



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.



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This counterintuitive fact has led 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 deserticus*) 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 (-):

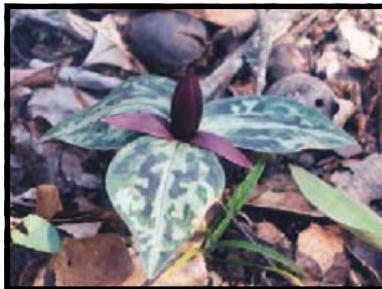
There are just four plants (about two percent) of the 186 listed, proposed, and candidate species occurring on National Forest lands that are actually harmed by fire. All four species occur in the Southeast in southern Appalachian late seral (old-growth) forest types. Two of these species are rare trilliums (*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.

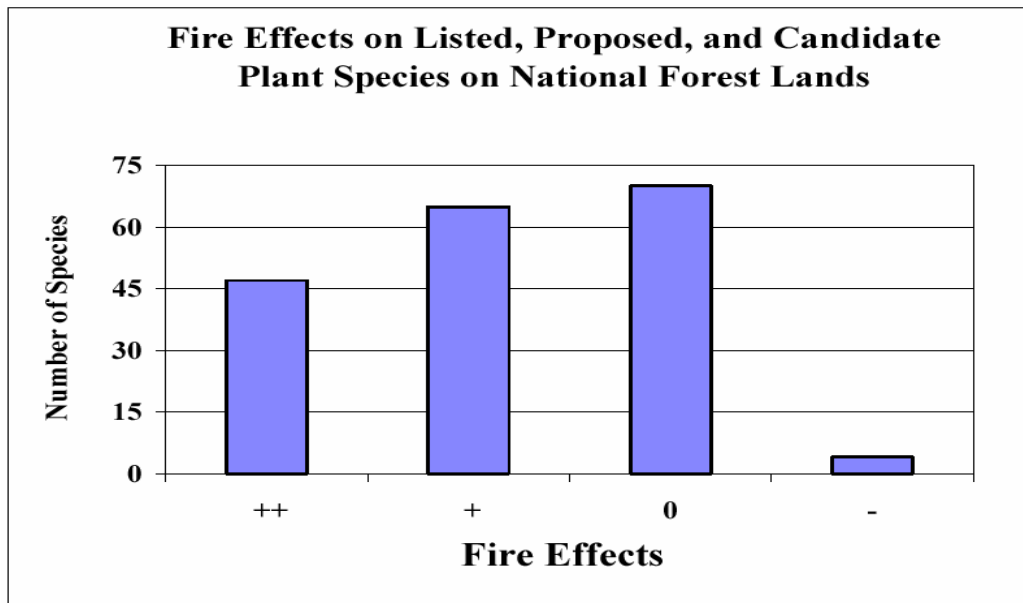
Persistent Trillium

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 Dormatory 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

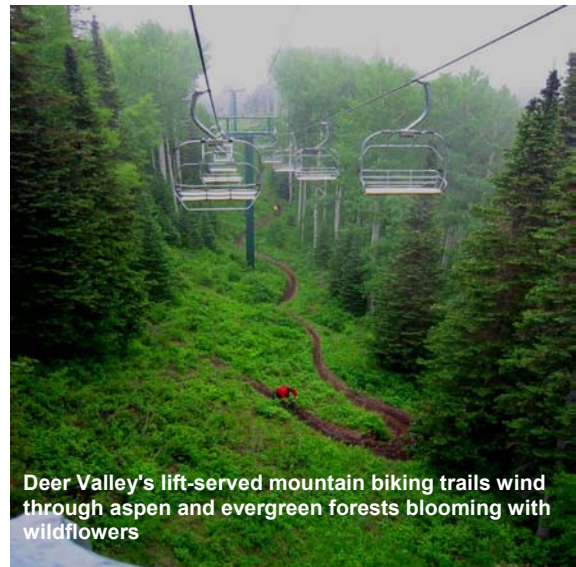
Deer Valley Resort's Fire Plan Protects the Environment

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/individl/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,

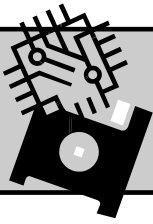
wildlife attraction, and

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.

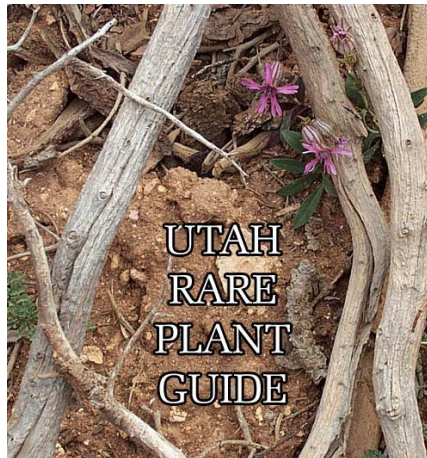
Work on the Utah guide will by no means be complete at year's end but will rather simply mark the end of a 2003 project funded by several government grants (and which culminates a 1997 funding agreement), the primary goal of which has been to update and enhance the 1991 field guide (*Utah Endangered, 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.highaltitudereveg.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

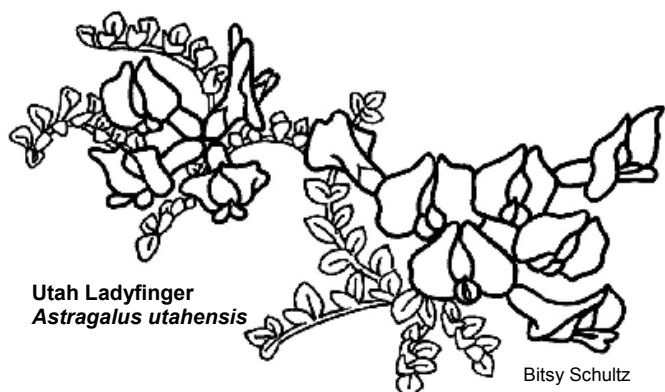
Number of volunteers needed: any

Contact details - as above

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

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Utah Native Plant Society Membership and Information

New Member Renewal Gift

Name: _____
Street: _____
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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 Se-go 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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