has fallen on the shoulders of one, more rarely two, people. It typically involves the greatest amount of work of any UNPS job or activity. Without the work of these people, UNPS may well have not survived. These individuals have further typically carried on other roles before, during and after their stints as editors in chief. (Further, the torch that Jo Stolhand and Larry/Therese Meyer have carried with respect to the newsletter for the past decade is truly remarkable.)

I've attempted to outline here those people who have served as the person responsible for getting out the newsletter (more glamorously called the newsletter editor!) or who was the de facto person who got the newsletter out even if they didn't carry that official title. I have gleaned this from past newsletters and from what I can remember; this may therefore likely be an incomplete or otherwise imperfect list. I apologize in advance for missing anyone however I will be updating this list and attempt to maintain it in the future on our web site at <http://www.unps.org>. If you have any addendums or corrections, please E-mail me at afrates@addsuminc.com or call me at 277-9240.

<u>Time period</u>	<u>Newsletter editor(s)</u>
1978-1980	Kaye Thorne
1981	Kaye Thorne and Elizabeth Neese
late 1981-1982	Barbara Halliday
1983	Jennifer Harrington
1984	Kathy Mutz
1985	Pam Poulson
1986	Karen Milne
1987-1988	Lisa McClanahan
1989-1990	Janet Williams
1991-early 1996	Jo Stolhand (late 1992 Janet Williams)
early 1996-to present	Larry and Therese Meyer

Please consider helping UNPS continue its mission in this new century by volunteering to assist with the newsletter and carrying on this vital role.

Rock Canyon Ecological Restoration: October 1999-December 2000 Progress Update

By Becky Wilde
cleopat1@collegeclub.com

October 1999: October was a month of preparation, cleanup, rock mulching, trail building, and trail destroying. The canyon was in great disorder. Slabs of concrete and piles of garbage had accumulated over the years. Jack-hammers were used to break up the concrete so that it could be manageable enough to be taken out. Volunteers picked up beer bottles, large pieces of metal, old tires, and other trash. Many social paths wove in and out but there were not many well-defined trails. New trails were designated by laying mulch and lining the path with rocks. Undesirable paths were broken up with pick axes. The main garden was rock mulched.

November 1999: November was also for cleanup, rock mulching, trail building, and trail destroying. The Native Plant Society planted wildflower and shrub seeds in the Shrub Lab greenhouse for spring restoration.

December 1999-February 2000: In December the seeds that were planted in November were nurtured and watered and began to grow. In January more wildflower seeds, and grass seeds, were planted.

March 2000: March was a big month for transplanting the seedlings into Rock Canyon. It was also a month of trail work, weed control, and fire prevention. Many volunteers helped plant thousands of wildflowers, grasses, and shrubs. Digging poles were used to break through the rocks. The hole was then filled with water and the baby plant was then placed in the whole and gently covered and filled in with dirt. A wooden stake was then used to make sure that the plant was completely surrounded by dirt. This was done by inserting the stake down into the dirt around the plant and pushing the dirt toward the plant, filling in any possible large air holes. A final press with a hand or foot around the plant completed the job. In order to keep the weeds down and prevent fire hazards, cheatgrass and other weeds were raked up. Unlike the native bunch grasses, cheatgrass is a non-native weed that spreads fires quickly.

April-May 2000: In May we focused on planting the garden found at the entrance of Rock Canyon Park. This Garden represents a prime example of how we would like the whole mouth of the canyon to appear.

June 2000: In June we washed planting books. These are the plastic slot containers that can be filled with potting medium for growing seedlings. In the Garden, alfalfa and jointed goatgrass, both non-natives, were weeded. Jointed goatgrass was easily pulled but the alfalfa had to be clipped because of its 4-8 foot long taproots.

July 2000: In July we prepared for restoration in the Fall by again washing planting books previously used in the Spring so we could plant wildflower, shrubs, and grass seeds. Gambel oak seedlings were transplanted into larger planting books so that they could continue to grow and mature. The Rock

Canyon garden was weeded to keep the garden looking nice for visitors. Toad Flax, another non-native weed, was weeded further up the canyon. The summer was incredibly hot and dry; because of the draught some watering was done.

August 2000: In August much was done to make the park look better. The theater was cleaned up and all the areas that were previously mulched were mulched again. The picnic tables were washed and cleaned. The pavilion floor was swept and washed. Trash was again cleaned up. Dead weed litter was raked. Weeds were pulled in the front entrance area near the parking lots. One weed that we were greatly concerned with was *Euphorbia myrsinites*. *Euphorbia myrsinites* was introduced into the foothills as a garden plant. This plant can cause serious allergic reactions. We removed it with shovels and plastic bags. Star thistle was pulled from Battle Creek canyon. This weed is a non-native dangerous weed. If eaten by a horse the plant will cause Chewing Gum Disease in the mouth of the horse. The Rock Canyon garden was weeded and so were the areas around the bathrooms, theater and pavilion. The Boy Scouts helped with a survey of visitors. They recorded gender, age, activity in the canyon, time expected to be in the canyon, residency, and when they came up into the canyon.

September 2000: September was a weeding month. Clematis, star thistle, and alfalfa were weeded. Plants for fall planting were watered and thinned if needed.

October 2000: October was the beginning of fall planting in Rock Canyon. To prepare the site for planting, alfalfa was weeded and sprayed, and the Rock Canyon garden was weeded. Grasses, forbs, and shrubs were transplanted into Rock Canyon. Star Thistle was also weeded in Battle Creek to prohibit the nasty weed from spreading into Rock Canyon.

November 2000: In November, Fall planting was finished. The areas that had not been planted previously were planted heavily. Then we started preparing for spring planting. Materials for potting medium were bought and the potting medium was made. This is done by mixing four buckets of vermiculite, four buckets of peat moss, two buckets of turface, and two buckets of sand. This is mixed dry in a cement mixer. Then fertilizer is mixed into the dry medium. The fertilizer is a special formula of several nutrients specifically for native plants. After the fertilizer has been mixed in with the potting medium, water is added to moisten the mixture. The potting medium is then pasturized at 41°C for about 40 minutes to an hour. This kills the mixture of most harmful bacteria and other disease causing microorganisms. Books were filled with potting medium and rabbitbrush was planted. During this time, many wild flowers were also planted.

December 2000: This month was used as preparation for spring planting. Globe mallow and blue bunch wheatgrass were planted. More potting medium was made.

Summary: Since the beginning there have been over 15 groups whose members and others have donated 2000 volunteer hours to the Rock Canyon Project. A table with each organization is on our website. Thank you one and all.

UNPS Membership Questionnaire

The Utah Native Plant Society has approximately doubled its membership in the past 3 years. It's time to survey the members to find out how people would like to be involved in the activities of the Society. Please fill out the questionnaire below, fold so that Bitsy Shultz' address shows, place a stamp on it, and put in the mail to Bitsy.

For each of the following items, tell us how important it is to you: 'A' means *most important*, 'B' means *moderately important*, and 'C' means *not important to me*. If you would be willing to contribute some time and effort to any of these activities, please mark it with an asterisk. You can also contact the person indicated for that group.

CONSERVATION: Bill King -- mzzzyt@aol.com

--Protecting rare specie _____

--Plant salvage efforts _____

--Helping professional botanists do plant surveys _____

EDUCATION: Mindy Wheeler -- mindywheeler@cs.com

--Organizing/conducting workshops _____

--Lectures & symposia _____

--Field trips to look at or photograph native plants _____

--Liaison with schools _____

--Working on publications such as field guides to native plants _____

INVASIVE SPECIES: Phil Allen -- Phil_Allen@byu.edu

--Fighting invasive species _____

--Restoration projects _____

COMMUNICATION: Larry Meyer -- lmeyer@xmission.com

--Helping with the Sego Lily _____

--Helping with the web site (www.unps.org) _____

HORTICULTURE: Susan Meyer -- semeyer@sisna.com

--Native plant gardening _____

--Propagation workshops _____

--Help with Utah Heritage Gardens _____

Other ideas? Please tell us.

Your Name _____

Phone or e-mail address _____

UNPS SEGO LILY
c/o Jo Stolhand
Utah Native Plant Society
P.O.Box 520041
Salt Lake City, UT 84152-0041

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Weed in Layton! Layton Wetlands Preserve

The Layton Wetlands Preserve is a roughly 3,800-acre Nature Conservancy preserve on the eastern shore of the Great Salt Lake. It's home to thousands of birds: white-faced ibis, snowy plovers, peregrine falcons, ruddy ducks and cinnamon teals to name just a few. The plants of the preserve provide food, refuge and nesting materials for these birds, but in some areas they are crowded by weeds such as Scotch thistle. The WEED TEAM has been removing these weeds on a weekly basis. "It's one thing to read about habitat restoration," said Cheri Carleson, "I wanted to DO something." The WEED TEAM has removed over 7 trucks full of weeds last summer with their sights set on eradicating some weed species this year. Cheri added, "When I look overhead and see a flock of pelicans or white-faced ibis - that's my payback." The volunteer weeding project organization meeting is March 15th. See the information on the cover.

For more information about the Utah Native Plant Society please feel free to call:

Bill King	582-0432
Jo Stolhand	521-0069
Susan Garvin	
(Utah Valley Chapter)	377-5717
Larry and Therese Meyer	272-3275

Or check our website:

www.unps.org

Or write to unps@xmission.com

Membership Application

☐ New Member ☐ Renewal ☐ Gift

Name _____

Street _____

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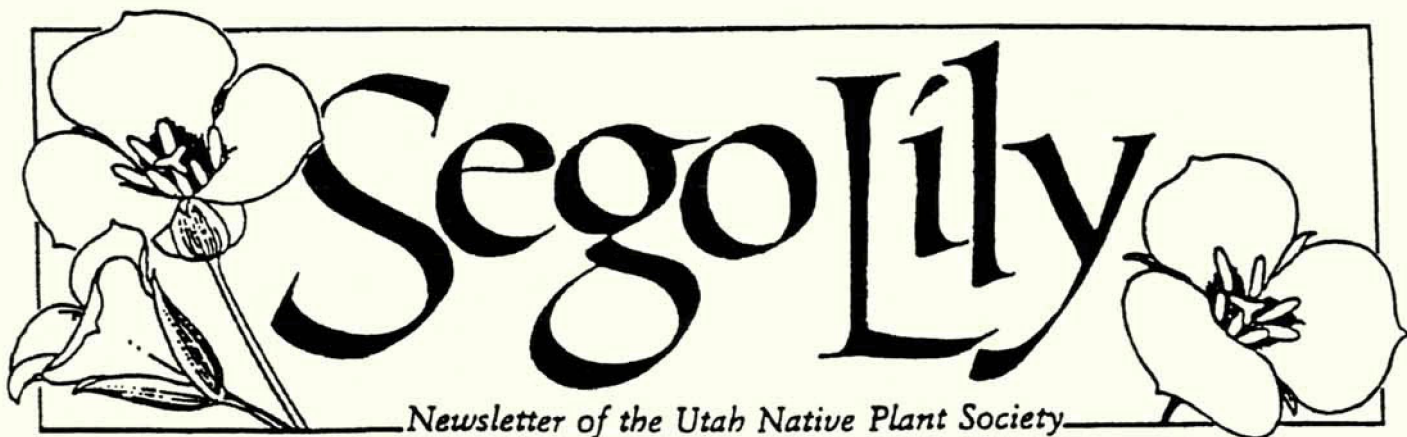
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VOL. 24 No. 2

Mar/Apr 2001

CALENDAR OF EVENTS- SEE INSIDE FOR DETAILS

Each Saturday in April:

Noon - 5pm

April 14: 9am - ??

April 21: 10 am - 4pm

May 11: 2 - 7 pm

May 12: 9am - noon

May 12: 10am - 4pm

May 12: 9am - noon

June 2: 9:30am - ??

June 2: 10 am - 2pm

Learn more about gardening with native plants!

Planting Party at Benson Grist Mill

Earth Day Restoration Planting in Torrey

Native Plant Sale – Provo

Native Plant Sale – Provo

Native Plant Sale – Salt Lake City

Weeding Party in Rock Canyon

Field Trip to Price Heritage Garden

Celebrating Dimple Dell and Sego Lilies

Passport, please: A global strategy to curb invasive species

Harold A. Mooney, Department of Biological Sciences Stanford University

Plants have no respect for boundaries. Nor, for that matter, do zebra mussels, crazy ants or Nile perch. When alien species invade, they wreak havoc on economies and ecosystems across the globe. Curbing the problem is an international task, says Harold A. Mooney, a Stanford biologist who helped design a global plan to deal with the invaders.

“If we have a fire, then we send for the fire truck. People respond right away. But we have no strategy for invasive species,” says Mooney, the Paul S. Achilles Professor of Environmental Biology. He will outline a 10-point

strategy to curb invasive species at the American Association of the Advancement of Science (AAAS) conference on Friday, Feb. 16, at 9 a.m. PT.

Mooney is speaking on behalf of the Global Invasive Species Programme (GISP), an international collaboration of scientists, lawyers and policy makers that has been working for three years to come up with an effective and globally acceptable plan.

Behind habitat destruction, alien invasion is the second greatest cause of species extinction worldwide. On islands, alien invasion is the

number one cause of extinction, says Laurie Neville, project officer for GISP.

When the small brown tree snake arrived on the coast of Guam, it entered an island with 13 species of forest birds, 12 types of lizards and three bat species. Today, only one bat species remains, three forest birds and six native lizard species.

Biodiversity loss, though devastating, is not the only issue. More than one million nocturnal brown snakes now inhabit even the smallest spaces on Guam. They cause black-outs by crawling on power lines, hunt in family chicken coops and slide into homes through bathroom vents.

Guam may sound extreme, but many examples rival the plague-like status of the brown tree snake. The invasive, hardy water hyacinth strangled the ecosystem and economics of Lake Victoria in Africa until a multimillion dollar international control program was put into effect. Crazy ants form supercolonies in the rainforests of Christmas Island, changing the habitat and preying on the animals of the forest floor. The alien star thistle outcompetes native desert grasses of California. "The range-lands of the west are being taken over by noxious weeds causing enormous financial loss," says Mooney.

The human propensity to travel, carrying plants, animals and bacteria, is essentially taking our ecosystems back some 200 million years, when the Earth consisted of a supercontinent called Pangea. During that era, plant seeds and animals could move freely across the land, since they were not yet separated by thousands of miles of ocean. Mooney dramatizes the long-term consequences of alien invasion by holding up a picture of the continents as Pangea once again.

Currently there is no global network set up to deal with or prevent future ecosystem invasions. "We're looking at designing something like the CDC [Centers for Disease Control]," says Mooney. "We need something comparable for invasive species." He will introduce the 10 elements of the GISP global strategy - a "framework for mounting a global-scale response" - at the AAAS symposium.

Mooney will describe the need for a "rapid response mechanism" - a fire truck for invasive species. If nations develop the resources to react immediately to an invasion, they will save money and time by controlling the invasive species before it establishes itself.

Mooney also will address the crucial need for developing international financial checks and balances. "If you import something, and it gets away, you should help pay," Mooney says. He suggests adopting a type of bond, or insurance system, where those who do the importing contribute to a fund set aside to fight harmful invasive species. The GISP strategy also recommends considering the actual cost of invasives and incorporating that cost into a financial code of conduct for the importers.

One of the most controversial areas, Mooney says, is the legal arena. "There are a lot of holes and inconsistencies" in current national and international law touching invasive species, he notes. The goal is to create consistent laws, whether in the export country, the import country, or both, that help minimize the introduction of alien species.

To synthesize three years of research and finalize the 10-point global strategy, Mooney met with other biologists, along with economists, lawyers and policy makers from around the world in Cape Town, Republic of South Africa, this past September. "This is a consensus," says Mooney.

Whereas in the past, the invasive species issue has partitioned people in agriculture, shipping, and government, "that meeting in South Africa was a coming together," notes Mooney. "It was a breath of fresh air."

Editors: This release was written by science writing intern Louisa Dalton. Professor Harold A. Mooney will participate in the symposium, "Stopping the Invasions: International Scientific Efforts to Stop Invasive Species (Part 1)," at the annual meeting of the American Association for the Advancement of Science on Friday, Feb. 16. For more information, see the AAAS website at <http://www.aaas.org/meetings>

PROPSHOPS EXPLODE!

by Bitsy Schultz

Suddenly this year, lots of people wanted to propagate Utah native plants from seed. We started on the first Saturday in February, at the greenhouse at Zion National Park, aiming to draw in members of the new Southern Utah chapter of the Native Plant Society. We expected 16 people, and brought materials for 20, "just in case." But word gets around. Thirty-five people showed up! The workshop, led by Susan Meyer, was enthusiastically received. We had seeds of eighteen species, some of which had been selected to be especially appropriate for southern yards. We owe special thanks to Denise Louie, Cheryl Decker, and Jeff Bradybaugh at Zion, for use of the greenhouse and for providing materials to accommodate the extra people, as well as to Mike Empey for getting the word out.

The second Saturday found us in Provo, at the Forest Service Shrub Sciences Laboratory greenhouse, where 36 people attended, in two sessions. The eighteen species chosen for this year's workshop were Alkali sacaton grass (*Sporobolus airoides*), Bridges penstemon (*P. rostriflorus*), Cushion evening primrose (*Oenothera caespitosa*), Eaton daisy (*Erigeron eatonii*), Fourwing saltbush (*Atriplex canescens*), Lambert crazy pea (*Oxytropis lambertii*), Low rabbitbrush (*Chrysothamnus viscidiflorus*), Mountain pepperplant (*Lepidium montanum*), Narrowleaf yucca (*Y. angustissima*), Robinson lupine (*Lupinus polyphyllus* var. *prunophilus*), Rock sandwort, (*Arenaria macradenia*), Rocky Mountain penstemon (*P. strictus*), San Rafael blanketflower, (*Gaillardia spathulata*), Silver buckwheat (*Eriogonum ovalifolium*), Sneezeweed (*Helenium hoopesii*), Squawapple (*Peraphyllum ramosissimum*), Sticky geranium (*G. viscosissimum*), and Twinpod (*Physaria chambersii*). A display of photographs, assembled by Bitsy Schultz, let participants see what these plants look like. The information sheets on each species that were given out at the workshops will

soon be posted on the UNPS website, along with pictures.

The third Saturday (is this starting to sound familiar?) we went to Salt Lake for The Big One--70 people attended, again in split sessions. Our gracious hostess again this year was Marcene Younker at the University of Utah Grounds Greenhouse. Finally, on the last Saturday in February, we went to Logan, to give a workshop for 40 people at the new USU Extension teaching greenhouse. This event was organized by Tami Coleman, motive force behind the newly-revitalized Cache County chapter. Lorelei Platero, of USU Extension, arranged for the use of the facility.

Some people at the Shrub Lab deserve special mention for the work they put in behind the scenes to prepare planting materials: Susan Garvin, Celeste Kennard, David Nelson, and Becky Wilde, who led an army of volunteers. Thanks to Paul Ames for providing the lupine seed. Bitsy Schultz worked on graphics and administrative details. Mastermind of the whole operation, Susan Meyer provided seeds, expertise, the handouts, enthusiasm, and a number of pretty good jokes. Last but not least, we should give honorable mention to Susan's truck, which put on almost 1000 miles for these workshops.

The purpose of the propagation workshops is to involve more people in growing plants for the Heritage Garden Program, as well as for their own yards, but there were also several pleasant side benefits: We learned about some existing native plant gardens, had a few feelers about prospective Heritage Gardens, and enlisted some new helpers for Heritage Gardens already in place.

In May, when the seedlings are getting big enough to transplant, workshop participants will be able to return plants they would like to donate for Heritage Gardens and possibly swap with other people for species they wished they had planted. See the announcements section of this Sego Lily for dates and times to return plants.

TEN GREAT NATIVE SHRUBS FOR LANDSCAPING

By Mindy Wheeler

Cliffrose (*Purshia mexicana*)

Cliffrose has many attractive features. In early summer, it is covered with cream-colored rose-like flowers which fill the air with a sweet clovelike fragrance. In the fall, it is covered with clematis-like feathery tails. The bark is reddish and shredding, somewhat like a eucalyptus, and the foliage has an intriguing resinous odor. Prefers full sun and well-drained soils. Fully cold-hardy. Drought hardy.

Green Mormon Tea (*Ephedra viridis*)

This handsome, sprawling shrub is excellent for xeriscape landscapes. Although it takes some time to grow large, it is attractive and adds interest even when small, especially in the wintertime, when it is one of the few plants that stays bright green. Some years, it will produce tiny cones in spring or early summer. Prefers full sun and well-drained soils. Fully cold-hardy. Drought hardy and intolerant of overwatering.

Whitestem Rubber Rabbitbrush

(*Chrysothamnus nauseosus*) Because of its fine-textured, pretty-colored foliage, rubber rabbitbrush makes a fine screen or background plant for summer flowers, and its own showy display of bright yellow flowers in fall is an extra bonus. It is also quite attractive in fruit, but care must be taken not to let the seeds disperse, or you will be pulling a lot of rabbitbrush seedlings. Prefers full sun and well-drained, infertile soils. Fully cold-hardy. Drought hardy and intolerant of overwatering.

Big Sagebrush (*Artemisia tridentata* var. *vaseyana*)

Big sagebrush is an evergreen that can add much-needed color to winter landscapes, and it is a good companion to foothill bunchgrasses and wildflowers in an informal meadow setting. Sagebrush will volunteer freely from seed. To prevent this, just cut the flowering stalks before seeds shatter in late fall. Prefers full sun and rich to well-drained soils. Fully cold-hardy. Drought hardy.

Winterfat (*Ceratoides lanata*)

Winterfat is one of the dominant shrub species in the cold deserts of the Intermountain West. Its main attractions as a landscape plant are silvery foliage, elegant drooping habit, and lovely, luminous fruiting bracts that may occur in great abundance and give the whole plant a shining appearance. It flowers in late summer, on into the fall. Requires full sun and prefers well-drained, infertile soils. Fully cold-hardy. Very drought-hardy.

Apache Plume (*Fallugia paradoxa*)

One of the few shrubs that produces pretty white flowers all season, Apache plume is a tremendous eye-catcher with copious clusters of feathery pink tailed fruits attached to the seeds. Requires full sun, medium to coarse textured low fertility soils. Very drought tolerant.

Fernbush (*Chamaebatiaria millefolium*)

Fernbush has bright green, finely divided leaves, which are delightfully aromatic. Small white flowers burst forth in large branching clusters in such profusion that the bushes are very showy from mid to late summer. The bark is a woody, shredded, cinnamon-red. Will grow in full sun to partial shade, medium to coarse textured soils. Likes a little extra water.

Squawbush Sumac (*Rhus trilobata*)

Squawbush forms a large mound of foliage when mature. New leaves emerge with a beautiful scarlet tinge, and are rather shiny in appearance. They turn from green to deep reddish purple in autumn. Dark red sticky berries form in the summer and are rather palatable when crushed and mixed with water and sugar, lemonade-style. Tolerant of some shade, medium to coarse textured soils.

Curl-leaf Mountain Mahogany (*Cercocarpus ledifolius*)

This is the only broadleaf evergreen tree in the Mountain West, and as such it offers an interesting winter contrast to your standard landscape conifer. Once mature, its seeds have long, cork-screw-feather-like plumes that cover the tree, creating an almost fuzzy appearance from distance. Generally erect in form, it becomes multistemmed as seedling, so would need pruning to achieve a single trunk. It grows in full sun, reaching 15 to 20 feet tall. Requires good drainage. Drought hardy and cold hardy.

Netleaf Hackberry (*Celtis reticulata*)

This small tree is a great addition to a low water landscape, as it can provide a vertical balance to the more common lower-growing plants. When mature, it tends to have interestingly gnarled branches. The leaves are deeply netted. It produces sweet orange-red pea sized fruits. Prefers dry, rocky soils. Tolerates compaction, high pH and salinity.

CHECK OUT ALL THESE ACTIVITIES!!

LEARN MORE ABOUT GARDENING WITH NATIVE PLANTS

Each Saturday in April from noon until 5 pm, UNPS will be hosting a Discover! Utah Heritage Gardens information booth and display at the Public Lands Information Center in the REI store on 33rd South and 30th East in SLC. Knowledgeable UNPS members will be on hand to answer your questions, and there will be lots of pretty garden pictures as well as some hot-off-the press free handouts to guide your native gardening efforts.

PLANTING PARTY AT BENSON GRIST MILL

The Benson Grist Mill Heritage Garden is due for sprucing up and expansion. Come get your hands dirty, experience native gardening firsthand, and check out a very interesting historic spot on Saturday, April 14. The festivities will start at 9 am. The mill is located on the Grantsville Highway, just a few hundred feet west of the junction with the highway from I-80 to Tooele, north of Stansbury Park. Call Pat Jessie (435-882-0593) for more information.

EARTH DAY WETLANDS RESTORATION PLANTING IN TORREY

UNPS members Clothilde Barrett and Don Sanderson of Torrey, Utah (just west of Capitol Reef National Park) have asked the Utah Native Plant Society for help in their efforts to restore a wetland on their property. Please join us there on Saturday, April 21 from 10 am until 4 pm for an Earth Day planting celebration. Wear sturdy shoes that can get wet and bring gloves--planting tools and lunch will be provided. The planting site is just behind the Super 8 Motel on the south side of Highway 24 in Torrey--meet in the motel parking lot. We hope to develop the

area as an interpretive site explaining the role and importance of wetlands in a desert environment.

For those wishing to make it an overnight trip, Susan Meyer will be leading a botanical foray to Capitol Reef the following morning. You can camp in the park or on Boulder Mountain, or stay in one of the motels in Torrey on Saturday night. We will meet at the Capitol Reef Visitor Center Sunday morning at 9 am for our half day hike.

For more information contact Clothilde Barrett at clodon@mstcruiser.net or 435-425-3610 (Torrey) or Susan Meyer at semeyer@sisna.com or 801-423-2603 (Provo area).

BEARCLAW POPPY EXPEDITION

On Saturday, April 28, Drs. Kim Harper and Renee Van Buren will lead a field trip exploring the fascinating ecology the endangered bearclaw poppy and other plants of the Moenkopi formation near St. George. This trip is co-sponsored by the UNPS and the Nature Conservancy. Space is very limited on this Southern Utah chapter expedition. Native Plant Society members should e-mail Margaret Malm at kadok@infowest.com

NATIVE PLANT SALES IN PROVO AND SALT LAKE CITY

Utah County Chapter of UNPS is holding a plant sale in Provo on May 11-12, in conjunction with Celebrating Wildflowers month. The sale will be open from 2-7 pm on Friday afternoon and from 9-12 am Saturday morning. It is jointly sponsored by Wasatch Elementary School, where many of the plants were started, and the Utah County Chapter, UNPS. It will be held at Rock Canyon Trailhead Park, located at the east end of 2230 North. There will be 3-6 month old plants of Utah native forbs, including several species of Penstemon in shades of red, blue, and purple, Utah sweet vetch, Utah ladyfinger, blue flax, and sagebrush sold in books of 6 plants for

\$4.50 a book. Janett Warner of Wildland Plants Nursery will be here on Friday afternoon with gallon sizes of several Utah native forbs and shrubs as well. Please check the UNPS website <http://www.unps.org/> for further details or a change in plans.

SALT LAKE PLANT SALE

Join us on Saturday, May 12 from 10 am until 4 pm in front of the REI store on 33rd South and 30th East in SLC for the First Annual Celebrating Wildflowers Native Plant Fair and Sale. This event will feature a grand assortment of native plants and seeds for sale as well as posters, books, and other plant lover's paraphernalia. Our friends from Great Basin Natives, Wildland Nursery, and Grable's Alpines, as well as native seed vendors Virginia Markham and Paul Ames (who promises responsibly salvaged sego lily bulbs) will be there with their best, plus UNPS will be selling plants produced by Darrin Johnson and other UNPS members to raise money for our new Weed Warrior program. Come support this worthy cause, hang out with other native plant aficionados, and get some great deals on native plants for your garden.

WEEDING PARTY

We are also "Celebrating Wildflowers" with a weeding party in Rock Canyon during the same hours. Please come and see Utah's native plants in a garden setting in Rock Canyon Park and also at Wasatch School, 1000 N. 900 East in Provo. We have more than 100 species in cultivation between these two locations, planted and maintained by the Utah County Chapter and Wasatch School in the Utah Heritage Garden Program.

Please watch our website; we may be adding to the list of activities with a possible wildflower hike. See <http://www.unps.org/> in the calendar section for the latest developments. You may call Susan Garvin at 801-377-5717 for details as well.

PROPAGATION WORKSHOP PLANT RETURNS

Place: Return extra plants to the same greenhouse where you attended the workshop. In the case of the Zion Greenhouse and the U of U Grounds Greenhouse, leave them near the door if no one is there to receive them. People from Salt Lake who attended the Provo workshop can take their plants to the U of U Grounds Greenhouse (call Bitsy at 801423-2603 for directions). Please harden your plants off for a few days before the drop-off so they can be safely left outside.

Dates & Times:

ZION: Friday, May 11 and Saturday, May 12--any time
PROVO: Friday, May 4 and Saturday, May 5--between 10 am and 2 pm
SALT LAKE: Weekdays in May -- 7 am to 3 pm; Saturday, May 19--10 am - 2 pm
LOGAN: Saturday, May 5--9 am to 11 am; Wednesday, May 16--5 pm to 7 pm

Contact person if you need to make other arrangements:

ZION: Denise Louie (435) 772-0216 or Cheryl Decker--(435) 772-0434
PROVO: Susan Meyer (801) 377-5717
SALT LAKE: Marcene Younker (801) 581-3078
LOGAN: Tami Coleman (435) 258-0303 or Loralie Platero--(435) 752-6263

FIELD TRIP TO THE PRICE HERITAGE GARDEN.

Saturday, June 2. Meet at the Shrub Lab in Provo (735 North 500 East) at 9:30 am to carpool over, or meet us at the garden (on 300 South just east of Carbon Avenue) around 11 am. This large one-year-old garden is getting ready to put on a great show. Join us in support of the Price Chapter--bring a picnic lunch, and don't forget your camera

NEW SEGO LILY EDITORS

As of this issue Mindy Wheeler and Paula Mohadjer will be putting together the Sego Lily. Many thanks to Larry and Therese Meyer for many years of Sego Lily writing, editing, and mailing. We all appreciate their hard work and hope to keep up the good work.

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CELEBRATING DIMPLE DELL AND SEGO LILIES

Saturday, June 2. Meet 10 am at the upper parking lot - Dimple Dell Rd and 30th East. (Access via 106th So. Or 90th So.) Dr. Ty Harrison of Westminster College will lead this trip to visit the new Flander's Point interpretive trail (lots of Segolilies!!), and the restoration projects at Dimple Dell. B.Y.O.S.L. (Bring Your Own Sack Lunch), and expect to return at around 2 pm. This promises to be a very informative and fun trip! If you have any questions, please call Mindy Wheeler at 699-5459.

For more information about the Utah Native Plant Society please feel free to call:

Bill King	582-0432
Jo Stolhand	521-0069
Susan Garvin	
(Utah Valley Chapter)	377-5717
Larry and Therese Meyer	272-3275

Or check our website:

www.unps.org

Or write to unps@xmission.com

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eliminated further impacts from motorized vehicular traffic. It has also made the canyon more attractive for hikers, resulting in increased use.

The decision to target Rock Canyon for ecological restoration came about due to several independent activities that converged early in 1999:

1) The Rock Canyon Preservation Alliance, a grassroots organization of community-activists, had preserved the canyon from development. This included raising over \$1.5 million to purchase land and establish park facilities (restrooms, pavilion, signs). While the group felt a strong desire that the area be managed as a natural park they lacked the expertise to bring this about.

2) The U.S. Forest Service Shrub Sciences Laboratory, a research facility, increasingly recognized the importance of outreach and technology transfer activities. This has been one impetus in supporting personnel involvement (primarily Susan Meyer and Susan Garvin, active UNPS members) in the Heritage Garden Program, the Native Plant Propagation Workshops, and the Utah Native Plant Forum held in 1997.

3) Managers in Provo City Parks observed the successful Heritage Garden at Wasatch Elementary in Provo (established spring 1998) and actively solicited the Native Plant Society to establish a Heritage Garden at Rock Canyon Trailhead Park. We planted the first phase of this garden in spring 1999.

4) We have studied seed germination of native plants for 16 years, and published the results in a wide variety of scientific journals. However, we became increasingly concerned that the public is largely ignorant of the continuing decline in native plant habitat along the Wasatch Front and elsewhere in the Intermountain Region. We realized that we were in a position to make use of the knowledge we had generated to actively involve the citizens of the Wasatch Front in ecological restoration of the wild lands virtually in their back yard. We plan to apply the principles of ecological restoration to replace the degraded, weedy vegetation of the canyon mouth with high diversity native plant communities that resemble pre-settlement vegetation in the area as closely as possible. We are carrying out this research and demonstration project with the objective of developing a model for restoration of foothill shrub-steppe and mountain-brush plant communities. This project includes a research component that involves testing different restoration methodologies. It also provides an area where the practicality and effectiveness of ecological restoration can be evaluated and demonstrated

Our approach to this restoration project is intensive. We are using container transplants produced from locally collected ecotypes as the principal method of introducing new plants, supplemented by direct seeding, especially for species not easily greenhouse propagated. Because the woody overstory in the mountain brush segment of the habitat is largely intact, we are concentrating on herbaceous understory species. In the sagebrush steppe segment of the habitat, both shrubs and understory species are being planted.

We are currently engaged in the first phase of the planting, in a one-acre area behind the existing Heritage Garden. We are using local citizen volunteers to plant about 8,000 transplants belonging to ten species native to the canyon. Our first planting day, Saturday, March 4, involved 160 volunteers and received excellent coverage by the local press. A follow-up planting was held Saturday, March 11. We are encouraged by the success of this first effort, and are planning to produce approximately ten thousand additional transplants to be planted in the mouth of Rock Canyon this coming fall.

Even though our restoration project is only in its initial stages, we are already being approached by citizens who would like to see this kind of activity in other canyon mouths along the Wasatch Front. We are hoping to integrate our efforts with efforts of those working on the establishment of the Bonneville Shoreline Trail. We would like to develop a protocol for controlling weeds and restoring native plant communities all along the trail, which will stretch from Brigham City on the north to Santaquin on the south, and which will intersect with canyon mouths all along the Wasatch Front. If you are interested in participating in an expansion of these restoration efforts, please contact us at unps@xmission.com.

Molecular Phylogeny Made Ridiculously Simple Or How and Why Plants are Named Based on DNA Sequences

By Larry Meyer

Since Lineaus and Darwin, there has been an effort to categorize all life according to natural patterns. Anyone can tell asters are more closely related to each other than to other plants, and the same holds



VOL. 24 No. 3

May/Jun 2001

CALENDAR OF EVENTS- SEE INSIDE FOR DETAILS

June 16, 10 a.m. - noon

July 7, 11 a.m. - 3 p.m.

August 4, 11 a.m. - 3 p.m.

August 6, all day

August 18, 10 - noon

Landscaping with Utah Natives Seminar

Garden Fair Day at JWWCD

Garden Fair Day at JWWCD

USU – Landscaping with Native Plants Symposium

Gorgeous Utah Natives Seminar

Gardening with Utah Natives: A Beginner's Guide

by Susan E. Meyer and Bitsy Schultz

Why garden with native plants? Gardening with native plants will tie your property to a larger regional landscape and will help you feel connected to the place that is your home. And because natives are at home in the region and use resources efficiently, they require very little. Once established, most are long-lived and largely maintenance free. And natives are a natural choice for the waterwise landscaping style of the future, because they often look their best with little or no extra water. A garden with a diversity of native plants creates a year-round haven for wild creatures such as birds and butterflies. Most importantly, the wealth of color, texture, and form found in natives greatly surpasses that found at the traditional nursery. For a yard that looks beautiful and interesting in every season, a native landscape is an excellent choice.

How will a native landscape look? A beautiful native landscape can look as formal or informal as

you like. One approach is to use traditional designs, but substitute drought-tolerant natives for water-guzzling exotic plants. Substitute low-growing ground covers for typical bluegrass lawn, and use a variety of native trees, shrubs, and perennials to create your foundation plantings and flower beds. An alternative approach is to imitate the masterful gardening style of nature, with informal groupings of shrubs and trees, rock garden areas, and wildflower meadows. Focusing on structure and texture as well as seasonal color assures that the planting will look good year round.

Will natives thrive in my yard? Any yard can be transformed into an attractive native landscape, if you follow a few simple rules. The fundamental rule is to respect the needs of each kind of plant. *Group plants with similar water requirements.* Don't try to plant drought-hardy penstemons in with your

petunias, or edge a bluegrass lawn with desert shrubs. Too much water or fertility can be lethal, and for many natives any extra water or fertilizer after establishment is too much. Choose plants carefully for the shady parts of your yard--there are natives that can handle shade, but most cannot. It also helps to consider the soil and topography of your planting site--penstemons and other drought-hardy plants can tolerate some watering if the soil is sandy or gravelly or the site is sloping. Some handsome natives from the southern part of the state may not be cold-hardy along the Wasatch Front, although others, like apache plume and even joshua tree, have been found to be hardy far north of the regions where they grow in the wild. To be safe, though, it is best to use plants that are found growing locally.

How do I get started? If you are landscaping a new property, you can incorporate the native element from the beginning. You can decide what the functions of different parts of your landscape will be. You do not have to go 100% native--there is still a place for bluegrass lawn and English-style shade trees, where they have a function. But pick an area large enough to develop the native theme on its own. Most natives are not lush and 'cabbagy' like traditional garden plants, and they can look strange if juxtaposed with such plants. The front yard is an ideal place to start, as lawn there doesn't usually serve much of a function. If you are retrofitting an older yard, pick an area to devote entirely to the native concept--a hard-to-water city strip or sidewalk edge or a sunny corner beyond the reach of your sprinkler is a good choice. If possible, choose a spot that is sloping or where the soil is coarse, as many natives require good drainage. If your soil is very heavy and your site is flat, you may have to add amendments such as sand or gravel to keep plants like penstemons happy.

Try to pick a site that is not infested with perennial weeds such as quackgrass, field bindweed (wild morning glory) or whitetop. If you are planting into former lawn, make sure the lawn is really dead and gone before you start. And make sure you can control how much extra water the area will receive. Mixing natives into existing landscaping is tricky, because most will not thrive on a traditional high-water regime. If you try a native garden in one area of your yard and are happy with the results, you just may decide to convert the rest of your landscape to natives. This can be accomplished in stages, over a period of months or even years.

What about design? As mentioned above, the design for a native garden can be formal or informal. You can engage the services of a professional designer, or produce a do-it-yourself version. The UNPS website (www.unps.org) will soon have sample native front yard designs as well as a plant information database, to give you some ideas. A good place to start is to make a map of your planting site and to figure out the size of the area. This, along with information on size at maturity for the plants you intend to grow, will help you determine your plant needs.

Remember to group plants with similar water and sun requirements. The north side of your house is a whole different world from the south side--shady, cool, and moist rather than sunny, hot, and dry. You can take advantage of this natural microclimate variation to increase the palette of plants that you can grow successfully.

General gardening principles apply to native garden designs as well. Think about structure and texture as well as color--shrubs and small trees placed with perennials and ornamental grasses, harmonious color combinations, spreading out bloom times across the season, and including plants that are evergreen or have other good winter features. Include some plants that are fast-growing and provide structure and color quickly, as well as slower-growing shrubs and trees for longer-term effect. Be willing to be flexible in your design--if a plant fails to perform, experiment with replacements, until you discover a suite of plants that are well-adapted to your particular site.

Where do I get the plants? The answer to the question of native plant availability is constantly changing. Right now in Utah, your choices are limited, but that could change very quickly as people become educated about the advantages of native plant landscaping and demand begins to climb. If enough people go to a favorite traditional nursery and ask for native plants, availability will increase. A few natives are widely available in traditional nurseries, but these are mostly streamside or mountain plants that can tolerate overwatering--plants like golden currant, river birch, red osier dogwood, quaking aspen, and blue spruce. Drought-tolerant natives are conspicuously absent.

We do have native plant nurseries in the state that deserve your patronage. These nurseries will be able to provide high quality native stock wholesale

to traditional retailers along the Wasatch Front, as soon as demand warrants the entry of retail nurseries into this market. In the meantime, you can buy direct from these nurseries:

Wildland Nursery: Joseph, UT
Janett Warner, www.wildlandnursery.com; 435-527-1234

Great Basin Natives: Holden, UT Merrill/Robert Johnson, www.grownative.com; 435-795-2303

High Desert Gardens: Moab, UT
Janis Adkins, 435-259-4531

Utah Wildflower Seeds: SLC UT
Virginia Markham, 801-972-3910

Utah Native Seeds: Eureka UT
Paul Ames, 435-433-6924

There are also a number of good mail-order nurseries in surrounding states that sell plants appropriate for Utah native gardens. These include High Country Gardens (www.highcountrygardens.com) and Plants of the Southwest (www.plantsofthesouthwest.com). For more information and contact information for these and other out-of-state nurseries, see: hort.usu.edu/natives/natives.htm

Zero-scaping? Not! Xeriscape is probably the most misunderstood garden word in Utah. People hear it as zero-scape, and immediately conclude two things. First, they think the zero-scape is going to LOOK like zero, gravel and a couple of scraggly cacti--nothing could be further from the truth. But perhaps even worse, they conclude that the zero-scape is going to REQUIRE zero--plant it and walk away. Alas, this idea is equally erroneous. It is true that a xeriscape, a landscape that includes drought-tolerant plants and where plants are grouped according to their water requirements, requires less material input-- less water, fertilizer, pesticide, lawn mower fuel, and annual bedding plant investment--than a traditional high-water-use home landscape. But the old saying that the best fertilizer is the gardener's shadow is as true for native gardens as for any other. Native garden maintenance is not zero maintenance.

The first maintenance task for the native plant gardener is to water appropriately the first season after planting. Even plants that are drought hardy

need to be watered until their roots grow into the soil. How often? It depends---but for late spring and summer plantings, watering once a week for the first month, once every two weeks for the second month, and then once a month until cool weather arrives should be more than adequate. When you water, water deeply to encourage deep root growth. For filling in an established garden, it is best to plant in very early spring, so that the plants have naturally moist soil for rooting in. This obviates the problem of too-frequent watering for already established plants. Most natives are very cold-hardy and can be planted out as early as peas are planted. Fall planting is another option for filling in or establishing new gardens--but be sure to mulch well for the first winter to avoid frost-heaving if you plant later than the end of September.

The biggest maintenance job in a native garden is undoubtedly weeding. Most natives do not compete well against weeds, especially perennial weeds, and must be given a leg up through hand-weeding, especially the first year. This job gradually tapers off. Depending on what natives were planted, they themselves may need to be restrained to keep them from taking over--this includes clipping or stripping seeds before they shatter as well as pulling out volunteers in the wrong places (the hard part).

Clipping off spent flower stalks and lightly pruning shrubs and trees may also be necessary to keep the garden looking its best. And although most of the flowers and grasses are perennial and can live many years, they are not immortal, and replanting is an ongoing process each year. Sometimes one of those mis-located volunteers can be gently moved with a shovel to take its deceased mother's place.

Plants for Every Setting. There are literally hundreds of Utah native plants that have potential as landscape ornamentals. Some can grow in the middle of a traditional bluegrass lawn or in the shade of preexisting trees, but many more require the lean, sunny conditions described above in order to prosper, those same lean conditions that save on water and other resources. Visit the websites listed above to learn more about some of these plants and their uses.

The Utah Heritage Garden Program. We founded the Utah Heritage Garden Program three years ago to provide public demonstration gardens where people could go to see native plants growing in a garden setting. There are now ten Utah Heritage Gardens, with several more in the works for this

summer, at various locations around the state. To get a taste of native plant gardening, visit one of these gardens, or better yet, volunteer to be a 'gardenin' angel' and help care for a native plant garden. Check our website for locations and current contact people for each garden, or request a Utah Heritage Garden information brochure by mail from: UNPS, PO Box 520041, Salt Lake City, Utah 84152-0041.

FAREWELL TO A FRIEND

Our friend Dea Nelson will be soon leaving for a new job in Montana. Dea Nelson was the first UNPS grant recipient. She worked with the Bear Claw Poppy in Washington County in 1987-88. Dea was one of the charter members of the Utah County Chapter and has been with us since we started the first Utah Heritage Garden.

Dea and Susan Garvin have been the force behind most of the Utah County Chapter's weed warrior activities. And as I understand it, the toadflax in Montana may have a new enemy soon.

Currently, Dea is the Uintah National Forest Ecologist, and has been a great asset to our Utah County Chapter. She has been our liaison with the Forest Service during our restoration work in Rock Canyon. Dea has been up in the canyon (frequently doling out bagels in an effort to arouse those of us that are not morning people) planning, working, planting and weeding with the rest of us. Susan Meyer, Bitzy Schultz, Susan Garvin, Celeste Kennard, and Phil Allen want her to know how much we have loved working with her. Good luck Dea and may the toadflax be vanquished wherever you find yourself.

RARE INDEED!

by Bill King

There are some 29 species of vascular plants in Utah that are federally listed as threatened, endangered or are candidates for listing as such. But there are many more species that are almost as rare or are being threatened by one cause or another.

Two such species grow in the Goose Creek Valley of the far northwest corner of Utah in Box Elder County and Cassia County in Idaho at an elevation range of about 4900 to 5700 feet. They are the Goose Creek *Astragalus*, *Astragalus anserinus* and the Idaho *Penstemon*, *Penstemon idahoensis*, which are restricted to living on

hummocks of tuffaceous barren soil of the Salt Lake Formation usually in Utah juniper or big sagebrush communities. Goose Creek flows into the Snake River and is near the southern limit of the greater Columbia Basin. Both species of plants were recently described in the Great Basin Naturalist: the *astragalus* in 1984 by Duane Atwood, Sheryl Goodrich and Stanley Welsh and the *penstemon* in 1988 by Duane Atwood and Stanley Welsh.

Astragalus anserinus looks a bit like a compact form of the Utah Milkvetch, *Astragalus utahensis*, with gray leaves and pink to purple flowers but the sessile pods are caramel colored rather than white and hairy. *Penstemon idahoensis* is 3 to 8 inches tall and has blue to purple flowers that are all on one side. It is glandular and sticky all over with adhering sand grains. Both plants are very attractive and specially adapted to a unique habitat (see illustrations).

Mancuso and Mosley (1991a and b) and Baird (1991) in their surveys of these plants in 1990 gave the total known population in Utah and Idaho of *Astragalus anserinus* at only about 8,000 individual plants and *Penstemon idahoensis* at only about 7,300. Jim Morefield, Nevada Natural Heritage Program, in a personal communication in 2001, reported 827 *Astragalus anserinus* in Nevada, but no *Penstemon idahoensis* have been reported from that state. The Utah Natural Heritage Program ranks both species as S1, which indicates extreme rarity in Utah, or other factors making the species especially vulnerable to extinction or extirpation. Globally, or range wide, they rank *Penstemon idahoensis* as a G1 and *Astragalus anserinus*, which has a bit wider distribution, as a G2.

These two species are being impacted by a number of factors. Mancuso and Moseley, stated in their 1991a report on page 22 that: "Indirect impacts due to cattle grazing, such as increased erosion of fragile slopes, trampling and trailing and the construction of access roads and water tank facilities are the principle existing threats to Goose Creek Milkvetch" and they said much the same thing about the Idaho *Penstemon* (Mancuso and Moseley, 1991b, page 19). A recent proposal by the BLM to build a four and one half mile water pipeline and new cattle troughs near known populations of these two rare plants could aggravate the situation.

Other impacts threaten these species, aggressive leafy spurge, *Euphorbia esula*, has been reported to be invading some of the Idaho populations. Idaho agencies have removed the spurge from some of the areas but others remain.

Most of this area has also been designated by the BLM as open to off highway vehicle (OHV) use where cross country travel is permitted by all types of vehicles at all times. The dramatic increase in OHV in Utah could pose a threat to these rare species. Furthermore, the Goose Creek fires of August, 2000 over ran some of the known populations of *A. anserinus*.

What is needed here is an updated survey of Utah's populations of *Astragalus anserinus* and *Penstemon idahoensis* to determine what impact the many threats to these plants may be having and, if need be, a plan or conservation agreement should be implemented to prevent these two species from becoming endangered.

Selected References:

Baird, G. I. 1991, "Report for 1990 Challenge Cost Share Project, USDI Bureau of Land Management. Target Species: *Astragalus anserinus* Atwood, Goodrich, & Welsh, *Penstemon idahoensis* Atwood & Welsh, *Potentilla cottamii* Holmgren".

Mancuso, M. and R. Moseley. 1991a. "Report on the Conservation Status of *Astragalus anserinus*, Idaho Department of Fish and Game, Conservation Data Center, Boise, Idaho".

Mancuso, M. and R. Moseley. 1991b. "Report on the Conservation Status of *Penstemon idahoensis*, in Idaho and Utah, Idaho Department of Fish and Game, Conservation Data Center, Boise, Idaho".

E-mail comments to Bill: mzzzyt@aol.com
Cache Chapter Report

PLANT SALE SETS RECORD

By Susan Meyer, Horticulture Chair

Our plant sale at REI in Salt Lake on Saturday, May 12 was an unqualified success. Several dozen native plant aficionados were waiting for us at ten am when we arrived with UNPS plants to sell. Fortunately, Janett Warner of Wildland Nursery was already set up to welcome them. Sales were brisk all day. Virginia Markham and Paul Ames did a land office business in seeds, and Great Basin Natives fared well even though traffic snafus and other problems delayed their arrival.

Several of our cooperating commercial vendors set records for a single day of retail

sales, with gross receipts totaling over \$6,000. UNPS sold plants at two locations (also at Rock Canyon Trailhead Park in Provo) for receipts totaling nearly \$2,000. Everybody went home happy, except those who arrived after their most wanted plants had sold out. We received numerous requests to "do it again".

Several UNPS members made major contributions to the success of the sale. Paula Mohadjer dealt with the complexities of the business license. Darrin Johnson, Susan Garvin, and Becky Wilde were heavily involved with growing the plants for UNPS to sell, and Susan and Darrin also managed the Provo sale. Bitsy Schultz and Susan Meyer took care of pre-sale publicity, including preparing written materials for the April info booth at REI that preceded the sale, as well as hauling the UNPS plants to Salt Lake and answering questions and taking money all day. Julie Rotolo and Bill and Cathy King also did yeoman's service all day on the day of the sale. Therese and Larry Meyer, Mindy Wheeler, Paula Mohadjer, Abby Moore, Julie Rotolo, and Ann Kelsey staffed the April REI info booth.

We would also like to thank the folks at REI and the Public Lands Information Center, especially Rachel Lowry and Leslie Wright, for making the initial contact and for making those fine facilities available for our sale. They were also pleased with how everything went, and have invited us to have our sale there again next time.

We estimate that over 300 people made purchases at the sale. If anyone doubted that there is a large retail market for waterwise native landscaping plants, let their doubts be dispelled!

RESULTS OF THE RECENT MEMBERSHIP QUESTIONNAIRE

By Bitsy Schultz

The return rate on the questionnaires was quite low--only seventeen people took the time to fill them out and send them in. With such a low number of responses, it's probably meaningless to see any deeply significant trends, but a few points did seem to stick out.

The four most popular activities were protecting rare species, going on field trips, native plant gardening and fighting invasive species. The least interest was expressed for helping with the website and Sego Lily, and liaison with schools (Editorial comment: It seems a shame that we are apparently not very interested in involving the next

generation in the natural world they are going to inherit.)

Some of the ideas that came up under "Other" were garden tours, courses on the basics for those new to native plants, and developing a program to identify and protect endangered species (apparently Utah does not have such a program).

For the eleven people who indicated a willingness to get involved in a particular activity, I've sent your name and contact information to the relevant point person. I was going to call them "committee chairs," but in several cases, there is no "committee" to chair. You (or anyone who wants to help out) can also contact them. They are:

CONSERVATION: Bill King - mzzzyt@aol.com

EDUCATION: Mindy Wheeler - mindywheeler@cs.com

INVASIVE SPECIES: Phil Allen - Phil.Allen@byu.edu

COMMUNICATION: Paula Mohadjer - PaulaM@jvwcd.org

HORTICULTURE: Susan Meyer - semeyer@sisna.com

Over the last few years, I've had the opportunity to meet many people who are interested in Utah's native plants. I've seen a great deal of enthusiasm and energy coming from a lot of people. While the questionnaire did not elicit much of a response, I'm hoping that you, dear reader, will jump in and become actively involved in the Native Plant Society. Actually, for me it's been very stimulating and a lot of fun.

UPCOMING ACTIVITIES!

Landscaping with Utah Natives Seminar

Saturday, June 16, 10 a.m. to noon at Red Butte Garden. Paula Mohadjer's favorite Utah native plants for landscaping. Slides, discussion, then a short walk to view existing specimens at Red Butte. Free for Red Butte Garden members or \$5 for non-members.

Garden Fair Days at JWWCD

July 7th and August 4th, 11 a.m. to 3 p.m. Jordan Valley Water Conservancy District is hosting Garden Fair Days the first Saturdays of June, July and August. Fun for the family and highly educational. The Fair includes "Ask an Expert" information booths such as the Utah Native Plant Society, Center for Water-Efficient Landscaping, and Utah Water Conservation Forum, food vendors, Waterlous entertainment, face-painting and balloon hats for kids. This will also be a great opportunity to pick up some of our beautiful native plants, because ALL of Utah's native plant and seed sellers will be there: Wildland Nursery, Great Basin Natives, Utah Wildflower Seeds, High Desert Gardens, and Paul Ames' seeds. JWWCD, 8215 S 1300 W, West Jordan. 565-8903

USU Landscaping with Utah Native Plants Annual Symposium

August 6, all day, Logan, UT. More information coming in the next Sego Lily issue.

Gorgeous Native Utah Plants for Landscaping

August 18, 10a.m. – noon. Landscaping with Native Utah Plants – Free Summer Horticulture Workshops at Jordan Valley Water Conservancy District. Great slides and a fun and very knowledgeable speaker, the Utah Native Plant Society Horticulture Chair, Susan Meyer. Come see her favorites and her tips on how to care for them. JWWCD, 8215 S 1300 W, West Jordan. As space is limited, please RSVP 565-8903.

STATE AND CHAPTER NEWS

Cache Chapter

Dr. Richard Shaw, Director Emeritus of the Intermountain Herbarium, presented a talk/slide show innocuously entitled, "Pollination and Native Plants" at our March meeting. The crowded classroom listened awestruck as he described tales of deception, exploitation, robbery, swindles, and even murder taking place right under our noses in the foothills and canyons of northern Utah amongst its native plants and their pollinators. The

beautifully photographed slides taken throughout his career only whet our appetite to see more in person. We were able to do so in May when Dr. Shaw led a large, enthusiastic group through the fields around the mouth of Green Canyon to view spring wildflowers.

One particular spring flower, *Primula maguirei*, was the featured attraction on another hike led by longtime UNPS member Dave Wallace. *aguirei*'s primrose is found only on dolomitic limestone outcrops in Logan Canyon and blooms from the last week of April through early May. This beautiful fuschia-flowered plant is very rare and may be in danger from the growing popularity of rock climbing and the proposed widening of UT Route 89. We didn't have enough time to organize this spring, but next spring we would like to conduct a census of *P. maguirei* to assist the Forest Service in its management. If you would like to help participate in this important work, please contact us at Unps_cache@hotmail.com.

Another not-to-be-missed hike is coming up on July 7th. We are sponsoring, along with Bridgerland Audubon, Reinhard Joekel's annual wildflower hike to Tony Grove. Reinhard's knowledge of Logan Canyon's flora and fauna is impressive, as is his obvious deep love of this area. If you live in northern Utah and haven't attended any of our meetings or activities yet, this is the one outing you shouldn't miss. Bring a lunch, a camera, and get ready for a great time!

As summer water woes are heard more and more in the news, so have people begun to think about using more native plants in their gardens. Quite a few people turned out for our May meeting which featured UNPS member and USU Landscape Architecture Graduate Student Wendy Mee speak on "Landscaping with Natives." A lively discussion sparked by the presentation followed, and the idea to hold a tour of local gardens which feature native plants or xeriscaping techniques was born. It's happening! In cooperation with USU Extension and the Cache Master Gardeners Association, we are sponsoring this tour on Thursday, August 16th. Watch the UNPS website and local media for further details.

The Cache Chapter won't be holding regular meetings through the summer. However, throughout the summer chapter members have been staying in touch through our own online

discussion group, and we will hold our first meeting in early September. Get in on the action - join us at http://www.topica.com/lists/unps_cache.

Salt Lake Chapter News

The Salt Lake Chapter has set-up an electronic distribution/discussion group list. This will hopefully facilitate news about chapter events and to discuss items of interest. All Salt Lake Chapter area members are strongly encouraged to join. For more information go to http://www.topica.com/lists/unps_saltlake. Or to be added directly to the list, send an E-mail to afrates@addsuminc.com and indicate the name that your membership is in. Information about subscribing and posting messages to the group is also on the Salt Lake Chapter page on our web site at <http://www.unps.org>.

Southern Chapter News

Thru the Southern Chapter page on our web site we are posting Margaret Malm's "What's up -- and Blooming?" wildflower updates for Zion National Park. You can go directly to the most current updates by pointing your browser to <http://www.unps.org/zion/current.html> or go to the Southern Chapter page on our web site at <http://www.unps.org> where you can also access an archive. (Soon we will be linking those pages to about 100 photographic images that Margaret has supplied.)

State News

The IRS has confirmed our status as a 501(c)(3) organization. You can view the IRS confirmation letter on our web site in the Membership section at <http://www.unps.org>. 501(c)(3) status confers a number of benefits including the fact that individuals can make tax deductible donations to our organization. The society originally obtained 501(c)(3) status in April of 1984. The IRS was not however listing us as exempt and it turned out that they had lost or misplaced the original determination letter which lead to our supplying them with the missing information and their subsequent confirmation of our status in April of 2001.

UNPS SEGO LILY
c/o Jo Stolhand
Utah Native Plant Society
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For more information about the Utah Native Plant Society please feel free to call:

Bill King: 582-0432
Jo Stolhand: 521-0069
Susan Garvin (Utah Valley Chapter): 377-5717
Larry and Therese Meyer: 272-3275

Or check our website: www.unps.org

Or write to: unps@xmission.com

Many thanks to Xmission for sponsoring the Utah Native Plant Society website.

Membership Application

☐ New Member ☐ Renewal ☐ Gift

Name:
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Check membership category desired:

☐ Student	\$6.00
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☐ Lifetime	\$250.00

☐ Please send a complimentary copy of the Segó Lily to the above individual.

Please enclose a check, payable to **Utah Native Plant Society**, and send it to:

Membership
Utah Native Plant Society
P.O.Box 520041
Salt Lake City, Utah 84152-0041



Sego Lily

Newsletter of the Utah Native Plant Society

VOLUME 24, ISSUE 4

JUL/AUG 2001

An Oregon Man Leads a Crusade to Grow Native Drought and Fire Resistant Grasses

by Arie Farnam

Despite the severe drought gripping the Northwest, Andy Huber is a happy farmer. While his neighbors in the Grande Ronde valley of northeastern Oregon struggle to keep thirsty mint crops alive, Mr. Huber's crops don't need a drop of irrigation. In fact, they have blossomed in the dry heat like never before.

That's good, because this is the second-worst water year on record. "We haven't seen drought like this since 1977," says Shad Hatten, the local water master. "We will probably end up with a lot of dead crops."

What is Huber's secret? He grows grasses and wildflowers - but only those that are

native to eastern Oregon. And native species like bunchgrass, one of his principal crops, have become key tools in the fight against wildfire. As part of an extensive effort to avoid last year's widespread fires, the US Forest Service and Bureau of Land Management are eager to reintroduce drought-resistant native grasses to wilderness areas that are particularly susceptible to fire, and they're willing to pay a high price for the seed. Unlike exotic species, these grasses stay green through summer and are already adapted to the fire cycle.

"Last year over 100,000 acres burned in Wallowa County," says Bob Both, an Oregon fire-management officer. "Eighty-eight percent of that was grassland. Invasive [non-native] cheat-grass burns like gasoline. It explodes on you. Native

bunch grasses don't burn so fast or so hot."

With the seed selling for \$20 to \$25 dollars per pound (compared with \$5 or \$6 for lawn grass



seed), it's a profitable crop as well. Yet Huber is more interested in the ecological and community benefits. A farm boy from Wisconsin turned part-time professor of crop and soil science at Eastern Oregon University, he bought a 160-acre parcel on top of a rocky ridge in the Blue Moun-



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tains in 1992. A year later, he deeded the land to a foundation as a native-plant preserve. Now, he works it as a nonprofit farmer.

"Some people think I'm crazy to buy land and then give it away," he says from under a battered hat, "but I did it because it felt right. This place is so beautiful, I knew immediately there was something more important here than a plot to grow wheat."

The ridge is harsh farmland, with no accessible water, baking heat in summer, and bitter cold in winter. But its harvest is a virtual gold mine. Meadows of iridescent blue and sunny yellow wildflowers are interspersed with fields of the coarse bunchgrass.



Huber was the first farmer in the area to grow species like blue-bunch wheatgrass and Idaho fescue. But instead of selling his seed directly to the eager buyers, he gives it to local farmers and requires no payment until they sell a crop. As a result, 10 nearby farms now raise native grass. "My objective was never to make money," Huber says, "but to restore biodiversity and to find another source of income for the farmers in this valley."

Despite the high price the seed demands, start-up costs are high: The seed takes several years to mature, and yields on native-grass crops are unpredictable.

"It's a risky business, but it maintains an excellent price on the market," says Bill Teeter, the first farmer to grow Huber's seeds. "I was fortunate to be introduced to this through Andy. He had to collect the original seeds by hand." This year Mr. Teeter will harvest more than 30

acres of Idaho fescue.

"The demand for native grasses is huge," says Paul Boehne, a local Forest Service staffer. "Our district needs 150 to 200 pounds of native-grass seed each year, minimum. At present we can get only about 100 pounds."

Some species, like squirrel-tail bottlebrush, are not available at all, but Huber's crop of bottlebrush will be ready next year. The professor now grows about 20 acres of six different varieties of native grass, doing most of the work by hand. He plants 1,000 new trees each spring, plus a multitude of rare wildflowers.

Huber's neighbors also cheer him on. "That's our watershed he's working in," says local resident Einav Shochat. "If he wasn't growing trees and flowers, some other farmer would be spraying the ridge with pesticides. Because of Andy, our water is safe and he's giving us a buffer from fire."

Update from Red Butte Garden

By Sylvia Torti

Red Butte Garden is currently working in two areas of plant conservation. We are continuing the Center for Plant Conservation work begun by Therese Meyer. As part of the Center for Plant Conservation (CPC), we are responsible for collecting and storing seeds of rare and endangered plants of the Great Basin region. Seed collection and storage is critical to long-term conservation efforts because it enables us to quickly save genetic diversity of species whose populations are dwindling. In addition, we work with a subset of collected seeds to de-

termine propagation protocols that could be used in future restoration work.

Also as part of CPC, we are helping to build a national web-site data base on rare species. This website is primarily intended for the lay person and will contain information on each species' status, ecology and various challenges to its protection. The site should be finished by the end of the year.

Red Butte Garden is also involved in a study of plant succession in burned areas of Red Butte Canyon and Natural Area. In July 2000, 150 acres were burned in a human-caused fire. With support from the Forest

Service, Red Butte Garden is studying plant succession in burned and un-burned plots. We are particularly interested in comparing the recruitment of natives versus non-natives in this area. Results from this study will help us to better understand how the role of fire influences plant succession and non-native recruitment.

The Conservation Department is currently looking for enthusiastic and dedicated volunteers to help in our work with native plants. If you are interested in participating, please contact Dr. Sylvia Torti at 585-5853.

Ten Great Utah Native Perennials for Landscaping

By Paula Mohadjer

Munro Globemallow - *Sphaeralcea munroana*

With a long blooming season and colors ranging from white to pink to a striking orange-red, globemallows are some of Utah's showiest desert flowers. Munro Globemallow, widely distributed throughout Utah's foothills and deserts, is adorned with slightly fragrant orange one-inch hollyhock blossoms from May to September. This perennial is about 2' tall, and prefers full sun.

Firecracker Penstemon - *Penstemon eatonii*

With over 70 species in Utah, the genus *Penstemon* is well represented. Firecracker Penstemon is a 3' tall sun-loving perennial with spikes of brilliant red tubular flowers in May to June. Hummingbirds are highly attracted to the bright flowers. Firecracker Penstemon has broad shiny green leaves that remain during the winter months in a mound. Overwatering will shorten the life of penstemons.

Prince's Plume - *Stanleya pinnata*

Three to four foot tall, lacy yellow flower spikes make this a structurally impressive perennial. Prince's Plume loves full sun and very little water during the summer months.

Fire Chalice - *Zauschneria latifolia*

This is a versatile perennial that loves full sun and little water but will tolerate part shade and

regular water. Hummingbirds love the blazing orange-red flowers. Fire Chalice blooms from August until the first frost, adding color to the flower garden during the late summer.

Tufted Evening Primrose - *Oenothera caespitosa*

This dwarf primrose can be found blooming on our foothills May to June and will continue blooming through October with a little supplemental water (too much, though, and you won't get any flowers). The white flowers are highly fragrant and turn pink with age. This is a clumping primrose and is not invasive. Also try Pale Evening Primrose (*Oenothera pallida*), another native primrose that is 1-2' tall.



Sulfur Flower Buckwheat - *Eriogonum umbellatum*

Many species of Buckwheat are found in the desert areas of Utah. Sulfur Flower is an 8-18" perennial with evergreen foliage. The light to deep yellow flowers start in summer, last through fall, and the seed heads persist into the winter.

Utah Ladyfinger Milkvetch - *Astragalus utahensis*

Utah Ladyfinger is a sun-loving, low-growing, mat-forming perennial to 6" with soft silky silver-green leaves. Pink to purple pea-like flowers open in March to April and are followed by woolly white seed pods that resemble fuzzy baby chicks.

Palmer's Penstemon - *Penstemon palmeri*

Palmer's Penstemon blooms all season long with tall spikes of fragrant, pink, snapdragon-like flowers. This penstemon has large waxy, gray-green leaves that remain in winter. Grows in full sun with little or no water. Requires excellent drainage.

Desert Four O'Clock - *Mirabilis multiflora*

Desert Four O'Clocks have deep magenta flowers that bloom non-stop all summer and fall. This gorgeous perennial grows 1.5' tall by 3+ feet wide and thrives on neglect. The thick, dark green foliage is also attractive. It dies back all the way in winter, but will return in late spring.

Scarlet Gilia - *Gilia aggregata*

Scarlet Gilia is a tough but beautiful sun-loving biennial with fernlike foliage and pink to red tubular star-shaped flowers that attract hummingbirds. Scarlet Gilia grows 1-2' tall and flowers during the summer. Let this plant self-seed.

Shearing and Growth of Five Intermountain Native Shrub Species

Summary by Julie Rotolo

By Larry Rupp, Roger Kjellgren, Jeriann Ernsten, and William Varga. Department of Plants, Soils and Biometeorology, Utah State University.

Native vegetation over the Intermountain region of the U.S. ranges from dominant steppe-scrub, adapted to high summer evaporation rates, low rainfall and cold winter temperatures, to riparian species along rivers. Use of these shrubs in this region can play an important role in a variety of landscapes because the drought tolerance of these species can reduce or eliminate the need for costly supplemental irrigation.

Establishment of native shrub species is particularly important in disturbed areas along roads that are highly visible to the public. Native grasses are typically used, but interest in using native shrubs is increasing. Native shrubs add visual diversity and deeper and woodier root systems that impart greater soil shear strength, stabilizing slopes more effectively. Roadsides are often maintained by yearly shearing, but little is known about shrub response to such shearing.

In addition, studies of pruning native shrubs in commercial and residential low-water-use landscapes to maintain an attractive appearance are needed. Interest in using native shrubs in low-water-use landscapes is increasing as water becomes more scarce and expensive in the Intermountain West. A common complaint about these shrubs is their tendency towards rank and excessive growth, particularly under favorable landscape growing conditions. The objectives of this study were to determine how five shrub species native to the Intermountain West respond to annual shearing.

In the summer of 1989, one-year old seedling plants grown in 10 inch³ tubes were planted in a split pot design where shearing was the main plot effect. Five species, silver sage (*Artemisia cana*), rabbitbrush (*Chrysothamnus nauseosus*), red-stem dogwood (*Cornus sericea*), chokecherry (*Prunus virginiana*), and mountain mahogany (*Cercocarpus ledifolius*), were assigned as subplots within each main plot, and each species subplot consisted of paired sheared and

unsheared main plots was replicated four times.

The plants were allowed to establish during the first year with irrigation. The experiment was not irrigated in subsequent years, and the plants received no fertilizer during the course of the experiment. The plants were allowed to grow without shearing the first two seasons. Height was determined by measuring the single highest growing point. Crown cross-sectional area was estimated by measuring the



width of the shrub at its widest point and the width perpendicular to the original measurement. Crown cross-sectional area was calculated using the average crown radius taken from the two perpendicular measurements to calculate the area of a circle.

Starting in 1991 after measurements were taken, *C. ledifolius*, *C. nauseosus* and *C. sericea* in the shearing plots were pruned such that all branches were cut back to 0.15m(6in) in length, resulting in a hemispherical shape. Cutting all stems to within 0.15m(6in) of the crown was done to better assess plant response to severe pruning. Suckering shrubs (*P. virginiana* and *A. cana*) were cut flat to 0.15m(6in) above the ground.

Shearing reduced size in some species more than others but all species were able to vigorously re-grow following shearing. All species grew rapidly during the first two years during establishment when plants were unsheared. Survival during the establishment period was high: 100% for *A. cana*, 94% for *P. virginiana*, 90% for *C. ledifolius*, 75% for *C. nauseosus*, and 67% for *C. sericea*. During this establishment period survival was identical, 85% between the to-be sheared and unsheared blocks prior to implementation of shearing. Height of all species doubled between 90-91' growing seasons, with few differences among species. Area increased an order of magnitude between 1990-1991 for all species, with *C. nauseosus* and *A. cana* growth 3-10 fold greater than the other species.

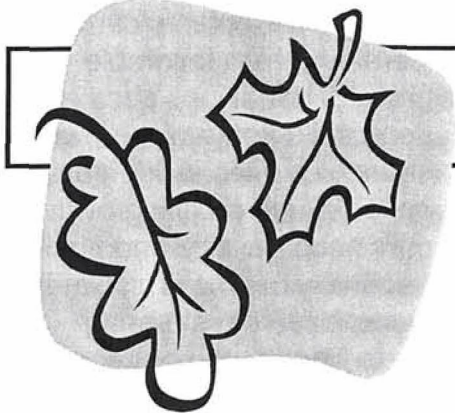
All species were able to re-grow to at least 50% of the crown size and 70% of the height of non-sheared plants following two years of shearing with negligible mortality. This ability to re-grow suggests that roadside mowing would not be detrimental to growth, and not limit the ability of these shrubs to com



pete with surrounding herbaceous vegetation. The multi-stemmed shrubs *C. nauseosus*, *A. cana*, and *C. sericea*, behaved differently than *P. virginiana* and *C. ledifolius* achieving most of their height growth within three years after transplanting. Sheared plants grew rapidly enough to approach the height of unsheared plants by the end of each growing season. Unsheared *P. virginiana* and *C. ledifolius* showed steady height growth each year, while the sheared plants remained shorter.

These plants can proliferate if given favorable growing conditions such as deep soils and a wet growing season or even incidental irrigation. Such prolific growth may become rank and unattractive with time. This study has shown that shearing these shrubs can be recommended as an effective management tool for improving their appearance and reducing their vigor if needed. In addition, sheared *C. ledifolius* produced thick, dense crown in a manner typical of other shrub species used for hedges. The density of the crown, combined with its small, evergreen foliage, make *C. ledifolius* a potentially effective evergreen hedge in landscape requiring cold-hardy plants with minimal water use.

Native shrubs have not yet been accepted in Utah as an effective alternative to perennial grasses as non-irrigated roadside vegetation, even though they can utilize water harvested by the adjacent road surface and offer increased plant diversity, wildlife habitat, and season-long green foliage as compared to dormant grasses. The concern that shrubs cannot survive the common practice of periodic roadside mowing is discounted in this study.



State and Chapter News

Cache Chapter

We were (pleasantly!) surprised by a visit from Susan Meyer and Bitsy Schultze in June. They generously donated dozens of surplus plants grown for the UNPS Heritage Garden project to our chapter. Not to be outdone in generosity, Roger Kjellgren from the USU Plants, Soils, and Biometeorology Department also donated an array of Utah natives from his and his students' trial gardens.

We potted up a bunch, loaded up the truck, and on June 30th, made a splash at the Cache Valley Gardeners' Market. No matter that it wasn't an "official" market day - eager customers flocked around our chapter's stand to snap up posters and plants. Many thanks to Dave Wallace for making the day a success. It's now a little hot and dry to be transplanting, so we will hold on to the remainder and offer them again in September. But we intend to continue appearing at the market through the summer. Visit us Saturday mornings, 8 - 11:00, in the parking lot behind Tony Roma's in Logan. Better yet, won't you consider volunteering a few hours to represent the reborn Cache Chapter

at the market? Call Tami at 435.258.0303 if you can help.

Some of our market customers joined us and the Bridgerland Audubon Society on July 7th for a wildflower hike at Tony Grove. The overcast drizzle that morning felt great and only enhanced the display at this gorgeous spot. Wildflowers will be in bloom here through most of July. Make sure to take an afternoon off to go see it!

You asked for it; you've got it. UNPS members and friends who attended our May meeting and presentation "Landscaping with Natives" wanted to see local gardens which feature native plants. On Thursday, August 16th, the Cache Chapter will cosponsor the Lean n' Green Garden Tour with the Cache Co. Extension and Master Gardeners. We'll visit four Logan-area homes which have incorporated Utah native plants and xeriscape techniques into their landscapes. It's a first for Cache Valley and is already generating much interest. Tickets are \$5 each and will be available in early August at the Cache County Extension office in Logan. Call Tami at 435.258.0303 or Loralie at 435.752.6263 for more information or to volunteer to be a garden guide.

Canyonlands Chapter

In the past few months a new chapter of the Utah Native Plant Society has formed in southeastern Utah. A large number of people (for Moab)

have attended our first two meetings, and we have a lot of enthusiasm for a number of activities in the coming months.

At our second meeting we agreed on the name "Canyonlands Chapter" as it recognizably describes our region. For our first event we will be hiking in the La Sals on the 15th of July to explore the plants at higher elevations (and get out of the heat). If you will be in the area meet at the Miller Shopping Center parking lot (where Chili Pepper bike shop and Moab Outdoors are located) at 9 am. We'll car pool from there.

Also in the works is a heritage garden to be located along the Mill Creek Parkway at 400 East. This project is in the planning stages. Planting is currently slated for October or November of this year. David Olsen from the City of Moab and Susan Meyer from UNPS have been extremely helpful in the planning stages of this project.

The group has a lot of other ideas to explore in the coming months - from plant walks to restoration... Our next meeting will be July 31 at 7:00 p.m.

Mountain Chapter

No news submitted

Price Chapter

No news submitted

Salt Lake Chapter

The Salt Lake Chapter is continuing to work with Jeff Salt and UNPS member Dr. Ty Harri-

son in connection with various possible projects at Dimple Dell Regional Park and is keeping in contact with local residents concerning the proposed Pepperwood development that would block the last remaining wildlife corridor into the park. Therese Meyer has measured the area around the Dimple Dell park headquarters/naturalist office for a planned heritage garden. Dr. Harrison has made some initial recommendations concerning the management of invasive species in parks managed by Salt Lake Parks & Recreation and particularly with respect to Dimple Dell and Olympus Hills. On the E-mail distribution list http://www.topica.com/lists/unps_saltlake/read - to join, go to the Salt Lake chapter under "Chapters" at www.unps.org and click on "Info" we have been talking about *Penstemon platyphyllus*, a northern Utah endemic which grows in the foothills and nearby canyons.

Southern Utah Chapter

No news submitted

Utah Valley Chapter

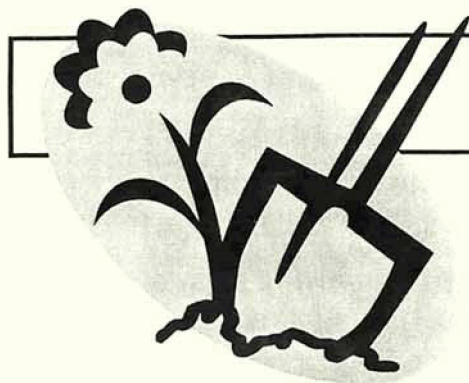
What with summer heat and massive work commitments for various key people, there hasn't been a lot of formal activity lately down Utah Valley way. We continue to maintain the local heritage gardens, and have installed the new plant identification signage at several. We are also helping Utah County Parks install a new heritage garden at Vivian Park up in Provo Canyon this summer. The 2,500 square foot spot is highly visible--it's located right where the Heber Creeper passengers buy their tickets and have their lunch stop. We know it's a bit late to

plant, but hopefully the little plants will be happier in the ground than waiting in their tiny cells. We are also working on a liaison with Utah County Master Gardeners through Brian Beaumont, who is also our county contact for the Vivian Park Heritage Garden. Susan Meyer will be presenting a talk on the Heritage Garden Program to the master gardener group here later this month.

We continued our Weed Warrior program with a flyer on the dangers of Yellow Star Thistle. The flyer was mailed in June to residents in the known affected area at the foot of Mt. Timpanogos (Lindon, Pleasant Grove, Alpine, Highland, and American Fork) along with their utility bills. Susan Garvin has been heading up this effort and has received dozens of phone calls from concerned residents responding to the request for information on the location and size of infestations. We may actually manage to get on top of this one in time. The next steps are mapping the infestations and initiating a control strategy, with the help of the county weed supervisor and others. We found last summer that citizen vigilante groups armed with grubbing hoes are definitely an effective measure. Contact Susan Garvin at: sgarvin@fs.fed.us, or call her at the Shrub Lab (377-5717), if you

would like to get involved. We are also continuing our restoration efforts in Rock Canyon. This effort is headed up by Dr. Phil Allen, with able assistance from Becky Wilde and several other student workers from BYU. The main focus right now is on weed control. We have learned that we get far better success if we spend a full year on weeds prior to planting into an area. We are also just gearing up to collect seeds and start plants for this year's fall planting. The restoration program received a major boost when Phil obtained sizeable funding from the Sante Foundation through the Department of Agronomy and Horticulture at BYU, where he is on the faculty. This makes BYU a full fledged partner in the effort, along with Provo City Parks and Recreation, Uinta National Forest, the Forest Service Shrub Sciences Laboratory, and of course, UNPS.





Events and Activities

Native Plants for Sale! Garden Fair Days at JWCD

August 4th, 11 a.m. to 3 p.m.
Jordan Valley Water Conservancy District is hosting Garden Fair Days. Fun and educational. The Fair includes "Ask an Expert" information booths such as the Utah Native Plant Society, Center for Water-Efficient Landscaping, and Utah Water Conservation Forum, food vendors, Waterlou entertainment, face-painting and balloon hats for kids. This will also be a great opportunity to pick up some beautiful Utah native plants, because **ALL of Utah's native plant and seed sellers will be there: Wildland Nursery, Great Basin Natives, Utah Wildflower Seeds, High Desert Gardens, and Paul Ames' Native Utah Seeds.** JWCD, 8215 S 1300 W, West Jordan. 565-8903.

Native and Adapted Plants in the Land- scape Symposium

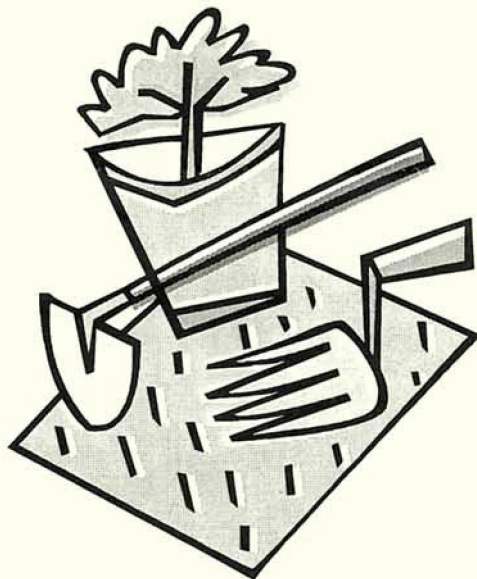
The Landscape Horticulture Program and the Center for Water-Efficient Landscaping at Utah State University are hosting a "Native and Adapted Plants in the Landscape Symposium August 6 from 1 to 5p.m. featuring 4 lectures:

- Darrel Morrison: "Merging Art and Ecology in Native Landscapes"
- Susan Meyer and Bitsy Schulz: "Groping Toward a Native Aesthetic"
- Craig Johnson: "Landscaping for Wildlife: From the Big Picture to Plant Choices"
- Dan Goodspeed: "Native Plant Production"

Cost for the Symposium is \$15 per person and includes lunch and admission to the morning field day (see previous event). For more info: www.hort.usu.edu/CWEL/symp/index.htm

Gorgeous Native Utah Plants for Landscaping

August 18, 10a.m. – noon.
Landscaping with Native Utah Plants – Free Summer Horticulture Workshops at Jordan Valley Water Conservancy District. Great slides and a fun and very



knowledgeable speaker, the Utah Native Plant Society Horticulture Chair, Susan Meyer. Come see her favorites and her tips on how to care for them. JWCD, 8215 S 1300 W, West Jordan. As space is limited, please RSVP 565-8903

Threatened and Endangered Plant Species Lecture

Lecture at Red Butte Garden, Thursday August 2, 12 noon to 1:30p.m. Learn about the Center for Plant Conservation's role in helping collect and preserve seeds of endangered plant species in the Intermountain West. Taught by Sylvia Torti, Conservation Biologist. Free to members, \$5 for nonmembers.

Horticulture Research Field Day at USU

August 6 from 9 to noon at the USU Greenville Farm. The Field Day will include presentations regarding current research by professors Paul Johnson, Roger Kjelgren, Larry Rupp and Kelly Kopp including: ornamental tree water use, native and adapted plant production and alternative turfgrasses. Cost is \$5 or is included in the \$15 Symposium total (see following). For more info: www.hort.usu.edu/CWEL/symp/index.htm

Volunteers Needed!

Interested people are needed to help with some native plant garden projects. Some of these gardens are not full Heritage Gardens, just native plant projects in public places in which UNPS people are acting in advisory role. Please contact Therese Meyer for more information.

Volunteer Opportunities continued:

1. Dimple Dell: Near the park headquarters on the south side of park, we are working with the park managers to plant natives around the house, and to possibly expand the garden into an area of raised beds near the house. We are fortunate to have some plants available from propagation workshops this past winter. This project is still in the planning and approval stage, but we hope to muster some volunteers by the end of July to actually do some planting. We will be looking for local neighbors around Dimple Dell to take an active and continuing part in this project. The raised beds area has been suggested as a potential site for future native plant propagation projects, i.e. a nursery. Tony Freitas, Therese Meyer, Mindy Wheeler, and Ty Harrison are the point people on this evolving project.

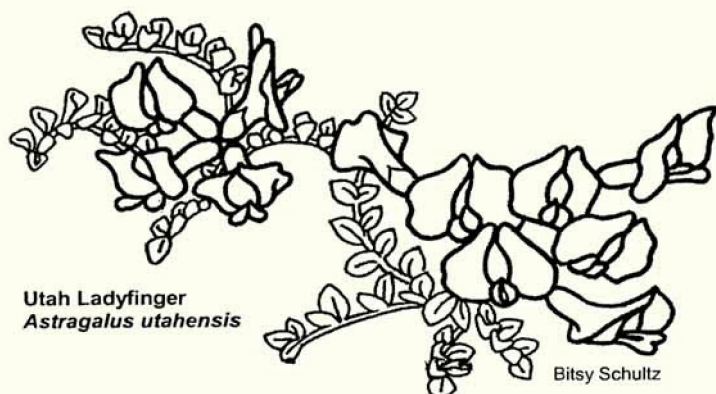
2. Pioneer Elementary School, Granite School District, 3860 South, 3380 West, West Valley City. Therese Meyer has met with the school principal, librarian and a science teacher to discuss Utah Native Plant Society involvement in an Environmental Science Outdoor Learning Program. The school has two courtyards, one of which is being developed as an outdoor laboratory with four different "environs" representing the state of Utah: High Desert, Low Desert, Wetland, and Mountain. Therese has agreed to help the school by compiling plant lists for each of the environs. She would welcome assistance if anyone would like to get involved in this project. The school is also seeking knowledgeable input for native animal displays and artistic backdrops and for the walls of the courtyard.

3. Olympus Hills Park weed control and revegetation with natives. Tony Freitas has been communicating with County park personnel regarding invasive weeds. The Parks welcome Utah Native Plant Society involvement in developing a priority list for eradication of invasive weeds, and replanting with natives.



UNPS
c/o Jo Stolhand
Utah Native Plant Society
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Salt Lake City, UT 84152-0041

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Please enclose a check, payable to Utah Native Plant Society, and send it to:

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For more information about the Utah Native Plant Society call:

Bill King: 582-0432
Jo Stolhand: 521-0069
Susan Garvin: 377-5717
Larry Meyer: 272-3275
Or write to:
unps@xmission.com

**Check out our
website!**

www.unps.org

Many thanks to Xmission for sponsoring the Utah Native Plant Society website.

Please direct all suggestions, articles and events for the newsletter to Paula Mohadjer at paulam@jvwcd.org. Deadline for next issue is August 15.

UTAH NATIVE PLANT SOCIETY

President: Susan Meyer
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Secretary: Therese Meyer

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Horticulture: Susan Meyer
Conservation: Bill King
Education: Mindy Wheeler
Invasive Species: Phil Allen
Communications: Paula Mohadjer



Sego Lily

Newsletter of the Utah Native Plant Society

VOLUME 24, ISSUE 5

SEP/OCT 2001

De-watering the Lawn

By Dr. Steve Link
President, Columbia Basin Chapter, Washington
Native Plant Society

Watering the lawn can be the cause of psychological problems for numerous people, including myself. I'll have to clear stories with my friends before I discuss their problems with irrigation systems in public!

When I moved into my new house, way back in 1987, I was happy. The price

was good and I didn't think too hard about the lack of an irrigation system for the yard. I watered the lawn by hand for a couple of years with sprinklers. I knew I was not going to continue to do so for very long. I've always enjoyed working with pipes and electronic control systems at work so I thought it would be fun putting in my own irrigation system. It was fun until I tried to rent a trencher to dig the lines. I was asked where I lived. I said I lived in West Richland off Bombing Range road. That was all the proprietor needed to hear. He was not going to let me ruin his trencher trying to dig through all the gravel in my soils.

Exercise is good, so I put the irrigation system in by hand, myself, using shovels and picks. It took two or three years to finish this exercise program. Rocks are OK unless they are where you are digging all the time! I was having less

fun by now.

I did succeed in putting my irrigation system together, and had a lawn. For several years all I had to contend with was sprinkler heads blowing off while on vacation, mowing off the sprinkler heads, replacing them, attempting to make them spray in the right pattern (I had to take many naps), periodic difficulties getting the electronic control system to turn on or, worse, turn off, remembering to blow the system out before it froze, and the cost of all the water. I could go on, but fun was no longer part of my experience with the irrigation system. I could also go on about my problems with lawn mowers, mowing the lawn, weed control, and fertilizing, but I suspect you can fill in the story with your own experiences here. I am now



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enjoying myself letting nature do most of the work in my yard. I have let nature back in by appreciating the native plants that come back on their own and by putting native plants in myself. I do have to admit to putting a significant amount of time into controlling and removing non-native weeds from my yard, but this labor seems manageable. It is less work than managing the lawn and irrigation systems, and the cost is much less. I do retain a small lawn near my house and under a

tree. Watering these plants can be done with a sprinkler system with very little trouble or expense. My water use has gone way down as have my water bills in the summer. I suspect reducing water use will sound good to city managers who are under the gun to provide adequate water for urban needs in our region. The National Xeriscape Council estimates that 60 percent of urban water use is for lawn irrigation in the West. The National Xeriscape Council promotes landscaping with a minimum application of water. You

can learn more about alternatives to lawns in recent books such as *Redesigning the American Lawn: A Search for Environmental Harmony* by F. H. Bormann et al. (1993).

Dr. Link is a member of the Biology faculty at the Washington State University Tri-Cities Branch Campus, and president of the Columbia Basin chapter of WNPS. He can be reached at 509-372-1526 and by e-mail at slink@tricity.wsu.edu.

Conservation Specialists at Your Command

By Paula Mohadjer

In light of all the new water conservation jobs opening up in Utah there's no excuse anymore that we Utahns have no access to information and help with using our water more efficiently, especially when it comes to our yards.

Utah is the second driest state in the nation, averaging 13 inches of precipitation a year. Gaining another second place, Utahns use the 2nd highest amount of water per capita. Only Nevada beats Utah with less rainfall and higher per capita use.

With over 65% of treated culinary water in Utah being applied to our landscapes (this doesn't include secondary water), it makes sense that this would be the first focus for conservation.

Many cities and water purveyors have recently hired Water Conservationists, many with a background in horticulture or landscaping. It's exciting that Utah is moving forward in this direction. Take advantage of the growing resources available:

Stephanie Duer, Water Conservation Coordinator, Salt Lake City Department of Public Utilities: (801)483-6860 or Stephanie.d@ci.sl.c.ut.us

Doug Kjilgren, Water Conservation Coordinator, City of Sandy: (801)568-6048 or sandypo.dkilgren@state.ut.us

Cheryl Izatt, Water Conservation Programs Coordinator, Jordan Valley Water Conservancy District: (801)565-4300 or cheryli@jvwcd.org

Paula Mohadjer, Horticulture-Water Conservation Specialist, Jordan Valley Water Conservancy District: (801)565-4300 or paulam@jvwcd.org

Georgia Barker, Water and Energy Conservation Specialist, City of St. George: (435)986-9644 or GBarkerPV@aol.com

Nancy Hardman, Water Conservation Program Coordinator, Central Utah Water Conservancy District: ((801)226-7187 or nancy@cuwcd.com

Kelly Kopp, Water Conservation Specialist, USU Extension Programs Coordinator: (435)797-1523 or kellyk@ext.usu.edu

Julie Breckenridge, Conservation Coordinator, Washington County Water Conservancy District: (435)673-3617 or jbreckenridge@wcwcd.state.ut.us

Carl Hanover, Water Resources Manager, West Jordan City: (801)569-5015 or carlh@wjordan.com

Janice Richardson, Conservation Projects Coordinator, US Bureau of Reclamation: (801)379-1069 or jmrichardson@uc.usbr.gov

Also, the Division of Water Resources is now hiring a Water conservation Projects Coordinator, contact Lyle Summers at (801)378-7260.



Yellow Starthistle: Destructive Weed is Encroaching on the Beehive State

By Sharon Haddock
DESERET NEWS, July 17

The trick is to keep as few red dots on the weed map as possible.

And it helps if the seeds don't get into streams. Why? To keep a noxious weed that has taken over 8 million acres in California from doing the same in Utah.

"In California, it will completely cover a foothill. There are whole areas that it has made unusable, it's so infested," said Susan Garvin, a member of the Utah Native Plant Society and a forest service employee. "I would just hate to see it get that bad (in Utah)."

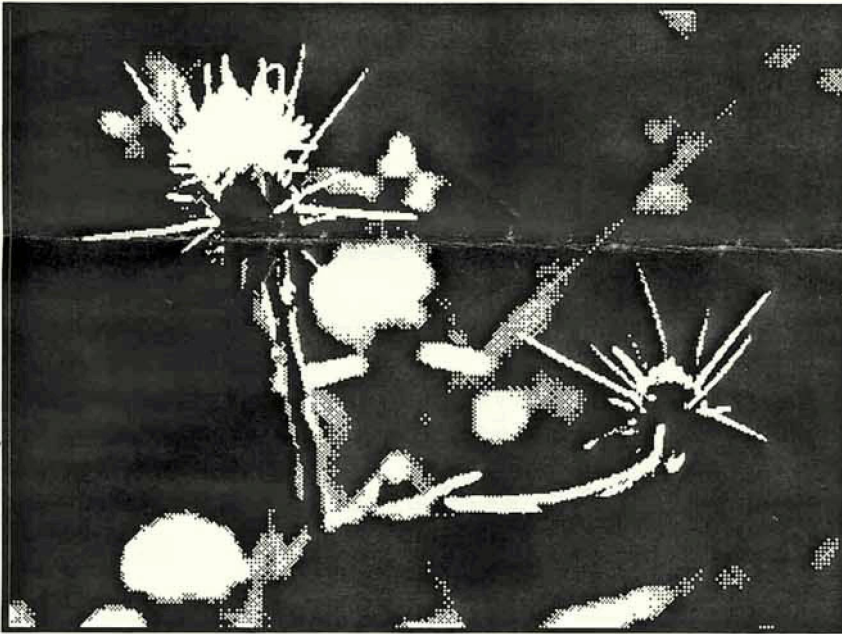
Garvin is talking about yellow starthistle, a bushy annual with yellow flowers and wicked spines that grows between two and three feet tall along roadsides and in pastureland. The plant is native to Mediterranean Europe and is now widespread in California, Idaho and Washington. It currently threatens rangeland and forests and can be harmful to horses if eaten.

Utah infestations have been identified from north Cache County to central Utah County and in the St. George area, Garvin said.

"Right now, we have more of

this in Highland than anywhere else," Garvin said, pulling at dry plants growing near a stream in the Dry Creek area in Highland. "But we also have some around the Adventure and Learning Park (now Highland Glen Park) and patches in both Battlecreek and Grovecreek canyons in Pleasant Grove."

There have been starthistles reported in Cedar Hills and in Lindon as well.



On the weed map kept by Utah County's weed commissioner, Craig Searle, there are about 20 colored dots representing thistle stands in Utah County.

"We don't want any more," Garvin said. "The only way to stop it is now, while it's relatively new."

To combat the weeds, Garvin has sent information to all of the north Utah County cities and is organizing "pull par-

ties" of volunteers to clear out various patches. Garvin has sprayed where she can and is most successful with a chemical herbicide known as 2,4-D, but she can't spray on private property without permission.

She's keeping a close eye on the thistles growing near water because if left unchecked, the seeds will wash downstream and grow in new areas.

"These are starting to go to seed," she said.

"That's bad for me because these are annuals that have a 5 percent seed back. That means they can start up again for up to 10 years."

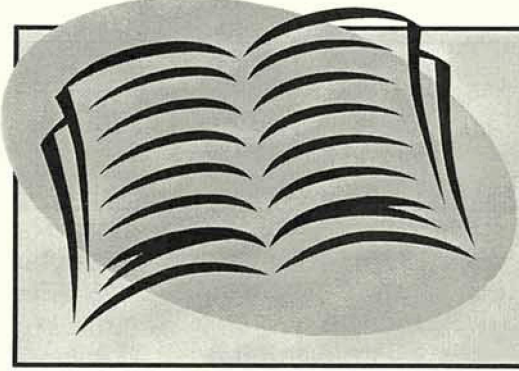
Garvin hopes to raise such a clamor about the weeds that property owners and communities take notice and either pull or spray the weeds.

Garvin said Searle has purchased and released five species of biological control beetles and flies that chew

into the seed heads and kill the thistles, but it's too soon to tell if that will be sufficiently effective.

In the meantime, Garvin is asking residents and visitors to call her at 801-377-5717 if any of the yellow starthistle plants are sighted.

Or people may e-mail Garvin at Sgarvin@fs.fed.us.



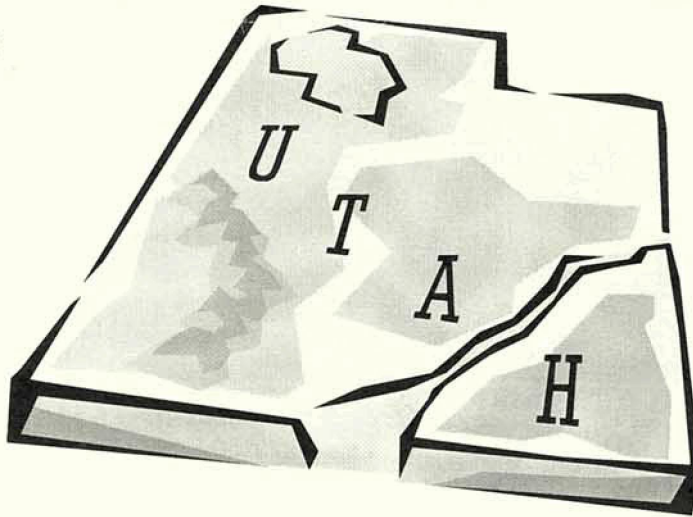
Book Review: Creatures of Habit - The Changing Nature of Wildlife and Wild Places in Utah and the Intermountain West.

By Bill King

Creatures of Habitat, The Changing Nature of Wildlife and Wild Places in Utah and the Intermountain West is the title of an interesting new book out by Mark Hengesbaugh from Utah State University Press, 2001. Hengesbaugh is a freelance writer and former newspaper writer and editor. Most of the sixteen chapters are reprints or rewrites of articles that were previously published elsewhere in the last three years, many of which are from the "Sports Guide."

The book has great sections on many of the Intermountain sensitive species of wildlife including the black-footed ferrets, pika, desert tortoise, sandhill cranes, and Burke's mustard. It has a chapter on alpine species and another on alien weeds. It also

takes on some institutions such as ski resorts and golf courses and praises others such as the Nature Conservancy. The book is illustrated with detailed pen and ink drawings by Karen Riddell, as well as distribution maps and a lot of black and white photos selected by Dan Miller, including one of mine.



While the author freely admits that he is not a scientist, he is indeed a very perceptive writer and carefully spells out the nexus between wildlife, habitat and humans. His writ-

ing style is mostly matter of fact newspaper style but then he will surprise you with a sentence worth repeating and contemplating in the style of some of the best nature writers such as "Death by habitat loss is simple to understand when you take a fish out of water."

There are four appendices that might be useful to some, including a Utah sensitive species list (no plants), a Utah wildlife checklist, Utah viewing locations and Intermountain refuges. The book is very well indexed but does not have a bibliography except for the bird section. It is softbound, over 200 pages long and sells for around \$20.

The book seems to be intended for general audiences and not professionals, but all of us can learn from his pervasive message about habitat loss. Each chapter in the book seems to hold its own and the book is ideal for the nightstand. It would make a fine gift for students and those who haven't yet seen the big picture about the importance of habitat..



Plant Profile:

Desert Four O'clocks

Mirabilis multiflora

By Julie A. Rotolo

Just when you think there's no color out there anywhere, all the spring flowers are gone and the native grasses have long turned a golden brown, from out of the corner of your eye while walking past a majestic pinyon-juniper, a blast of magenta. A color so intense, you can hardly stay on your feet while running to see what it is. Your eyes can't stop scanning over the massive mounding dark green leaves amidst the myriads of tubular purple flowers. You fall to your knees in amazement: *Mirabilis multiflora*, Desert Four O'clock is the culprit.

With a Latin name that means, "wonderful, many-flowered plant," it's no surprise that this plant has that effect on all who have ever had the pleasure of seeing it in its native habitat or have planted one along a rock wall.

Four O'clocks are herbaceous, fast growing, long-lived perennial plants that die back to their roots every year. They form clumps 1-3 feet tall by at least that much wide once the soil starts to warm up in late April to early May (to 6-8 ft. if given more water). The dark green leaves are opposite and are round to egg-shaped with

short petioles. Both leaves and stems may be smooth or have sticky hairs. Leaves vary in size from $\frac{3}{4}$ -7 inches long and are often pointed at the tip.

Flowers are borne in small clusters in the leaf axils. The funnel-shaped flowers protrude from a papery floral cup, which is made up of greenish bracts that resemble floral sepals. Flowers are magenta in color and are 1-3 inches long by 1 inch across. Four O'Clocks do

not have flower petals, rather very colorful sepals that are petal-like in appearance that together form a funnel-shaped flower. The fruit is a small, dark, very hard seed that is often held in the papery floral cup long after the flower blossoms have faded.

Like the species name says, the plants are covered with blossoms from April-September. They tend to open up in late afternoon (hence the



Bitsy Schultz

4pm connotation) but will often be fooled into opening during times of heavy cloud cover. Once open, they will remain so throughout the night. They release a musky aroma shortly after opening, which attracts hawkmoths, the primary pollinator of these flowers.

Being native to the Southwest, these plants were used extensively by the various Indian tribes. The flowers were boiled to make a light brown or purple color for dyeing wool. The roots, which can grow to weigh 5 pounds or more, were chewed or boiled into a tea, which they used to cure sore throats, eye infections, muscle soreness, body swellings, rheumatism, indigestion, an appetite suppressant and even as a blood-strengthenener for pregnant woman.

Cultivation from seed takes some extra care. Moist pre-chilling for one month prior to sowing yields the most seedlings. Prick the seeds, put in flats, and place in a greenhouse. Care for them for a month or so until they have established a sufficient root system to survive outdoors. Propagation by root cuttings is also possible. Do so in the spring with a IBA/NAA dip and place in perlite. Once established, they are drought and elevation tolerant (from 2,300 to 7,500 feet) and cold hardy to -20 F. Make sure to plant in full sun, in well-drained soil. with monthly deep watering. Too much water especially in clay, can cause root rot. Give them plenty of room;

the vigor of this plant can quickly overtake smaller neighboring plants. Try to keep on the dry side and they will reward you with an awesome amount of blossoms. Use as a groundcover for large borders with sage, cliffrose and apache plume. Perhaps over walls; under conifers— desert willows or as definition in a prairie planting. Native range is valley to foothills in Utah, Calif., Colorado, Az., N. Mex., Texas, and Mexico. Plant association is salt desert shrub, mixed desert, and dry Mt. Brush (Pinyon-Juniper).



No matter how you do it, this one's a knockout! Plant this anywhere you want to draw attention. Perhaps it should be in the plans for at least a parking strip on every block. Once planted, the only way to discourage desert four o'clocks is to baby them. Just plant them, stand back and watch!

Utah Native Plant and Seed Sources

SEEDS

Utah Native Seed
C. Paul Ames
PO Box 355
Eureka, Utah 84628
435-433-6924

Utah Wildflowers
Virginia Markham
3650 West 2150 South
Salt Lake City, Utah 84120
801-277-8423

Granite Seed (wholesale)
1697 West 2100 North
Lehi, Utah 84043
www.graniteseed.com
801-768-4422/801-531-1456

PLANTS

High Desert Gardens
2971 S. Hwy 191
Moab, Utah 84532
435-259-4531

Wildland Nursery
550 North Highway 89
Joseph, Utah 84739
janett@wildlandnursery.com
435-527-1234

Great Basin Natives
PO Box 134
Holden, Utah 84636
www.grownative.com
435-795-2303

State's Native Plants are Thriving in Heritage Gardens

By Hilary Groutage-Smith
THE SALT LAKE TRIBUNE, July 22

Darrin Johnson's interest in Utah's native plants came from an embarrassing moment on the golf course. His botanist friend asked him to identify a colorful plant growing nearby.

"I told him it was Indian paintbrush," Johnson said. "It was a firecracker penstemon. The two are completely different."

Indeed. And it was the look of that plant, one of the species that greeted early pioneer settlers when they arrived in Utah, that piqued Johnson's interest, changed the way he teaches and has grown into an absolute habit for the Utah County elementary school teacher.

It only took a couple of meetings with the Utah Native Plant Society before Johnson lobbied his principal and the Provo School District and succeeded in transforming the front lawn of Wasatch Elementary School in Provo into the state's first Heritage Garden.

That was 1998. The garden has grown into a beautiful collection of native plants including butterwort, pussy-toes, buckwheat, Rocky Mountain columbine, countless penstemon varieties, Jacob's Ladder, cliffrose and currants.

At the same time, the Utah Native Plant Society's Heritage Garden Program has grown into 10 gardens with several others planned from Hurricane in the south to Cache Valley in the north.

There is a secret agenda, said Susan Meyer, chairwoman of the native plant society's board of directors.

"Utahns respect gardens. If they see these plants in a garden, they won't discount them anymore as something they only see on hikes," she said.

Meyer, who spends her days working as an ecologist, said native plants have pretty much taken over her life. The garden of her Elk Ridge home is full of native plants.

"It is what I do. It is my work and it is my play," she said. The root of her devotion to the plants and the Heritage Garden Program is two-fold: she is compelled to re-create and then preserve

what once was found all over Utah, and she wants to make the plants accessible to Utahns who are curious about the splash of spring color in the hills.

Meyer encourages Utahns to take to the hills in the summer and collect seeds. Gather them about one month after the plant blooms, she said. For a successful seedling, the seeds should be planted in a weed-free area in the fall so they can experience winter just as they would in the mountains. Seeds and seedlings also are available at two

managed by the city and the Native Plant Society. The smallest is planted in containers at Salt Lake City's Jackson Elementary School.

A grant from the federal Bureau of Reclamation recently was used to buy a sign-making machine so plants in the Heritage Gardens can be labelled after they are planted.

The Wasatch Elementary garden has become its own classroom, Johnson said. Besides students helping care for the garden, buses loaded with visitors and students from other

schools frequently are seen outside the school.

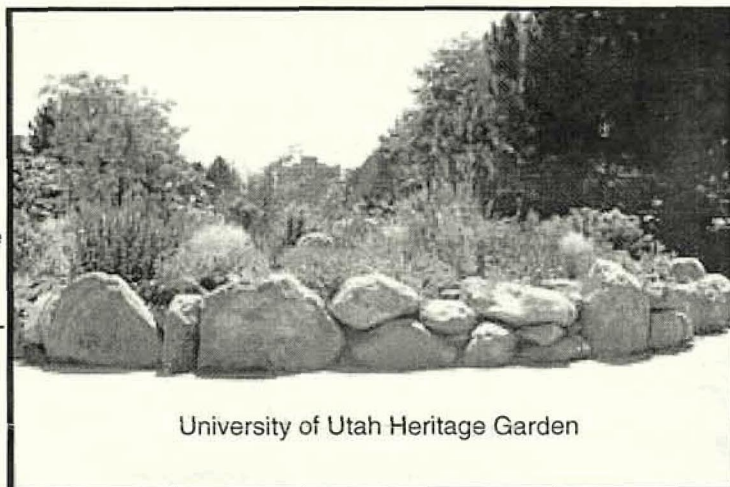
"Every spring we see students from Brigham Young University out there with their notebooks," Johnson said.

And Johnson's interest in the program has not waned just because his school's garden is established. During the last school year, Johnson and his third-grade class grew about 9,000 plants. Some were sold to the Utah Native Plant Society for massive planting projects;

others were planted by Johnson and his students at Timpanogos Cave in the American Fork Canyon.

The money earned by selling the plants is used to pay for field trips and other projects in Johnson's classroom, but it is the planting trips the students might remember most.

Davilyn Ferris' daughter, Lee, is now 10 years old, but still remembers what she learned in Johnson's class two years ago. On a recent drive through Bryce Canyon in Southern Utah, she pointed out plants and their names along the way. "She still talks about going up to Mt. Timpanogos and helping plant. Not just because she thought it was fun to be at Mt. Timpanogos, but she's clearly proud she's able to help restore the beauty around Utah. It enhanced her learning and her self-confidence," she said.



University of Utah Heritage Garden

Utah nurseries: Wildland Nursery in Joseph and Great Basin Natives in Holden.

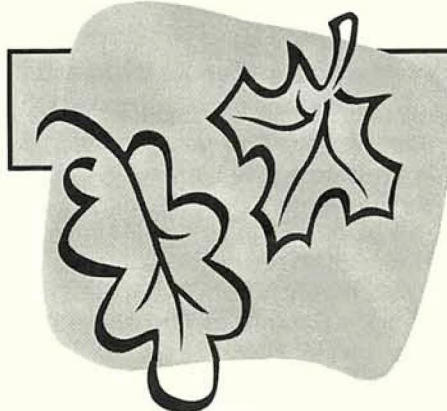
Once the plants are established, Meyer said, they grow well with little intervention. That means they are a good choice for residents watching their water usage.

"We're going to run out of water," she said. "Here we are, the second driest state in the nation, pouring all that water on grass."

And as development eats up the natural landscape in Utah there are fewer places to see the native plants, and that is the purpose of the Heritage Garden program.

Behind every one of the 10 Heritage Gardens is a "gardening angel" just like Johnson, Meyer said. The plant society learned quickly that members could advise, supply plants and even help build a Heritage Garden, but there was no way they could maintain them all.

The largest Heritage Garden is in Price, on a sprawling piece of land



Cache Chapter

No news submitted

Canyonlands Chapter

No news submitted

Mountain Chapter

No news submitted

Price Chapter

No news submitted

Salt Lake Chapter

No news submitted

Southern Utah Chapter

No news submitted

Utah Valley Chapter

1) Susan Garvin has spear-headed Yellow Starthistle control near the mouth of Battlecreek Canyon in Pleasant Grove. The project will take a few years to complete (due to a persistent seedbank).

2) The Master Plan for the Rock

State and Chapter News

Canyon Restoration Project is now out for review. The document is 30 pages in length, but the outline is attached to this document. Essentially, this ecological restoration is an attempt to re-create, as nearly as possible, the kind of plant communities that existed prior to arrival by white settlers. Because Rock Canyon is used for a variety of recreational activities, planning is needed to successfully complete the restoration, while at the same time maximizing benefits to user groups (e.g., wild animals, hikers, birders, rock climbers, bikers, etc. The master plan provides a framework for carrying out this project. For more information, contact April Sorensen at: april_sorensen@hotmail.com

The mouth of Rock Canyon (the viewshed) where the restoration is taking place is 66 acres. Our efforts primarily focus on the floor of the viewshed, which involves 15 acres. Half of this is woody and native, the other half is herbaceous (almost all goat-grass, cheatgrass, bulbous bluegrass and alfalfa).

3) The Restoration project is well into the second year. What have we learned? Weed control should begin 18 months in advance of transplanting; otherwise weed seeds in the soil will dominate the landscape. The 2001 planting was much more successful than the 2000 planting, even though both years have been very dry. The main difference is effectiveness of weed control. For more infor-

mation contact
hil_allen@byu.edu

4) Chapter members Susan Meyer and Bitsy Shultz continue aggressively promoting the use of native plants through an ever-expanding Heritage Garden Program. In addition, Susan is working closely with the folks at Grand Staircase Natl Monument to assure that appropriate native plants are included in the landscape surrounding the monument's visitor centers (5 centers, with varying needs for native plants).

Vernal Chapter

No news submitted



The Utah House, Living in Balance with Nature

In the spring of 1996, Utah State University Extension organized a workshop with the idea of creating an educational facility that would demonstrate new ways of building homes and creating landscapes. Nearly one hundred people were in attendance in which representatives from the "Florida House" presented their creation, an "earth-friendly demonstration house of appropriate technology and design for living in South-west Florida."

The idea of a similar project in Utah created enough synergy that more than 50 people volunteered to participate in the development of what is now called as the Utah House. Participants volunteered to be on one or more of the five subcommittees, which focused on marketing, education, infrastructure, house design and landscape design.

From its inception, the project moved swiftly forward. Due to the tremendous cooperation of the Utah State University Extension and Utah State University Agricultural Experiment Station, the Utah House was able to acquire land at the new USU Botanical Center's mountain-view property in Kaysville. The demonstration landscapes at the Utah Botanical Center will be complemented by the Utah House, and together will serve as a clearinghouse of information. As an educational facility of broad regional appeal, the site is perfectly situated adjacent to Interstate 15, Utah's major north-south artery.

The mission of the Utah House is to educate the public about new ways of building homes and creating landscapes that promote the principles of sustainability, energy and water efficiency, healthy indoor environments, universal design principles, and economic development. The Utah House will serve as a learning and information center that will be open to the public for tours, workshops, and individual consultations.

is



Principles of the House

Utah

- **Energy Efficient:** Demonstrate practical and energy efficient solutions (goal to reduce energy use by 50%).
- **Water Efficient:** Demonstrate rainwater harvesting, water efficient fixtures, and water wise landscaping.
- **Healthy Indoor Environments:** Showcase healthy building materials and design strategies.
- **Universal Design Principles:** Demonstrate a home designed for all ages, abilities, and sizes.
- **Economic Development:** Promote economic development by showcasing local and state building products.

The Utah House Landscape

The mission of the Utah House Landscape is to raise awareness and educate the public about the value of our home landscape and its ability to conserve water and save energy. The objectives are to promote the use of appropriate plants for Utah's home landscapes, demonstrate practical methods of water and energy conservation, and showcase a functional and aesthetically pleasing landscape that is in context with Utah's cold desert climate.

Important Features

Entry Landscape: The entry to the Utah House is colorful, inviting and has year-round interest. Over 50% water savings is achieved through careful plant selection and efficient irrigation.

Water and Energy Conservation: Innovative water and energy conserving design principles are incorporated into the Utah House landscape. A 50 % water savings is expected for the entire landscape. Plants are grouped together and watered according to water needs while rain and snowmelt are harvested from the rooftop. Efficient irrigation and maintenance equipment help reduce out-

door water and energy use. Trees are strategically placed to reduce energy loads within house.

Patio and Arbor: The backyard patio will accommodate outdoor dining and entertaining small groups. Porous paving is used, potted plants add color, and a vine-covered arbor will provide essential shade in the summer.

Water Feature: A small efficient water feature is incorporated into the patio for visual interest, noise abatement, and growing aquatic plants.

Culinary Garden: Fruits, vegetables, nuts, berries, and herbs can be found in the Utah House land-

scape. The culinary garden will demonstrate how to grow healthful, flavorful fresh food, while creating a garden that is both beautiful and functional.

Children Garden: A small garden designed especially for children will provide a place to play and begin discovering the wonders of the plant world.

Compost Area: A compost area will demonstrate both the environmental and economic benefits of home composting.

Irrigation System: An innovative irrigation system that operates using soil moisture sensors is showcased. This unique system monitors soil moisture and irrigates only when soil is dry. A combination of drip irrigation with emitters is used to irrigate trees, shrubs, vegetables, and herbs while spray

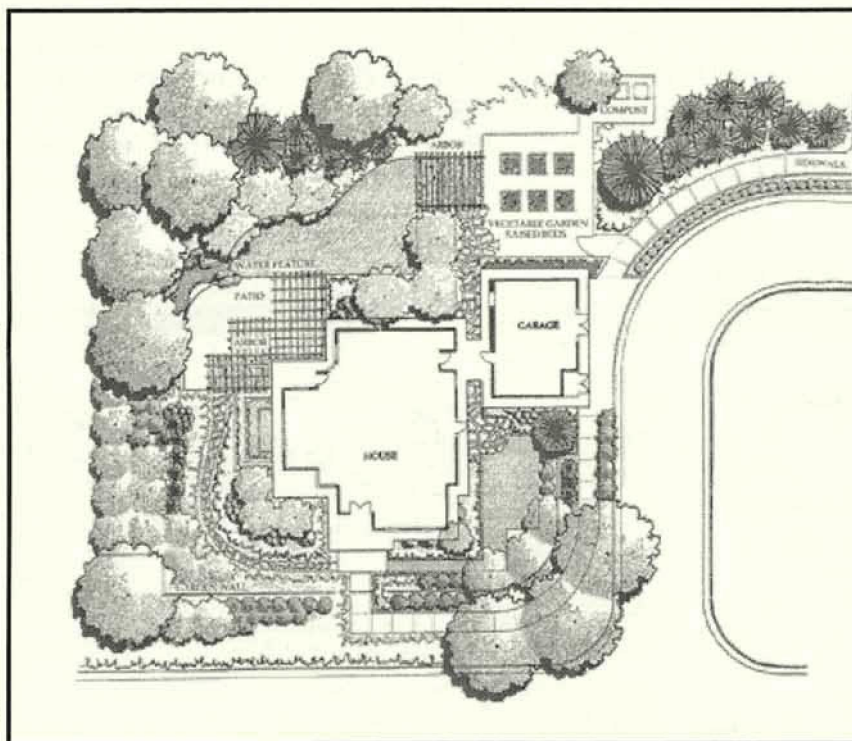
heads are used for annuals, perennials and groundcovers.

Plant Material: A variety of hardy trees, shrubs, groundcovers, turf grass, perennials and annual flowers are on display. Proper selection and arrangement of plants demonstrate how to reduce typical irrigation needs by 50 %. Plants are grouped together according to irrigation needs. Plants were selected for their drought tolerance, pest and disease

resistance, size, color, form, texture, leaves, flowers, and fruit. Native Utah plants in the landscape include Gambel Oak, Rocky Mountain Penstemon, Mountain Mahogany, Bigtooth Maple, Rabbit brush, Blue Flax, Chokecherry, Indian Ricegrass, Sandberg Bluegrass, Sand Dropseed, Western Wheatgrass, Oakleaf Sumac, Cliffrose, Apache Plume and Sandcherry.

Irrigation Hydrzones: Hydrzones from very low water use (no additional water once established) to a high water use zone.

Water Collection Cistern: Rain water and snow-



melt is collected from the roof and stored in a water storage cistern located under the garage. This water is used later for landscape irrigation.

Backyard for Wildlife: Back yards can become havens for songbirds, butterflies, small mammals and many beneficial insects. With appropriate plant selection and proper landscape design, the Utah House backyard provides food, cover, and water necessary for attracting beneficial wildlife.

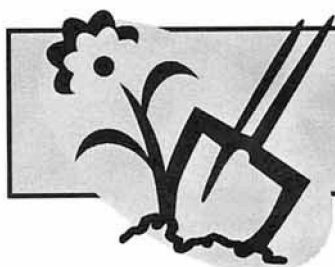
Security: Low physical separators between private and shared spaces foster a sense of openness and community. Elements such as low walls, low hedges, and arbors are used to separate private spaces from public spaces. Efficient landscape lighting is used for security.

Educational Components: Interpretive signage, pamphlets, brochures, tours, workshops and a computer station are available to educate visitors about landscaping appropriately in Utah.

The Utah House demonstration house and learning center is located at the Utah Botanical Center in Davis County near Farmington, Utah, just off Interstate 15.

For much more information about the Utah House visit <http://extension.usu.edu/utahhouse/index.htm>

Thanks to Leona Hawks for permission to print this information.



Events and Activities

Utah Water Conservation Forum Fall Tour

This year's tour is one you won't want to miss! The Utah Water Conservation Forum's Fall Tour will be held on September 20th. The tour will begin at the Utah State University's Botanical Garden in Kaysville at 8:30 a.m. At the Gardens attendees will view test plots of various types of turf being raised by Pack Turf Farms at the site. Brad Pack will discuss the appropriate use of turf grass in the landscape. The tour will then hit the road as buses will take attendees to the Layton Heritage Garden, sponsored by the Utah Native Plant Society (UNPS). Heritage Gardens are forming throughout the State and offer examples of water wise landscaping, more specifically using plants that are native to Utah. A representative from the UNPS organization will guide the group and can explain about the Heritage Garden program and UNPS organization. Next the tour will visit Ogden's new business park, Business Depot Ogden, located on the site of the former Ogden Defense Depot. Greg Graves of Bingham Engineering will discuss the water conservation efforts being implemented throughout the project, including the irri-

gation design, plant selection, etc. Buses will then return to the Botanical Garden where a lunch will be provided. During lunch, Dave Anderson from Utah State University will talk about what is happening at the Botanical Garden and its role in water conservation. The tour should conclude at 2:00 p.m.

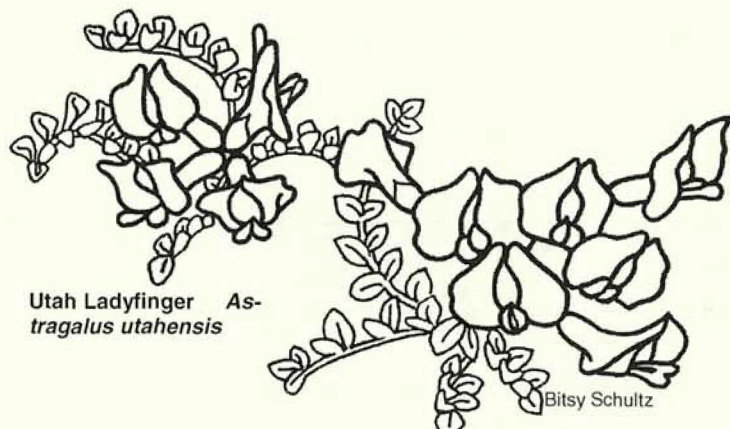


The beginning point for the tour will be just east of the Botanical Garden's ponds, which are visible from I-15 in Kaysville. To get there, take the Kaysville 2nd North exit, then travel east on 2nd North to Main Street. Turn right onto Main and travel south 3 short blocks. Turn right onto 50 West at 1st South. Stay on 50 West for just over a half a mile to 650 South 50 West.

Registration fees are \$35 per person before September 10, and \$50 per person September 11-20. For more information call Lyle Summer at 538-7279.

UNPS
c/o Jo Stolhand
Utah Native Plant Society
P.O. Box 520041
Salt Lake City, UT 84152-0041

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Utah Ladyfinger As-
tragalus utahensis

Utah Native Plant Society Membership and Information

☐ New Member ☐ Renewal ☐ Gift

Name: _____
Street: _____
City/State: _____
Zip: _____ Phone: _____
Email: _____

For more information about the
Utah Native Plant Society call:

Bill King: 582-0432
Susan Garvin: 377-5717
Larry Meyer: 272-3275
Or write to: unps@unps.org

UTAH NATIVE PLANT SOCIETY

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President Elect: Larry Meyer
Treasurer: Ben Franklin
Secretary: Therese Meyer
Newsletter Editors: Paula Mohadjer
and Mindy Wheeler

Check membership category desired:

☐ Student \$6.00 ☐ Senior
\$10.00 ☐ Individual \$12.00
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\$250.00 ☐ Please send a complimen-
tary copy of the Sego Lily to the above individual.

Please enclose a check, payable to Utah Native
Plant Society and send it to:

Membership
Utah Native Plant Society
P.O. Box 520041
Salt Lake City, Utah 84152-0041

**Check out our
website!**

www.unps.org

Many thanks to Xmission for
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Plant Society website.

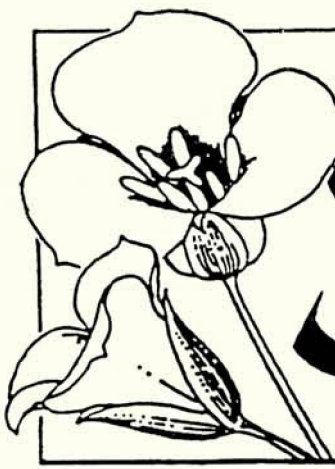
Please direct all suggestions,
articles and events for the news-
letter to Paula Mohadjer at paulam@jvwcd.org. **Deadline for
next issue is Oct 15.**

CHAPTER PRESIDENTS

Cache: Tami Coleman
Canyonlands: Karen Dohrenwend &
Sarah Haffron Mountain:
Abby Moore
Price: Mike Hubbard Salt
Lake: Mindy Wheeler
Utah Valley: Phil Allen
Southern Utah: Mike Empey

COMMITTEES

Horticulture: Susan Meyer
Conservation: Bill King
Education: Mindy Wheeler
Invasive Species: Phil Allen
Communications: Paula Mohadjer



Sego Lily



Newsletter of the Utah Native Plant Society

VOLUME 24, ISSUE 6

NOV/DEC 2001

Going Native in Joseph, Utah

By Larry A. Sagers, Deseret News, September 23, 2001

It isn't exactly Beverly Hills 90210; in fact, it is quite the opposite. A small sign on U.S. 89 in central Utah points the way to a unique local nursery that specializes in native plants. As research for a series of columns spotlighting low-water-use plants this summer, I paid a visit there to learn more.

Wildland Nursery is an unusual business whose owner, Janett Warner, has an interesting story. Her advice will help you select water-thrifty woody plants that thrive in our area.

"My forebears were English botanists, and my parents were horticulturists by practice," said Warner. "While relying as they did on the income from their small truck farm, they raised me at the end of a hoe.

"They did not chain me to the furrow. Quite the contrary," she said. "My family and I were lovingly shoved into the

neighboring foothills and canyons where, disguised as mountain men and fur trappers, we created hideaways in shady Gambel oak groves and gathered wild nuts and berries."

After taking time out to raise eight children and send them to medical school, architectural school and on to other advanced degrees, Warner decided to pursue some of those childhood interests.

"After I had raised my own children to love Utah, I volunteered to be a docent at Red Butte Garden. I grasped every opportunity to learn about the cultivation, use and care of plants."

She became a USU Master Gardener, certified arborist and a certified nursery professional and simultaneously earned an Associate of Horticulture Science degree from Utah State University.

After serving an internship at the Conservation nursery and completing a bachelors degree at BYU, she gave in to her passion and started Wildland Nursery. First located in a small back yard in Riverton, Wildland Nursery has now moved to central Utah to a farm in Joseph where there is plenty of room to grow.

Beneath a vast sky and surrounded by the breathtaking

beauty of the Utah landscape, Warner pursues her childhood recreation.

The change has been exciting but did require changes in her lifestyle. One of the first was to sell her Mercedes-Benz and buy a tractor.

"I could not deliver plants in a Mercedes," quipped Warner, "and I could not pull a tiller with one." Hence the Mercedes is gone and in its place is a tractor that she uses to prepare the soil and plant the trees.

Why did she chose Joseph as the site for her nursery? "Good land and good water and the right elevation. I had to come here to find affordable farmland," she said.

Most of Warner's customers are from out of state and are looking for plants that they cannot find at most local nurseries. Even though the nursery is not close to them, it is near the freeway, so it is working out well.

Part of what motivates Warner in her quest for native plants is that they are also water thrifty. Water conservation is vital, and she is anxious to share her feeling about how these plants are both attractive and make good sense in our landscapes.



Nov/Dec Contents

Going Native in Joseph, Utah

Endangered Status for Holmgren Milk-vetch and Shivwits Milk-vetch

State and Chapter News

UNPS Annual Members Meeting

Events and Activities

Utah boasts more than 3,000 different documented native plants. These are the same trees, shrubs and wildflowers you find on hikes through the canyons, foothills and deserts of the state. Native plants grown in Utah soil, under Utah conditions will establish easier and have a better chance of living longer with fewer diseases and pest problems.

Pinyon pines are excellent trees for most areas of Utah. They tolerate drought and have few pest problems. With some water they grow reasonably fast, but they usually do not outgrow their place in the landscape.

Warner also likes the limber pine. "It is so versatile and grows throughout the state. The long needles and the shape make it an excellent choice for many landscapes."

Looking at some of the deciduous plants, Warner quickly extols the virtues of the bigtooth maple. "This is the tree that is so colorful in our mountains and does equally well in our landscapes. She has- tens to add that you must select a seed-grown tree that has never been grafted or one that is grown on its own root.

"Some nurseries graft the bigtooth maple onto the sugar maple rootstock. This defeats the purpose of having the native plant because sugar maple grows best in acidic soils. If we graft our native maple onto that rootstock it will never grow well

in most areas of Utah because of our alkaline soil."

Chokecherry is another one of her favorites. "I love the color in the spring from the flowers. The fruit in the late summer is very attractive, and then it has some excellent fall color."

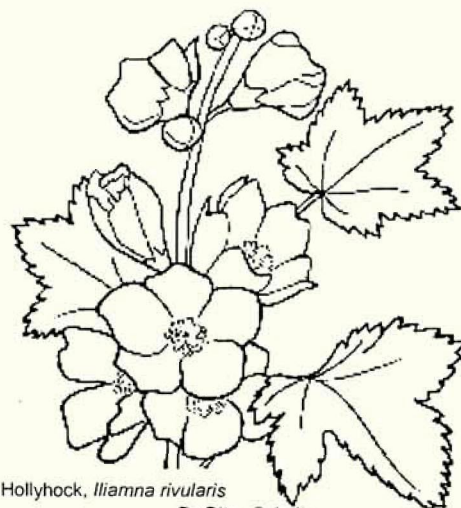
She also is enthusiastic about the native oak. "The gnarly Gambel oak is a wonderful tree for our dry hillsides. It survives well without much irrigation once it is established and will live for many years. If something damages one of the trunks, it is a simple matter to prune it out and let some new shoots replace it."

Several other excellent trees are part of our native landscape. Two that Warner recommends as understory trees are the Rocky Mountain maple and serviceberry. Both of these thrive in light shade from another tree. Rocky Mountain maple is a smaller tree but has a brilliant red color in the fall. Serviceberry is another great plant with good fall color and white flowers in the spring.

Don't forget the bristlecone pine, the Rocky Mountain and the Utah juniper and the both the curl-leaf and deciduous mountain mahogany plants. These plants will add to your landscape without adding to your water bill.

As enthusiastic as she is about native trees, Warner does think there are many introduced species that are worth considering.

"While I do enthusiastically encourage much more use of native plants, I believe we should not plant only natives. Many imported or exotic species do very well



Wild Hollyhock, *Iliamna rivularis*
By Bitsy Schultz

here and add to the diversity. Many of the plants in the nursery trade are descendants of wild plants that have been selected and introduced to the cultivated landscape because of their desirable qualities."

Joseph 84769 just might be the right place to look to help conserve water and make your landscape a place of beauty for yourself and the other creatures of the state.

Endangered status for Holmgren and Shivwits milk-vetch

SUMMARY: Effective October 29, 2001, The Fish and Wildlife Service has determined endangered status under the Endangered Species Act (Act) of 1973, as amended, for two perennial herbs-- *Astragalus holmgreniorum* (Holmgren milk-vetch) and *Astragalus ampullarioides* (Shivwits milk-vetch). Three small populations of *A. holmgreniorum* exist in Washington County, Utah, and adjacent Mohave County, Arizona. Five small populations of *A. ampullarioides* exist in Washington County, Utah. Significant portions of the habitat of both species are subject to disturbance from urban development, off-road vehicles (ORVs), grazing, displacement by exotic weeds, and mineral development. This determination that *A. holmgreniorum* and *A. ampullarioides* are endangered species implements the Fed-

eral protections provided by the Act for these plants.

Astragalus holmgreniorum (Holmgren milk-vetch) was first collected as a scientific specimen in 1941 by Melvin Ogden. Rupert Barneby and Noel and Patricia Holmgren rediscovered the species in 1979. Barneby (1980) recognized the species as a unique taxon occurring in a localized area on the Arizona-Utah border, and named it for its co-discoverers. *Astragalus ampullarioides* (Shivwits milk-vetch) was first collected near Shem in Washington County, Utah, by Duane Atwood in 1976. The species was originally described by Stanley Welsh (1986) as a variety of *A. eremiticus*. Barneby (1989) questioned the taxonomic significance of the species and submerged *A. eremiticus* var. *ampullarioides* within typical *A. eremiticus*. Later research work by Harper and Van Buren

(1998) and Stubben (1997) demonstrated significant genetic and ecological differences between typical *A. eremiticus* and *A. eremiticus* var. *ampullarioides*. Welsh (1998) revised the species' taxonomy elevating the taxon to full species status as *A. ampullarioides*. Both species are narrowly distributed Mojave Desert endemics restricted to the immediate vicinity of St. George, Utah.

A member of the pea family (Fabaceae), *Astragalus holmgreniorum* is a stemless herbaceous (non-woody) perennial that produces leaves and small purple flowers in the spring, both of which die back to its roots after the flowering season. The plant's pinnately compound leaves (leaves arranged on opposite side of the stem in a row) arise directly from the root crown. The leaves are pressed

close to the ground, and are 4 to 13 centimeters (cm) (1.5 to 5.1 inches (in)) long, and have 9 to 15 leaflets. The leaflets are 0.8 to 1.6 cm (0.3 to 0.6 in) long and are broadly obovate (oval with the narrow end towards the base of the leaf) in shape. The flowers of *A. holmgreniorum* are 1.8 to 2.4 cm (0.7 to 0.9 in) long, and 0.6 to 0.9 cm (0.2 to 0.4 in) wide and have the distinctive papilionaceous flower shape of a legume (pea-like flower with five petals that include a large petal on top enclosing two lateral petals and two smaller lower petals). The flowers are borne in a raceme inflorescence (flowers occur along a stalk), commonly with 6 to 16 flowers. The peduncle (flower stalk) is 2 to 8.5 cm (0.8 to 3.6 in) long and arises directly from the root crown. The peduncle is erect during anthesis (period the flower is open) and is prostrate when the plant's in fruit (Barneby 1980; 1989; Welsh, et al. 1987; Stubben 1997). The fruits are pods 3 to 5 cm (1 to 2 in) long and 0.6 to 0.9 cm (0.2 to 0.4 in) across. The pods retain seeds even after the pods fully open up along the margin. With age, each pod eventually dries out and opens up at both the top and bottom ends (Barneby 1989; Stubben 1997).

Astragalus holmgreniorum grows on the shallow, sparsely vegetated soils derived primarily from the Virgin limestone member of the Moenkopi Formation. The species is a principal member of a warm-desert shrub vegetative community dominated by the following perennial shrubs—*Acamptopappus sphaerocephalus* (desert goldenhead), *Ambrosia dumosa* (white burrobush), *Krameria parvifolia* (range ratany), and *Lycium andersonii* (Anderson wolfberry). In addition, plant species associated with *A. holmgreniorum* include several perennial and annual forbs and grasses; most significant are the introduced weedy species—*Bromus rubens* (foxtail brome), *Erodium cicutarium* (storksbill), and *Malcolmia africana* (African mustard) (Stubben 1997; Armstrong and Harper 1991; Van Buren 1992; Harper and Van Buren 1998, 2000b).

Only three populations of *Astragalus holmgreniorum* are known. The species primary population exists on the Arizona (Mohave County) and Utah (Washington County) border approximately 11 kilometers (km) (7 miles (mi)) south of the center of St. George, Utah (Stubben 1997). This population is fragmented by Interstate Highway 15, areas of urban development, and spotty natural habitat occurrences. The number of individual plants in all the species' populations varies considerably from year to year. This population averages about 9,000 to 10,000 plants in years with wet winters (Stubben 1997; R. Van Buren, Utah Valley State College, Orem, Utah, pers. comm. 1998). The second population is south of the town of Santa Clara about 8 km (5 mi) west of St. George. This population consists of 2 sites whose total numbers average about 1,000 individual plants (Stubben 1997; Van Buren 1992; R. Bolander, Bureau of Land Management, Salt Lake City, Utah, pers. comm. 2000). The third population consists of about 30 plants, and is located in Purgatory flat approximately 15 km (9 mi) east of St. George (Stubben 1997; R. Bolander, pers. comm. 2000). The small number of populations and restricted habitat of this species make it vulnerable to human-caused and natural environmental disturbances. Urban expansion of St. George and highway and power line construction have destroyed significant portions of the species' potential habitat and threaten additional occupied habitat. The species also is threatened by ORV use, displacement by exotic weeds, mineral exploration and development (Harper 1997, Stubben 1997, Van Buren and Harper 2000b).

Astragalus ampullarioides (Shivwits milk-vetch) is a perennial, herbaceous plant that is considered a tall member of the pea family, although some plants appear shorter because of grazing impacts. Stems may grow along the ground or to a height of 20 to 50 cm (8 to 20 in). However, ungrazed flowering stems may attain a height of 1 meter (40 in). Its leaves are pinnately com-

pound, 4 to 18 cm (1.6 to 7.1 in) long, and have 11 to 23 elliptical leaflets. Each plant produces about 45 small cream-colored flowers about 2 cm (0.8 in) long on a single stalk in the spring. Seeds are produced in small pods, and the plant dies back to its root crown after the flowering season. The fruit is a short, broad pod between 0.8 and 1.5 cm (0.3 to 0.6 in) in length and 0.6 to 1.2 cm (0.2 to 0.5 in) in width (Barneby 1989; Welsh 1986, 1998; Welsh, et al. 1987).

Differences between *Astragalus ampullarioides* and typical *A. eremiticus*, which also is found in Washington County, Utah, are apparent from the following morphological and ecological characteristics—(1) *A. ampullarioides* has more flowers in each inflorescence, (2) *A. ampullarioides* has more elongated flower stalks, (3) *A. ampullarioides* has wider pods, (4) *A. ampullarioides* has taller plants, (5) *A. ampullarioides* has hollow stems, while *A. eremiticus* stems are solid, and (6) *A. ampullarioides* plants are highly palatable to grazing animals, while typical *A. eremiticus* is seldom if ever eaten (Barneby 1989; Welsh 1986, 1998; Welsh, et al. 1987; Van Buren 1992; Harper and Van Buren 1998). The variation between the two species also is apparent at the genetic level. The DNA analysis of *Astragalus* species have shown significant differences in genetic markers between *A. ampullarioides* and *A. eremiticus* (Stubben 1997).

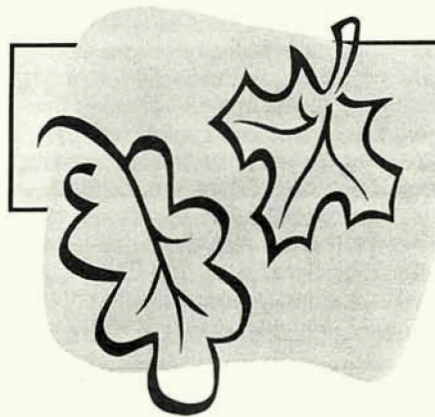
Astragalus ampullarioides grows only on purple clay soils derived from the Petrified Forest member of the Chinle geological formation. The species is known from five separate sites in Washington County, Utah. These sites are distributed on a narrow band of the exposed Chinle formation over a distance of about 72 km (45 mi) near St. George, Utah. These 5 populations contain a total of approximately 1,000 individual plants (R. Van Buren, pers. comm. 1998, 2000). Two of the five populations occur near Shivwits on the western edge of the species range. One population occurs on the Shivwits Indian Reservation and contains about 50 individual plants (L. England, pers. comm. 1999); the other population occurs on Bureau of Land Management (BLM) land and contains about 135 individual plants (Utah Natural Heritage Program 1999). Two other populations occur near Harrisburg Junction on the eastern edge of the species range. One of these populations with 4 disjunct sites occurs on a mixture of State and BLM lands and contains about 300 individual plants (L. England, pers. comm. 1999, Utah Natural Heritage Program 1999, Van Buren, pers. comm. 2000). The second population in the Harrisburg area is located within a rapidly expanding commercial, recreational, and residential development. This population contained over 1,000 individuals in 1995 (England, pers. comm. 1995) and had declined to about 200 individual plants in 1998 (Utah Natural Heritage Program 1999). This population declined to less than 50 individuals in 2000 (England, pers. comm. 2000). Most of its habitat has been converted to a golf course. The fifth population occurs in the southwest corner of Zion National Park with a population estimated at 300 to 500 individuals (Harper, pers. comm. 2000; Van Buren, pers. comm. 2000). Native plant species normally associated with *A. ampullarioides* include *Dichostemma pulchellum* (beautiful bluedicks), *Lotus humistratus* (birdsfoot trefoil), *Gutierrezia microcephala* (snakeweed), *Calochortus flexuosus* (mariposa lily), and several other Mojave Desert plants. Currently the most significant plant species associated with *A. ampullarioides* are the introduced weedy species *Bromus rubens* (foxtail brome), *B. tectorum* (cheat grass), *Erodium cicutarium* (storksbill), and *Malcolmia africana* (African mustard) (Armstrong and Harper 1991; Van Buren 1992, 1998; Harper and Van Buren 1998, 2000a).

Astragalus ampullarioides is threatened by the same activi-

ties as *A. holmgreniorum*. In addition, *A. ampullarioides* is heavily grazed by most wild and domestic herbivores, and one of its five populations is threatened by activities associated with clay quarry mining and unauthorized waste disposal (Harper 1997). *A. ampullarioides* is restricted to clay soils derived from outcrops of the Chinle formation, which naturally limits its potential habitat and population (Van Buren and Harper 2000a). The populations of both species fluctuate significantly year to year primarily due to extreme variations in local precipitation. The population num-

bers cited above reflect the highest levels observed since 1992; in an average precipitation year populations will be about half of that cited above, while drought-year population numbers will be 10 percent or less of the maximum observed levels (Van Buren and Harper 1998, 2000a; Van Buren 1999; R. Bolander, pers. comm. 2000; J. Anderson, Bureau of Land Management, Phoenix, Arizona, pers. comm. 2000).

For more information contact : John L. England, Botanist, Utah Field Office, 801-524-5001.



State and Chapter News

Cache Chapter

August and September continued to be busy for Cache Chapter members. We joined forces with the County Extension and Master Gardeners to present Cache Valley's first Lean-n-Green Garden Tour on August 16th. Over 60 people toured four Logan-area home landscapes which feature Utah native plants or xeriscape techniques. The response was far more enthusiastic than we anticipated as many people took pictures, grilled homeowners for seed sources, and flung off their shoes to play barefoot in prairie grass lawns. A HUGE thanks to the UNPS members who made it a success: Wendy Mee and Dick Mueller for opening their yards to the public, and to Glen Lyon and Wendall Sullivan for being tour guides extraordinaire.

Mary Barkworth of the Intermountain Herbarium led a small group up into the USU forest study area on a seed-collecting expedition in late August. We were able to collect a wide variety - let's plan on a seed swap at one of our meetings this coming winter.

But those of you who prefer to let someone else do the growing were able to do a little collecting of your own in mid-September. Virginia Markham and Janett Warner paid the Cache Valley Gardeners' Market a visit with their fine selection of native seeds and plants. We had a great time with these ladies and we hope to bring them back to the market's opening next May. Speaking of the market, make sure to stop by October 13th for the season-closing Harvest Festival, where "Best of the Market" baskets (we're contributing Utah native seed packets and UNPS posters) will be raffled off. Thanks to Gene Schupp, Mary Barkworth, and Dick Mueller for working our chapter table. Extra special kudos are due to Dave Wallace for making our little enterprise a success throughout the summer!

We held our first regular chapter meeting on September 17th at USU's Greenville Farm. Roger Kjellgren, who never seems to tire of doing so, gave our group an exhaustive tour of his native plant demonstration garden and his students' trial plots. The garden, as always, was beautiful. If you haven't visited it yet, consider doing so right now since many plants have set seed (wink, wink, nudge, nudge). Watch the UNPS website or join our Topica discussion group (send a message to unps_cache-subscribe@topica.com) for notice of our next meeting.

USU Ecologist Eugene Schupp and Soils Scientist Janice Boettinger closed out September leading a terri-

fic trip up Logan Canyon on the 30th. They and their graduate students have been studying a stand of Curl-leaf Mountain Mahogany (*Cercocarpus ledifolius*) for a number of years. They're uncovering fascinating information about these beautiful gnarled trees as well as amassing enough unanswered questions to keep a fleet of grad students working overtime. Many thanks to Tim Slocum for hauling us all out there in his enormo-van.

Last, but certainly not least, we will begin planting Cache Valley's first UNPS Heritage Garden starting on Saturday, October 13th. The teachers, students, and parents of Cache Valley Learning Center, a private K-8 school and UNPS sustaining member, have enthusiastically embraced this project. UNPS member and Landscape Architecture student Wendy Mee designed the layout and compiled the plant list. Although it has not even been planted yet, this garden has begun to generate positive effects in the community. Logan City planners were anticipating receiving the plant list so that they could use it as a basis for a future "city-approved" xeriscape plant list. If you would like to participate in or to contribute to our chapter's flagship Heritage Garden, please contact Tami Coleman at 435.258.0303 or unps_cache@hotmail.com.

Canyonlands Chapter

No news submitted

Mountain Chapter

Because of everyone's busy schedules, there were not that many Mountain Chapter activities this past summer. We mainly worked on maintaining our Heritage Garden. This fall, we are going to look at which plants we want to raise during the winter to plant in the Heritage Garden next spring.

Salt Lake Chapter

Landscape Design Forum. The Utah County Chapter will hold a meeting on Friday, October 26. The meeting will start at 6:00 pm in the upstairs meeting room of the Monte L. Bean Museum on the BYU campus, just east of the Marriott Center and north of the Bell Tower. We will have a potluck supper with officers supplying a main course and eating utensils. Please bring a side dish or drink to share. Beginning at 7:00 we will have one or two speakers with expertise in landscaping design and an appreciation for the use of native plants in the landscape. Members are welcome to bring their own ideas, including a few slides if desired, and bring your questions on using Utah's native plants in your own yard. Visitors from other chapters and the community are welcome to attend.

Spring Trip to Red Canyon:

We will be spearheading a spring trip to Red Canyon, a few miles east of Bryce Canyon. We intend to invite someone who has expertise in the plants of this part of Utah to lead us in a plant walk or two. This trip is still in the very early stages of planning, but we wanted to give you a chance to put it on your calendar if you've missed the last few trips. This trip will take place sometime in May, with exact dates and plans to be announced in the spring. Contact Susan Garvin if you are interested. Members and families of all chapters (and similarly inclined friends) are invited.

Southern Utah Chapter

The Southern Utah Chapter met on August 26th. Al Tait, a retired Botanist from Southern Utah University conducted a plant ID session. He helped identify photos, twigs and even named several plants by descrip-

tions given at the meeting. Those of us attempting to learn plant names had a great time.

Our big project at this time is a Heritage Garden at Three Falls Elementary School in Hurricane. Dirt has been hauled, the area has been contoured and on October 11 we will have a workday to install a drip irrigation system and move more soil. We will keep everyone advised as this project proceeds. Margaret Malm, per Mike Empey

Utah Valley Chapter

Rock Canyon restoration--update: The Rock Canyon viewshed (i.e., the area of Rock Canyon that is visible from the trailhead) has now been mapped using GPS. We have divided the area into ten sections, each of which has its own description, history, long range plans, management philosophy, and upcoming projects. The

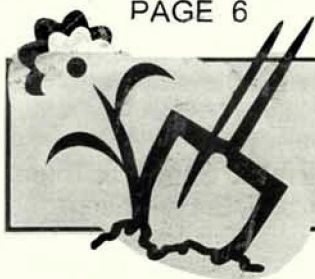


viewshed covers 64 acres, of which approximately 10 acres will be involved in the most intensive restoration effort. Over 3000 volunteer hours have been contributed during the past two years to the restoration. Our limiting factor is not volunteers, it is volunteers who can lead other volunteers. Native Plant Society members are desperately needed in 2002. If you would like to get involved or would like a tour of the restoration, please contact our volunteer coordinator (Becky Wilde Peterson), who can be reached at her cell phone # 360-3625.

Coloring Book: The coloring book of native wildflowers by Bitsy Schultz is selling well. Clearly there is a need for publications on Utah native plants--public interest is certainly growing. Works in progress by our chapter members include "Wild Plants of the Bonneville Shoreline Trail", which will feature beautiful photography by April Sorensen, and a manual on restoring foothills and lower canyons along the Wasatch Front (the manual is in the planning stages and will probably be a work in progress for some time). More information on either of these is available from Phil Allen at phil_allen@byu.edu.

Vernal Chapter

No news submitted



Events and Activities

UPDATE ON HIKE TO BRISTLECONE PINE GROVE

by Kim Despain

The BLM has done good work in planning and developing the Price Canyon Recreation Area. Next time you go to Price, take the turn off to the Price Canyon Recreation Area and satisfy your curiosity as to what is at the end of the road. You will not be disappointed. The camp ground has two areas. A 20-25 space camp ground proper and a day use, group picnic area. Water is available at both sites. The restroom facilities are nice. The trail starts in maple, pinyon and ponderosa pine, white fir and mountain mahogany.

The weather was great. Late summer- 70's to 80's and almost cloudless. The maples were in good fall colors and the aspens were beginning to turn yellow.

Ten people came to the hike, four from the Price chapter. The others were from the Provo-Orem area. After introductions, the hike started about 12:30. The hike progressed at a slow pace. 3 or 4 people would split off from time to time to examine plants that were in flower, look at pack rat middens or look at something else of botanical interest.

When we arrived at a Bristlecone pine growing between some large rocks, photos had to be taken of both adults and kids climbing on the rocks and the pine tree. We marveled at how some pine trees were growing from cracks in large rocks along the trail and wondered how long the little trees had been growing. They would have made nice bonsai specimens. We also saw small groups of pine trees that had been planted by jays or squirrels.

Some increment borer core samples were taken from some bristlecone and limber pine. Many of the Bristlecone sampled had only 4-6" of good wood toward the outside before an internal heart rot condition was encountered.

Bristlecone pine rings were more compact than limber pine rings. Bristlecone averaged between 90-100 rings per inch, whereas limber pine averaged 70-80 rings per inch. A way to estimate the age of a bristlecone pine at this site is to determine the diameter of the tree, divide by 2, then multiply by 75. These are estimates only. Some the bristlecone pine at the Price Canyon Recreation Area

are probably 1000-1500 years old. These are estimates based on samples taken from 6 trees. Not a truly adequate sampling for any definitive study.

When the group returned to the trail head parking lot and rested, Kim Despain presented some information on 6 pine tree species that grow in Utah. Bristlecone pine- *Pinus aristata* or *longaeva*- depending whether you are in the eastern or western half of Utah. Limber pine- *Pinus flexilis*- which is on most every mountain in the state. Lodgepole pine- *Pinus contorta*- mainly in the Uintah Mountain range. The pinyon pines -*Pinus edulis* in the eastern half of the state and *Pinus monophylla* in the western half, and ponderosa pine- *Pinus ponderosa*.

White pines have 5 needles per fascicle and cones usually do not have a prickle at the end of the cone scale- except bristlecone pine. Yellow pines have 3 needles per fascicle and the cones usually have a prickle at the end of the cone scale.

Bristlecone pines have been used to determine the rate of slope erosion in areas like Bryce and Cedar Breaks. Estimates are that 1 foot of soil is eroded away each 1000 years.

References for further reading and information are: A Garden of Bristlecone - by Michael P. Cohen, Trees of the Great Basin- by Ronald M. Lanner, and The Pinyon Pine- by Ronald M. Lanner

INTERMOUNTAIN NATIVE PLANT SUMMIT

October 31st, 8 a.m. to 8 p.m. The seminar/workshop guest speaker topics range from native plant seed germination procedures to a native plant market study. Registration is free, but pre-registration is recommended. For more information, contact daniel-son@cc.usu.edu.

BULB LECTURES AT RED BUTTE

Don't miss these two special lectures by nationally known bulb expert, Brent Heath at Red Butte Gardens. Brent Heath is a third generation bulb grower and co-owner with his wife, Becky, of Brent and Becky's Bulbs, a wholesale/retail mail-order flower bulb catalogue and web site business. Brent and Becky have a 10 acre display garden and trial farm where they currently grow over 3000 cultivars and species of all types of bulbs in combination with annuals, perennials and ground-covers. They are the co-authors of Daffodils for American Gardens, an award winning 140 page horticultural masterpiece covering all aspects of selecting and growing these beautiful bulbs. A book signing will follow both evenings. Lectures cosponsored by Wasatch Rock Garden Society, Utah Native Plant Society, UNLA, and USU Salt Lake County Master Gardeners.



Friday November 2nd, 7 - 9pm. Native and Species Bulbs: Learn about many wonderful species bulbs that are great landscape plants. This lecture will focus on wild and species bulbs that are available commercially and suitable for your garden. Most of these bulbs are low maintenance, drought tolerant, and naturalize in the garden. Members of Cosponsoring Organizations \$5.00 Nonmembers \$7.00 Pay at the door, Red Butte Gardens.

Saturday November 3rd, 7- 9pm. Hooked on Daffodils: These wonderful spring blooming landscape plants are easy to grow, insect and disease resistant, deer resistant, and are cost effective landscape plants. The number of different cultivars can be mind boggling. Come learn as Brent shares information about some of the best cultivars for your garden. Members of Cosponsoring Organizations \$5.00. Nonmembers \$7.00. Pay at the door, Red Butte Gardens.



UNPS ANNUAL MEMBERS MEETING!

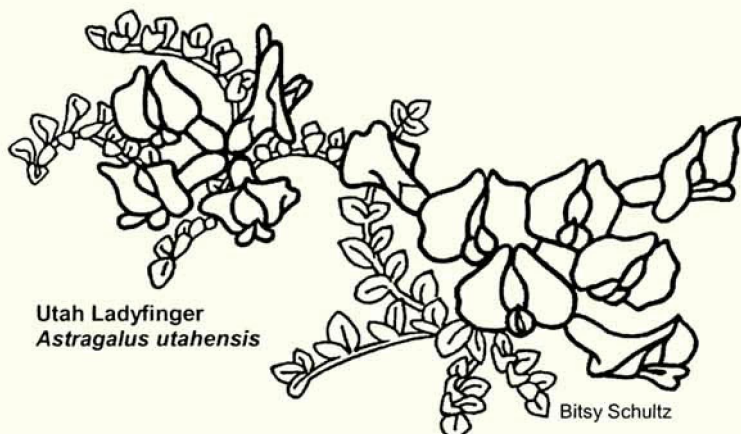
New World Pot Luck Dinner Election of Directors

Friday November 16, 2001, 6:30 pm
Sugarhouse Garden Center, 1602 E 2100 S
Salt Lake City
Questions call Bill 801-582-0432



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Bitsy Schultz

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Susan Garvin: 377-5717
Larry Meyer: 272-3275
Or write to: unps@unps.org

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Please direct all suggestions,
articles and events for the
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line for next issue is Dec 15.**

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Salt Lake: Mindy Wheeler
Utah Valley: Phil Allen
Southern Utah: Mike Empey

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