



VOLUME 26, ISSUE 1

JAN/FEB 2003

Summary of the Interagency Rare Plant Inventory Project, 1999-2002!

By Deborah J. Clark, November 8, 2002

This is a sequel to the article printed in the Mar/Apr 2002 issue of the Sego Lily. As mentioned in the earlier articles, the Bureau of Land Management (BLM), USDA Forest Service, Dixie National Forest (DNF), Fishlake National Forest (FNF), and Capitol Reef National Park (CARE) share management responsibilities for many of the same Threatened, Endangered & Sensitive plant species (TES). To enable each of these agencies to better manage their shared TES species, they created an interagency botany position and hired an employee to coordinate surveys and/or monitoring for these species throughout their ranges, regardless of agency boundaries. A BLM employee was hired for this position in 1999 and stationed at CARE as project leader for this effort.



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Summary of Interagency Rare Plant Inventory Project.

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Through the interagency agreement, the agencies are able to pool funding to extend surveys onto federal lands adjacent to CARE. This expanded the scope of the original National Park Service (NPS) project to include FNF, DNF and BLM administered lands adjacent to CARE.

In 2000, CARE received funding for a three-year rare plant species inventory through the NPS. In 2001 and 2002, CARE received \$1,000 grants from the Utah Native Plant Society to assist with this project. CARE used the grant money to hire students to gain experience working on plant related management issues and to work with the interagency field team. This article will report a summary of our findings for this multi-year inventory.

The study

The primary purposes of this project were to; (1) conduct intensive surveys for rare endemic plant species on potential habitat within and adjacent to CARE, and (2) determine potential for impact by visitor, recreational or livestock use if possible. In addition, the team continued surveys for two Forest Service species, Arizona Willow (*Salix arizonica*) on FNF and Angell's cinquefoil (*Potentilla angelliae*) on DNF. During all field surveys, teams looked for other TES species when they were in appropriate habitats.

To ensure proper plant identification and increase accuracy, surveys were conducted for the target species from March through September when the majority of plants were in full bloom. Fieldwork began in the early spring at lower elevations and as the season progressed, moved to higher elevations thus ensuring proper search times for each species.

Each area was surveyed by walking meandering transects through all accessible areas and/or by using binoculars to search cliffs.

Results and Conclusions

Work accomplished in 1999 was included in this article since that year marks the beginning of the interagency agreement and of survey efforts connected with that agreement. Many of the species targeted for surveys with the NPS rare plant inventory project were also considered in 1999. Some of the target species were recorded for the first time on FNF, DNF and CARE, confirming that more work needs to be done before individual species ranges and niches are completely understood and described.



Over the past four years (1999-2002), 32 TES plant species were recorded during this project (Table 1). Eight of these species are federally listed Threatened or Endangered, and one is a Candidate for fed-

eral listing. The remaining 23 Sensitive species are considered Global - G1 or 2/State - S1 or 2/Variety - T1 or 2 ranking by the Utah Natural Heritage Program. This ranking is defined as: G1/S1/T1 - critically endangered throughout its range, extremely rare (5 or fewer occurrences) and; G2/S2/T2 endangered throughout its range, imperiled globally/statewide because of rarity with only 6 to 20 known occurrences.

For more information:

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During the past four years, nearly 70,000 acres of federally managed lands were surveyed for the TES plants listed in Table 1, including approximately 28,700 acres on CARE, 16,600 acres on BLM, 10,450 acres on DNF and 13,200 acres on FNF. This acreage represents the area walked by the field team during their surveys. Over 400 new sites of rare plant species were recorded during the past four years. Many of the species are more common than previously thought. Sufficient data were gathered to propose delisting

one of the federally listed Threatened species and this process will be pursued in 2003 with the U.S. Fish and Wildlife Service.

The total contributed funds for this project from all partners (from 1999 through 2002) was \$359,300. The following partners contributed: NPS \$199,200; BLM \$93,800; FNF \$39,300; DNF \$13,000; Capitol Reef Natural History Association \$12,000; and Utah Native Plant Society \$2,000.

One of the primary benefits of this project was its' multi-agency approach to dealing with TES species throughout their ranges regardless of agency boundaries. Information gathered during this project enables the participating agencies to meet Congress' intent under the ESA, comply

with federal management policies, and address Government Performance and Results Act goals. Knowledge gained about these species and their specific habitat requirements enables federal land managers to ensure that



these plants are protected and will assist in predicting which areas may contain additional occurrences. Results from this project will also help in determining which species should be monitored to find out if any human activities affect them.

Table 1. Threatened, Endangered and Sensitive plants recorded during this project (1999 – 2002).

Scientific Name*	Common Name	Agency	#	Rarity/Legal Status
<i>Aliciella cespitosa</i> (formerly <i>Gilia</i>)	Rabbit Valley Gilia	DNF/FNF/CARE	22	<u>Candidate for listing</u>
<i>Aliciella tenuis</i> (formerly <i>Gilia tenuis</i>)	Mussentuchit Gilia	CARE/BLM	21	G1/S1
<i>Astragalus consobrinus</i>	Bicknell Milkvetch	BLM	1	G2G3/S2S3
<i>Astragalus harrisonii</i>	Harrison's Milkvetch	CARE	2	G2G3/S2S3
<i>Astragalus laccoliticus</i>	Caineville Milkvetch	CARE	1	G2?/S2?
<i>Castilleja parvula</i> var. <i>parvula</i>	Tushar paintbrush	FNF	22	G2/S2
<i>Cirsium eatonii</i> var. <i>harrisonii</i>	Eaton's thistle	FNF	4	G4G5T1Q/S1
<i>Cycladenia humilis</i> var. <i>jonesii</i>	Jones cycladenia	CARE	1	<u>Threatened</u> - G3G4T2/S2
<i>Cymopterus beckii</i>	Pinnate spring-parsley	DNF/FNF/CARE	42	G1/S1
<i>Draba sobolifera</i>	Creeping draba	FNF	19	G2/S2
<i>Erigeron abajoensis</i>	Abajo daisy	CARE/FNF	2	G1G2/S1S2
<i>Erigeron awapensis</i>	Awapa daisy	FNF/BLM	3	G1Q/S1
<i>Erigeron maguirei</i>	Maguire's daisy	CARE/FNF/BLM	60	<u>Threatened</u> - G2/S2
<i>Eriogonum corymbosum</i> var. <i>revelianum</i>	Reveal's buckwheat	FNF	1	G5T3/S3
<i>Habenaria zothecina</i>	Alcove bog-orchid	DNF/CARE	7	G2/S2
<i>Hymenoxys acaulis</i> var. <i>nana</i>	Cushion golden-flower	BLM/FNF/CARE	30	G5T1T2/S1S2
<i>Lomatium junceum</i>	Rush lomatium	BLM/FNF/CARE	7	G2/S2
<i>Opuntia basilaris</i> var. <i>heilii</i>	Heil's beavertail	BLM	1	G5T2T3/S2S3
<i>Pediocactus despainii</i>	San Rafael cactus	CARE/BLM	28	<u>Endangered</u> - G2/S2
<i>Pediocactus winkleri</i>	Winklers cactus	CARE/BLM	10	<u>Threatened</u> - G1/S1
<i>Penstemon cespitosus</i> var. <i>suffrutosus</i>	Tushar penstemon	FNF	3	G5T2/S2
<i>Physaria acutifolia</i> var. <i>purpurea</i>	Ryberg's twinpod	FNF	1	G5T2/S2
<i>Potentilla angilliae</i>	Angel's cinquefoil	DNF	18	G1/S1
<i>Salix arizonica</i>	Arizona willow	FNF	15	G2G3/S2S3
<i>Schoenocrambe barnebyi</i>	Barneby plains -mustard	BLM	1	<u>Endangered</u> - G1/S1
<i>Sclerocactus wrightiae</i>	Wright's fishhook cactus	BLM/CARE	15	<u>Endangered</u> - G2/S2
<i>Senecio castoreus</i>	Beaver Mountain groundsel	FNF	7	G1/S1
<i>Sphaeralcea psoraloides</i>	Psoralea globemallow	BLM	2	G2/S2
<i>Spiranthes diluvialis</i>	Ute's ladies -tresses	none	none	<u>Threatened</u> - G2/S1
<i>Thelesperma subnudum</i> var.	Rabbit Valley greenthread	FNF/DNF/CARE	16	G5T1/S1
<i>Townsendia aprica</i>	Last Chance townsendia	FNF/DNF/BLM/CARE	47	<u>Threatened</u> - G1/S1
<i>Xylorhiza confertifolia</i>	Henrieville woody-aster	DNF	1	G2G3/S2S3

*Scientific names generally follow Welsh (1993).

UNPS Board Members 2003

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Mindy Wheeler



David Anderson in the Wasatch Mountains with Curl-leaf Mountain Mahogany
(*Cercocarpus ledifolius*)

Utah Native Plant Society for Life!

By Tony Frates

People join the Utah Native Plant Society (UNPS) for many different reasons. For some, it relates to conservation. For others, it is horticulture. For others, it relates to the desire to learn more about the natural world and the veritable treasure trove that Utah landscape contains. For still others, it is a combination of these and other reasons.

While some may join UNPS for a year simply to try it out and see to what extent it might interest them and/or what benefits they might receive, for most the interest is deep and therefore long term. So even though personal time and involvement may edge and flow over the years, the interest does not. Accordingly, UNPS has from the beginning made available a lifetime membership.

But, over the lifetime of UNPS (some 25 years this year!), that has remained a well-guarded secret. Until now. Consider this:

(1) For \$250, you can become a lifetime member of UNPS. This is an unbelievably low price; act now before our board of directors wakes up and smells the roses! A lifetime membership with just about any other native plant society or any other conservation organization for that matter, would be a lot more (more like \$500, \$1000, \$2500 or more).

(2) Do the math. Many of us have already easily paid this much in membership fees over the years (even though UNPS membership fees have always been incredibly low – in what other organization could you be a member for \$15?)

(3) Show your support and help us do more. In 25 years we've spent thousands of hours dedicated to the cause of appreciating, preserving and conserving Utah's native flora. We've spent thousands of dollars on research projects

through our grants program. We've helped to build awareness and knowledge thru the extensive Utah Heritage Garden program. And our organization has established chapters throughout the state. But we've also just barely scratched the surface. The threatened plant species around which local botanists rallied around and which led to the formation of UNPS in the late 70's are every bit as much in peril today as they were then. Population and development activities have increased at an alarming rate. Exotic species are threatening the welfare of our plant species at an equally alarming rate. The endangered species act remains under continual attack and our state laws remain primitive. The bulk of our citizens still think that "wild" plants are weeds. Efforts must continue and at an accelerated pace, and funding ultimately becomes an essential ingredient determining how much we can and cannot do.

(4) Get a nice tax break. UNPS is a qualified 501(c)(3) non-profit organization. That means that your \$250 is a tax deductible charitable contribution.

(5) Never hassle with renewing your membership again. Ever.

(6) Be a part of the first group of people to ever join UNPS as LIFETIME members and get your name in the newsletter (we will of course respect any/all requests to remain anonymous). Here are our current lifetime members who deserve a round of applause for their foresight and support of our cause: **Leila Shultz; Karen Halliday; Phil Wannamaker; J. Keith & Lillian Hayes; Rick DeLappe and Cheryl Decker; Larry and Corky England.** (Did we miss anyone? If so, we apologize, please E-mail us at unps@unps.org so that we can update our list.)

(7)Has UNPS been worth it to you whether directly or indirectly at a \$10 per year rate for the last 25 years as an organization? Or, looking at it another way, how about joining us for the next 25 years?

Don't want to write out a check? No problem. Go to www.unps.org, click on Membership then Membership (Renewal or New) Application. Scroll down to "Lifetime" and click on PayPal and pay us by credit card! (Even if becoming a lifetime member right now is not feasible for you, note that you can renew your current membership in this same fashion.) Or just write out a check and send it to:

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

Here's one last reason: **become a lifetime member in 2003** to help us celebrate our 25th anniversary as an organization and we'll send you our popular Utah Wildflowers and Endangered and Threatened Plants of Utah posters **absolutely free!**

While UNPS will survive regardless of how many members it has, the member base ultimately determines its vitality. So to all of our current members at whatever level you have chosen to join, thank you!



Events and Chapter News

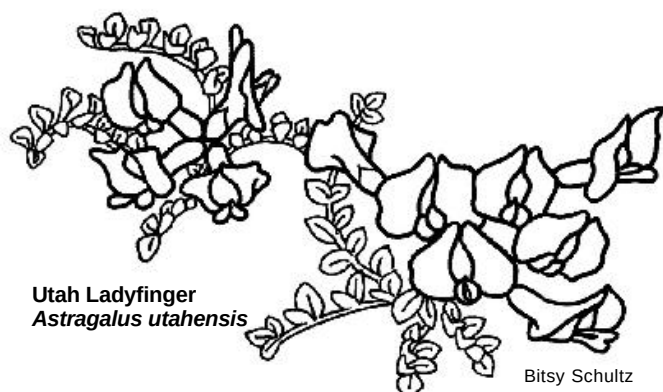
Wayne Grzymkowski, Landscaping Supervisor Region 2 for Utah Department of Transportation (UDOT) has asked UNPS to organize weeding groups for Spring 2003 along the native plant landscaped sections of Interstate 215 through Salt Lake City. These are primarily tree and shrub plantings. The plantings have been completed in so-called "amoebas"; areas irrigated with sprinklers; UDOT would have preferred to use targeted drip systems but there were insufficient funds. Weeds have become a problem because of the sprinkler irrigation.

They have used some herbicides, and they may also utilize some biological controls on several species, but what is really needed is native- versus invasive weeds-educated hand weeding. If you have a church, Scout, or other group who could be enlisted for a Saturday morning or after school, UNPS could provide a team leader to show the group which are desirable plants and which are weeds to be pulled.

People interested in participating in hand weeding will be organized into Adopt-a-Highway type groups. Contact Therese Meyer (801 272-3275 or email tmeyer@xmission.com) if you are interested in this project.

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Utah Native Plant Society
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Utah Ladyfinger
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Bitsy Schultz

Utah Native Plant Society Membership and Information

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For more information about the
Utah Native Plant Society call:

Bill King: 582-0432
Susan Garvin: 356-5108
Larry Meyer: 272-3275
Or write to: unps@unps.org

UTAH NATIVE PLANT SOCIETY

President: Susan Meyer
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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
sponsoring the Utah Native
Plant Society website.

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

CHAPTER PRESIDENTS

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Canyonlands: Kara Dohrenwend &
Sarah Heffron
Central Utah Chapter
Mountain: Abby Moore
Price: Mike Hubbard
Salt Lake: Mindy Wheeler
Southern Utah: Mike Empey
Utah Valley: Phil Allen

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



VOLUME 26, ISSUE 2

MAR/APR 2003

2003 Native Plant Propagation Workshops

Salt Lake City Workshop—March 22: It is that time of the year again! Come learn more about our native flora, plant and grow your own selection of native seeds. You can keep the plants you grow, trade them with other participants or donate some to our Heritage Garden Program.

UNPS will provide: native seeds (treated and ready to plant!!), planting flat, information booklet, instructions, and excitement about native plants! Participants provide: interest in native plant propagation and \$10 per planting flat

March 22, 2003, 9 am and/or 1 pm (we are willing to hold two sessions if there is enough demand)
Liberty Park greenhouse (~1300 South and 700 East).

Limited to 20 people per session! Please call Mindy Wheeler at 801-699-5459 or E-mail mindy-wheeler@cs.com to reserve your spot!



MAR/APR 2003

2003 Native Plant Propagation Workshops

Plant Viewing Sites Project

UNPS Lifetime Member Update

Events and Chapter News

Cache Chapter - March 15: Sponsored by The Utah Native Plant Society – Cache Chapter and Cache County Master Gardeners

Saturday, March 15th, USU Teaching Greenhouses at 800 E & 1400 N in Logan Open to Master Gardeners, UNPS Members, and the general public.

Fee: \$5 for UNPS members and Master Gardeners, \$10 everyone else. ***Both workshops limited to 15 participants each***

Sessions: 9:00 am: Reserved for UNPS members and Master Gardeners. This workshop will offer the more experienced grower an opportunity to try propagating rarer or more difficult-to-grow species, as well as the chance to plant extra flats (\$5 each), depending on availability.

Native Plant Workshops, Cache Chapter cont.

1:00 pm: Open to anyone. The workshop will start with classroom instruction (workbook included) tailored to those new to growing Utah's native plants. You'll learn about each species we have chosen to grow this year as well as many of the secrets to successfully growing natives. You then will be able to plant prepared seeds in a special flat to take home and watch grow.

PREREGISTRATION IS REQUIRED. To sign up, please call Evelyn at the Cache County Extension office at 435-752-6263. If you attended last year's workshop, you'll see that we've halved the price this year to those of you who have worked hard to support Master Gardeners and the UNPS. The \$5 just about covers our costs.

For further info: Steven R. Ripple, Phone: 435-752-2732 steveripple@attbi.com, or Tami Coleman, (435) 258-0303, petetami@hotmail.com

Utah Valley Workshop—March 8: The workshop will be held at the Shrub Sciences Lab, 735 N. 500 E. in Provo. The date of the workshop is March 8, 1-3 pm. Please send \$10.00 to Celeste Kennard, 801-377-5918, 160 N. 400 East, Provo, UT 84606 to reserve a slot. We are only presenting one workshop this year and enrollment is limited to 20 people.

Plant Viewing Sites Project (Plant Identification for Dummies)

by Jess Wagstaff

Plants need friends and protectors but in order to be a friend you must first get to know the plant. In addition, to do that you have to find it. Maps and checklists are useful but often lack sufficient detail. I am here proposing a database of well-marked places in the state with lists and descriptions of plants found at each site. Each place should have such distinctive landmarks that the exact spot can easily be located within a few feet by even the most geographically challenged among us. Robert Louis Stevenson in Treasure Island taught us that X marks the spot. The treasure we seek is worth more than gold. I want to see it right under my nose. Roger Tory Peterson taught us how to know one when we see one and how to tell it from similar plants. I think his idea will fly.

Each viewing site should be publicly accessible with safe parking. Some can be on trails but most of them should be reachable by Arthritic Arthur. Spots like Albion Basin, Tony Grove and Bonneville Shoreline Trail come to mind. But these are big areas. Each of them could have several viewing sites. There are many other potential sites, e.g., Lookout Pass, Fish Springs, Crystal Peak, and Point of the Mountain. Did you say THE Point of the Mountain south of the prison? Yes, there are hundreds of beautiful plants that bloom there in the middle of the hottest driest summers. Even their names, Golden Aster and Blazing Star, are beautiful. Of course, the sites need to be on side roads or rest stops. There are enough accidents already on the Interstate; we do not need to encourage more.

Each plant should be listed with its distinctive field marks. How does this gray shrub differ from all of the other gray shrubs? What role does this plant play in the big picture? For our native plants, think water conservation if beauty itself is not sufficient reward to satisfy you.

Details need to be worked out but we can start now and get fancy as we grow. Databases are marvelous devices that can expand forever. Cross-references can be put in for such things as maps, photos, and interesting information about each place. Nature didn't make any bad places.

If these ideas interest you then email me at or telephone me at 801-785-5660 and away we go!

UNPS Lifetime Member Update

Four of our members joined UNPS "for life" in either late December/early January and in celebration of our 25th year as an organization: **Margaret Malm, Bill Varga, Anne Desjardins & Tim Slocum, and Tony Frates**

They join the following lifetime members: **Rick DeLappe and Cheryl Decker, Larry and Corky England, Karen Halliday, J. Keith & Lillian Hayes, Leila Shultz, Phil Wannamaker**

We appreciate the support that these members have shown in the Utah Native Plant Society and these funds will be put to good use. Members are encouraged to consider joining the growing ranks of lifetime Utah native plant advocates (see the January/February 2003 newsletter for all of the reasons why). To become a lifetime member, you can send a check for \$250 to:

Utah Native Plant Society, P.O. Box 520041, Salt Lake City UT 84152-0041
Or go to our web site at www.unps.org and click on Membership and then Membership (Renewal or New) Application and scroll down to "Lifetime" and click on PayPal to pay via credit card.

New Center for Plant Conservation Website

T. LOUIS, Mo., Feb. 18, 2003 - The Center for Plant Conservation has launched a new Web site that provides comprehensive information about the country's native, imperiled plants. The plant profiles, available at www.centerforplantconservation.org and <http://www.centerforplantconservation.org>, include photos of plants in the National Collection of Endangered Plants. Each profile contains a description of the plant, its distribution and conservation status. A complete bibliography follows each plant profile, and the pages contain more than 5,000 references. "We are delighted to maintain such a vast educational resource on our Web site," said Kathryn L. Kennedy, Ph.D., president and executive director of the Center. "The Web site gives people throughout the world the opportunity to learn about the imperiled plant resources in the United States." Each plant profiled is included in the Center's National Collection of Endangered Plants. The Collection, one of the largest of its kind in the world, contains plant material for more than 600 of the country's most imperiled native plants. An important conservation resource, the Collection is a back-up in case a species becomes extinct or no longer reproduces in the wild. Its also an important resource for the scientific study of plant rarity, rare plant life cycles and rare plant storage and germination requirements. The Center offers donors the opportunity to make a personal investment in plant conservation by sponsoring a plant in the National Collection. Chicago Botanic Garden, partnering with the University of Illinois - Chicago, coordinated the project. The Center's participating institutions, located across the country, supplied content and photographs for the profiles. Funding for this project came from the Institute of Museum and Library Services. The Center for Plant Conservation is dedicated solely to preventing the extinction of America's imperiled, native flora. The center is a network of more than 30 of America's leading botanical institutions. By conducting conservation programs in horticulture, research, awareness and information exchange, the center's network is striving to save America's rarest plants from being lost forever. For more information about the Center for Plant Conservation, please visit the Web site at www.centerforplantconservation.org <http://www.centerforplantconservation.org>.



Events and Chapter News

Gorgeous Utah Native Plants for Landscaping

Free class at Jordan Valley Water Conservancy District. Taught by Susan Meyer. Saturday, April 12th, 10 to noon. Registration is required. Call 1-877-728-3420.

Great Plants to Replace Your Bluegrass Lawn

Free class at Jordan Valley Water Conservancy District. Taught by David Rice. Thursday, April 17th, 6-8 pm. Registration is required. Call 1-877-728-3420.

Tree Selection and Care for Salt Lake

Free class at Jordan Valley Water Conservancy District. Taught by Anne Dorsey. Saturday, April 26th, 10 to noon. Registration is required. Call 1-877-728-3420.

Utah Valley Chapter Meetings

Our chapter of the Utah Native Plant Society will be holding its first general potluck and meeting of 2003. The date is February 21, starting at 6 p.m. with the potluck dinner, then at 7 p.m. with the meeting. The location will be the conference room of the Federal Building, 88 West 100 North in Provo.

Terri, our Volunteer Coordinator, will update us on recent and future volunteer activities. We will discuss holding a chapter seed and plant exchange, and organizing a website-based seed exchange for the UNPS. Other possible topics include holding a plant sale, and propagation workshops.

This is the first of four planned chapter meetings in 2003. The others will be held in May, August and November. We are trying for the third Fridays of those months. Mark your calendars!

Refuge Discovery Weekend Seminars

In celebration of the 100th anniversary of the establishment of the first national wildlife refuge, the Fish Springs National Wildlife Refuge, in conjunction with the Utah Museum of Natural History will be sponsoring Refuge

Discovery Weekend on May 10-11, 2003. Over the course of those two days, the Refuge will offer "mini seminars" on a wide array of natural history topics.

These seminars will be primarily in-the-field on the Refuge and will be conducted by some of Utah's foremost experts. One of the seminars offered will be field/ethnobotany and will be co-instructed by Ann Kelsey, Curator of the Garrett Herbarium and Elaine York, Conservation Programs Manager for the Utah Office of the Nature Conservancy.

Other activities include a group potluck, a evening campfire presentation on the amazing story of your national wildlife refuge system, and a star and planet gazing program put on by the Clark Planetarium. More information can be obtained on the Refuge's website at <http://fishsprings.fws.gov> or by contacting the Refuge during from 7:30 am to 4 pm Mon-Fri. at (435)831-5353, ext. 4.

Wetlands meetings

Beginning on the last Thursday of February, the Society of Wetland Scientists will be initiating a series of talks and field trips on high altitude wetlands in Utah. The first talk will be by Steve Jensen on the hydrology of Albion Basin and Brighton Canyon, Thursday 27 Feb 2003 at the Salt Lake Public Library, Conference Room B, 209 East 500 South, Salt Lake City, UT.

Prior to the meeting, you are welcome to meet for dinner and social at 73 E. 400 South at Taj India (just a block west of the library/SLC Building and on the north side of 4th - yes, they have vegetarian)

The next talk will be on willow taxonomy and ecology by Sherel Goodrich, on March 27 at 7:00 at the Heber Ranger District in Heber.

There will also be at least two field trips to the Strawberry Valley streams to look at riparian ecology (one at elevations @ 7,000; and one at 9,000'+) and other talks on this topic. Please email either Leslie Gecy at lesliegecy@aol.com or Ann Neville (president-elect of the SWS) at kanevill@kennecott.com if you plan on attending either of the lectures so that we can make sure that there is sufficient space. This will be particularly important for the talk in Heber as the room only holds approx 15 people. Also please email if you would like to be put on the list for future talks and field trips.

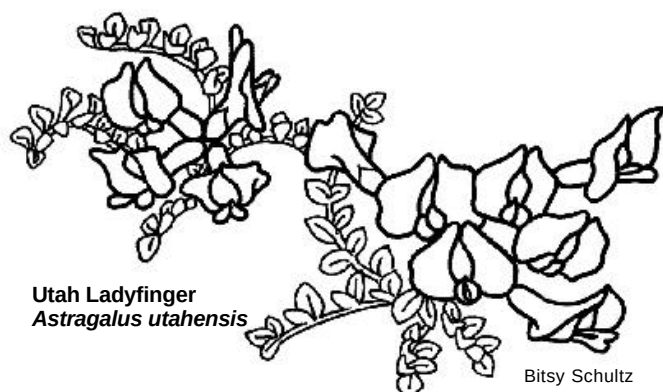
Rock Canyon Volunteer Projects – 2003 Schedule

All projects will begin at **9:00 a.m.** We will usually finish around 1:00 p.m. Volunteers do not need to come to crew leader meetings – unless you would like to be a crew leader! Please wear appropriate clothing. Layers (a t-shirt, then sweater, then coat) are great in case a project gets changed! We may go from warm greenhouse to cold canyon without notice. Last year a lot of people got cold or hot or couldn't work because they were unprepared. Hats are good! Please bring water bottles to drink – dehydration is no fun and we want you to have fun! Please bring work gloves if you have them or can borrow them. ***Thank you for your help and enthusiasm!!***

Date	Activity	Location
Jan. 25	Fire pits, trails	Rock Canyon Trailhead
Feb. 22	Tree planting party!	Rock Canyon Trailhead
Mar. 1	Crew Leader meeting	F. S. Shrub Lab
Mar. 8	Planting out	Rock Canyon Trailhead
Mar. 22	Planting out	Rock Canyon Trailhead
Mar. 29	Planting out	Rock Canyon Trailhead
Apr. 5	Fire pits, trails	Rock Canyon Trailhead
Apr. 12	Fire pits, trails	Rock Canyon Trailhead
Apr. 26	Fire pits, trails	Rock Canyon Trailhead
May. 3	Fire pits, trails	Rock Canyon Trailhead
May. 10	Crew Leader meeting	F. S. Shrub Lab
May. 17	Potting mix	F. S. Shrub Lab
May. 24	Potting mix	F. S. Shrub Lab
Jun. 7	Potting mix	F. S. Shrub Lab
Jun. 14	Plant seedlings	F. S. Shrub Lab
Jun. 21	Plant seedlings	F. S. Shrub Lab
Jun. 28	Plant seedlings	F. S. Shrub Lab
Jul. 5	Fire pits, trails	Rock Canyon Trailhead
Jul. 12	Fire pits, trails	Rock Canyon Trailhead
Jul. 19	Fire pits, trails	Rock Canyon Trailhead
Jul. 26	Fire pits, trails	Rock Canyon Trailhead
Aug. 9	Fire pits, trails	Rock Canyon Trailhead
Aug. 16	Crew Leader meeting	F. S. Shrub Lab
Aug. 23	Fire pits, trails	Rock Canyon Trailhead
Aug. 30	Fire pits, trails	Rock Canyon Trailhead
Sep. 6	Fire pits, trails	Rock Canyon Trailhead
Sep. 13	Fire pits, trails	Rock Canyon Trailhead
Sep. 20	Planting out	Rock Canyon Trailhead
Sep. 27	Planting out	Rock Canyon Trailhead
Oct. 4	Planting out	Rock Canyon Trailhead
Oct. 11	Fire pits, trails	Rock Canyon Trailhead
Oct. 18	Crew Leader meeting	F. S. Shrub Lab
Nov. 1	Potting mix	F. S. Shrub Lab
Nov. 8	Potting mix	F. S. Shrub Lab
Nov. 15	Potting mix	F. S. Shrub Lab
Nov. 22	Plant seedlings	F. S. Shrub Lab
Nov. 29	Plant seedlings	F. S. Shrub Lab
Dec. 6	Plant seedlings	F. S. Shrub Lab
Jan. 10, 2004	Crew Leader meeting	F. S. Shrub Lab

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Utah Ladyfinger
Astragalus utahensis

Bitsy Schultz

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Larry Meyer: 272-3275
Or write to: unps@unps.org

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VOLUME 26, ISSUE 3

MAY/JUN 2003

UTAH'S CHOICE--Native Plants for Intermountain Landscapes

By Susan Meyer

UNPS is proud to be a co-sponsor of a new program designed to increase the availability of Utah native plants in the local retail nursery trade. It will educate both nursery professionals and gardeners on the merits of many fine native plants as components of beautiful, low water use landscapes.

The program, called Utah's Choice, features a list of the Top Forty Utah native plants for horticultural use. It is the brainchild of Roger Kjellgren of the USU Center for Water Efficient Landscaping (CWEL) and Janett Warner of Wildland Nursery. We had



MAY/JUN 2003

UTAH'S CHOICE—Native Plants for Intermountain Landscapes

Native Plants For High Elevation Western Gardens

Zion What's Up and Blooming

UNPS Lifetime Member Update

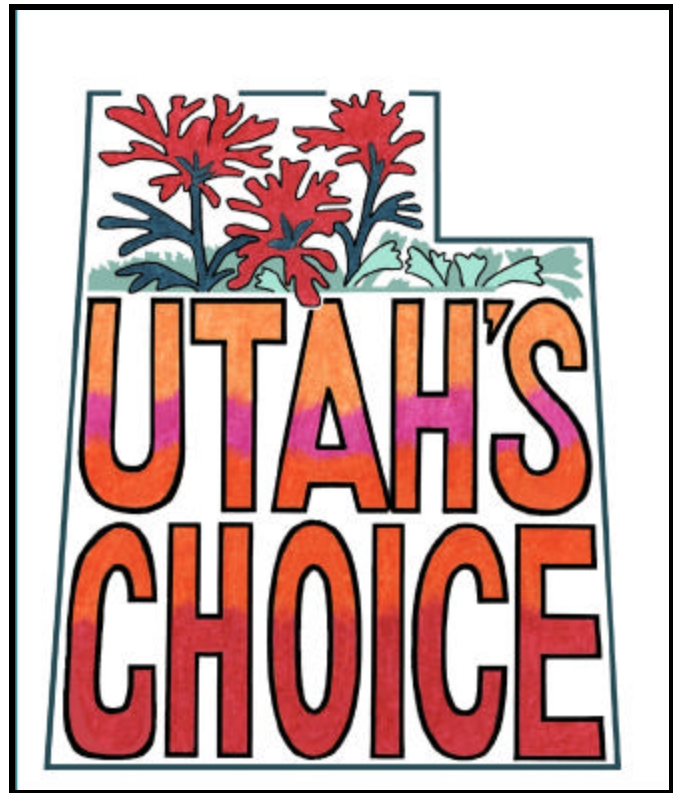
Events and Chapter News

trouble choosing the Top Forty plants--there are dozens more that could just as easily have been included. We mostly chose those that are already at least somewhat available and are easiest for novices to grow successfully.

A new non-profit organization, the Intermountain Native Growers Association (INGA), will administer the program, which will sell information-rich photo plant tags, along with plant signs and other marketing materials, to nurseries interested in carrying Utah's Choice tagged container stock. Returns on tag sales will be used by INGA to purchase the next round of tags, making the program self-sustaining.

UNPS and INGA are partnering with CWEL and the Utah Botanic Garden to jump-start the program this summer. The kick-off event will be the unveiling of the Utah's Choice educational and marketing package at the Third Annual Native Plant Symposium at Utah State University on May 30. Tagged plants should start appearing in some local nurseries in early June.

If you are a nursery professional and are interested in learning more about the Utah's Choice program, as well as how your nursery can participate, please contact Janett Warner at (435) 527-1234. If you are a gardener who would like to be able to purchase a variety of Utah native plants, tagged with pictures and cultural information, let your favorite retail nursery know about this program--ask for Utah's Choice!



UNPS ON-LINE STORE

UNPS now has an on-line store through which current members can renew their memberships (you can still do it the old fashioned way too!) or new members can join. You can also purchase posters or buy Bill Gray's Cyberflora CD, a valuable and informative electronic guide to the flora of the central Wasatch front. UNPS members receive a 10% discount on poster/CD purchases. Donations in support of any of our programs can also be made through the store - just go to www.unps.org and click on Store.

New Native Plants For High Elevation Western Gardens Book

In May 2003, Fulcrum Press will release "Native Plants for High-Elevation Western Gardens" by former Arboretum at Flagstaff horticulturist Janice Busco and Arboretum Executive Director Dr. Nancy Morin. With water conservation and fire management through appropriate landscaping practices high on the list of western regional concerns, this book is an essential resource for landscape planning and gardening in the high-altitude regions of the American West. Landscape architects, restorationists, planners, native plant nurseries and gardeners will all benefit from this collection of information on plants from the Arboretum at Flagstaff's native plant collection.



Photo By Susan Meyer

"Native Plants for High-Elevation Gardens" includes beautiful color photographs of the 150+ featured native perennial species (taken by Dr. Eugene Balzer of Northern Arizona University), as well as plant descriptions for each species that include a discussion of the plant's natural history, outstanding features and cultivation. The book highlights Colorado Plateau and Intermountain West highlands native plants that grow in USDA Zones 1-8 at elevations between 4000 and 12,000' and details how to select and combine them, and how to successfully plant, establish and care for them.

Published by Fulcrum Press in partnership with The Arboretum at Flagstaff, and funded by grants from the National Fish and Wildlife Foundation and the Stanley Smith Horticultural Trust, "Native Plants for High-Elevation Western Gardens" is an authoritative guide that details each plants outstanding features; growth form and shape; flower color and form; season of bloom; pollinators and wildlife; light, water and soil requirements; traditional uses by settlers and Native Americans; landscape uses; care and maintenance, propagation methods and recommendations for eye-catching and functional plant combinations.

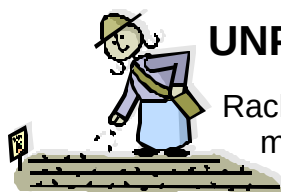
For further information, or to order this book, contact Fulcrum Publishing at:

http://www.fulcrum-gardening.com/html/native_plants.html.



ZION WHAT'S UP AND BLOOMING

For the third consecutive year, UNPS is hosting Margaret Malm's "Zion National Park: What's up -- and blooming?" news/articles. These will be published more or less weekly throughout April and May (depending on the length of the spring blooming season). Go to www.unps.org and click on Zion. Photographs of many of the plant species organized by flower color are available on-line.



UNPS Lifetime Member Update

Rachel Romaine of Eden, Utah has become the 11th UNPS lifetime member.

Thank you Rachel!

Members are encouraged to consider joining the growing ranks of lifetime Utah native plant advocates (see the January/February 2003 newsletter for all of the reasons why). To become a lifetime member, you can send a check for \$250 to: Utah Native Plant Society, P.O. Box 520041, Salt Lake City UT 84152-0041 or go to our web site at www.unps.org and click on Store and then Membership (Renewal or New) Application and scroll down to "Lifetime" and click on the Add to Cart button.

EXTENSION

**Utah State
UNIVERSITY****3rd Annual Native Plant Symposium****and Water Efficient Landscaping Field Day****Friday, May 30, 2003 from 8:30 a.m.– 4:00 p.m.**

****8:30 a.m.–** Roger Kjellgren, Horticulture Professor at Utah State University and Director of the Center for Water Efficient Landscaping. Roger will show you how to convert a traditional landscape into one that uses less water. The use of native and drought adapted plants and more efficient irrigation systems will be discussed.

9:30 a.m. – Susan Meyer, Plant Ecologist at the U.S. Forest Service Federal Shrub Sciences Lab and has been working with native plants since 1970. Susan will introduce the 'Utah's Choice Native Plants' program. This program will highlight the top Utah native plant species selected by native plant producers, researchers, and enthusiasts throughout the state.

10:30 a.m. – David Salman, President of Santa Fe Greenhouses, Inc./ High Country Gardens catalog. David will talk about his favorite, colorful native plants and popular introductions for this year. Also, hear about his years of experience in marketing native plants and how drought tolerant species are being accepted throughout the country.

11:30 a.m. - Bill Varga, Director of the Utah Botanical Center and over 30 years experience with Utah native plants. After hearing from Susan and David about desirable native plant species, Bill will give you ideas for designing your landscape with native plants. He will talk about plant associations and how to use this concept effectively in creating your design.

****The four morning presentations will be held in the main auditorium at Utah State University Eccles Conference Center (the building just to the south of the Ag Science Building).**

12:30 – 1:30 p.m. – A box lunch will be provided as part of the registration fee at the USU Greenville Research Farm (1800 N. 800 E., Logan, Utah)

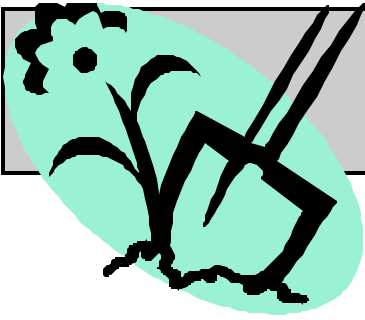
1:30 - 4:00 p.m. – Talk with researchers at the USU Greenville Research Farm about current projects on alternative turfgrass species, herbaceous perennial and woody plant water use, and native plant production .

For further information contact Lori Johnson at USU at 435-797-2255.

Registration Form for the Symposium: \$20.00 per person.

Name _____ Organization _____
 Address _____ City _____ State _____ Zip _____
 Number to Attend _____ Total Payment Enclosed _____

Send to: Lori Johnson, Utah State University, Plants, Soils, and Biometeorology Dept.,
 4820 Old Main Hill, Logan, UT. 84322-4820



Events and Chapter News

Cache Valley

On June 21, we are co-sponsoring a garden tour focusing on water-wise gardening and landscaping. We need gardens/landscapes for the tour. We are looking for both mature and works-in-progress. If you want to share your garden or know of a good candidate in Cache Valley please let Steve Ripple (UNPS) steveripple@attbi.com 435-752-2732 or Tami Coleman (Master Gardener) petetami@hotmail.com (435) 258-0303 know about it.

UNPS-Cache and the Intermountain Herbarium are pleased to announce a 2-session spring course on identifying common mushrooms.



Details: Class has a lab session on Saturday, May 10, from 9 to 10:30am. Michael Piep will be leading the session, which will focus on the basic structures and characteristics of major groups of fungi. A manual with keys will be provided, as well as material for study with microscopes. If the 9am session is filled, another session may be held in the early afternoon. This part of the class will take

place at the Intermountain Herbarium, in the basement of the Junction on the USU campus.

The second session, open ONLY to those who attend the lab session, is a field trip to see and identify fungi in the local area on Saturday, May 17. Pre-registration is REQUIRED. Contact the Intermountain Herbarium (Ali) at ali@biology.usu.edu or at 797-0061 to register. The cost is \$6 for UNPS members, \$8 for nonmembers. Michael Piep is also available to answer questions at funghi@biology.usu.edu or the Herbarium phone listed above.

Southern Utah

On Saturday morning, April 27, Jason Alexander (PhD candidate in botany and studying the *Astragalus*), will take our group on a trip on the Chinle Trail in Zion N. P. to see the Shivwits Milkvetch. He is doing a search for this rare plant, and has already increased the size of the known population by many times. Meet at the Chinle trailhead at 9:30 AM.

Jason has also agreed to take our group on a walk to see, enjoy, and learn about the hanging garden plants in Zion. This will be around mid-to-late May, on a Saturday, but the exact date has not yet been decided. Check with us in a few



Utah Valley

At the chapter meeting February 21, election results were: Phil Allen, Chapter President; Susan Garvin, Vice-President; Celeste Kennard, Treasurer; Denise Van Keuren, Secretary.

Announcements were made for a propagation workshop March 8, a field trip looking for Beckwith's Violet in late April, a plant sale at the Provo Farmer's Market in May, a work party for a new Heritage Garden in Salt Lake county May 15, a library xericaping work party in late May, and a field trip focusing on prickly pear bloom in mid-June. Contact Susan Meyer at semeyer@xmission.com for information on garden work-parties or the web seed exchange proposal.

Updates: Twenty people participated in the plant propagation workshop. The violet field trip, led by Robert Fitts, was attended by about ten people, who got to see the rare Beckwith's violet in white and purple bloom in mixed sagebrush and oakbrush near Spanish Fork, along with Utah Ladyfinger *Astragalus*, the bright yellow dogtooth-violet *Erythronium*, and several other species not yet blooming. With luck photos of the trip will be sent to the website. The next chapter meeting will be May 16, at the Federal Building, 88 West 100 North in Provo, with potluck starting at 6 p.m. and meeting at 7.

Paul Ames will be leading a field trip to an area in the Tintic Mountains, focusing on the varied bloom colors of the prickly pear cactus there along with a wide range

other species in a pinyon-juniper community. The trip will be on Saturday May 31, starting at 10 a.m. from the parking lot of the new high school on Highway 6 in Eureka. After a drive, there will be a moderate-level hike of about 45 minutes to reach the site. Bring lunch, water, sun screen and bug repellent. Call Paul at (435) 433-6924 (evenings) for more details.

Kim Despain is going to hike to the Bristlecone Pine grove at the Price Canyon Recreation Area -Saturday, June 7, 2003. Any individual in the Utah Native Plant Society, or any one interested for that matter, is welcome to come and participate. The hike will start from the parking lot at the Price Canyon Recreation Area campground about 12:00 noon.

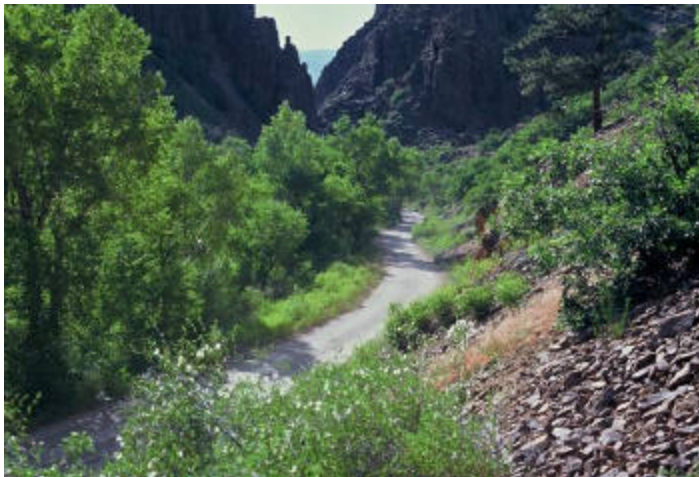


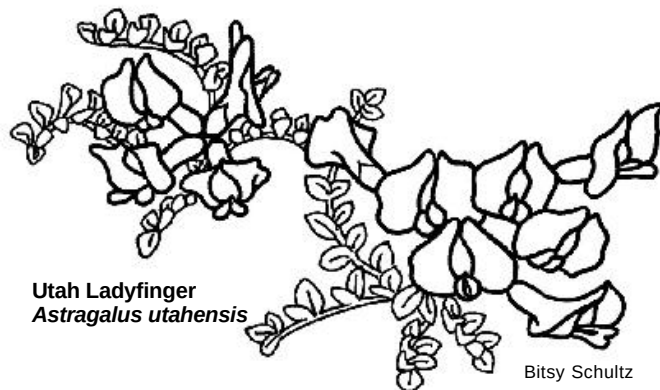
Photo By Susan Meyer

If you come from Provo or Salt Lake City, take Highway 6 as if going to Price. The turn off is 3 - 4 miles south of the top of Price Canyon. There is a sign on the west side of the road that reads: Price Canyon Recreation Area. If you are coming from Price, the turn off is about 12 miles north of Price on Highway 6. The turnoff sign is on the west side of the highway. You can use a car to make the trip. The road from the turnoff to the campground is paved but narrow. Drive carefully. The road inside the campground is a well maintained dirt road.

The trail to the Bristlecone Pine grove is a 3 mile round trip hike. The trail is not steep. The hike is not strenuous but will take 2 - 4 hours. Kim will take it slow because he likes to take photographs. Information will be presented on the pines of Utah.

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Utah Ladyfinger
Astragalus utahensis

Bitsy Schultz

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Newsletter Editor: Allisun Korth and Paula Mohadjer

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Education: Mindy Wheeler
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Communications: Paula Mohadjer

Sego Lily

Newsletter of the Utah Native Plant Society

VOLUME 26, ISSUE 4

JULY/AUG 2003

Adopt-A-Waterbody Program Huge Success for Malad River

David Anderson

In March, 2003, Nucor Bar Mill Group-Plymouth Division joined the Utah Adopt-A-Waterbody program and adopted approximately a 4 mile stretch of the Malad River that runs through Nucor's property and other private properties.

On April 19, 2003, over 60 Educational Award Students provided with scholarships by Nucor assisted with the Malad River Project. The students and several volunteer parents planted a variety of woody Utah native plants and tree seedlings along the banks of the River. 400 Trees were planted approximately 50 feet apart on the river banks. 300 rebar cages



were built and then placed over the newly planted trees to protect them from wildlife and cattle. Planting this vegetation will help control erosion of the river banks and increase wildlife habitat. Canoes were used to float up and down the river to pick up litter and debris. Discarded tires, cans, bottles, signs, and garbage were retrieved from the river and surrounding areas. After a long day of snow, cold, and ultimately sunshine, many improvements to the river were completed and the project was a great success.

Native trees and shrubs were purchased from Lone Peak Conservation Nursery in Draper, Utah. Common names of the species planted were: Silver Buffaloberry, Woods Rose, Black Hawthorne, Yellow Willow, Golden Willow, and Narrowleaf Cotton Wood.



JULY/AUG 2003

Adopt-A-Waterbody Program Huge Success for Malad River

Native Seed Programs a Success at Ski Areas

Noxious and Invasive Weed Survey and Integrated Weed Management Framework of the Inland Sea Shorebird Reserve

UNPS Annual Plant Sale

Events and Chapter News



Future projects for the Malad River will include annual major cleanups, periodic minor cleanups throughout the year, and educational activities to increase public awareness to those that may impact water quality.

Considerable effort was put into this project both in planning and implementation. An integrated approach was made through the consultation services of Shelly Quick, Utah Division of Water Quality Director of "Adopt-A-Waterbody"; Paula Mohadjer, Jordan Valley Water Conservancy District Conservation Program Director; Susan Meyers, Utah Native Plant Society Board Member; Nucor Bar Mill Plymouth Division Environmental Department (Doug Joes, Environmental Manager); and the Nucor Scholarship Program (Curtis Broadbent, Controller and Shirley Bills, Personnel).



Native Seed Programs a Success at Ski Areas *Harriet Wallis*

Summer is beautiful at Alta and Brighton, the popular Wasatch Front ski resorts. Bursts of colorful wildflowers punctuate the lush green mountain slopes. Because of Alta's and Brighton's commitment to the environment, the resorts conduct successful revegetation-by-native-wildflowers programs. Mother Nature is very lucky. She now gets help with her blossoms.

The wildflower collecting and seeding program was spearheaded by Alta in the mid-1990s. It was the natural expansion of Alta's forest plan that calls for planting 1,000 trees a year on the mountain.

"We want to provide people with a quality ski experience, but we are also stewards of the land," says Mark Pollish, Alta's assistant ski patrol director. During the summer months, Pollish heads Alta's native wildflower collecting and seeding program.

Brighton followed Alta's lead by taking lessons from Pollish on how to gather, dry, and utilize native seeds. Brighton's program is in its third year. Throughout the warm months, Pollish at Alta, and Brighton Accountant Carol Garner along with Brighton Ticket Manager Joanne Williams hike their respective mountains to identify and collect native seeds that they will later use to revegetate areas that are worn by summer maintenance or construction projects.

Alta, at the top of Little Cottonwood Canyon, and Brighton, at the top of Big Cottonwood Canyon, are popular in summer with Salt Lake City dwellers and out-of-town visitors who enjoy the cool mountain breezes, the beautiful scenery, and hiking trails that lead to high mountain lakes. Lovely wildflowers are also major attractions.

At Brighton, as soon as the snow melts, Garner and Williams hike the mountain to locate beds of wildflowers: red, blue, white, yellow, and pink ones - basket flowers, sticky geraniums, flax, pussy toes, lupine and more. They also search for flowers that are mentioned in historic documents describing the area. Then throughout the summer they hike the mountain again and again to watch for the moment when the plants go to seed as they must be gathered promptly. They use a mechanical "wacker" and pick the seeds by hand.

"When I pick seeds by hand, I tie five or six pillowcases to my belt so I can sort the seeds. I look pretty silly with the pillowcases all flapping in the wind," says Garner.

Most of the precious seeds are air dried on newspaper in a conference room. However, some pods explode as they dry so they are put in paper bags to catch the wayward seeds. Then before it snows, Garner and Williams hike the mountain to plant the seeds in wear areas.

At Alta, Pollish uses a variety of sowing techniques. He might scatter seeds up-wind, rake them in, or pamper them with a biodegradable blanket to coax them to grow.

"The drawback of the seeding program," Pollish warns, "is that people don't know what you're doing. They think you're picking flowers. It's illegal to pick the flowers."

The native wildflower revegetation program has earned applause from the National Forest Service for its creativity and sensibility. Purchased seeds often don't work out. Grass and wildflower seeds bought from a nearby state or even from another part of Utah are not adjusted to Alta's and Brighton's specific soil, water, and weather conditions, so it's a waste of time, money, and effort to plant such mixes. Furthermore, such seed mixes can introduce invasive species.

Historically, when settlers arrived in the Salt Lake valley about 150 years ago, they pushed up Little and Big Cottonwood Canyons to cut timber to build Salt Lake City homes and shore up hundreds of silver mines in the canyons. Then they drove their cattle and sheep into the mountain meadows to graze. With the trees gone and the grass eaten away by hungry livestock, the denuded hills were vulnerable. Muck and mud slides persisted into the middle of this century.

"In some place not a blade of grass could be found," says Brighton Area Manager Randy Doyle of the old days. "People think the trees and flowers and grass were always here. But they weren't."

Now the mountains are ablaze with native wildflowers. Alta and Brighton are giving Mother Nature a helping hand.



Brighton Accountant Carol Garner in her office with ski boots and wildflower book

Noxious and Invasive Weed Survey and Integrated Weed Management Framework of the Inland Sea Shorebird Reserve

Amy Barry

Introduction

Urban areas are not the only landscapes being affected by the alarming disappearance rate of native plants; native vegetation is also quickly vanishing from more rural locales such as rangelands and riparian areas. These ecosystems are being overtaken by invasive plant species that severely alter the ecological balance and disrupt ecosystem function.

One such area in Utah is the Great Salt Lake and the adjacent riparian areas. Our understanding of the essential role this lake plays for migratory birds, waterfowl, and wildlife is still evolving. In the meantime, decades of human activities, from grazing to off-road vehicle use, have laid the groundwork for exotic weed invasions that could negatively impact the lake and its surrounding wetland habitats. As Sheley and Petroff report (1999) weeds prefer highly disturbed areas such as waterways, trailheads, roads, and grazed areas. In the case of Utah's Great Salt Lake, all of these disturbances have created an environment ripe for weed invasions.

The Inland Sea Shorebird Reserve (ISSR), located on the southeast end of the Great Salt Lake is now a protected area owned and managed by Kennecott Utah Copper Company. In 1996, they undertook the massive cleanup and construction of the 3,700-acre Reserve. Since that time the number of birds and wildlife visiting this area has grown significantly to approximately 150,000 migratory birds and waterfowl each year (Kennecott 2002). To continue improving the ecological functions of the Reserve the issue of noxious and invasive weeds must be addressed.

Methodology

During the summer of 2002 a survey was taken of the ISSR and six non-native weed species were identified and mapped. Using a GPS unit to mark points of infestations data was collected on the following noxious weeds: Russian knapweed (*Centaurea repens*), Whitetop (*Cardaria draba*), and Scotch thistle (*Onopordum acanthium* L.). Invasive weeds that are not officially designated as "noxious" but were included in the survey include: Bull thistle (*Cirsium vulgare*), Tamarisk [saltcedar] (*Tamarix ramosissima*), and Phragmites (*Phragmites australis*).

The Reserve was divided into three sections, with the locations of weed sites carefully noted. Following the guidelines used by the Montana weed district, the density and size of infestation were assigned one of the following values, in addition to the location of each weed site.

Size:	Density:
less than 0.1 acre	T = less than 1% cover (trace; rare)
0.1 to 1 acre	L = 1% to 5% cover (low; occasional)
1 to 5 acres	M = 5% to 25% cover (moderate; scattered)
greater than 5 acres	H = 25% to 100% cover (high; dense)
infestation follows road, ditch, ponds	

Results and Discussion

This study sought to answer three questions:

- Were weeds connected to habitat types found in the Reserve,
- Was any of the weed species reacting to another, and
- Did the surrounding vegetation alter the spread?

Seven different habitat types were identified in the Reserve to possibly identify any correlation to weed infestations. Overall the mapping illustrated that phragmites, tamarisk, bull thistle, and scotch thistle were connected to habitat types specifically related to water sources, canals, ponds, etc.. Phragmites, bull thistle, and tamarisk appeared to be connected to palustrine emergent wetlands and riparian scrub and scrub-shrub wetlands habitat types. While scotch thistle was only found along the roadside habitat.

Russian knapweed and whitetop did not appear to be linked to any specific habitat type as they were found throughout the Reserve. However, the Russian knapweed and whitetop are reacting to one another as they fight for the same territory. The extent or biology of the association is undetermined as it is unknown when each species first appeared in the Reserve. Further studies could be done to determine if the Russian knapweed is just beginning its assault on the Reserve or if the whitetop will continue to be the more dominant noxious weed present.

The surrounding vegetation did not appear to inhibit the domination of invasive weeds. However, there were small sections of scrub-shrub lands where a noticeable absence or reduced density of the overall presence of whitetop was indicated. This discovery did not translate into a predictable pattern and appeared to be an isolated occurrence. Even though the differing habitat types did provide a diverse set of conditions, they did not appear to contain the proliferation of invasive weeds.

Principles of Integrated Weed Management

Now that the mapping is complete, an integrated weed management plan can be established. The concept of integrated weed management has been around for a few decades, but the application has not been widespread. Historically, weed management has taken the form of herbicide applications in the hope of eradicating the undesired plant species. Based on current invasion rates throughout the West, that approach has failed. Principles of integrated weed management shift the focus of weed management to the resulting plant community. Redirecting the focus to what is desired will help recreate a diverse and species-rich plant community.

Ecologically based rangeland weed management is founded on the principle that plant communities change over a period of time until they reach climax (Sheley et al. 1999). The processes and mechanisms that drive succession (designed disturbance, controlled colonization, and species performance) are not completely understood, but theoretically could be utilized in long-term invasive plant species control. An integrated approach concentrates on filling niches and provides for early and late successional plants to discourage massive reinvasion of the noxious weeds, thereby working towards ecological restoration, balance, and long-term control. Revegetating with native and adapted plants can provide a diverse set of plant species to increase competition with invasives.

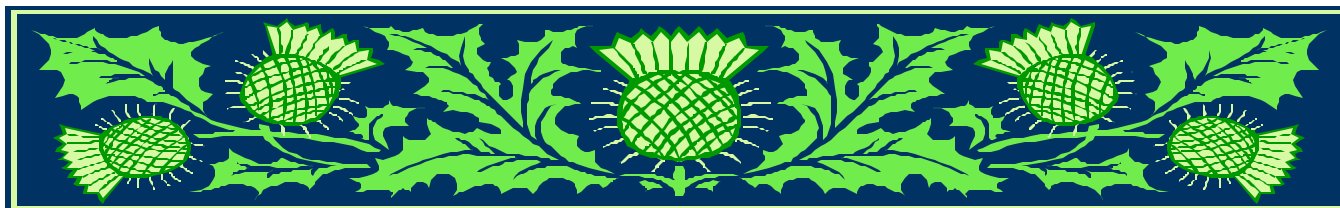
As native species disappear while invasive species overrun our landscapes, the importance of working to recover native plants is undeniable. As we reintroduce native plants back into the gardens, yards, and hillsides of urban areas, vast rangelands and crucial riparian areas could also benefit through revegetation efforts focused on returning native species to the land.

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Sheley, R.L. Petroff, J.K. 1999. Biology and management of noxious rangeland weeds.





Events and Chapter News

The **Southern Utah Chapter** has had a couple of scheduled events. While membership attendance has been very poor, we did have some excellent results.

The first was a trip on the Chinle trail in Zion N. P., led by Jason Alexander, to see some of the Shivwits milkvetch populations he has found. Although nobody showed up the first date, it was rescheduled for a few days later, with several people from Zion. We got to see them in bloom, which was a treat. He has found a fair number of this species, although not quite as many as he had first thought, as in their young stage they apparently very closely resemble *Peteria thompsonae*. We also took this opportunity to look for a few other plants. I was looking for the fairly large bare spot where I had seen *Calochortus aureus* some years ago, growing with *Moluccella laevis*; apparently nobody has (reported) seeing it since.

As luck would have it, the bare spot appeared, and right next door to the Shivwits milkvetch. There were some Bells of Ireland beginning to populate it, and a few *Salvia columbariae* (Chia), which have not really been reported in Zion for many years. The spot was quite bare otherwise (no *Calochortus aureus* in evidence), and Jason put forth his theory that the *Moluccella* was somehow "poisoning the soil" so that other plants (either native or otherwise) could not grow there.

The next week most of the same group went back and spent some time weeding out the *Moluccella*, and found that the Chia seemed to be coming up in abundance. AND the *Calochortus aureus* was there, too, although only a few plants; and they were gone within about a week according to Jason-- which would seem to explain why they had not been seen in the intervening years -- we were just not there at the right time! They seem to bloom pretty late, when it's getting so hot that people stop going there.

The second walk, May 31, was again with Jason, to study the vegetation in Zion's hanging gardens. It was a bit late to see things at their very best (the

last few weeks have been unseasonably hot, and also continuing quite dry) so the shooting star was gone, but still plenty of columbine and Scarlet monkeyflower, and interesting grasses. And we did learn a lot and had a great time. Jason is quite knowledgeable and did an excellent job!

UNPS 2003 Annual Plant Sale At REI

The Utah Native Plant Society held its third native and waterwise plant sale at REI to benefit one of our major programs, the Utah Heritage Garden Program. The sale was held later in the year than normal, in 80° plus temperatures, nonetheless over \$800 was raised.



We wish to thank the native plant and seed vendors that participated as well as REI. Special thanks to Susan Meyer and Susan Garvin who grew the plants we sold, and to Bill and Kathy King who made this event happen.



Photos by Tony Frates

Price Canyon Bristlecone Pine grove Hike .

Sue Meyer and Kim Despain made the hike plus a family from New Mexico who were camping. The hike was a slow one. Sue and Kim looked at flowers. We saw Scarler Gilia, larkspur, various legumes, various penstemons, pussy toes, Echinocereus triglochidatus, Happlopappus acaulis, various various grasses. There was a fern leaf like plant that I think is Chenactus. Susan collected some for identification. We saw 4 of the 6 pines that are native to Utah. Bristlecone, Limber, Colorado Pinion and Ponderosa. The cone production on the Limber and Bristlecone pines looked good. Another hike will be scheduled for late summer to collect seeds. We hiked to the end of the trail and then hiked back to the trail head.

While we were resting under the shade of a Mountain Mahogany, Susan saw a Leopard lily. Kim took several images of the flower. We looked for others but couldn't locate any. The hike was fun.

Millennium Seed Bank Project

This is the second consecutive year that Red Butte Garden is involved with the Millennium Seed Bank Project, also known as the Seeds for Success Project, in cooperation with Kew Garden and the Bureau of Land Management (BLM). Seed collection of common, native plant species at the population level will occur throughout the summer. The objective is to obtain high quality seed that will comprise "a significant representation of the genetic variation within the sampled population." The ambitious goal of the Millennium Seed Bank is to collect and conserve at least 10% of the world's flora by the year 2010. The BLM, for its part, has graciously consented to assist in the collection of seeds as well as allow for seed collection on the public lands they manage. Anyone interested in knowing more about this project or would be interested in volunteering, please contact Jena Lewinsohn from Red Butte Garden at 801-244-5456 or via email, jena_lewinsohn@hotmail.com.



Southern Corridor Project Threatens Rare Plants and Other Wildlife

(Late breaking news: UNPS learned on June 12 that the comment period had been extended to July 11, 2003 in connection with the DEIS referred to below. We encourage anyone concerned about biodiversity to review and consider responding to this DEIS as soon as possible.)

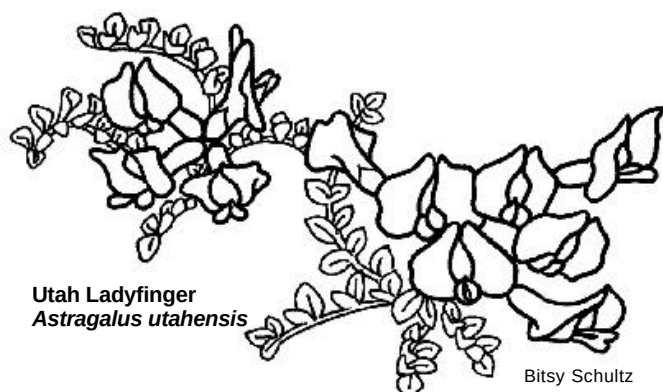
The comment period expired on May 30 (although comments submitted after that date will still be in the public record and may be responded to if considered substantive) in connection with the draft EIS for the proposed Southern Corridor highway project that will involve building a 28 mile highway that connects from Hurricane to an area south of St. George and providing access to the new airport and connecting back up to I-15 about two miles from the Utah-Arizona border. Three federally listed plant plants will be adversely impacted. And an undetermined number of sensitive species, not yet even considered, may also be negatively impacted. See <http://www.udot.utah.gov/sc/> for further information.

UNPS took an active role in reviewing, investigating and responding to this DEIS throughout the month of May. We believe that the DEIS does not support the need for the proposed highway, contains an invalid "no build" alternative, that needed ecological studies have either been inadequate (e.g. rare plants) or missing entirely (rare bees, pollination, seed bank), that cumulative impacts have not been taken into account and that conclusions have been arrived at based on arbitrary or speculative opinions.

Two other groups "signed" onto our comments (Center for Biological Diversity and Grand Canyon Trust) and two others that we worked with submitted separate comments. We will continue to monitor this proposed project as it progresses.

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Utah Ladyfinger
Astragalus utahensis

Bitsy Schultz

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Bill King: 582-0432
Susan Garvin: 356-5108
Larry Meyer: 272-3275
Or write to: unps@unps.org

UTAH NATIVE PLANT SOCIETY

President: Susan Garvin
President Elect: Larry Meyer
Treasurer: Ben Franklin
Secretary: Therese Meyer
Newsletter Editors: Paula Mohadjer
and Allisun Korth

Check membership category desired:

? Student	\$9.00
? Senior	\$12.00
? Individual	\$15.00
? Household	\$25.00
? Sustaining	\$40.00
? Supporting Org.	\$55.00
? Corporate	\$250.00 and up
? Lifetime	\$250.00

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**Check out our
website!**

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Many thanks to Xmission for
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Plant Society website.

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

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Cache: Steve Ripple
Canyonlands: Kara Dohrenwend &
Sarah Heffron
Central Utah Chapter
Mountain: Abby Moore
Price: Mike Hubbard
Salt Lake: Mindy Wheeler
Southern Utah: Mike Empey
Utah Valley: Phil Allen

COMMITTEES

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



VOLUME 26, ISSUE 5

SEPT/OCT 2003

September Garden Fair at the Demonstration Gardens

By Allisun Korth

Each summer Jordan Valley Water Conservancy District's Demonstration Garden sponsors Garden Fairs. The last Garden Fair this summer will take place on Saturday, September 13, from 8:00 a.m. to noon. Come and enjoy a walk through the garden and see a plethora of Utah native and climate-adapted plants. The Demonstration Garden is divided into three sections: the Neighborhood Garden, the Garden Park and the Commercial Landscape. With plenty to see and learn, visitors can find out how to save water and money while maintaining a beautiful, conservation-minded yard.

The Neighborhood Garden, consisting of six themed yards, demonstrates water-efficient practices that can be used as attractive alternatives to typical bluegrass landscaping. The gardens are designed to provide homeowners with residential examples of conservation techniques, with empha-



SEPT/OCT 2003

Garden Fair at Jordan Valley Water Conservancy District's Demonstration Gardens

Events and Chapter News

Volunteers Needed!!

sis on plant selection, design, and irrigation technologies.

The six themed yards include: The Traditional Utah, the Modified Traditional, the Woodland, the Harvest yard, the Perennial and the High Desert Landscape.

Each yard is metered individually so that water use data can be monitored to show that it is possible to have a beautiful landscape while using less water.

The Garden Park at the south end of the Demonstration Gardens has five turf grass plots. The plots offer easy comparison of different types of turf grasses. The types of turf grasses consist of a Turf-type tall Fescue, Buffalo Grass, Turtleturf, Blue Grama, and Kentucky Bluegrass. Each plot's water is metered individually to show the different water needs of each type of turf grass.

Come and enjoy a day in the garden on Saturday, September 13th from 8:00 am to 12:00 noon. This fair will focus on low-water-use landscape design. Speak with experts in water-wise design, irrigation, hardscape, and plants. Here are some of the participants:



Ask an Expert

- Utah Irrigation Association
- Center for Water Efficient Landscapes
- Utah Native Plant Society
- Division of Water Resources
- USU Master Gardeners
- Salt Lake Public Utilities
- Central Utah Water Conservancy District
- U.S. Bureau of Reclamation

Vendors

- Garden Niche
- Utah Native Seeds
- Wildflowers Unlimited
- Blue Sky Perennials
- Growing Empire
- Willard Bay Gardens
- Better Rocks and Gardens
- Cactus and Tropicals
- Aspen Consultants
- Star Landscaping
- Exterior Structures
- Mountain States Supply

While perusing the Garden, you can enjoy food from the Cancun Café and music from Cover Art. There will be demonstrations on different landscaping techniques, as well as guided tours of the Demonstration Garden. This is a great opportunity to get that hard to find plant or consult with experts and find resources to help you create a beautiful water-wise landscape. The garden is located at 8215 South 1300 West in West Jordan. Call 1-877-SAVEH20 for more information. We hope to see you there.



Utah Native Plant Society Board Meeting
Thursday, September 25, 2003 at Jordan Valley Water Conservancy District
8215 S 1300 West, West Jordan, UT



Events and Chapter News

Water-Wise Landscape Workshops

Utah Native Plants for Your Water-Wise Landscape, Saturday, August 23, 10 AM to Noon. This class will be taught by Susan Meyer, who did a similar workshop in the spring that was very popular. Come join us for more information on exciting Utah Native Plants.

Great Water-Wise Perennials for Fall Planting, Thursday, September 11, 6-8 PM. This class will be taught by Barney Barnett, and will feature great waterwise plants for Fall. Hope to see you there!

Ornamental Grasses for Your Water-Wise Landscape, Saturday, September 20, 10 AM to Noon. This class will be taught by Susie Kohler and Katy Nicolich. Come to learn more about using ornamental grasses in your landscape.

All workshops are free of charge, and will be held at Jordan Valley Water, 8215 South 1300 West, West Jordan. Call to register at 1-877-728-3420.

Volunteer Opportunities!

The UNPS has frequent requests for information or assistance with a wide variety of issues and projects. In general, there are a small group of activists who participate in the vast majority of these efforts. Whether it's because of the drought or not, there is an increasing popularity and interest in native plants. Some is for xeric landscaping, some out of general interest and beauty.

Usually requests for involvement come in on short notice, and go to a long-term member or chapter. We need a system to get more people involved and raise the profile of our growing organization. We now have active chapters from Logan to St. George. People in all areas of the state can help us in their own communities.

Our new volunteer coordinator is Paula Longhurst. Hopefully, she will be able to get willing people to participate in an increasing number of statewide activities. Please contact her if you are willing to donate a morning, day or evening to the UNPS, or would be willing to assemble materials or write letters at any time.

Common requests include:

- Manning booths at events, fairs or farmer's markets.
- Helping with schools, either a short lecture or more often

with a project or workshop.

- Workdays for planting or weeding.
- Preparing materials for workshops, classes or sales.
- Writing letters, or helping with the *Sego Lily*

No special skills are needed, only an interest in native plants and a willingness to help and learn. This is an opportunity to help the UNPS and help your community. Please call Paula and indicate if you might be willing to volunteer, so we can develop a pool of people to help our cause of Native plants. You may contact me by phone or e-mail at: Paula Longhurst, 801 467 9616, scoobydo@xmission.com

Native Plant Propagation Workshops

Go State-Wide:

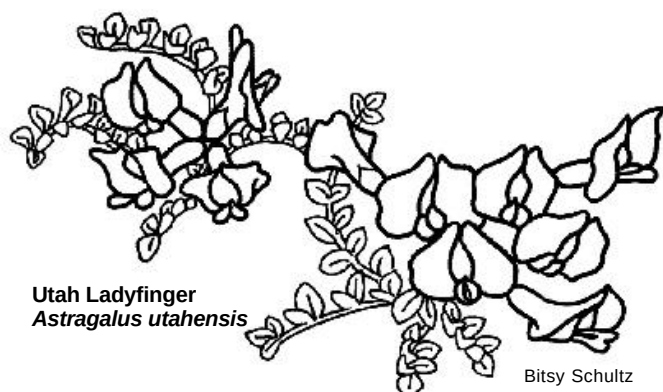
For the past five winters, the Utah Native Plant Society has held plant propagation workshops to teach people how to grow Utah native plants from seed. These workshops, in which the attendees take home planted seeds to grow plants for their gardens, have been phenomenally popular. Several hundred people participate each year in places as far flung as Logan, Moab, and Springdale, as well as in Provo and Salt Lake City.

The demand for this activity is much greater than Susan Meyer, UNPS Horticulture Chairperson and propshop mastermind, or our organization can fill, so the UNPS has enlisted the help of USU Extension's Master Gardener Program to make these workshops more widely available. UNPS will continue to provide seeds, materials, and information tailored to different areas of the state, but logistical aspects of organizing the workshops will be turned over to USU Extension. Extension is ideally suited to this role with its extensive experience in bringing horticultural information to Utah's communities. Hort agents are also enthusiastic about this opportunity to integrate information about Utah natives into their outreach programs.

To fulfill our goal of bringing more propshops to Utah, we will hold training sessions for Extension agents, Master Gardeners, and UNPS members this October. Susan will show participants in detail how to prepare for and present a native plant propagation workshop, including some of the tricks she has learned to get the seeds to germinate when she wants them to germinate and giving follow-up advice. NOTE: October training session participants must commit to holding propagation workshops in their communities in late winter 2004. Two identical three-hour sessions will be held from 9 am till Noon at the Thanksgiving Point Greenhouses on Saturday, October 11, and at the Utah Botanical Center Greenhouses on Saturday, October 18. To register for one of these training sessions, contact Debbie Amundsen, Assistant Director of the Utah Botanical Center, at 801-451-3405 or debbiea@ext.usu.edu.

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Utah Ladyfinger
Astragalus utahensis

Bitsy Schultz

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Sego Lily

Newsletter of the Utah Native Plant Society

VOLUME 26, ISSUE 6

NOV/DEC 2003

The Effects of Fire on Rare Plants

From the California Native Plant Society website.

Forest fires, and the way the Forest Service manages fires, have been in the news a lot for the last couple of years. Lawmakers are concerned, the Chief of the Forest Service is concerned, people that live in forest communities are concerned, but should conservation biologists be concerned?

There is no doubt that uncontrolled wildfires in forests that are congested with excessive fuel-loads are very dangerous and have taken a heavy human and economic toll in recent years. However, fire intensity varies greatly depending on man factors, and the effect of fire on forest communities and rare species may not always be immediately apparent. The majority of concerns over the impact of fires on rare species have focused on rare plants. Most animals can move out of the way of approaching wildfires and avoid the immediate and direct effects of fire (not to discount the often significant, short-term impact on their habitat). Plants, on the other hand, are generally not able to escape. But does that mean that "fire" is bad for plants? As it turns out, in most cases it is not.



NOV/DEC 2003

The Effects of Fire on Rare Plants

Discounts on Internet Service for UNPS Members

Annual Members Meeting 2003

Deer Valley Resort's Fire Plan Protects the Environment

Books Reviews

Rare Plant Guide Goes Digital

A Utah Flora Update

UNPS President Receives Award

Events and Activities



This counterintuitive fact has lead to some misleading information about the overall impact of wildfire on the biological resources of public lands. The impact of this misunderstanding on national policy is illustrated in documents prepared by White House staffers last summer. The White House announced its Healthy Forest Initiative (HFI) in the shadow of the Squires Fire (Oregon) in August 2002. They specifically cited the adverse effects of wildfire on endangered species like Gentner's Fritillary as one of the factors motivating the development of the HFI. However, as it turns out, one of the factors identified as contributing to the need for listing Gentner's Fritillary as endangered in the

<http://www.whitehouse.gov/infocus/healthyforests/sect6.html>

FIRE EFFECTS (cont)

first place was the suppression of natural fires

(Federal Register March 23, 1998, v. 63 no. 55 pp 13819-).

To fill the fire-effects information gap and to support the programs of the Forest Service and other agencies, I classified the effects of fire on the 186 Federally listed, proposed, and candidate plant species that are known or suspected of occurring on National Forest System Lands across the nation. Effects information came primarily from U.S. Fish and Wildlife Service documents, state Natural Heritage Programs, and NatureServe reports. Plants were classified into one of four fire-response classes:

Requires Fire, Tolerates Fire, Not Affected by Fire, and Adversely Affected by Fire.

For Additional Information:

Wayne Owen: USDA Forest Service, National Botany and Rare Plant Program Leader



Plants that Require Fire (++):

Twenty-five percent (47 of 186) of all listed, proposed, and candidate species actually require fire to maintain and sustain their native populations. In most of these cases, fire is necessary to maintain the ecological conditions that the plant requires to thrive.

For example, Smooth Coneflower (*Echinacea laevigata*) requires frequent fires to maintain its preferred open-canopy. In contrast, some rare plants such as Kincaid's Lupine (*Lupinus sulphureus* ssp. *kincaidii*) depends on pollinators (such as the rare Fender's blue butterfly) that require fire-maintained habitats for their habitat survival.



Plants that Tolerate Fire (+):

Sixty-five plants on the list of listed, proposed, and candidate species (35 percent) tolerate fires without long-term adverse impacts to their local populations. Some of these plants, like *Spiranthes diluvialis*, occur in habitats that burn infrequently or at long intervals. Others, such as Winkler's cactus (*Pediocactus despainii*) are typically dormant during the primary fire season in the places they live and are therefore usually not exposed to fire.



Plants that are Not Affected by Fire (0):

Thirty-eight percent (70 of 186) of the plants considered are not affected by wildfire at all. These plants typically occur in habitats that never experience fire. For example, aquatic plants like the mat-forming quillwort (*Isoetes tegetiformans*) never experience fire.



Many plants live in habitats with so little plant-life that there is essentially no fuel to carry a fire. There are several desert species (such as *Astragalus desereticus*) and beach or dune species (such as *Cirsium pitcheri*) that fit in this category.



There are also several species on the list that occur in the tropical forests of the Caribbean National Forest, such as the El Toro Babyfoot Orchid (*Lepanthes eltoensis*), that have never experienced a natural fire.

Plants that are Adversely Affected by Fire (-):

There are just four plants (about two percent) of the 186 listed, proposed, and candidate species occurring on National Forest lands that are actually harmed by fire. All four species occur in the Southeast in southern Appalachian late seral (old-growth) forest types. Two of these species are rare trilliums (*T. persistens* and *T. reliquum*). The large-flowered skullcap (*Scutellaria montana*) is immediately threatened by land conversion suburbanization) and exotic species. The rock gnome lichen (*Gymnoderma lineare*) is one of only two lichen species protected by the Endangered Species Act.

Persistent Trillium



Relic Trillium

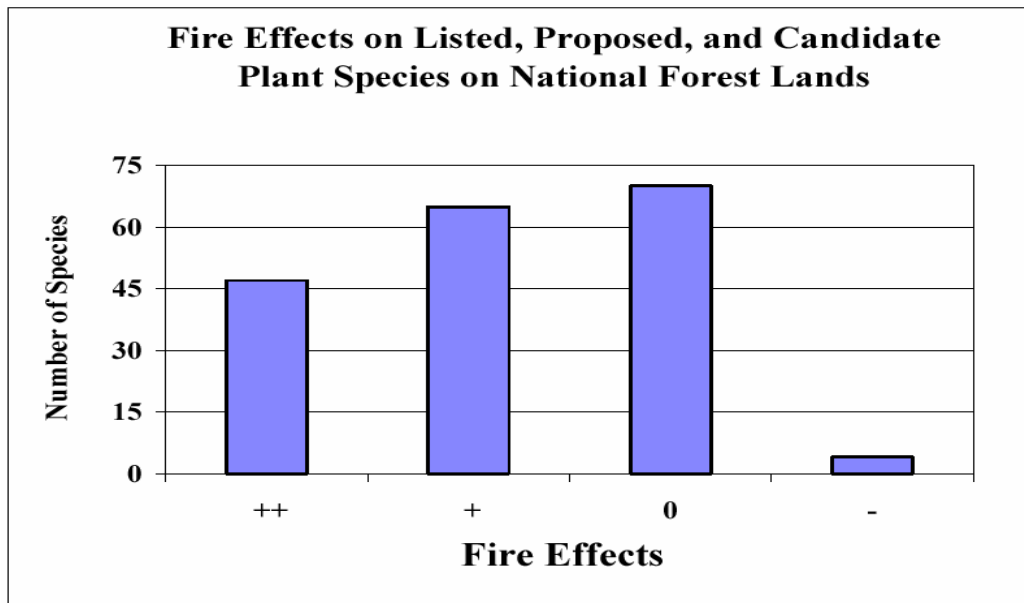


Large-flowered Skullcap



Rock Gnome Lichen





++ Plants that require fire to maintain their populations or requisite ecological conditions.

+ Plants that tolerate fire without adverse population consequences.

0 Plants that are not effected by fire.

- Plants that are adversely affected by fire.

Data derived primarily from U.S. Fish and Wildlife Service documents and NatureServe Explorer Reports.
n=186.

Discounts on Internet Service for UNPS Members

By Larry Meyer

XMission is an internet service provider (ISP) in the Salt Lake City area. They are now offering a discount to members of the UNPS. They have been generous in providing web hosting for the Utah Native Plant Society at essentially no cost (a \$50 per month donation). We have thanked them before and I would like to thank them again.

For those who have not seen our site it is at www.unps.org. Our board member, Tony Frates, has done a lot of work on this site. Most recently, there has been a major effort to electronically publish the Utah Endangered, Threatened and Sensitive Plant Field Guide. There are currently 200 (approx) plants covered with descriptions, maps and photographs and it is still under active revision. Click on rare plants on the top menu.

The discount to UNPS members is to provide ISP service, either modem or DSL, for \$15 per month. Their regular charge is \$19. There is a \$10 set up charge. If you already use XMission the set up fee is waived, you just save \$4 per month. Just mention that you are a UNPS member when you call 801-539-0852, or toll free at 1-877-XMISSION (964-7746). They are open 9 AM to 8 PM Monday through Friday. I do not know the entire range of their coverage state.

I feel XMission is an excellent ISP. I already use them myself, and my own experience is that they provide an excellent connection and an outstanding level of support when required. They also support our organization and many others in the state. If you are looking for an ISP (or already use XMission) this is a great deal.

2003 ANNUAL MEMBERS MEETING

Saturday, November 1st

Beginning with a tour of the **Herbarium**

tours will run at 11.00, 11.30 and 12.00 (ending at 12.30pm)

The Herbarium is located on the USU Campus, 5305 Old Main Hill, Logan, Utah 84322-5305
In the basement of the Junction A Campus Cafeteria.*

New World Pot Luck Dinner & Election of Directors
Starting at 1:00 pm

**Dr. Richard Shaw, Director Emeritus of the Intermountain Herbarium,
will be the featured speaker**

"Pollination; a tale of seduction, trickery and theft"

Logan Justice Center Public Meeting Room
290 N 100 W
Logan

*Herbarium parking is available on Saturday in the Engineering building lot (West of Fine Arts),
walk across 700 North, then go into and through Richard Hall Dormitory to the Junction Building.
The Herbarium is down the stairs in the basement.

contact:

Michael Piep Call (435)797-0061, stop by the Herbarium, or e-mail fungi@biology.usu.edu

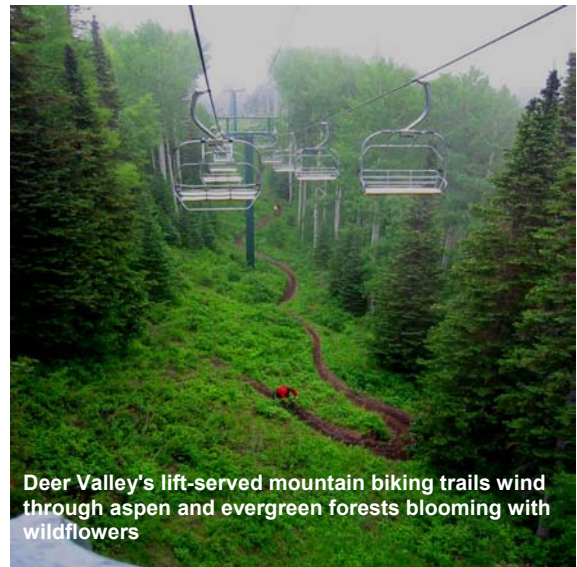
Deer Valley Resort's Fire Plan Protects the Environment

By Harriet Wallis

Deer Valley Resort is renowned for its luxurious winter skiing. It made a superb venue for the 2002 Winter Olympics. It's great for summer activities that run the gamut from lift-served mountain biking on 50 miles of trails to hosting beautiful weddings. It's also known year round for its fabulous dining.

What is not well known is that Deer Valley has a comprehensive wild fire plan to protect the environment - its own environment as well as the environment of others.

To set the stage, Deer Valley Resort is located on more than 1,700 acres of open slopes and tree-filled canyons in Park City, Utah. The summit overlooks Jordanelle Reservoir, and from the summit there's a bird's eye view for a zillion miles.



Deer Valley's lift-served mountain biking trails wind through aspen and evergreen forests blooming with wildflowers

With that view, the mountain bike patrol does double duty. They assist cyclists, and they are lookouts for wild fires anywhere across the expansive valley. They've called in numerous sightings that gave fire fighters a head start.

In the 1990s heavy smoke from a Midway fire billowed over the mountain, making wild fire a sober threat. To protect the environment, Deer Valley keeps its extensive snowmaking system operational. The snowmaking pond high on the mountain at 9100 feet is the water source. The valves are open, the system is charged, and all the snowmaking pipes have water in them. The snowmaking system is spread throughout the mountain and covers more than 500 acres. Shovels and additional snowmaking hose are cached throughout the mountain.

"We are ready for a fast response, but we do not anticipate being the first line of defense. The first thing we'd do is call 911," says Director of Mountain Operations Chuck English.

All of the resort's managers carry cell phones or radios so they can communicate quickly. In case of fire, some will go to the main gate and direct the fire crews onto the sprawling mountain so they get to the site quickly. Others will help fire crews re-supply their tankers with water so they don't have to leave the mountain for a hydrant on the street.

Fire prevention is primary. Deer Valley built a special water trailer and hauls it onto the mountain whenever summer maintenance calls for welding or grinding. The area is soaked before work begins. Then a fire spotter stands by with hose in hand. Resort workers learn fire fighting basics from the Summit County Fire Warden, and all the resort's trucks carry fire extinguishers. They've put out fires on the mountain twice in 12 years.

A maintenance vehicle had a short and caught on fire. Quick action kept the thigh high grass from going up in flame, but the vehicle was totaled. In the other instance, workers used snowmaking hose to put out a grass fire that was possibly started by a careless hiker.

"Everybody in our business should be concerned about fire when the summers have been so tinder-dry," says English.

Follow-up news

Alta and Brighton have received national attention for their indigenous seed programs. They exceed USFS standards by re-vegetation with seeds picked right on their mountains that are adapted to the harsh, high elevation conditions. The July/August issue of Sego Lily carried the story of their programs.



Book Reviews

By Therese Meyer

Two new books for Intermountain and High Elevation Gardeners:

WATERWISE Native Plants for Intermountain Landscapes

Wendy Mee, Jared Barnes, Roger Kjellgren, Richard Sutton, Teresa Cerny, and Craig Johnson.
220 pages, including color photographs. Hardbound, \$59.95.

USU Department Plants, Soils and Biometeorology, Center for Water-Efficient Landscaping,
Utah Botanical Center Utah State University Press, Logan Utah 84322-7800

<http://www.usu.edu/usupress/individual/water%20wise.htm>.

Brooke Bigelow can be reached at: brooke.bigelow@usu.edu.

A much-anticipated publication, WATERWISE Native Plants for Intermountain Landscapes is now available. The full-color book covers more than 200 species, including woody plants (~50), forbs (~120), grasses (~22) and cacti (~6). Most plants are allotted a full page with one or more photos and information on the appearance, natural habitat, landscape use and other useful comments about the species and related taxa, including interesting cultivars. In the landscape use section, information is given on

Hardiness,

Drought tolerance

Establishment

Maintenance needs

Best use in the garden setting

Wildlife value

This volume stands out from the several other waterwise landscape books that have come out in the past few years in that it does not include the many non-native but drought-adapted plants that have become standard fare in this area.

The Introduction focuses on the vegetation communities present in the intermountain west, how specific native plants are adapted to the soils and climates, and how those adaptations translate to the garden or cultivated landscape setting.

Charts at the back of the book provide a handy quick guide to which plants are appropriate for various vegetation zones (subalpine, montane, foothills, desert, and riparian), and include the page number to find out more about the particular plant species. The Index cites both common and Latin names, for those who appreciate bi-lingual botanizing.

The authors drew upon the expertise of numerous people who have been instrumental and influential in the horticultural introduction of Intermountain West native plants, including Susan Meyer, David Bell, Bill Varga, Phil Allen, and Paula Mohadjer.

The price of the book, \$59.95, is high compared to prices for several other guides, but the book is hardbound with lots of great photos, and it is specific to the intermountain region: the first such work.

Book Reviews cont

NATIVE PLANTS for High-Elevation Western Gardens

Janice Busco and Nancy R. Morin
352 pages, including color photographs. Paperback, \$29.95.

Fulcrum Publishing, Golden, CO

Contact: Linny Stovall
Gardening Sales Manager, Fulcrum Publishing
503.245.5280 voice
7530 SW Stewart St, Portland, OR 97223

Authors Janice Busco and Nancy R. Morin, with The Arboretum at Flagstaff, have just released Native Plants for High-Elevation Western Gardens. It is a beautiful book for the region, serving gardeners so well in this time of draught. Not only does it cover general information about creating native gardens, but descriptions of 150 plants (for 2,000 ft to 10,000 ft. elevation).

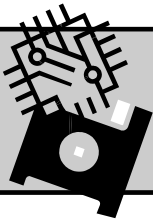
Each plant has two gorgeous color photographs, and includes:

- characteristics,
- native range,
- bloom season,
- culture,
- outstanding features,
- landscape use,
- wildlife attraction, and
- historical and modern uses.

One major difference between this book and some other native plant guides for horticulture; is this one does not include trees or cacti: only perennials, grasses, bulbs, vines, ferns and ground covers. Although the book is designed more with a Southern latitude emphasis, the selected plants are suitable for Zones 1-5, so most of them will do well in our area.

The introductory pages give detailed descriptions of USDA plant zones 1 through 5 of the high-elevation west, including climate information, plant habitats, and typical plant communities found in those habitats. The opposite page shows the USDA map of the entire continental United States for reference.

The next sections cover how to take stock of your garden space: how much water should be used, what sort of garden would be appropriate and how to prepare. Attention is given to understanding the soil condition, and to weed control through minimizing soil disturbance, and use of mulches. Unlike many of the plant guides available, this one goes into nice detail about the actual planting, spacing, and fertilizing. The authors discuss how to obtain plant material (in the back of the book there are lists of native plant sources in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming, including web sites where available), and caution against



RARE PLANT GUIDE GOES DIGITAL

by Tony Frates

After some twelve years since its predecessor publication, Utah will by year's end have an updated and now on-line rare plant field guide to assist in the identification and management of these natural native treasures.

Utah is typically included in a group of about seven western and southern states which contains the greatest percentage of globally rare vascular plants as a percentage of each state's total indigenous flora (after California and Hawaii). In a highly publicized 1998 worldwide survey, it was estimated that one in eight (or 12.5%) of plant species worldwide were imperiled (with the United States leading all countries with an estimated 4,669 species comprising some 29% of the total). Habitat loss and invasive species are generally considered to be the two greatest threats to the world's native plants.

Work on the Utah guide will by no means be complete at year's end but will rather simply mark the end of a 2003 project funded by several government grants (and which culminates a 1997 funding agreement), the primary goal of which has been to update and enhance the 1991 field guide (*Utah Endangered, Threatened, and Sensitive Plant Field Guide*) with materials (drawings, photographs, descriptions) that have accumulated (some of which related to prior, separately funded projects) over especially the last six or so years along with putting the guide on the web.

The prior guide was a pioneering work spearheaded by Dr. Duane Atwood. While there had been prior government publications containing line drawings, distribution maps and descriptions of Utah rare plants, prior to the 1991 guide no state wide publication of rare plants that also included color photographs (including both plants and their habitats) and which categorized plants in various ways (for example, by soil type, management authority, etc.) existed. After the 1991 field guide release, other states emulated the Utah example.

But while supplemental updates to the 1991 publication had specifically been contemplated, further updates for various reasons did not occur. The original materials used became scattered, lost or obsolete.

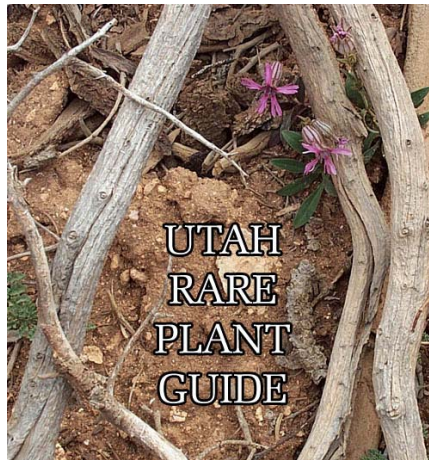
Funding for an updated Utah guide (then still contemplated as a printed publication) was secured by the BLM in 1997 which was to be funneled to the U.S. Forest Service (who was going to undertake the actual work and provide some matching funds). While updated and new information was accumulated during this period, no actual work on the guide itself occurred and the funding was scheduled to expire in 2003.

After determining in January 2003 that the funds were amazingly still available and allocated to this project, fortunately this funding was not lost and work on the guide was planned primarily for the second and third quarters of this year with multiple federal agency (BLM-USFS-NPS) and partner (Utah Native Plant Society) participation. UNPS received a challenge grant related to its involvement.

The 1991 guide contained approximately 200 plant species (or in some cases varieties). As of September 2003, about that same total number now exist on-line (although some are still not fully complete and in many cases are awaiting technical review). This

does not mean that these are the same 200 species. Many changes have occurred over the past 12 years, new species have been either discovered or named (according to one estimate, 50 new plant species were discovered in Utah and Nevada over the past decade), a number of the scientific names have changed, some species or varieties are no longer to be considered valid taxon, some species are not as rare as originally thought and so forth. By year's end, the number will likely rise to somewhere in the 225 to 250 range.

Since incomplete information exists for some species presently, future updates to the guide will include adding that information (in some cases this will involve



plants that will not even have a page reference as of year's end). Errors will undoubtedly be identified; fixing them will now be easy to quickly accomplish and make immediately available. Newly named or identified species will be added and other species no doubt will be dropped as new scientific information becomes available in the future. In addition, expanded information on many of the species (subject to the availability of future funding) may be added to include for example additional photographs, more text, references, etc.

Like its predecessor, the *Utah Rare Plant Guide* will for many if not most of these species provide pictures of what these obscure and mostly unknown plants even look like along with other information that is otherwise not readily available from any other source, and it will secondarily hopefully help to document (albeit perhaps superficially) for future researchers the state of our knowledge about them, currently and historically. This project has re-kindled communications between various groups, agencies, institutions and knowledgeable individuals and fostered a broader exchange of information (which has in part been building as a result of the rare plant task force meetings which have been resurrected over the course of the last several years by Red Butte Garden and UNPS).

Ron Bolander of the BLM has provided outstanding support and encouragement for the guide (he was also involved with the 1991 publication) and this project could not have occurred without that support. Technical information has been actively sought and received by everyone involved with the prior publication as well as many others (and that continues to be the case: input from anyone who has information about Utah's rare plants is more than welcome and at any time, please contact us by sending an Email to unps@unps.org).

The role of UNPS has been to overall assist in coordinating this project and to take the digital product and updated write-ups (the scanning of prior materials and updated write-ups has been performed by Laurel Anderton, employed for this purpose by the NPS to whom available funds were channeled, Laurel has worked primarily at the USU herbarium and under the general guidance of Teresa Prendusi, regional botanist for the USFS and Debi Clark, BLM botanist) and produced web-enabled pages that could also be printed at an acceptable printer resolution (which are at odds with one another) and even inserted into the binder of the original guide. Ultimately an approach that quite literally attempts to put the book on-line (an approach that is believed to be unique at least with

regards to rare plant guides) was adopted. UNPS has also committed to hosting the *Utah Rare Plant Guide* on an ongoing basis.

The direct link to the *Utah Rare Plant Guide* project is (at least currently):

<http://www.unps.org/fg/rpg.html>

(click on List of species to see the bulk of the work). Or go to www.unps.org and click on Rare plants and from there locate the link to the guide which will continue to receive frequent updates for the duration of this year.

UTAH FLORA UPDATE

UNPS has learned that the much awaited third edition of A Utah Flora is at the printing presses and will be released very soon. The last version was published in 1993. More information will be released as it becomes available (for the latest information, click on News at

www.unps.org).

UNPS PRESIDENT RECEIVES AWARD

Susan Garvin was honored to receive a Partnership Award from the North American Weed Management Association at their annual meeting in Park City September 10, 2003.

The award was presented to recognize her work on educating the public and organizing volunteers to work on eliminating the noxious weed yellow starthistle from Utah County.

She has also been active helping to organize the first Cooperative Weed Management Area in Utah County, which has adopted yellow starthistle as its poster child and has made public education on noxious weeds one of its primary goals.



Events and Activities

There are a number of conferences coming up that our members may be interested in.

Society for Ecological Restoration National Conference
Nov 19-22, 2003
Austin, TX
visit: <http://ser.org>

Colorado Weed Management Association Annual Meeting
December 10-11, 2003
Fort Collins, CO
visit: www.cwma.org

High Altitude Revegetation Conference
March 3-5, 2004
Fort Collins, CO
Information forthcoming at : www.hightitudereveg.com/har

Utah's Department of Natural Resources is looking for volunteers to assist with two projects. These activities will benefit some of Utah's most rare animal species - the Columbia spotted frog, the least chub and the June Sucker. Volunteer for one or more days! For more information, contact

Jo Proctor or Krissy Wilson at the phone numbers or emails listed below.

Removal of non-native fishes from the Mona Springs complex

October 19 to 31, 9:00 am to 3:00 pm
(you can volunteer for one or more days).

Location: Mona Springs complex (south of Provo); departure will be from The Division of Wildlife Resources, 115 North Main, Springville. No experience needed; training provided.

Description of Project:
Removal of non-native fish from Mona Springs.

The project is effective at removing the large mosquitofish that are predaceous on the small least chub, a rare native fish, and the rare Columbia spotted frog. Fish will be trapped with collapsible mesh minnow traps. Minnow traps will be set for approximately 24 hours. All captured fish will be identified to species, enumerated, and length measurements taken on least chub and mosquitofish. All non-native fish will be euthanized and native fish will be held in a live well. Upon completion of project the native fish will be released back into the system.

Duties for Project: To help remove non-native fish. Equipment needed: hip boots or chest waders, raingear (project will be conducted rain or shine), your own lunch.

Note: if you do not have hip boots or chest waders, they may be provided

Number of volunteers needed: 4 for each day

Contact person: Jo Proctor at (801) 491-5657 or joproctor@utah.gov ;

Krissy Wilson at (801) 491-5655 or krissywilson@utah.gov

Capture, mark, and remove 4,000 June suckers from Red Butte Reservoir

Date: October 29, 2003, 8:30 am until 4:00

Location: meet at the entrance of Red Butte's amphitheater, 300 S Wakara Way, Salt Lake City

Description of Project: Approximately 16,000 June suckers, an endangered fish, are present in Red Butte Reservoir, established as a backup population for the very small native population in Utah Lake.

There are sufficient numbers of June sucker in Red Butte Reservoir to collect and transfer at least 4,000 individuals to Utah Lake. This will increase the number of June suckers present in Utah Lake and increase resource availability for remaining June sucker and Bonneville cutthroat trout in Red Butte Reservoir. All June suckers captured, greater than 150 mm, will be PIT tagged, weighed, measured, and placed in hatchery trucks and transported to Utah Lake and released.

Duties for Project: pull, weigh, measure, tag and help get June suckers ready to be relocated

Equipment needed: hip boots or chest waders and raingear (project will be conducted rain or shine); your own lunch

Note: if you do not have hip boots or chest waders they may be provided

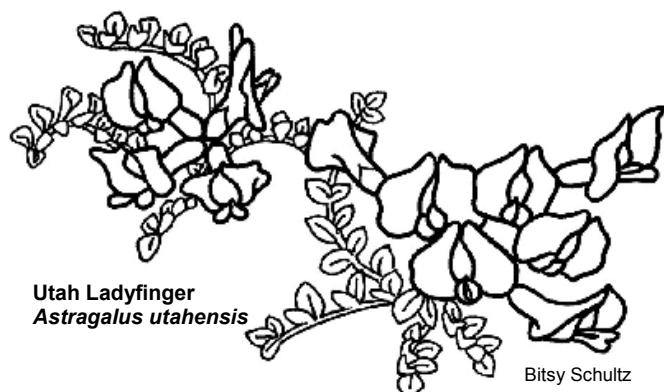
Number of volunteers needed: any

Contact details - as above

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

Return Service Requested

Non-Profit Org.
U.S. Postage
PAID
Salt Lake City,
Utah PERMIT No.
327



Utah Ladyfinger
Astragalus utahensis

Bitsy Schultz

Utah Native Plant Society Membership and Information

☐ New Member ☐ Renewal ☐ Gift

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

Check membership category desired:

- ☐ Student \$9.00
☐ Senior \$12.00
☐ Individual \$15.00
☐ Household \$25.00
☐ Sustaining \$40.00
☐ Supporting Org. \$55.00
☐ Corporate \$250.00 and up
☐ Lifetime \$250.00
☐ Please send a complimentary 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

For more information about the
Utah Native Plant Society call:

Bill King: 582-0432
Susan Garvin: 356-5108
Larry Meyer: 272-3275
Or write to: unps@unps.org

**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 Longhurst
at scoobydo@xmission.com.
**The deadline for next issue
is December 15th**

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