



Spring Newsletter 2020



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President's letter

What do the wildfires in Australia and California have to do with the Tucson Mountains? We do not have wildfires here, not yet. But we might in the future because some areas of the Tucson Mountains have been invaded by the highly flammable African grass, buffel grass. You can do your bit with buffel grass: learn how to identify it and remove it from your properties or wherever you see it, and join a volunteer removal team. TMA has taken particular responsibility to eliminate buffel grass from the Sweetwater Preserve. Climate change, however, will do two things. It will make the Tucson Mountains more vulnerable to

invasion of alien species like buffel grass because local species become weakened when the climate no longer suits them. Other native species might eventually replace them, but buffel grass is just as likely to get there first. Then climate change would catch the Tucson Mountains alight as the dry buffel grass provides highly flammable fuel in our ever-increasing heat.

The fires in Australia and California follow directly the predictions of climate-change scientists. We expect, and have been receiving, not just higher temperatures but also more variable weather. A wet season can allow the vegetation to thicken, but then a dry season makes it into combustible fuel, and up it goes as the temperatures increase. Australia and California might seem distant, and perhaps even alien, but the same thing plays out in the forests and woodlands of Arizona. You may remember the “aspen fire” on Mount Lemmon a few years back. But then there are other less visible fires changing the landscape in Arizona. The reports imply permanent loss of some of our beloved landscapes. What a tragedy it would be if our treasured Tucson Mountains turned into buffel grass hills with no saguaros, and other wonderful native plants struggling for a foothold.

But the climate crisis can be solved. Renewable energy is now cheaper to set up and generate than fossil fuels. And it is getting better all the time. Arizona, with all its sunshine, has abundant opportunity to surge ahead in the solar energy market. Moreover, it is not just in the energy market where the future is promising: some vegetarian meats now taste better than the real thing, and this is just the beginning of an industry capable of vastly reducing the carbon pollution from agriculture. These two industries, energy and agriculture, have the potential for highly profitable transformations that can save the planet. It is now a matter of economic forces, that would solve the climate crisis, being inhibited by political forces bent on protecting the vast wealth of those who profit from industry as it is. But this is an election year. It is an opportunity to elect the right representatives, and get the message to all politicians that the climate crisis is important to the people. In this election year, whatever political stripe you may have, let the candidates know that climate is a priority for you.

Peter Chesson

Further reading

[How to identify buffel grass](#)

[Forest Ecosystem Reorganization Underway in the Southwestern USA](#)

[Renewable energy costs tumble](#)

[Burgers for a Better Planet](#)

Save the date

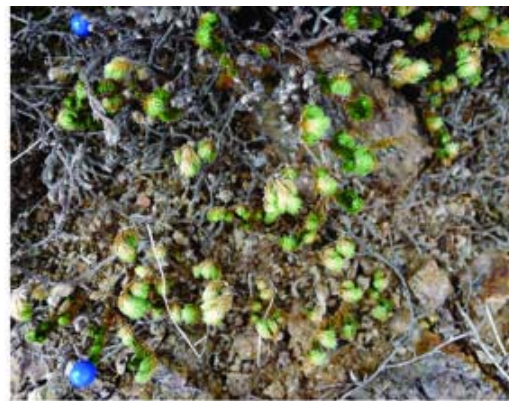
Join in cleaning up the beautiful Painted Hills so that they are even more beautiful and safe. TMA, in conjunction with Pima County and Tucson Clean and Beautiful, plans to try to get rid of all those annoying bits of glass on the ground near the trail head and several other spots in Painted Hills Park. **When** April 4, 9 am. **Where** meet at Painted Hills trail head.

Spring picnic The spring picnic at Brown Mountain picnic ground was a great success last year. So let's repeat it, either there or somewhere else: but here's the date: **April 18** comfortably after taxes are due! Come and relax with us and enjoy our beautiful spring in the Tucson Mountains.

Plant and animals of the Tucson Mountains



actively growing *Selaginella*



dormant *Selaginella*

Selaginella

Have you noticed how rapidly some parts of the Tucson Mountains green up after rain? If you use the Yetman Trail or the Hugh Norris trail, this is especially evident. What is the cause? It is *Selaginella*, one of our local resurrection

plants. In the picture on the right, it is shown as mostly straw colored. That is because it had not rained recently when the picture was taken. On the left it is bright green. It must have rained not long before, and the plants are pulling the CO₂ from the air and using it to grow. These plants have special anatomy and biochemistry that lets them dehydrate when times get tough, and then quickly rehydrate again when the rain comes. Our desert environment can be a difficult place for plants, but *Selaginella* has it down. It just goes to sleep when it is too dry to grow, and starts where it left off as soon as it is moist enough.

It is not a big plant, just small and mossy, but when you take a look at it, you may notice something else remarkable: it builds up layers of soil on the rocks, and stops it eroding down the hillside, as you can see in the picture below. There are about 800 species of *Selaginella* in the world ranging from deserts like ours to rainforests. And they have a long history, dating back more than 370 million years in the fossil record, long before the dinosaurs. Sometimes they are called *spike mosses* because, well, some of them like our *Selaginella arizonica*, look like spiky mosses. But they are not mosses. Some look like ferns, but they are not ferns either. Indeed, their ancestry goes back before there were any ferns. They are instead Lycophytes, and among the very first plants to be able to grow to any size on land.



Selaginella holding the soil on the rocks

Bobcats



Bobcats are secretive creatures, but if you are lucky to see them, they can be very charming and playful in a family group. They are also superb hunters well capable of springing 10 feet through the air to catch unsuspecting prey, be it a rabbit, a squirrel or a dove. Bobcats range over much of the United States, but here in the Tucson Mountains is an especially good place to see them. Nevertheless, patience and quiet are key requirements. Sometimes they will install themselves in a secluded spot in a garden to raise their kittens. You might not even know they are there. If you find them, and do not bother them, you can be rewarded with much delightful viewing. Bobcats are just one of 5 or more cat species native to the Sonoran Desert. We hear about mountain lions, but in various places there are ocelots, jaguarundi, and jaguars too, although not in the Tucson Mountains and only rarely in Arizona.

All about Trails



We all love trails in our natural landscape. What is better than a quiet stroll in secluded nature? The trouble is that we are in danger of loving nature to death, and more often than not, it is no longer secluded. Recent research has

shown that some wildlife species are especially bothered by trails and will leave areas where there is too much trail use. For this reason, TMA is asking the County Natural Resources Parks and Recreation Department to follow stricter guidelines for trail development, and in particular to take a careful look at the proposed Mockingbird Trail in the Tucson Mountain Park, which would cut through some valuable wildlife habitat. We all want to get out into nature, but we have to recognize too that if we are not careful, we may harm the very thing we love. Of course, trails can be used in different ways: as foot trails, bike trails and horse trails. In the county parks of the Tucson Mountains, however, it has been understood that motorized vehicles are not allowed. Now there is a push to allow electric assisted bicycles in these parks, which has left many other users horrified. There is already much concern about speed from mountain bikers. What would it be like with electric powered bikes? TMA has registered its opposition and our initial impressions are that this proposal will not be successful. The more general issue is how we use trails. Most trails are closed at night, but this does not stop some people for using them even though night use can be seriously disruptive and distressing to wildlife. If we take a dog, do we follow the rules and keep it leashed? Of course it is fun for the dog to run free, but not for the wildlife. Do we keep our voices low so we can hear nature, and minimize our effects on it? We are blessed with natural areas. Let's love them to life.

Further reading

[Effects of trails on elk in Colorado](#)

The Habitat Competition



A wash flowing through the property of Richard and Judith Meyer

The purpose of the habitat competition is to promote land stewardship and environmental education. It encourages residents to look after the natural values of their properties. Through the entries and winners, it provides examples of what local residents can do to foster nature. The habitat competition for children is for environmental education. It asks children to investigate nature in our region, and how it can be fostered.

Winners for 2019

We have a winner for the habitat competition for 2019. The award goes to Richard and Judith Meyer in the categories, “Best preserved property over 3.3 acres” and “Best provision for wildlife corridors.” Richard and Judith moved to the Tucson Mountains in 2004, and bought a 3.3 acre property adjacent to the Sweetwater Preserve. Eight years ago, they bought an adjacent 8 acre parcel, which was and is completely undeveloped. Thus, their property is just over 11 acres with only one building on it, their house. The rest is in a completely wild state. Their aim is to keep it that way. The land supports two small washes, and

preserves much valuable habitat for numerous species, including valuable breeding habitat for the red spotted toad, great horned owl and coyote. It connects to the Sweetwater Preserve across a small dirt road to the north, and to the south it joins other desert areas across to the Sweetwater Wash. It forms an important piece of local habitat and local habitat protections near the Sweetwater Preserve. Richard's and Judith's entry shows a great deal of pride in the contribution of their land to the natural values of our region.

The 2020 Competition

The 2020 habitat competition is open. By showing pride in how you have protected the natural values of your property, you encourage others to do likewise. The richness of natural life here has a great deal to do with the fact that the people living here have protected the habitat on their properties. Let us hope it stays that way. Get children involved by having them enter the habitat competition too. We prefer entries by October, but entries are accepted through December. It is not hard to enter. See the website for details.

New board members

We received a very positive response to our call for more board members at the 2019 fall picnic. We are thrilled to announce two outstanding members of the Tucson Mountains community who have joined our board.



John Coinman



Francisco Delgado-Duran

Francisco Delgado-Duran

I attended the Plant Sciences program at the University of Chihuahua, where I received a bachelor's degree in that field. Therefore, my experiences, both academically and personally were influenced by the arid conditions of the northern part of the Chihuahuan Desert. My first job at the National Institute for Agricultural Research took me to the southern part of the Chihuahuan Desert in central Mexico, where I worked on research projects for 6 years conducting research activities in the areas of soil-plant-water-climate relationships. Then, I moved to the Sonoran Desert to attend the University of Arizona where I continued to study and worked in research projects associated with physiological plant responses to drought. I have had the opportunity to work on projects related to the effect of drought on the ecology of desert environments at El Pinacate Biosphere in Sonora, Mexico, in Cape Verde, Africa, in Fuzhou, China and in Tucson, Arizona. I have been a full time faculty in the Biology department at Pima Community College for 28 years where I had the opportunity to teach courses in the areas of general biology and plant and soil sciences. All my experiences associated with the ecology of deserts have resulted in a great appreciation for the knowledge that we have and most importantly for the knowledge still to be discovered.

How the new board members were selected

Under our bylaws, the Board itself can appoint new members between annual meetings to fill vacancies. We can have at most 11 board members, and these new members bring our total to 9. Candidate board members attend at least one board meeting, and express their interest in the board. Each candidate then meets with a subcommittee to discuss how they can contribute to TMA. The whole board votes on each candidate upon receiving the subcommittee report.

Managing the floodplain



Tributary of the Sweetwater wash in the Sweetwater Preserve

We do not have much permanent flowing water here, but we have an abundance of washes that can be green accents in our dry landscape, providing important habitat, and defining wildlife corridors. We know full well the value of water to life in the desert. Watercourses, including washes, have floodplains: the land area each side of the channel that floods during heavy flow. Though the flooding enriches life, it can also damage property and cut the roads. With these issues in mind, The Pima County Regional Flood Control District staff are preparing a Floodplain Management Plan (FMP) to be completed in 2020. The Tucson Mountains are one of 20 urban watersheds in the FMP. TMA is involved through Board member Steve Dolan. Public meetings

will be held before the plan is finalized, and indeed there is one coming up on March 3---see below. The focus so far has been on general conservation aspects to preserve floodplains as open space and to protect natural habitat. We are particularly concerned that the value of key washes from the highlands of the Tucson Mountains to the Santa Cruz River be fully recognized and protected as wildlife habitat and wildlife corridors. We also concerned that the Santa Cruz River be properly respected as a key watercourse for wildlife habitat and a wildlife corridor connecting the Tucson Mountains region both north and south.

Washes from the highlands of the Tucson Mountains to the Santa Cruz River:

The rolling hills country of the eastern slopes of the Tucson Mountains, where most of us live, provides key habitat that is rich with wildlife and provides a joy to all who live here. The washes that traverse it enrich habitat diversity, and help connect it all together. Three of these important washes are (1) the Camino De Oeste Wash that originates in the Tucson Mountain Park, passes through Feliz Paseo Park, and finally ends up entering the Santa Cruz River at the Silverbell Golf Course; (2) the Sweetwater Wash, which originates in the Saguaro National Park, passes through the Sweetwater Preserve, and flows to the Santa Cruz just north of Christopher Columbus Park, and (3) Idle Hour Wash, which flows out of the Saguaro National Park to enter the Santa Cruz at the three rivers region: the junction of the Santa Cruz River, the Rillito River, and Cañada del Oro. The Sweetwater Wash provides an important example. It is broad in many places with many beautiful desert trees, rocky areas, an immense diversity of habitat. It is currently in good condition from its origin to its junction with the Santa Cruz. It is especially important that it connects the beautiful and biologically rich Sweetwater Preserve to the Saguaro National Park and the Santa Cruz. It could be damaged, though, by unwise development outside protected areas that it crosses. Ideally, more land might be purchased to provide full protection in its passage between the Saguaro National Park and the Sweetwater Preserve. Care should be taken not grant to variances for building in its floodplain, and a bridge should be installed on Silverbell Road as part of the widening to ensure safe and inviting wildlife passage all the way to the Santa Cruz River.

The Santa Cruz River: Although Pima County plans, such as the Sonoran Desert Conservation Plan, highlight the importance of riparian habitat (that supported by watercourses) along the Santa Cruz, most of it is woefully neglected and little has any permanent protection. The Santa Cruz was once a permanently flowing river, the only one in the Tucson Basin. However, it remains important for wildlife and for recreation. TMA has long argued its importance as a key habitat element of the Tucson Mountains ecosystem. It is the terminus of the washes across the eastern foothills. It provides wildlife corridors between these washes, and connects the whole system up to natural areas both north and south of the Tucson Mountains. It also connects further east by its junction with the Rillito River and Cañada Del Oro. Steve Dolan has been presenting these perspectives on behalf of TMA at the Santa Cruz River Management Plan meetings. However, a variety of visions exist for the management of the Santa Cruz River. For the part of the river from Grant Road past the three rivers junction, there is a consensus view of the stakeholder working group for a multi-objective multi-use river corridor. There is a real danger, however, that conservation objectives might lose out to other interests.

TMA MEMBER CALL TO ACTION: Make your voice heard. If we actually want conservation objectives to win out over competing interests, we must make our opinions and concerns known. You can visit the Pima County Regional Flood Control District website to answer a Community Survey at the Floodplain Management Plan webpage (www.pima.gov/fmp/) or at https://www.surveymonkey.com/r/PCFC_survey. You can attend the March 3rd FMP Open House public at the Joel D. Valdez Library, 101 N. Stone Ave., Basement Conference Room, 10AM-2PM. The summaries given here can help inform your voice. More information about the FMP can be found at www.pima.gov/fmp/ and the box "Meeting details" below. You can also contact TMA with questions about the plan or to discuss Tucson Mountains watershed concerns.

TMA contact: Steve Dolan 520-743-3770 or stevedolan@comcast.net

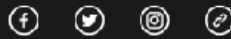
Pima County Flood Control Meeting Details

Floodplain Management Plan

The Pima County Regional Flood Control District (District) staff are preparing a Floodplain Management Plan (FMP) to be completed in 2020. The FMP purpose is to identify floodplain management activities by watershed. The Tucson Mountains are one of 20 urban watersheds in the FMP. TMA Board member Steve Dolan has attended several FMP Stakeholder meetings and work sessions. To date the FMP Board input has focused on general conservation aspects to preserve floodplains as open space and to protect natural habitat. For the FMP Steve has identified specific problems located in the Tucson Mountains watershed and worked with Stakeholders to develop eight FMP goals. At future FMP meetings District staff will present proposed activities to address the problems in all watersheds. An actual project example to address an FMP proposed activity is the Santa Cruz River Management Plan explained in this TMA Newsletter. On March 3, 2020 is the FMP Open House public meeting at the Joel D. Valdez Library, 101 N. Stone Avenue in the basement conference room 10AM-2PM.

Santa Cruz River (SCR) Management Plan

TMA Board member Steve Dolan was a Stakeholder at two quarterly meetings for the Three Rivers Reach (Grant Road to Ina Road) one of three distinct reaches in the SCR Plan from Grant Road to Pinal County. The Stakeholder Alternative Working Group (SWG) meetings present what is important for future management of the Santa Cruz River. At the first quarterly meeting Steve explained the TMA importance of keeping floodplains as open space with connectivity of the Tucson Mountains to the SCR and wildlife corridors across Silverbell Road. SWG consensus for the unique Three Rivers reach was for a multi-objective multi-use river corridor. At the second quarterly meeting the project team of District staff and consultant members presented six project types with descriptions worded to match the FMP goals. The project team also presented structural and non-structural alternatives to manage the SCR and introduced weighting criteria. For the next quarterly meeting the project team will use the weighting criteria to rank the alternatives. Then the SWG will refine and recommend alternatives to be documented in the SCR Plan and on maps of projects along the Santa Cruz River. There will be future public meetings with a final SCR Management Plan in year 2021.



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