NEW MEXICO'S VOICE FOR NATIVE PLANTS





Annual Meeting attendees enjoy a beautiful Taos garden, the second stop on their tour. See article, p. 3.

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From the President

by Tom Antonio

Congratulations to the Taos chapter for a very successful annual meeting in August. It takes a tremendous amount of hard work to pull these meetings together, and the Taos chapter certainly deserves our thanks. I heard nothing but praise from attendees regarding the programs, speakers, field trips, and even

the delicious food. I especially thought the Friday evening reception at the Couse Foundation, Home, Studio and Gardens was delightful. I am still waiting for promised recipes for scrumptious appetizers that were served.

In addition to always offering a treasure trove of infor-

mation about New Mexico's diverse flora, these meetings are a wonderful place for people to reconnect and to meet other native plant lovers from around the state. This was my seventh consecutive year attending, and I can say that each year they just keep getting better. The Taos chapter, known for its frequent and varied field trips, really delivered. It was my first time visiting the nearby Santa Barbara Canyon; it is a spectacularly beautiful area filled with fabulous plants.

This year two luncheons were held, one for chapter presidents (pictured at right) and one for membership secretaries. Both provided an opportunity for open discussion and exchange of ideas. Hopefully we can do this again next year.

Before the annual meeting began, on Thursday afternoon, the NPSNM board met and discussed a number of important issues. The board voted to pursue adding to our website the ability to accept membership dues and donations directly over the Internet. Hopefully this can be accomplished within the next few months. We also decided to send out an annual appeal letter at the end of the year, in which we will ask specifically for donations to support our conservation grants program. Our grants

program is highly successful, and we always receive many more requests than we can adequately fund.

All in all, it was a most enjoyable meeting in beautiful Taos. We all look forward to seeing you at next year's annual meeting hosted by the Gila chapter.



2009 ANNUAL MEETING

Highlights from Taos

by Frances Robertson, Albuquerque Chapter

The 2009 NPSNM Annual Meeting, held August 6–9 in Taos, focused on the impact of changing environmental conditions on plant communities, from arctic and alpine vegetation to the invasion of tamarisk (salt cedar) in riparian areas. Appropriately, the theme "From Mountain Peaks to River Valleys" allowed presenters to cover the impact of global warming and other environmental changes responsible for the flourishing of tamarisk and the demise of our western forests' aspen groves. The news was sobering indeed.

The Sad News about Aspen Decline

Sudden Aspen Decline (SAD) researcher Kendall Clark, forest supervisor of Carson National Forest, detailed the effects of SAD in Grand Mesa, including the Uncompahgre and Gunnison National Forests in Colorado, and in the Gila and Carson National Forests in New Mexico. The news was not good. Her photos illustrated the severe damage to aspen groves at lower elevations throughout the western forests. The most severe cases of SAD apparently occur at low elevations on south and southwest slopes, which suggests that drought might be a *Continued page 3*





Highlights from Taos (continued from p. 2)

player in the demise of our aspen forests but is not the cause. At this point, scientists still have much to learn about SAD.

Aerial surveys in Colorado show an exponential increase in SAD, from 30,000 acres in 2005 to 138,000 acres in 2006 and 338,000 acres in 2007. On thing is clear: SAD is not due to normal succession or the natural replacement of one generation of aspen by another. Its symptoms include early fall coloring and the deaths of trees in groups or waves. Symptoms often begin at the edge of stands and spread inward. Tree mortality occurs quickly, over a one- to two-year period. Woodborers and cytospora canker are associated with the dead aspen and are probably contributing factors, but researchers feel confident they are not the source of SAD. Because so many colonies of aspens are affected by SAD, U.S. Forest Service agents now practice triage in determining rescue locations—only the slightly damaged acreage is targeted. To date, approximately 13% of our aspen forest is dead, but even more disheartening is that rescue efforts often fail and there is no solution in sight.

The Good News about Tamarisk

Probably the most controversial presentation was the one given by Edward Glenn, who holds joint appointments in the Departments of Soil, Water, and Environmental Science and Wildlife and Fisheries at the University of Arizona. As an active research investigator with the U.S. Bureau of Reclamation, he is well known for his research on the ecohydrology of riparian vegetation in arid zones. His message was that tamarisk has become an important riparian plant that now contributes to the ecosystem. Since we have too few naturally flowing rivers that periodically flood, we have created a saline soil condition in riparian areas in which few plants thrive. Tamarisk, which prospers in saline conditions, has now replaced species that thrived in different riparian conditions. Without it, many plants and animals could not now survive.

My Favorite Plant

In this talk, six well-known botanists presented and defended their "favorite plant" by revealing all of its attributes in "plant vignettes." Would you guess that sagebrush, evening primrose, columbine, and bee plant headed the list?

Couse Foundation Reception

Although the following comments came from visitors featured on the Couse Foundation website, www.cousefoundation.org, they could have come from any of the attendees of the annual meeting during the reception held at the lovely and historic E. Irving Couse house: "It was absolutely magical to step through your portal door into the world of another century ... of artistic flourishing, of community artistic endeavor, of beauty and love of family and friends." "The opportunity to tour Couse's studio was a glorious surprise."

E. Irving Couse came to Taos in 1902 at the invitation of Ernest L. Blumenschein and Bert Phillips, who in 1898 had discovered the magical light of New Mexico. Their dream was an art colony in Taos. Couse was the first to join them in 1902. Seven years later, in 1909, he and his wife bought a home and studio. The home has been in the family ever since, only recently being transferred to the Couse Foundation. It is rarely opened to the public. Thanks go to the Taos chapter for making it possible for NPSNM members to share the charm of New Mexico's artistic past for the evening.

Field Trips

The Taos chapter arranged a broad assortment of field trips for attendees. Offerings included a tour of the Aldo Leopold House, a visit to Santa Barbara Canyon in the Pecos Wilderness, trips to the Rio Grande and Williams Lake, tips on taking photographs of native plants with a digital camera, and the chance to learn the basics of seed collection, preparation, and propagation. Members of the Taos chapter did a terrific job organizing the annual meeting, and our thanks go out to all of them.

2009 ANNUAL MEETING Field Trip: Garden Tour

by Jack Makepeace, El Paso Chapter

The morning of Saturday, August 8, we set out in a carpooling caravan to visit three local Taos gardens. The tour, led by Judith Phillips and Kathryn Peel, was billed as "From Mountain Peaks to River Valleys in Your Own Garden," so all of us (especially this native of the hot country around El Paso) were excited to see what would be growing and blooming.

The first garden we saw, at the home of Betsy and Steve Robertson, was at a middle elevation, up north some distance away from the town of Taos, where comfortable, lowslung houses nestled in a surrounding envelope of chamisas, Apache plume, and other native shrubs. Within the walled area around the house were plenty of native shrubs, grasses, and perennials like penstemons, gaillardias and rudbeckias growing in raised beds separated by stone walls from graveled and flag-stoned "people" areas. There were plenty of butterflies visiting the cut-leaf rudbeckias and Mexican-hat.

The second garden, at the home of Trish and Eric Stammberger, was at a slightly lower elevation, in an area of *Continued page 5*

The Newsletter of the NPSNM

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Next Deadline is December 1, 2009. Articles and high-resolution artwork are enthusiastically welcomed and can be submitted to the editor, Sarah Johnson, at *sarita505@yahoo.com*.

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Garden Tour (continued from p. 3)

irrigated fields and orchards near the river that flows west to join the Rio Grande. This home garden featured a small shade garden and lawn area close to the house; at a little distance away, a shady ramada, with gaily painted furniture and lots of garlic hung up to dry, all surrounded by a profusion of blooming cosmos and sunflowers and other colorful annuals. Beyond that was an enclosed garden of vegetables and herbs all looking and smelling just wonderful.

The third garden was at Greg Nelson's home, at the end of a long drive up into the foothills on an unpaved road through a forest of junipers and piñon pines. We arrived at a clearing where there was an attractive and comfortable two-story house. Wildfires are a concern in such a situation, and we noticed that the outside of the house was all

of fire-retardant materials, including a metal roof, and next to the house itself all the shrubs and trees were removed and replaced by a serene, Zenlike landscape of gravel and large boulders. There were a number of large planters with drought-tolerant native cactus (*Opuntias*) and yuccas. The total effect was beautiful (see photo, page 15).

All this and we still got back in time for lunch! Many thanks go to our gracious garden hosts. \diamondsuit

2009 ANNUAL MEETING

garden tour.

Field Trip: Hike to Williams Lake

by Charles Holmes, Gila Chapter

I must admit that this was close to being the best hike that I have ever taken while in New Mexico. The leader, Dr. Patrick Webber, must be congratulated for making this great experience possible.

This was definitely a high-elevation hike. Starting at over 9,500 feet, we expected to reach Williams Lake at over 11,000 feet, just below Mt. Wheeler, the highest point in New Mexico. Many of us thought we might be winded before we reached our destination, but that did not happen, probably because of the easy pace by which we ascended.

Early in the adventure we passed through some fairly dense subalpine fir (*Abies lasiocarpa*) and Englemann spruce (*Picea engelmannii*) forest. Occasionally we would emerge into a less dense area where we would come upon large patches of arnica, a rather large member of the Asteraceae. Many of us had never seen it before.

As we passed out of the denser sections of the subalpine forest, we began to notice vestiges of former avalanches on the sides of the steep peaks to our left. Some of these had deposited collections of large boulders in the area of the trail. These are sometimes called morains; they create small, isolated patches of alpine habitat in the midst of the subalpine terrain and are of particular importance because some of the plants that grow in them would more normally be found above the tree lines on the slopes of the great mountains. Here we found wonderfully deep blue gentians (*Gentiana parryi*; see photo on page 14) and the tiny blue-white *Gentianella amarella* ssp. *heterosepala*. As if that were not enough, in many of the same areas we delighted in seeing blue columbine (*Aquilegia caerulea*).

As we moved closer to Williams Lake, we began to encounter vast congregations of delphiniums that were over four feet tall. What a spectacular sight!

We finally reached Williams Lake with a great view of Mt. Wheeler. We dallied at lunch perched high on a rocky bluff with this great scene before us. On the way back, with a different view of the same terrain, we made other discoveries, but we were not able to see all of the 325 species on the list. Maybe next time. \clubsuit



The pleasant surroundings of native shrubs at the first stop on the Taos

2009 ANNUAL MEETING

The Indo-Hispano Agricultural Tradition in Northern New Mexico: Its Influence on the Flora and Landscape

by Irene Gomez-Scotillo, Albuquerque Chapter

Presenter Juan Estevan Arellano—a poet, writer, teacher, photographer, farmer, and community leader—has lived in northern New Mexico, specifically in Embudo, all his life. He has devoted most of his life to documenting the traditional knowledge of the Indo-Hispano. In the mountain village of Embudo, orchards still flourish centuries after settlers brought the original stock. The local Spanish-language word for apricot is *albaricoque*. The root of this word is Arab, and the fruit stock found everywhere today, including in the northern valleys, of cherry, apple and apricot trees, has its origin in the Arab world as well.

Ten *acequias* (irrigation ditches) come off the Rio Embudo; each one provides water to one terrace of farmland in the mountainous valley. Fifty years ago they irrigated 700 acres of farmland, making the Taos-Mora region the breadbasket of New Mexico. Today, cultivated acreage is estimated by Mr. Arellano to be 150 to 200 acres. As a consequence of the reduced farmland, the acequias are being lost; they are covered or dammed up. Mr. Arellano contrasted our tendency to discard the traditional acequias with the policy in Mendoza, Argentina, where they are promoted as a tourist attraction. He would like to see that done here. Visitors to the historical northern New Mexico villages, like Truchas, among others, would enjoy viewing methods such as the hollowed-out logs historically used to transport water to the cultivated fields.

The wild plants growing along the ditchbanks have been used for generations. Wild plants such as *yerba buena* (spearmint), *poleo* (wild mint), asparagus (escaped from cultivation), berries, medicinal herbs, and *quelites* (greens) are much sought after today.

Traditional place names evolved from landscape features. La Cienega refers to wetlands or marshes, Rinconada refers to the "inside corner" versus La Esquina for the outside view of a corner. Altito refers to the highlands and Vega to the middle. Montecito (small mountain), Costilla (spine or back), La Cuesta (slope) and Arroyo Hondo (deep creek) are examples of place names associated with the landscape. At one time, Dixon, New Mexico, was called La Plaza del Señor San Antonio. On occasion, newcomers have replaced Spanish place names with new names in English, not recognizing the corresponding loss of meaning.

Old varieties of native seed, such as chile and corn, have vanished. It is next to impossible to find the fabled Chimayo red chile. Mr. Arellano's organization is attempting to locate and save this seed. *Chicos* are the dried corn kernels of the white concho corn. Cobs are harvested while the corn is still tender and sweet. The cobs are dried overnight in an *horno*. (The *horno* is the outdoor beehive-shaped adobe oven, which is heated to baking temperature by burning wood inside, then sweeping the ashes out.) Once the cobs are dry, the corn kernels (*chicos*) are removed and stored or cooked with pork. *Chicos* cooked with pinto beans or *bolita* beans make a complete protein for human consumption.

Plants originating in the Middle East and brought north from Mexico City include melons, stone fruit, carrots, spinach, Greek oregano, artichokes, almonds, and citrus fruit. Also figs, grapes, plums, quince and lilac. Mr. Arellano mentioned that lilacs can be found in almost every northern New Mexico front yard, because the growth phases of the lilac bush give cues for the timing of gardening activities on the farm, such as sowing seed and transplanting.

The session ended with a discussion of the traditional medicinal herbs. Mr. Arellano called them the wild plants of the four corners. They include:

- *osha* (for viral infections; when tinctured or chewed, the root makes an effective cough syrup)
- * wild oregano (in tea for sore throat)
- *cota* (in tea for arthritis, a mild diuretic, and also used to reduce fever)
- *poleo* (in tea for indigestion, or leaves can be rubbed on the skin to prevent mosquito bites)
- *mastránzo* (horehound: boil leaves in water, add honey, and drink at bed-time for coughs, fever, pneumonia)
- *yerba manza* (mash leaves as poultice for skin abrasions, in fermented tea for stomach ulcers)

Mr. Arellano took questions from the audience. One commented on a classroom discussion with children, who could identify a variety of native herbs. They'd learned their uses from parents and grandparents, and remembered. *

2009 ANNUAL MEETING

Field Trip: Baca Park Wetlands



Judy Lister (second from left) points out features in the Baca Wetland Park to field trip participants. Volunteers from the Taos chapter, led by Lister, are helping to restore the wetland and removing invasive exotic plants. Birders in the group noted 29 species of birds using the park. Photo by Steve West, Carlsbad.

Field Trip: Aldo Leopold House

Ben Romero and Betsy Robertson led a fascinating trip to this house in Tres Piedras. This is where Aldo Leopold lived while he worked as forest supervisor for the Carson National Forest. He moved here in March 1912; when he married seven months later, his new bride, Estella, joined him. It was here that he started to express his land ethic, formed out of his concern for the poor condition of the Carson NF, and began publishing a newsletter, The Carson Pine Cone. The house is being maintained by the USFS; they are refurbishing it to replicate its condition while Leopold and his young family lived in it. Photo by Jan Turner, San Juan Chapter.

Chapter Activities & Events

For further information on the following events, notify the contact person listed, or visit the chapter's Web page: first go to http://npsnm.unm.edu; click on Local Chapters;

Albuquerque

All scheduled monthly meetings are first Wednesday of every month at 7 p.m. in the NM Museum of Natural History, 1801 Mountain Rd. NW. For more info contact Pam McBride, ebotpam@msn.com, 343-9472 or Frances Robertson, frobertson45@comcast.net, 828-4775, or Jim McGrath, sedges@swcp.com, 286-8745. For meeting places, indicated A through H, see website.

Oct 3 Invasive Plant Control Project. Frances Robertson and Nancy Hudson, Leaders. **F**

Oct 4 Sunday Field Forum. Three Gun Spring Trail. Jim McGrath, Leader.

Oct 7 Meeting. Photo Forum. Several participants will show slides or digital images of 5–10 minutes each. The Forum allows participants to share photos they may not have previously shared with our group.

Oct 11 Sunday Field Forum. Pino Canyon. Tom Stewart, Leader.

Nov 4 Meeting. Roadside Wildflowers of New Mexico. Photographic tour by USFS Forest Pathologist and Parabotanist Dave Conklin.

Nov 7 Invasive Plant Control Project. Frances Robertson and Nancy Hudson, Leaders. **F**

Dec 5 Annual Holiday Potluck at Frances Robertson's house. 11:00 a.m.–2:00 p.m.

El Paso

All programs are second Thursdays at 7 p.m. at El Paso Garden Center, 3105 Grant St. All society events are free unless otherwise noted. Nonmembers are always welcome. Info: 240-7414, 833-7637, 383-3006, 585-2149.

Oct 8 Program. Plant/Seed Exchange and Sampling of Native Plant Cuisine. Bring your volunteer or excess plants and seeds and exchange them with others to increase your garden diversity and share with other gardeners. Dishes prepared using native plants will be offered for sale. Recipes will be available.

Nov 12 Program. Pruning Native Trees. Oscar Mestas, Urban Forester for the Mountain West Region, will discuss pruning techniques used for native trees to maintain their natural shape and encourage tree health. Oscar is the Texas Forest Service representative who serves the nine counties west of the Pecos River. then select the chapter. **Hikers** should always bring plenty of water, hat, sun protection, lunch and/or snacks, field guides, and wear sturdy shoes, suitable for rough, uneven ground.

Nov 14 Field Trip. Chiricahua Mountains. Starting in Portal, in far southeastern AZ. The mountain range rises from 3,000-foot desert and grassland plains to 9,796 feet, and stretches 40 miles long by 20 miles wide. It is a crossroads for four distinct ecological regions—two deserts and two mountain chains. Details available nearer the trip date.

Dec 10 Native Plant Society Holiday Party. Bring your favorite holiday dish and join us for a potluck dinner and an evening of festivities. El Paso Garden Center, 7:00 p.m.

Gila (Silver City)

All programs and hikes are free and open to the public. Meetings are third Fridays at 7 p.m. at WNMU's Harlan Hall, with refreshments following the program. Hikers meet at 8 a.m. in south parking lot of WNMU Fine Arts Theatre the morning of the hike to arrange carpooling. Participants must sign a release-of-liability form at that time, and will receive a list of native plants in the hiking area. For more info, call Deming Gustafson, 575/388-5192. Destinations may be changed due to weather. Activity updates posted on www. gilanps.org.

Oct 16 Program. Aldo Leopold and the Gila Wilderness. Jack Carter, botanist and author of *Trees and Shrubs of New Mexico*.

Nov 20 Program. Land reclamation project at Axel Canyon Preserve (in Mulberry Canyon on the western peaks of the Burros). Presentation will cover a brief history of the project, stream restoration, reintroduction of native flora, and details on sustainable living. George Farmer.

Las Cruces

Meetings and programs are Wednesdays at 7 p.m. in the conference room of the Social Center at the University Terrace Good SamaritanVillage, 3011 Buena Vida Circle, Las Cruces. (On the right, while traveling east on BuenaVida from Telshor.) Field trips are Saturdays; most last into the afternoon. Participants must sign a release-of-liability form. Children must be accompanied by their parents. Programs and field trips are free; nonmembers always welcome. Contacts: Ray Bowers, 575/541-1877; Carolyn Gressitt, 575/523-8413; Al Krueger, 575/532-1036.

Oct 14 Talk. Amphibians and reptiles of south-central New Mexico. Doug Burkett, WSMR Wildlife Biologist.

Oct 17 Walk. Red House Mountain near Hatch. John Freyermuth and Carolyn Gressitt, leaders. Meet at east parking lot of K-Mart on Hwy 70, 8:00 a.m.

Oct 21 Meeting. Planning for 2010.

Otero (Alamogordo)

For field trip information, contact Eric Metzler, metzlere@ msu.edu, 575/443-6250; or William Herndon, laluzlobo@ gmail.com, 575/437-2555. More info available by the beginning of each month.

Oct 10 Field trip to Bent. Meet at the Tularosa "Y" at 8:30 a.m. Bring water and walking shoes.

Oct 31 Annual Meeting and Potluck. Noon at John and Beth Anne Gordon's place on Lower Cottonwood Trail in Laborcita Canyon. Bring a salad, main dish, or dessert. Directions will be sent in mid-October.

Nov and Dec Membership will be informed if we plan any activities. Thank you!

San Juan (Farmington)

Meetings are third Thursdays at 7 p.m. at San Juan Community College. For more info, contact Les Lundquist at 505/334-8634 or Dalunk54@yahoo.com.

Santa Fe

Meetings are third Wednesdays at 7 p.m. at College of Santa Fe, 1600 St. Michael's Dr., Luke Hall, Room 303. For more information, contact Tom Antonio, tom@thomasantonio. org, 505/690-5105; or Carol Johnson, gcjohnson@comcast. net, 505/466-1303.

Sep 23 Talk. Sudden Aspen Decline: The Future of Aspens in the American West. Kendall Clark, Forest Supervisor, Carson National Forest. REI store, 500 Market Ave., Santa Fe. 6:30 p.m.

Oct and Nov TBA

Taos

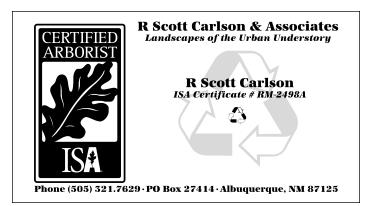
Meetings are second Wednesdays at 7 p.m. at the San Geronimo Lodge. For more information on field trips and other activities, contact David Witt, 575/758-0619, or davidwitt@cybermesa.com. Check Web link for this chapter to get updates. Chapter members will get e-mail or USPS mail notification.

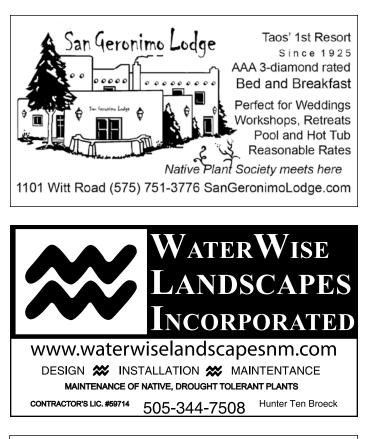
Oct 14 Talk. Rock Gardening with Cacti, Succulents and Other Native Plants. David Salman, owner of Santa Fe Greenhouses.

Nov 11 Talk. Forest Ecology and Management. Larry Vincent, PhD, UNM professor and Taos News columnist. Discussion will include Vincent's experiences managing forests in Venezuela, Bolivia, and Panama.



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Conservation Corner—Jim Nellessen, NPSNM Conservation Committee Chair

The Case for Conserving Water (and a Corollary: The Case for Siberian Elm)

Conserving our native flora is good. Promoting the use of native flora in our yards and urban landscapes is wonderful and much needed. Conserving water is also wonderful and much needed. Humans prefer a certain amount of shade, even in the desert. Are there times when promotion and use of natives, needs for shade, and water conservation (in urban settings) are in conflict? Sometimes I wonder.

My office is located near the Balloon Fiesta Park in Albuquerque and I often take a walk over that way during my lunch break. I have noticed there are some oak trees planted out front of the Balloon Museum that look a lot like the northern red oak (Quercus rubra) or perhaps the northern pin oak (Q. ellipsoidalis). Perhaps they are some special hybrid, but those are the species they appear to be. They look very peaked and yellowish. Half of them are declining and dying. They are clearly not doing well. Perhaps someone is experimenting with these species. But perhaps Rio Grande cottonwood (Populus deltoides var. wislizenii) would have been a much better choice. Or perhaps desert willow (Chilopsis linearis) would have been better. There are some American sycamores (Platanus occidentalis) out front as well, but these appear to be doing much better than the oaks. The American sycamore is another eastern species, but widely planted in New Mexico. I often wonder how much water is needed to make these species, native to North America but nonnative to New Mexico, grow here in our state.

I also see, planted in various places, lots of ash trees that appear to be eastern species, such as white ash (*Fraxinus americana*), green ash (*F. pennsylvanica*), as well as the New Mexico native velvet ash (*F. velutina*). Again, I would question the use of the first two species. Seems to me there are lots of New Mexico native scrub oaks that could have been used over eastern oak species. But I also realize that an oak species such as the native Gambel oak (*Q. gambel-*



lii) would have its own problems at the low elevation of Albuquerque.

This brings me to Siberian elm (Ulmus pumila). Yes, this is a nonnative, from another continent, is considered invasive in some mountainous riparian settings, and is a Class C state-listed weed. But I also consider this an important urban shade tree that does not need much water. I have always considered this nonnative species one of lesser concern. In many settings it can do quite fine without any supplemental water. This tree has been historically planted across the Southwest for that very reason-it is drought hardy; it is adaptable to our climate. Sometimes I think we need to balance out the desire to use natives, the need to create shade, and the very important need to conserve water. In an already disturbed urban setting, it seems to me that the modest use of nonnatives such as Siberian elm to create shaded urban landscapes can be a water-conserving mechanism. I realize some purists will take great issue with my thoughts, but sometimes we need to listen to what nature might be telling us about certain nonnatives and their practical uses.

These are just more ramblings of a naturalist and plant ecologist. \diamondsuit





The Silent Invasion

by Donald H. Heinze, NPSNM representative to the state Noxious Weed Advisory Commitee

New Mexico is being invaded by a horde of undesirable aliens! Like all invasions, this one could have disastrous results if it is not successfully stopped. No, the invaders are not little green people with big eyes. They are very real and potentially very harmful. They pose a grave threat to our environment and our agricultural industry. They crowd out native plants and destroy the habitat of animals that depend upon them. Some increase soil salinity and erosion. They waste great amounts of water. Some increase wildfire danger. They can and will bankrupt farmers and ranchers. They are noxious weeds.

Just what is a weed, anyway? Ralph Waldo Emerson said, "A weed is a plant for which man has not yet found a use." If only that were so. There are two kinds of weeds: noxious and benign. The latter include dandelions that people must constantly must pull out of their bluegrass lawns and sometimes make salad or wine from (it's not worth the effort!). The former, noxious weeds, are the troublemakers. There are several definitions of noxious weeds, but I prefer this one: an invasive plant that is so aggressive it causes ecological and/or economic stress.

Noxious weeds are mostly alien, usually, but not always, from Eurasia. Alien plants have no natural enemies to keep them in check. If the climate is favorable (and New Mexico is famous for its favorable climate), they reproduce copiously at the expense of native plants that do have natural enemies. Threatened and endangered species are sometimes especially vulnerable. Noxious weeds can form a monoculture that benefits no person or animal.

What are some of these pariahs? Salt cedar is arguably the worst noxious weed in New Mexico. The amount of water that this undesirable alien and its cohorts, Russian olive and Siberian elm, take from the soil by evapotranspiration into the atmosphere is stupendous. These three have replaced the native plants in much of the Rio Grande bosque with an impenetrable wall of undesirable vegetation. They have taken over springs and seeps and sucked them dry, rendering them worthless to wildlife and livestock. Not only do deer, elk, antelope, and livestock suffer, but rodents, passerine birds, gallinaceous birds, rabbits, and invertebrates lose their habitats and die. Then second-level consumers, such as mammalian predators, raptors, and accipiters, lose their prey base and die also. Third-level consumers, carrion eaters, will also lose their food base.

Canada thistle and/or Russian knapweed will infest hay fields and reduce the hay quality to nil. Jointed goatgrass will do the same to grain fields. Field bindweed will foul harvesting and other agricultural equipment, causing costly downtime. These problems in concert can force the farmer out of business. Spotted knapweed and/or leafy spurge will severely reduce the grazing capacity of livestock range. This can and has forced the grazier out of business. Tree of heaven (tree of hell?) forms a monoculture on ditch banks and natural drainages, excluding all other wildland uses. These are just a few of the noxious weeds that we must cope with. In all, there are 37 plants that are considered noxious weeds in New Mexico.

It must be noted, however, that under some conditions native plants can be noxious also. Broom snakeweed is a good example. This subshrub is often part of the natural suite of vegetation on many lower-elevation New Mexico wildlands, but it can form a virtual monoculture on overgrazed, unarable rangeland. It has no value for wildlife habitat/foraging, livestock feed, watershed protection, or any other wildland use. Most people do not consider this scrubby plant with its tiny blossoms aesthetically pleasing. Thus the subject tract is rendered worthless.

Noxious weeds have a great ally: human complacency, if not apathy. Some people agree with Emerson, but most people just do not care. They do not care until they get "bitten" by one or more weeds. Case in point: the state of Montana. In 1975 I found a noxious weed called dalmatian toadflax on Bureau of Land Management land in the central part of the state. I took it into the BLM office where I worked. No one was interested. I then went to the local farm advisor; he was not interested either. So I dropped the matter. (Interestingly enough, I had a similar experience in Oregon.) Ten years later I returned to Montana. The state was overrun with noxious weeds. For example, Billings, the "metropolis of Montana," has a beautiful riverfront area called Two Moon Park. I counted no fewer than eleven noxious weeds there. Now there are twelve.

Some Montana counties require the landowner to spray weeds with herbicide. It does not matter whether the landowner does not believe in herbicide. He/she must spray, or the county will spray and bill the landowner. The problem in Montana is so acute that the USDA Agricultural Research Service (ARS) has established a research station at Montana State University at Bozeman specifically to work on biological controls, such as insects, to control the noxious weeds in their native lands.

What can be done about noxious weeds? The best way to prevent their spread is to maintain high seral ("climax") *Continued page 14*

NPSNM Workshop Report: Grasses with a Hand Lens

by Steve Ross, Carlsbad

On Friday, July 17, grass fanatics from near and far converged on the New Mexico State University campus in Las Cruces to attend the two-day, NPSNM-sponsored workshop, "Grasses with a Hand Lens," presented by Dr. Kelly Allred. On Friday, 20 participants were treated to fine classroom accommodations and enjoyed a generous assortment of refreshments (thanks go to Sandra Lynn). Dr. Allred shared a great assortment of grass identification resources, dissection microscopes, and a number of grass specimens. After a nicely interactive presentation on the basics of grass structures, taxonomy, and identification, Dr. Allred provided hands-on individual assistance as we all attempted to key out unknown grass specimens. Dr. Allred's personable teaching style and unique approach to identifying grasses entranced us all and gave us the confidence to realize early success.

On the second day we took to the field to apply our new knowledge. The traverse over the Organ Mountains, across the Tularosa Basin, and up into the Sacramento Mountains illustrated nicely why New Mexico has such a diversity of grasses (over 480 species) and other flora—a great diversity in landforms and soils. We found our tenacious state grass (blue grama) growing defiantly along the highway in the Tularosa Basin. We marveled at the incredible adaptations of saltgrass thriving on the edge of a wet playa. Wooten's three-

awn and fluffgrass in the Sacramento foothills; sleepgrass and weeping lovegrass in a mountain meadow; mannagrass and water polypogon along a mountain stream: we saw them all and many more!

Dr. Allred intro-

duced us to dozens



New and seasoned grass enthusiasts found they were willing to follow Dr. Allred anywhere.

of species of grass, to the habitat niches preferred by each, and to a whole new excitement for grasses and their identification. If all that were not enough, we were also introduced to Cloudcroft pies! We could have stayed out for a week but, alas, we have jobs and other obligations. But we took leave of one another feeling content and lucid. No longer do we feel glum over glumes nor lacking near lemmas. To pale in the presence of a palea is in our collective past. We now remain calm around culms and we rejoice rather than yawn about awns. It's amazing what a little foray amidst the enchanted grasses with a few like-minded souls and a grass master can do!

Resources: Dr. Allred's *A Field Guide to the Grasses of New Mexico* is available through NMSU's Agriculture Experiment Station (575-646-4211). A number of other Allred publications are available through www.lulu.com (search the books section for Kelly Allred). For even more great information on grasses and range science, go to http://aces. nmsu.edu/academics/anrs_courses/307_316/ *

Unlikely place to look for grass? There *is* no such place, workshop participants learned. At right is Dr. Kelly Allred.

Newsletter Still Nameless, Needs Your Help!

The NPSNM board has decided to extend the newsletter naming contest for a few more months. It was thought that this additional time might allow more people to enter (for contest details, see the April–June issue on the NPSNM website) and for a greater variety of names to be presented. Please remember that our newsletter name is important and that perhaps naming our newsletter after only a single plant is restricting. Try to think outside the box.

~ Tom Antonio, NPSNM President

Where to Find Lots of Plants in Bloom During Dry Weather

by Bob Merkel, Bosque del Apache Friends Secretary

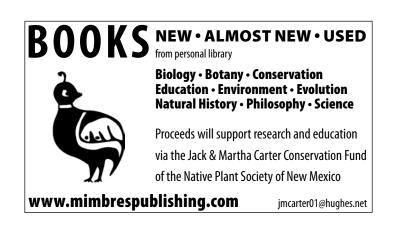
I was a bit envious reading the latest (July-September) issue of the NPSNM Albuquerque chapter newsletter online the other evening. Thirty-four species in bloom on June 19 at the Capulin Snowplay area; approximately 34 species blooming at Bear Canyon in the Organ Mountains.

But then I remembered the plants-in-bloom list I compiled back on June 24th along NM Route 1 between the north boundary of Bosque del Apache and the Refuge Visitor Center area. Forty species—most within one meter of the road edge! Of course, quite a number were common weeds, it's true, but it is a reminder of how productive the edges of paved roads can be.

For those not familiar with the road shoulder effect, let me explain. Shoulders of paved roads are a unique environment for plants for a number of reasons:

- * When roads are first constructed, the shoulders are bare—ripe for colonization by plants that can grow on bare, disturbed soils.
- The pavement layer protects water that seeps underneath it from evaporation, in effect acting as the cap of a water storage reservoir for plants close to the edges.
- The shoulders are always gently sloped away from the pavement.
- * Road shoulders are mowed periodically. Some species of plants regrow and bloom late while many arborescent woody species never grow tall enough to bloom (though Apache plume is a common exception).
- Chemicals from engine exhaust are deposited near the pavement edges.
- * The shoulders usually are in full sun.

Of the species I saw, 25% were common to abundant: purple aster (*Machaeranthera* sp.), small-flowered gaura (*Gaura parviflora*), silverleaf nightshade (*Solanum elaeagnifolium*), globe mallow (*Sphaeralcea* sp.), poison



milkweed (*Asclepias subverticillata*), cutleaf goldenweed (*Machaeranthera pinnatifida*), rattlesnakeweed (*Chamaesyce albomarginata*), Navajo tea/greenthread (*Thelesperma megapotamicum*), bluestem grass (*Andropogon sp.*), and skeletonweed (*Stephanomeria paucifolia*).

At the other extreme I found only single specimens or very few plants of scorpionweed (*Phacelia integrifolia*), desert marigold (*Baileya multiradiata*), Apache plume (*Fallugia paradoxa*), blazing star (*Mentzelia multiflora*), evening primrose (*Oenothera albicaulis*), coyote melon (*Cucurbita foetidissima*), sand penstemon (*Penstemon ambiguus*), and groundsel (*Senecio* sp.).

Still other plants occurred in numbers only in a single area, perhaps as one clone propagating via roots or underground stems: short-rayed coneflower (*Ratibida tagetes*), baby aster (*Chaetopappa ericoides*), cheeseweed (*Malva neglecta*), yerba mansa (*Anemopsis californica*), blueweed (*Helianthus ciliaris*), and salt heliotrope (*Heliotropium curassavicum*). Apropos of clones, some areas were full of silverleaf nightshade stalks with obviously very pale or, in one case, white flowers. The globe mallows, too, varied in color, from red-orange through orange to pink to white.

These and the other plants I found surely tested my limited ability at identification and I cannot claim that every plant named above is named correctly. On the other hand, other botanists could not check my observations; three days later, that stretch of road shoulders was mowed flat. I planned to do a similar inventory in August before another mowing, but the mowers came again before the plants had recovered enough to bloom abundantly. \Rightarrow

NPSNM Receives Donation from NMEFCU

In May the Society was presented with a \$1000 check from the New Mexico Educator's Federal Credit Union (NMEFCU) by Jason Schmitt of their Membership Development Division. Through their community rewards program they support a number of worthwhile nonprofit organizations located throughout New Mexico. On behalf of the NPSNM, we would like to extend our thanks to the NMEFCU for this generous gift that will enable us to continue our very successful conservation grants program. The NPSNM recently switched our financial business to them and we urge anyone thinking of changing financial institutions to consider joining the New Mexico Educator's Federal Credit Union. *

New Mexico's Voice for Native Plants

The Silent Invasion (continued from p. 11)

plant associations. These are closed communities that do not allow any outside plants from entering them. It is naïve, however, to think that we can maintain a high seral plant association on every roadside, ditch bank, prairie dog colony, gopher mound, and abandoned ant hill in the state. So how about biological controls? Despite some significant successes, they are not a panacea. The reproductive rate on most such insects usually is very slow. One ARS person from Bozeman said, tongue in cheek, "candlelight dinners and soft music won't make the insects breed any faster, so the work we do is for our grandchildren." Biological controls can also backfire. Case in point: an insect released to control the noxious musk thistle is also attacking Sacramento Mountains thistle, which is classified as threatened by the federal government. "Macro-biological" controls (i.e., goats and llamas) work on some weeds like salt cedar and Russian olive, but it is difficult to find enough of them to make a difference. Also, they do not discriminate between noxious weeds and native plants.

Mechanical cultivation can be used in agricultural situations, but it too can backfire. It can spread some weeds like Canada thistle. It cannot hope to remove the extensive root/ rhizome systems of weeds like camelthorn, Canada thistle, and tree of heaven, which reach down six feet or more. Fire does not work most of the time. Often it either does not spread or spreads too much and causes a conflagration. It is not effective against spotted knapweed and actually helps halogeton.

So what is left? Herbicides. They must not be ruled out. Indeed, they are presently widely used; more than 800 formulations of them have been approved for use in New Mexico. But they should only be utilized when all other means of control have been considered and rejected as impossible or impractical. Thus, it is entirely possible that herbicides are the first control. They must always be used strictly according to label instructions and great care must be taken so they don't contaminate natural and irrigation water, and/or affect non-target species. In many,

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In Santa Fe 1409 Agua Fria 505-983-4831 fax 983-3593 aguafrianr@aol.com if not most, cases, a combination of two or more control methods should be used.

What can we as individuals do to counter this swarm of noiseless invaders? We should contact our state legislators and county commissioners, and ask them to appropriate more money and energy to fight noxious weeds. We can learn to identify them and report them to our county agents. We can eliminate them by hand pulling or grubbing with a hoe if they have not gotten well established and require herbicides to control them. In fact, this is an excellent way to avoid the necessity for agricultural chemicals.

Most people cannot identify the culprits. With a little training, one can see no fewer than five species of noxious weeds when driving the length of Main Street in the village of Los Lunas. Hundreds, if not thousands, of people drive by every day, blissfully unaware of the invaders. You can find out what they look like by getting the Cooperative Extension Service's very good pamphlet, *Troublesome Weeds of New Mexico*. NPSNM noxious weed field trips are another way to learn to identify these weeds.

It is up to those of us who care to stop the invasion. The people who agree with Emerson, the complacent and the apathetic, will not. Let's get with the program! *



A gorgeous native, Gentiana parryi: One of the rewards of the hike to Williams Lake (see article, page 5). Photo: Al Schneider @ USDA-NRCS PLANTS Database



Membership in the NPSNM is open to anyone supporting our goals of promoting a greater appreciation of native plants and their environment and the preservation of endangered species. We encourage the use of suitable native plants in landscaping to preserve our state's unique character and as a water conservation measure. Members benefit from chapter meetings, field trips, publications, plant and seed exchanges, and educational forums. Members also qualify for membership in New Mexico Educators Federal Credit Union. A wide selection of books dealing with plants, landscaping, and other environmental issues are available at discount prices. The Society has also produced two New Mexico wildflower posters by artist Niki Threlkeld and a cactus poster designed by Lisa Mandelkern. These can be ordered from our poster chair or book sales representative.



Third and last stop on the Annual Meeting garden tour. Another example of beautiful native-plant landscaping (see article, page 3).



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NATIVE PLANT SOCIETY OF NEW MEXICO

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15th Annual SO BE FREE

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Founded in 1996, **SO BE FREE** is a series of Western Bryological Forays started by the Bryolab at UC Berkeley, but open to all botanists. The main focus is on bryophytes, but we also encourage experts on other groups to come along and smell the liverworts. We welcome specialists and generalists, professionals and amateurs, master bryologists and rank beginners. SO BE FREE is held each spring, somewhere in the Western U.S., associated with spring break at universities. The usual tradition is to have a four-day, three-night schedule with communal meals, in inexpensive and remote locations. Evening slide shows and informal talks are presented as well as keying sessions with microscopes. In addition to seeing interesting wild areas and learning new plants, important goals for SO BE FREE include keeping western bryologists (and friends) in touch with each other and teaching beginners.

Beginning bryologists are welcome. We will provide special learning activities for beginners, as well as general field trips for all, from novice to specialist.

Full details and registration http://ucjeps.berkeley.edu/bryolab/trips/sobefree.php