Sego Lily
Newsletter of the Utah Native Plant Society

VOLUME 28 , ISSUE 6

November/ December 2005

Proposed Utah Museum of Natural History site – who benefits?

The new museum and parking lot will be built on 17 acres of the undeveloped foothills right next to Red Butte Canyon.

According to the downloadable brochure http://www.umnh.utah.edu./museum/AboutUMNH/downloads/EISScopingBrochure.pdf this process began in 1994 and the land - owned by University of Utah has been earmarked for the museum development since 1997. According to the website and local press reports *we will all benefit*.

Walkers, Hikers, Bicyclists, Dog Walkers etc.

The site *appears* to sit on top of the existing trail and block access to the popular "living room" trail. Although the website insists that the trail will be preserved during and after building it also states that the EIS alternatives may consider "minor permanent trail realignments".

In 1999 $1.5 million was spent to connect the trail across Parleys Canyon, and currently plans are in the works to connect the Bonneville Shoreline Trail with the Jordan River Trail, but the museum is about to build a complex that will sever a key part of the trail system.

Traffic

The new site will bring even more traffic onto the research park which, at peak times can hardly handle the current volume. Parking is at a premium at that end of the research park with most of the parking (except Red Butte Gardens) being for University use, meaning you have to have a permit to park there. TRAX stops at the U, and although there are surely plans in the works to extend it out to the research park it's currently a long walk for any student who wants to visit the new complex.

Socio Economic

Concerns were raised by the public that the museum's new location - on the East bench would make it less accessible to lower income members of the community.

Also listed among public concerns were open space and aesthetics along with impacts on wildlife and vegetation.

According to the UMNH website http://www.umnh.utah.edu./museum/AboutUMNH/newBuildingEIS.html
Public scoping was conducted in early 2005 and an Environmental Impact Study is being prepared and UNPS has expressed an interest in seeing it's results.

However because a "well-attended" public meeting was conducted during scoping for the Environmental Assessment, another public meeting *will not be held for scoping the EIS.*

UNPS and particularly the Salt Lake Chapter will be keeping a close eye on this project and we could use your help. The Draft EIS will apparently be available for public review *and comment* early in 2006. There will be a 60 day comment period and a public meeting. Comments on the DEIS will be used in preparing the final EIS. So go to the website http://www.umnh.utah.edu./ and monitor the announcements, submit comments, attend the meeting and make your views known. Utah may need an updated Natural History museum but not at the expense of a key piece of the Bonneville Shoreline Trail and the foothills surrounding it.

Minutes of UNPS Annual Meeting - Held September 30th 2005

Dave Wallace opened the meeting at approximately 6:30pm.

Approximately 44 people present, 22 of which are UNPS members

Active board members present: Larry and Therese Meyer, Susan Garvin, Bill King, Tony Frates, Celeste Kennard, Dave Wallace, Bill Gray, Mindy Wheeler.

UNPS members voted on the board nomination list to elect the following people to the board for the upcoming year:

Walter Fertig	Robert Fitts	Jackie Freshwater
Tony Frates	Susan Garvin	Bill Gray
Marie Griffiths	Celeste Kennard	Bill King
Kipp Lee	Margaret Malm	Larry Meyer
Therese Meyer	Jeff Mitchell	Eugene Schupp
Dave Wallace	Winnie Washburn	Mindy Wheeler

The 5 new members nominated to the board are: Walter Fertig, Robert Fitts, Marie Griffiths, Kipp Lee and Jeff Mitchell.

Susan Garvin expressed a wish and hope for UNPS to grow in membership for more visibility and clout. Board members agreed that the key to growth is more chapter activities and the best way to achieve that is more active members.

Dave Wallace asked for a short report on the different committees within the UNPS.

Conservation: Tony Frates told members the best way to get an idea of what is going on for conservation is to visit the UNPS website. Elaine York from TNC briefly explained the recent purchase of the White Dome Preserve for the

Bear Claw poppy and told members they can contribute specifically for the purchase of this piece of property by writing White Dome Poppy Preserve on their checks. Tony also mentioned that UNPS has joined in several lawsuits to protect some species and their habitats, but no UNPS money has been contributed to these suits.

Susan Garvin called for more participation on the invasive species committee. It was pointed out that Susan has done an incredible job at raising awareness and keeping yellow starthistle at bay in Utah County.

Bill Gray then did a great presentation on 'Flower and Bird Watching in Utah' and walked the audience through his new cyberflora undertakings. WOW!

2006 High Altitude Revegetation Workshop March 7-9,

You are cordially invited to attend the seventeenth High Altitude Revegetation Workshop March 7-9, 2006. The workshop will be held at the Hilton Hotel in Fort Collins, Colorado. The High Altitude Revegetation Committee, through its biennial workshops and field tours, strives to promote understanding and education of reclamation techniques for fragile high-elevation ecosystems. Much of the information is also applicable to lower elevation situations.

Workshop participants will receive the published proceedings. An exhibitors area will feature displays of new techniques, plant material, equipment and services. The Poster exhibits will convey additional revegetation and research information. It is an excellent time to socialize with others working with the many aspects of high Altitude revegetation.

In addition to the conference workshop on March 8 and 9th, there will be a ½ day Technical Workshop March 7 on basic aspects of revegetation. Visit the HAR website highaltitudereveg.com for additional information about all of the events. If you have any unanswered questions, call Gary Thor (970-484-4999) or Wendell Hassell (303-431-6405).

We hope to see you there.

Correction In the September/October Issue, we mistakenly attributed the autumn buttercup reintroduction proposal to Elaine York it was *actually* submitted by Linda Whitham of The Nature Conservancy's Moab office. Thanks to Elaine for pointing that out!

Nov/Dec 2005

Natives in the News

These articles are re-produced with permission from the authors, thank you to Larry A. Sagers of the Deseret Morning News . Research by Kelly McNulty

Experiment and have fun, horticulturist says

By Larry A. Sagers
Deseret Morning News

Dick Hildreth, the founding director of Red Butte Garden, is one of the best friends Utah gardeners have ever had.

He has spent his life researching, teaching and sharing his vast horticultural knowledge with gardeners in Utah and surrounding states, and there are few people who are as well qualified to teach about the plants that flourish here.

On Thursday March 3rd, 2005, Hildreth, who retired to Arizona in 1999, returned to Utah to talk about gardening in the West. He also compared gardening in the Mojave, Sonoran, Chihuahuan and Great Basin deserts. The event was co-sponsored by the Wasatch Rock Garden Society, the Utah Native Plant Society, the Utah Nursery and Landscape Association and Utah State University Salt Lake County master gardeners.

Penstemon thrives in the Tucson heat. Native plants are valuable because they are already adapted to the area.
Larry A. Sagers

Hildreth's love of plants started early in his life. His father, respected horticulturist Aubrey Clare Hildreth, was the director of the Cheyenne Field Station for the U.S. Department of Agriculture.

"His job was to discover and introduce new woody plants that had commercial and ornamental value and were tolerant of the harsh Wyoming conditions," Hildreth said in a phone interview from his home in Tucson.

Those experiences helped Hildreth learn about the many varieties that could thrive in Utah's cold winter climates. And although Cheyenne Field Station has been closed for many years, "my dad's work lives on because he instilled in me a love of finding new plants and getting others to try them," he said.

Hildreth's education in Wyoming was followed by other studies at Ohio State and the University of California-Davis. He left his position as director of the Saratoga Horticultural Foundation and moved to Utah in 1977 to direct the state arboretum on the University of Utah campus.

While in this position, he envisioned a unique Intermountain botanical garden that would not only be a showplace but an outdoor laboratory for new plants. The result was Red Butte Gardens.

While much of his career has been devoted to trees, Hildreth is passionate about other plants. He helped found the Utah Native Plant Society and helped other organizations promote plant discovery, preservation and use.

A vivid pink bloom atop a bed of cacti shows the beauty of native plants.
Larry A. Sagers

"I have a fondness for native plants because most are already highly adapted to our area," he said.

When he moved to Tucson, Hildreth looked for an area where he could carry on his work as a researcher and educator. His home, which sits on a little more than an acre, still has much of the original vegetation surrounding it. The plants include mature cacti and succulents, including about two dozen saguaro cacti.

"I selected the site because it still had the native vegetation but it included many other well-selected, and well-cared-for, introduced plants, including four or five Aleppo pines," he said.

"I had to do some renovation when I first got here. I started by taking out all the large, overgrown pyracantha shrubs that had been pruned to look like clouds," he said. He's also adding to the existing plants and is currently trying several species of penstemons, salvias and lavenders.

"I also am trying many different aloes, agaves and yuccas," Hildreth said. "There are many of these plants that have not been adequately tested in colder climates. The little-known *Agave utahensis* should survive in the right spot."

Although conditions in Tucson are not the same as in Salt Lake City, there are some similarities, he said. "My home sits above the city a few hundred feet, so the air is a little cleaner. It is a little like living on the east bench, only the elevation is about 2,000 feet lower.

"Gardening here is in many ways very similar, but the plants grow differently. For example, my red chili peppers are now 3 years old and still growing. Many plants I grew in Salt Lake as annuals are excellent perennials here.

"Annuals are fun here, but they usually turn out to be perennials under our conditions. They grow well in the winter, and then when the intense heat comes in May, they fade out but come back in the fall.

"One plant I am trying is the native perennial marigold, *Tagetes lemmonii*. It comes from an elevation of near 9,000 feet, so I think that one has some possibilities in Salt Lake. It is a small, shrubby perennial with golden orange flowers.

"My bottom-line advice to gardeners is to have fun, experiment and don't be afraid to push the envelope. Be willing to try something new. If it does not work out this year, perhaps it will thrive next year.

"Even if it does not grow, you will have learned something."

Larry Sagers is the regional horticulturist at Utah State University Extension Service at Thanksgiving Point.

Experiences with the San Rafael Cactus: Pediocactus despainii

Words and Picture by Jeff Mitchell

It is now seven or eight years since I rediscovered my interest in cacti. I had found a cluster of the common pincushion plant *Escobaria (Coryphantha) vivipara* on a wash bank in the House Range west of Delta, Utah. The section of bank was collapsing as evidenced by a crack between the cactus and the rest of the bank. Given that it was going to be washed away, I preemptively dug it up. When I got it home, I discovered two seed pods on it and immediately wanted to know how to grow them. I got on an internet list called cacti_etc and started asking lots of questions on how to grow cactus seeds. I then planted them and lo and behold, they sprouted! Encouraged, I started discovering other Utah native cacti like the ubiquitous *Opuntia polycantha* or plains prickly pear, and the claret cup, *Echinocereus triglochidiatus*. I knew these by sight because they were all over my favorite lizard hunting area west of Elberta, Utah, but I had never put a common or scientific name to them. I followed the pattern of a number of list members and related experiences of trips taken for the benefit of those people all over the world that can't come to where cacti are common. When I posted one of these travelogues mentioning the claret cup cactus being in Utah County, Kim Despain contacted me by email and we got together and visited the site together. We've had a lot of good times since.

I showed him my little batch of pincushion seedlings and he suggested I try some of his seeds. I panicked. *Pediocactus despainii* was listed as endangered and I wasn't particularly experienced at this point. Sprouting a common cactus is one thing, but an endangered one made me worry that I'd blow it. He reassured me by noting that he wasn't giving me all his seeds, and that since he hadn't been successful, there was a likelihood that I might be and that I should at least give it a try. After all, his plants produced seeds every year and whatever I wasted would be replaced shortly anyway.

Pediocactus despainii in flower

The cacti_etc list told me that I should start with a common cactus like *Pediocactus simpsonii* to get some experience before trying the more exotic species. The only problem was I had *Pediocactus despainii* seeds and no *simpsonii* seeds. I was starting out with the allegedly most difficult species.

So I took the plunge and planted them. I had checked with the cacti_etc list for hints, and the biggest and best hint I got was to remember to not use any potting soil, peat moss or any other organic amendments. Organic amendments all hold too much water and deprive the roots of oxygen long enough for nasty fungi to attack the plant. I followed their advice and three or four days later they sprouted. I had used the little plastic six-packs and they dried out rather quickly. I lost a little over half of the seedlings by going a little late on the watering.

The following year, Kim gave me the remaining seeds and my growing project was on its way. Since then, I've moved to using four inch pots which hold water longer and the seedlings are much closer to

the fluorescent lights I use to grow seedlings during the winter.

Cacti grow slowly. They grow even slower in small pots, so when I took them outside I planted them one to each one gallon pot so they would grow faster. This used up a lot of real estate in my back yard, but I didn't have a lot of cacti then either.

Now that I'm running out of room, I put seven seedlings per gallon pot and I have a lot less work to maintain plants that way and the depth of the pot seems to be what lets them grow fast.

The original seeds were planted on November 23rd, 2000 and in the spring of 2003 two of the plants bloomed. I was so excited. Unfortunately, they didn't bloom at the same time so they didn't get pollinated. I hadn't yet thought of the idea to gather pollen from the first one, keep it in a dry place for a couple days and then try to pollinate the second.

In 2004, 30 of them bloomed, and I collected around 300 seeds. In 2005, around 200 bloomed and I collected a little over 3000 seeds. In 2003, I also bought some San Rafael Cactus seeds from Mesa Garden, an outfit that has seeds for just about every cactus native to just about anywhere. This group may start blooming in 2006. In the end, my nervousness about growing these plants was unwarranted as they are very easy to grow.

Each year, I make sure I have a handy supply of cotton swabs for pollination and go out every day to pollinate all the open flowers. This gets a bit tedious, but collecting all the seeds makes it worth it. When pollinating, the stamens holding the pollen react (thigmotropic) to the touch and bend inward toward the stigma. I can tell which flowers have already been pollinated because all the stamens are tightly clustered around the stigma.

When collecting the seeds, I notice that they are jet black when first released from the pod, then turn brown after drying or being in the sunlight. By the time the seeds are ready for collecting, the pods are about a half inch from the growing point and picking them causes no problem to the plant based on a sample size of 350 pods.

Dealing with each plant individually allows me to inspect each one to see what is happening with it. A number of the plants had holes in their sides, and it appears that slugs like San Rafael cacti. This year, as the weather cools down, I plan on putting out a lot of slug bait this time around. I'm not sure what the deal is, but I only see damage to the San Rafael cactus. None of the other *Pediocacti* (*sileri*, *knowltonii*, *winkleri, simpsonii* (I have some now), *peeblesianus, paradinei*) or other cacti seem to attract them. The *Opuntia pulchella* (Sand Cholla) shows some damage, but I haven't been able to tie that to slugs yet. I haven't yet lost any plants to the slugs, but the holes are unsightly.

In 2001, my wife and I went to the north end of the San Rafael Swell to look for the plants in the wild. Kim had given me pointers on where to look and specific locations he had found them in the past. I had gone the previous month to look for them with my dad and my daughter, but had not found any. There were snowdrifts still in evidence and it was pretty clear I really didn't know what I was looking for. In late April we went and this time they were in flower and very easy to spot. We covered four locations each about 100 yards in diameter and counted 369 plants. Around five to ten percent did not have flowers. The largest were not more than the width of an old silver dollar, most being in the

quarter to half dollar size range. A few had multiple heads, all of which appeared to be the result of damage to the original stem. I've only seen one cluster that had more than one stem and which was not the result of damage, and that one is in cultivation. That cluster is almost seven inches across with nineteen stems. Some of the plants were situated in the middle of ORV tracks. And when we packed up our camp, we discovered a large one right next to our tarp.

I thought I detected five shades of color in the flowers from cream, cream yellow, yellow, yellow pink and pink in the wild plants. After seeing a lot of flowers on my plants this year, I'm wondering if some of the different shading is due to the age of each flower. There is a distinct difference between the yellow and pink ones though, and I pollinated the pink ones--all two of them--to see if I can get a higher percentage of pink flowers. We'll see if the other shades are really distinct.

This year, 2005, is the first year I've been able to offer them for sale at the Salt Lake Farmer's Market, and most people who buy them do so for the novelty value of having a plant that is listed as Endangered under the ESA that is also legal to possess. When I first planted the San Rafael Cactus seeds I asked around for whether or not I would need a permit. Each person would tell me yes, it is endangered, and you have to have permits for possession of endangered species. I would then ask if they could point me to the regulations, but none of these people knew where to find them. Finally--it takes me a long time to get smart--I called the Fish and Wildlife Service law enforcement office in Ogden and the senior officer there gave me both where the ESA was and where the regulations were. The short story is that if you have the plants from a legal source, you need no permit to possess an endangered plant. If you want to sell them, you don't need a permit if you sell within your own state, but need a permit for interstate sales of endangered plants and seeds and threatened plants. For those of you with interest, the regulations are found at 50 CFR parts 17.62 and 17.61.

The future promises to be fun now that I have lots of seeds and I can now start experimenting with ways to increase germination rates. I noticed that I got around twenty percent germination on fresh seed, but got close to fifty percent on seeds that were four or five years old. This makes sense since plants in hard deserts tend to have seeds that delay sprouting for several years to ensure that at least some of them sprout in a good year that allows them to get established. But I am impatient and want to speed things up, so I'll be trying things like washing the seeds to get rid of any natural chemicals that temporarily prevent germination, or scuffing the seed coats with sand paper, freeze thaw cycles, and of course letting them age to see if that really accounts for a high germination rate. It helps to have enough seeds to have a control group and try a number of experiments to compare with that control group.

At least we now know how to grow them easily, and if we had genetically representative populations, we could now produce seed for rehabilitating areas disturbed by off road vehicles. At least one spot I originally surveyed in 2001 has had around 40 to 50 plants destroyed by people using areas adjacent to the road to use as a staging area for their recreational vehicle use. So there is still a lot of work to do.

Jeff Mitchell is partner in a legal services firm specializing in telemarketing law and is propagating almost all species of native cacti north of Cedar City. His back yard has around 4000-5000 native cacti in various stages of their life cycle!

Chapter News and Events

Salt Lake Chapter

- **Chapter Meeting**
  7:00 pm, Tuesday November 1, 2005
  Jack and Corinne Sweet Library, 9th Ave and 'F' St.

  7:00 pm Brief meeting to meet people and elect a president for the chapter. UNPS board of directors has nominated **Kipp Lee** for the coming year.

  As soon as that is complete we'll enjoy a **UFO** session. Bring your **Unidentified Flowering Objects** or, at this time of year **Unidentified Fruiting Objects**, and see how well the experts do at identifying them. **Digital photos** will also be fine, as long as we can load them on a computer and project them for all to see.

  Sandra Bray has made a web site which can display photos ahead of time: http://www.rootcellar.us/unps — check it out now. If you have clear digital photos that you would like to share, send them to glbray@comcast.net with your name and a brief description of when and where it was taken, They'll be posted on the web site for others to have fun checking out, and a selection of them will be used at the meeting. For this first experiment send full-sized images and we'll trim them to size. Any questions, e-mail Sandra, or **Bill Gray** cyberflora@xmission.com (please don't send photos here).

Utah Valley Chapter

Our chapter sponsored a plant sale in September in conjunction with native plant grower Darrin Johnson. Among other customers was Vice-principal Stacy Briggs from Provo High School; she purchased a cartful of plants for a native plant garden planted by students at the north end of the High School.

We also took field trips to Tatow Knob in western Utah in July and to Bald Mountain and surrounding boggy areas in the Uintahs in August. If anyone has suggestions for winter trips in January or February, please contact Robert Fitts at 801-796-8631.

We have a chapter meeting scheduled for **November 18th** at the Forest Service Building in Provo, 100 N and 100 West. We will begin with a pot luck supper at 6 pm and proceed to a short business meeting and program at 7 pm. Robert Fitts from the Utah Heritage Program will speak on "Mapping the Rare Plants of Utah" .

If any Utah Valley chapter members know of some available greenhouse space, for instance at a high school, please call Susan Garvin, 801-356-5108. We would like to grow some plants to sell next May, so let us know if you are interested in a planting meeting in February.

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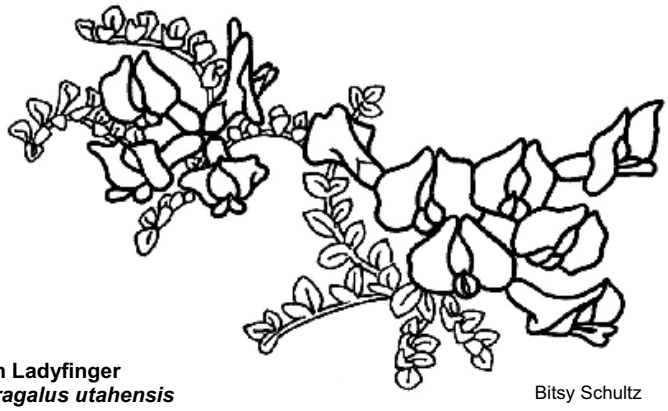

Utah Ladyfinger
Astragalus utahensis

Bitsy Schultz

For latest UNPS and Utah native plant news go to:

www.unps.org
and click on News

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
Or write to: unps@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 plonghur@xmission.com. **The deadline for next issue is 10th December**

UTAH NATIVE PLANT SOCIETY

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