

Segoe Lily



Newsletter of the Utah Native Plant Society

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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.



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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 Manger); 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.

Literature Cited

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Kennecott. 2002. <http://www.kennecott.com/wetlands.html>. Site visited 4/13/2002.

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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.)

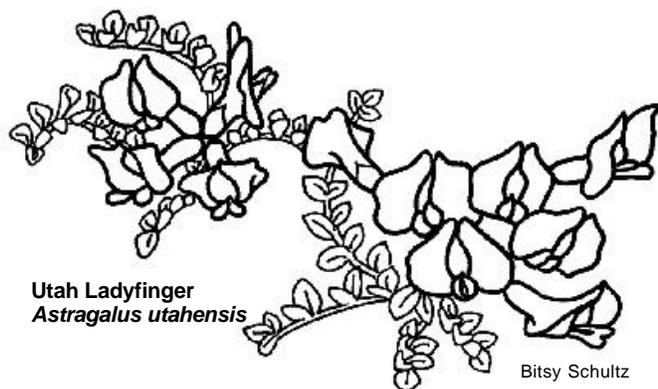
The comment period expired on May 30 (although comments submitted after that date will still be in the public record and may be responded to if considered substantive) in connection with the draft EIS for the proposed Southern Corridor highway project that will involve building a 28 mile highway that 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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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 Aug. 15.**

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