

Friends of Friedrich Wilderness Park Report December 2012

I never really thought that exotic invasive plant species and global climate change were so closely linked until I experienced the aftermath of the mild and wet winter of 2011-2012. We were all happy to have the rain after the long and devastating drought but I don't think anyone was prepared for the surge in growth from our exotic invasive competitors. Exotics that were few and far between within our Natural Areas in the past, like Malta star thistle (*Centaurea melitensis*), became a ubiquitous problem. Wild mustard or bastard cabbage (*Rapistrum rugosum*) became an endless sea in open spaces. Australian (*Bothriochloa bladhii*) and Kleberg bluestem (*Dichanthium annulatum*) infiltrated and took over large swaths of bare ground left void of native plant life after the drought. This along with the mild wet winter set the stage for one of the worst years for land managers trying to fight these exotics in an attempt to maintain native plant diversity.

The success in which exotics invade native plant communities is dependent upon environmental factors such as temperatures and precipitation but it can also depend on how healthy and diverse native plant communities are¹. In response to global climate change, species like Edith's Checker spot butterfly (*Euphydryas editha*) and green jays (*Cyanocorax yncas*), have steadily over the course of many years been moving up in latitude and altitude¹. The same is true for many exotic invasive plants. Exotics can now invade areas that were previously too cold². Exotic invasives may be able to spread to new areas more quickly because they usually have a higher seed dispersal rate and tend to have a greater genetic flexibility than native plants¹. A study conducted at UC Berkeley looked at the effects of global climate change in California (projected increase in temperature, decrease in rainfall for this region) on native and exotic grasses in the area. They concluded that the exotic grasses would be better able to adapt to increases in temperature (warmer temperatures favor certain traits) than the native grasses and thus the exotics would likely expand their ranges³. Another study conducted by the University of Florida looked at the response of native and exotic species to herbivores and soil microorganisms². They found that the growth was reduced in the native plants far more than in the exotic plants possibly due to pathogenic soil microbes that were present in the soil². The same researchers found in another study that when plants were exposed to a particular species of locust and aphids, native plants were preferred over exotics². Both soil borne microorganisms and certain herbivores populations could increase in response to global climate change.

¹ Kerns, B.K. 2008. USDA Forest Service. Threat Characterization and Management Program, Pacific Northwest Research Station; Qinfeng Guo, USDA Forest Service, Eastern Forest Environmental Threat Assessment Center.

² University of Florida. 2008. Climate Change Opens New Avenue for Spread of Invasive Plants. *Science Daily*. Retrieved November 22, 2012 from <http://www.sciencedaily.com/releases/2008/11/081119161125.htm#.UK74at7j0I0.email>

³ University of California-Berkeley. 2011. Warming climate could give exotic grasses edge over native. *Science Daily*. Retrieved November 22, 2012 from <http://www.sciencedaily.com/releases/2011/07/110729175723.htm#.UK74GrTQwYI.email>

Furthermore, disturbance of native plant communities either by fire, canopy die-back, drought, or any other factor can increase the amount of bare ground exposed and thus could increase the likelihood of exotic species invasion¹. After disturbance has occurred, invasion from nearby exotic plant seed sources or pathways such as roads can be very problematic¹.

Last spring, we were caught off guard. We worked as quickly as we could to contain some of these invaded areas. However, the situation quickly became overwhelming. Last spring taught us the importance of an “early detection and rapid response system”¹. There seems to be a small window of opportunity to address invasives like mustard and Malta star thistle. If we can act quickly at the first sign of germination and use an integrative approach that consists of not only hand pulling and mowing but also using herbicides where appropriate, we may be able to get a better handle on this season’s pesky weeds¹. Long-term yearly monitoring of broad areas, not only hot spots, and mapping invasives will help keep work focused on problem areas. The Natural Areas prides itself on the diverse local plant community within its parks and strives to maintain that diversity by managing exotic invasive plants. Without an aggressive approach to invasive species management rare beauties like the blue-star (*Amsonia ciliata*) (WHW), bracted twistflower (*Streptanthus bracteatus*) (EP and RD), and Peonia (*Perezia runcinata*) (EP,FWP, RD, Scenic Canyon) may become species of the past, lost in an endless sea of weeds.

Submitted by Wendy Leonard, Park Naturalist

Ecosystem Notes

Since September, staff and volunteers observed the following birds: western scrub jay (*Aphelocoma californica*), black-crested titmouse (*Baeolophus atricristatus*), Carolina chickadee (*Poecile carolinensis*), common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), greater roadrunner (*Geococcyx californianus*), ladder-backed woodpeckers (*Picoides scalaris*), Carolina (*Thryothorus ludovicianus*) and Bewick’s (*Thryomanes bewickii*) wrens, eastern phoebe (*Sayornis phoebe*), northern cardinals (*Cardinalis cardinalis*), turkey (*Cathartes aura*) and black vultures (*Coragyps atratus*); chipping (*Spizella passerina*) and rufous-crowned sparrow (*Aimophila ruficeps*), red-shouldered (*Buteo lineatus*) hawk, wild turkey (*Meleagris gallopavo*), lesser gold finch (*Carduelis psaltria*), ruby-crowned kinglet (*Regulus calendula*), hermit thrush (*Catharus guttatus*), and American robin (*Turdus migratorius*).

Staff has seen at least one pack of pigs, and hogs continue to devastate vegetation in the Natural Areas.

Friedrich Wilderness Park

Staff and volunteers removed all but a small section of cross fencing at Woodland Hills North. Removing this fencing will facilitate wildlife movement within the property. Last report to the Friends also mentioned this work. It is

challenging and time-consuming because in some places the fence is actually 3 fences—two back to back topped with barbed wire. Our volunteers are meticulously removing the fence in sections, rolling it up so that it can be re-used, trimming vegetation growing through the fence, and filling holes left by fence posts that fall over (to eliminate the “ankle turner” hazards).

Staff worked with S&S Trails, a professional trail design/building company, to begin review and adjustment of the proposed trail system for Woodland Hills properties as well as for trails that will connect Friedrich Park and Woodland Hills trails. Field work was intense and included multiple (every couple of meters) clinometer measurements of slope (overall and trail). The goals are to create a humanly enjoyable, sustainable, low maintenance trail system; minimally impact the ecosystem (both biotic and abiotic components, particularly natural sheet flow of water); and avoid negative impact to endangered species and the habitats on which they depend.

We have submitted a draft contract to UTSA Center for Archaeological Research to conduct a survey of the proposed new trails. After both parties sign archaeological survey work may begin. The next steps will be to begin drafting a contract for S&S Trails to construct the trails and to make arrangements for production and installation of directional signage.

Staff continued monitoring vegetation response to clearing at Woodland Hills West. Good news: staff saw little bluestem, big bluestem, and yellow Indian grass, all within centimeters in one area. Bad news: staff dug up a clump of Vasey grass, which is known to be potentially invasive and herbicided about 4 clumps of Johnson grass.

Staff manually cut woody vegetation that could not be removed by the contractor. Future management includes additional thinning, primarily of juniper.

The RFQ for the woody species mechanical management at WHN recently went out and bids were due last Friday.

Visitors seem very pleased with the new trail entry and pavilion and wayward traffic to the offices is almost gone. The plantings appear to be stabilized and waiting for spring. The contractor has only the foot lighting repairs left to complete. The next steps are handrails for the stairs and a new map board for the kiosk. I (Eric) have observed patrons carefully reading the new interpretive panels as well as discussing the dedication plaque and the role Friends have played in the park’s evolution.

The sign-in sheet has been discontinued as it was rarely used. We now ask that birders begin reporting all their Natural Area sightings at www.ebird.org where the data is more readily available to visitors and others.

The short bridge on the Forest Range paved trails to a bench has been repaired. Trail repairs continue, mostly along the north and south legs of Main Loop Trail. We look forward to the new trail routes to solve some of our problem areas.

The old windmill blade head has been hung on the old cistern by the offices as a piece of history and an educational prop.

Crownridge Canyon Natural Area

During the last fire ant mound count, staff saw KR bluestem growing within about 10 m of the opening to Crownridge Cave. This is the first time KR has been seen so close to the opening of this cave. Staff is trying to keep the native vegetation intact particularly near this cave with its known endangered invertebrate populations. Therefore, a team of volunteers hand dug and carried out all KR in the vicinity (within 10 m of the cave opening).

Staff and volunteers successfully trimmed back vegetation from the main trail.

We have a quote from iZone Corp for replacement of our faded interpretive panels with a media more resistant to the direct sun.

Work continues on the plant exclosures, trail repairs, and wildscape maintenance in the park. We are maintaining the meadow areas previously cleared for development of savannah communities.

Eisenhower Park

Park staff successfully removed dead trees from around the *Streptanthus* exclosure. This exclosure protects this rare wildflower from deer herbivory and the dead trees were jeopardizing the integrity of the fence. We started off with 29 plants in October and are now at 15 plants. If we can get steady rain over the winter, more seedlings could germinate and thus we could have more plants flowering in the spring.

Staff and volunteers successfully trimmed back vegetation from Cedar Flats Trail. On the wildlife game camera at the Eagle Scout wildlife guzzler, staff also observed numerous animals including raccoons (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), screech owl (*Otus asio*), skunks (*Mephitis mephitis*), and a possible bobcat (*Lynx rufus*).

The landscaped islands and area around the restrooms have greened up well, and we have reseeded other areas that didn't make it through the earlier heat and drought. The burn ban has been lifted for this and all other parks and the barbecue pits have been opened for use.

Rancho Diana

Staff resumed removal of selected junipers in the known black-capped vireo habitat on the south side of Rancho Diana. Staff also started on trimming back boundary edges.

No *Streptanthus* seedlings have yet been located within the 1.6 acres area in which it had been previously found. It is still early in the season so there is potential for more germination before the spring.

Additional perimeter fencing is in the bidding stage. New asphalt has been laid down over the roads around the house compound loop to stabilize the deterioration there.

The above request for bids for fencing includes fencing of the *Streptanthus* site as required to meet the USFWS grant. When a bid is awarded, we will direct the contractor to address the *Streptanthus* site first so that we can satisfactorily close out this grant as soon as possible.

Education

First Saturday Natural History Hikes

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|--------------|------------------------------|---------|-----------|-----------------|
| Sept 1, 2012 | Crownridge: Tree Muses | 1 youth | 15 adults | 16 participants |
| Oct 6, 2012 | Friedrich Park: Animal Signs | 5 youth | 4 adults | 9 participants |
| Nov 3, 2012 | Crownridge: Grass ID | 0 youth | 3 adults | 3 participants |

Second Saturday Eisenhower Park

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|--------------|--------------------------|----------|-----------|-----------------|
| Sept 8, 2012 | Eisenhower Park: Fossils | 40 youth | 28 adults | 68 participants |
| Oct 13, 2012 | Eisenhower Park: Spiders | 25 youth | 14 adults | 39 participants |
| Nov 10, 2012 | Eisenhower: Turkeys | 5 youth | 4 adults | 9 participants |

Field Tours and Special Events (including Wild Week)

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|-----------------------------------|-----------|------------|------------------|
| 2 <u>Field trips:</u> | 8 youth | 55 adults | 63 participants |
| 11 <u>Explore programs:</u> | 192 youth | 69 adults | 261 participants |
| 4 <u>Young Birders Club:</u> | 45 youth | 23 adults | 68 participants |
| 1 <u>Misc. Ed. Program</u> | 10 youth | 7 adults | 17 participants |
| 7 <u>Misc. Outreach programs:</u> | 486 youth | 177 adults | 673 participants |
| 4 <u>Project WILD workshops</u> | 0 youth | 153 adults | 153 participants |

Trainings

| | |
|--------------------|-----------------|
| 2 for Field Guides | 20 participants |
|--------------------|-----------------|

Total Education participants in Sept, Oct, Nov:

1,399 participants

Other

Staff thanks the Friends for making possible three staff members' attendance at the TX-SER meeting in Weslaco. Eric and Gail completed their terms as officers and have passed the batons. One interesting "take home" message received was related to the sociologic factors influencing the use of prescribed fire to maintain and restore ecosystem health on TX rangelands. The factor that was most positively correlated with implementation of high intensity prescribed fire was perceived support from others. This is important for staff to keep in mind as staff works towards the establishment of a prescribed fire program for the Natural Areas.