

# SKY ISLAND ALLIANCE

Protecting our Mountain Islands and Desert Seas

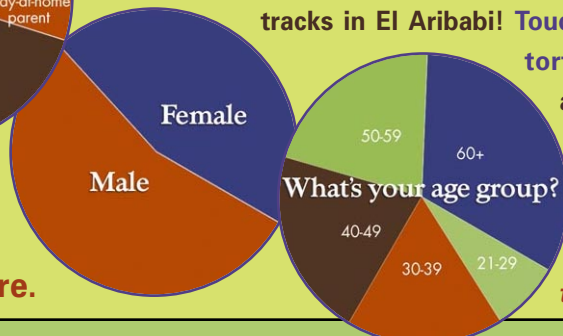
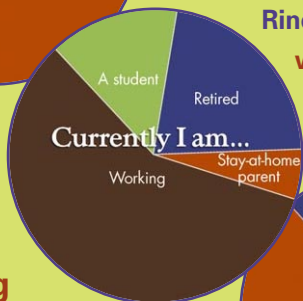
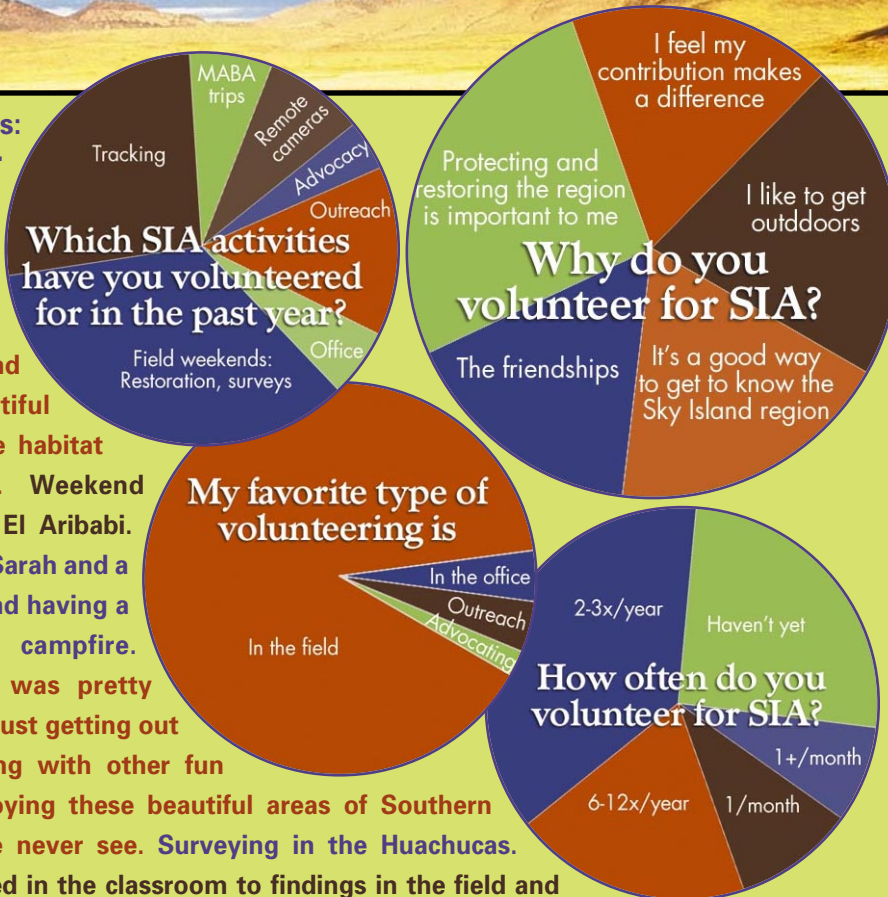
# Restoring Connections

Vol. 15 Issue 2 Summer 2012

Newsletter of Sky Island Alliance

## Volunteers Rock!

We asked our volunteers: **What has been your most memorable experience volunteering with SIA?** Sharing love for nature and knowledge and going to remote beautiful lands. Helping protect the habitat of endangered species. Weekend tracking class at Rancho El Aribabi. Camping with Trevor and Sarah and a bunch of fun volunteers and having a great time around the campfire. Finding the bear tracks was pretty great. But the best part is just getting out there early in the morning with other fun (like-minded) friends, enjoying these beautiful areas of Southern Arizona that most people never see. Surveying in the Huachucas. Applying the skills I learned in the classroom to findings in the field and applying those skills and protocols. Great hikes. Seining the pond at Ruby. Checking remote cameras in Whetstones. In past years I have volunteered doing road surveys and tracking. It's great to get away with like-minded people and work to preserve this wonderful area we have the good fortune to live in. Working with the knowledgeable staff on restoration weekends. We found a nice string of mountain lion tracks in our transect on the day that a reporter from the *NY Times Institute* showed up... it all came together! Participating in the Rincón de Guadalupe Expedition. The excitement that people who knew about us would have when they came up to the table to talk to us at the Book Fair. It was a nice reminder of how good people can be. Finding jaguar and ocelot tracks in El Aribabi! Touching my first desert tortoise. Finding bear and two different sets of lion tracks all in one morning. Only been out once with SIA but hope to do more soon...



Knowing that in some small way I have contributed to helping the critters that live here.

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Some responses to our Spring Volunteer Survey.





## Through the Director's Lens

by Melanie Emerson, Executive Director

Thank you. To each and every volunteer who currently supports (around 280) or who has ever supported (around 1,000) Sky Island Alliance with your tremendous contribution of time and effort, we wholeheartedly thank you. The staff, the Board, and donors thank you; and, if I may speak for the trees, the region thanks you. As staff, we have been overjoyed and humbled by the massive outpouring of support for SIA's initiatives by volunteers from across the spectrum, for work on a range of issues, and in a diversity of settings. We are able to be a nimble and impactful organization because of volunteers. Where we have limited staff time and resources, volunteers are always there willing to step up, willing to donate skills, expertise, time and passion to make the kind of change we seek and to further SIA's mission of protection and restoration. Whether it's restoring habitats, controlling erosion, planting native trees and grasses, tracking wildlife, photographing critters, documenting damage, crunching data, calling Congressionals, speaking to the public, writing letters to editors, or preparing

correspondence to members, volunteers are the lifeblood of SIA's effectiveness and reach.

It sounds hyperbolic, but it couldn't be more true. Over the past two years alone, Sky Island Alliance volunteers have worked over 25,000 hours—that is the modest equivalent of 12 employees—basically our entire staff. This effort annually has a “value” (yes, the federal government provides us with a neat calculation for the value of novice and expert volunteer time) of about \$250,000 or 25% of our budget. When we include the in-kind services and goods contributed to SIA, this percentage jumps to 38% in 2011 alone! Volunteers, simply put, are the reason that SIA is able to get so much done. The individual contributions of hundreds of people have made tremendous strides for conservation in the Sky Islands. And the dollar value is just one way for us to understand what it means. In terms of the landscape, if we look at just the Madrean Archipelago Biodiversity Assessment, 10,090 volunteer hours went into collecting more than 7,000 plant and animal records and thousands more in cleaning up these new and other gleaned records, entering them into the database, and analyzing them for release and publication. Without the hard work, skill and commitment of volunteers, these important expeditions to understudied Mexican Sky Islands simply would not have been possible.

All this is to say that volunteers' contributions comprise the heart of SIA's effort, effectiveness, reach and impact. Volunteers DO make it happen. YOU keep us inspired and invigorated every day. The engagement of so many community members in the work that SIA does makes us an influential and effective agent of change. Thank you for all you do in protecting and restoring this region and bringing your friends, family, colleagues and neighbors to join the effort.

“So much work remains to be done in this unfinished and imperfect world that none of us can justify standing on the sidelines. Especially in a society like ours, volunteering is an expression of democracy in its purest form. For the volunteer is a participant, not a looker-on, and participation is the democratic process.” —

**EUNICE KENNEDY SHRIVER**, in President's Commission on Americans Outdoors, *Report and Recommendations to the President of the United States*, 1986

## A warm welcome to our newest staff... Go Team Sky Island!

### **Christopher Morris, Conservation Assistant, Landscape Restoration Program**

Christopher comes to SIA after dedicating the past decade to environmental education, wildlife management and volunteer coordination. Some of his earliest memories include camping and fishing with his family in the great outdoors of North Dakota. After graduating from Minnesota State University–Moorhead with B.A. degrees in Spanish and Anthropology (with a concentration in Archaeology), he promptly left for the Southwest. His career in natural resources began as a wilderness instructor in rural Colorado, followed by work as a park ranger in suburban Denver, then in Tucson at Saguaro National Park (Rincon Mt. District), and in the wilderness of Yosemite National Park. He's certified as a Master Educator for Leave No Trace, is fluent in Spanish, and enjoys backpacking and travel. Now settled, he and his wife Angélica are excited to explore more of their Sky Islands home range. Christopher coordinates logistical support and leads teams of volunteers and agency partners on field restoration projects with Sky Island Alliance in both the U.S and northern Mexico.

### **Maggie Trinkle, Finance & Operations Associate**

Maggie Trinkle returned to The Old Pueblo in 2010 after straying miles from home. In her fourteen years away, she worked as a quality and systems manager for a manufacturing firm in Silicon Valley, started an internet solutions business, and, most importantly, created a few DNAlings. Now that her pups are of school age, she was looking for her next journey when she found Sky Island Alliance, where she appreciates the atmosphere of learning and collaboration, and is able to give back to the region that nurtured her to her adulthood all those years ago. Maggie has a BS in Operations Management from the U of A. In her free time, she writes for various blogs, reads, and dreams of some day taking a nap.





# SKY ISLAND ALLIANCE

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## Volunteer... there's no better time to create a legacy than NOW! *by Julie St. John, Editor*

If I live long enough to have the leisure to itemize my regrets, I am fairly certain I already know what the recurring theme will be: *I did not spend enough time Out There.* Traipsing through some remote Sky Island mountainside or canyon with Tom or Sergio or Trevor or Jessica. Picking up snakes and lizards, collecting flowers and grasses, eyes always skimming surfaces for tracks or sign. Sucking ants into a vial or netting flying insects or gathering like moths 'round the blacklit sheet after dusk. Not to mention my body's aching muscles reliving the sweet satisfaction of a weekend restoring health and vitality to degraded landscapes and riparian areas.

I love this extended family of mine — staff, volunteers, board, members, all of you — what you do when you are Out There, what gets you excited, your thrill of discovery, your unlimited capacity for wonder, how you choose to walk your talk. We are a diverse community of individuals that is like no other I've ever experienced: We study, protect, explore, restore, advocate for, and celebrate against the same backdrop as where we live out our daily rituals of sleeping, eating, loving, and making a living. Some of us have even found a way to integrate our lives so that there is almost no distinction between what we have to do and what we want to do. Amazing.

A few years ago I interviewed Aldo Leopold's youngest daughter, Estelle (*Restoring Connections*, Spring 2009). She told me that her sister Nina continued collecting phenological data at the Shack after their father's untimely death in 1948. In 1999, Nina was the senior author of a study published in the Proceedings of the National Academy of Sciences that analyzed decades of phenological records demonstrating that climate change was affecting the region and its native ecosystems. She and her second husband Charles Bradley built the Bradley Study Center on the Leopold Reserve in 1976 — a hub of graduate ecological research at the University of Wisconsin — and were instrumental in the establishment of the Aldo Leopold Foundation and the Leopold Center. Nina died one year ago this month, but her grandson, among so many others inspired by Nina and her father, continues the work.

I would like to think that the staff and volunteers who are making Sky Island Alliance such an effective organization are also contributing to Leopold's legacy. That every day, *sin fronteras*, we are Out There, walking around and paying attention, immersing ourselves as citizen scientists, protecting, restoring, and making a positive difference on the mountain islands and desert seas that have made this region our home.

## I'm excited to be getting you hooked up with some great volunteer opportunities!

*by Sarah Williams, Volunteer & Outreach Coordinator*

When I came back from maternity leave, it was to a new office, different responsibilities, and part-time status. So while I may not be going out on restoration weekends for the foreseeable future, I'm glad I'm still going to be in contact with you all, working with Sky Island Alliance's already awesome volunteer program and with Keri Dixon, our Development Director, on many outreach activities.

Thanks to everyone who took the survey Julie and I sent out this Spring! We couldn't include all the great feedback you gave us — this issue got full fast! — but I have the feeling you'll be seeing more of your responses in future issues of *Restoring Connections*.

Speaking of future issues, Julie and I are talking about a new column called "Volunteer Voices." The Wildlife Linkages 10 Year Report published this Spring included some great stories from our tracking volunteers and we thought, "Why not open this up to volunteers across all Sky Island Alliance programs?" From your responses to the open-ended questions on the survey, we have the feeling that there are many inspiring stories out there and we would love to share them with our members and supporters. Please contact me at [sarah@skyislandalliance.org](mailto:sarah@skyislandalliance.org) for more information.

Thanks for all you do!



# Protecting Our Mountain Islands and Desert Seas...

Sky Island Alliance's dedicated staff advance the organization's goals every day — in the field with volunteers, planning strategies around the map table, in the office, at community meetings, reaching out to Sky Island residents... you name it. If it's important to the Sky Island region, we are there. We hope you're inspired — let us know!

## Wildlife Linkages Program

by Jessica Lamberton

The tracking transects in southern Arizona are glowing with poppies and lupines as if Van Gogh stopped by to paint them in. Bunny tracks can be found everywhere, and often with the tracks of a coyote or bobcat not far behind. In the office however, there's been scant time to wander in the poppies or follow the chase... we have been busy making progress! We gave four public outreach talks and recruited more eager volunteers, attended a Regional Transportation Authority (RTA) meeting on Wildlife Connectivity for Pima County, expanded the wildlife road-kill data collection concept, moved forward on completing a new interactive wildlife tracking database connected to SIA's biological dataset of maps and species records, and participated in several meetings to advocate for critical wildlife linkages in Cochise County.

SIA also officially joined the Western Wildway Network, and we have become involved with our partners across the spine of the continent to plan a "TrekWest" environmental awareness event next year. This quarter we also hosted a Refresher Workshop for tracking volunteers, with nearly 30 trackers attending the two-day gathering at the Amerind Museum in Dragoon, AZ. There were trackers who had just joined us, as well as those from the very first workshop in 2001.

Jenny Neeley effectively presented data collected from the Las Ciénegas wildlife corridor to help defeat a proposal to widen Scenic Highway 83 to four lanes for the proposed Rosemont Copper Mine — a significant victory for our Conservation Policy Program!

I didn't have to miss the poppy season entirely, however. I went out with three tracking teams to survey Slavin Gulch (Dragoon-Whetstone Linkage), and Las Chivas Wash and the La Querencia transect (Tumacacori-Santa Rita Linkage). These outings were full of inspirational stories and camaraderie, and along the way we shared our work with an intern videographer from the *New York Times*, casted a few bobcat tracks, and reconnected with friends.

The Tracking Program, as some still affectionately call it, is effective on two levels: volunteer-gathered science, and change created through advocacy. It is a quintessential reflection of what Sky Island Alliance is all about. I had the idea, a little over a year ago, to pay tribute to the program's first decade and the incredible successes that could never have been accomplished without the support of our

volunteers and members. This Spring we published *Wildlife Linkages 10 Year Report* ([www.skyislandalliance.org](http://www.skyislandalliance.org)), and it is only one example of how we get the word out about what all of our programs and our volunteers do, and have done, to protect, connect and restore our Sky Islands.

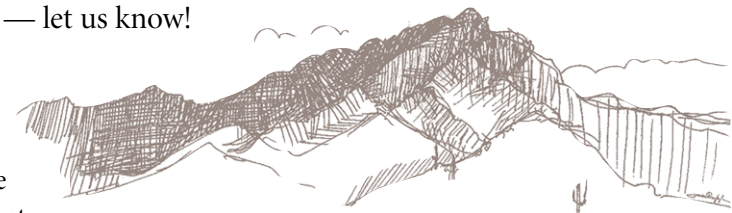
Because of your amazing support over the years for this organization, we are among the best citizen science wildlife tracking projects in the country. The next decade of working together will mean wonderful things for this region and its wildlife. I can't wait to see what we can do!

## Protected Lands Program

by Rod Mondt

Wild places are not only essential for the animal and plant life that depend on them for their very survival; they must also be protected for the sake of our children, and our children's children, so that they too will be able to experience *Where the Wild Things Are*. Although roads are not allowed in Wilderness Areas, neighboring roads can, and do, have a tremendous impact on the integrity of these lands. Road access near trailheads opens areas to heavy use and allows for traffic patterns that can interrupt the solitude and quiet many Wilderness users seek. For that reason, our Sky Island Alliance Protected Lands staff has been busy reviewing alternatives in the Coronado National Forest's Travel Management Plan, focusing on how these alternatives will impact established Wilderness Areas, Wilderness Study Areas, Inventoried Roadless Areas and other special places. More importantly, we are aggressively promoting our recommendations for protection. Over the last 20 years, SIA staff and volunteers have gathered a tremendous amount of road survey data. It is that information that now helps us redefine Travel Management Planning on the Coronado National Forest. We know the special areas. We know the roads that have a negative impact on those areas, and we are determined to close or limit the use of these roads to ensure the permanent protection of these wild places for us all and the native species that call those places home.

Our work on Forest Service roads is also valuable because it enhances our ongoing outreach efforts with rural landowners and backcountry users, allowing us to articulate the value of conservation generally, and specifically, the need for protected public lands, opening doors with non-traditional partners who share our values and our vision.



There are many issues that influence our efforts to protect special areas in our region. If you have a question or feedback about wilderness or protected lands in the Sky Islands, feel free to ask the "Wilderness Guru" at [guru@skyislandalliance.org](mailto:guru@skyislandalliance.org). We will do our best to answer your questions!

## Northern Mexico Conservation Program

by Sergio Avila

In January, I had the opportunity to participate in a Hispanic Summit when White House officials, representing the Departments of Health and Human Services, Labor, Agriculture and Homeland Security, visited Tucson. I took the opportunity to address the interdependencies between southern Arizona's unique environment, its beautiful public lands, benign weather, amazing recreational and educational opportunities to the regional economy, and the effects on those amenities and substantial impacts on public lands caused by the construction of border walls, roads, lights, and other infrastructure. During the summit, I explained the need to protect the borderlands as ecological, economic, and ethical imperatives, and highlighted the Department of Homeland Security's lack of consideration for environmental impacts which has resulted in irreparable damage at a significant cost to the health of our borderlands.

February 2012 marked the sixth anniversary of the Northern Mexico Conservation Program, leading me to reminisce about the adventures and misadventures, successes, challenges, friends, and volunteers. It also brings an opportunity to renew our goals to successfully introduce, expand and promote Sky Island Alliance's programs in northern Mexico.

One of those programs is Landscape Restoration. We are currently putting the pieces in place, in collaboration with the University of Montana, for a successful research and restoration project in select Sonoran riparian areas. My tasks include talking to landowners to discuss our project goals and actions, and seeking out local volunteer groups who would like to participate and learn about habitat restoration. I am excited to facilitate and promote SIA projects in Sonora, applying our restoration expertise on partners' lands, and offering opportunities for training new and recurring volunteers.

**Sky Island Alliance is a non-profit membership organization dedicated to the protection and restoration of the rich natural heritage of native species and habitats in the Sky Island region of the southwestern United States and northwestern Mexico. Sky Island Alliance works with volunteers, scientists, land owners, public officials and government agencies to establish protected areas, restore healthy landscapes and promote public appreciation of the region's unique biological diversity.**

Finally, as part of our professional development, several staff members (including me) attended a two-day Wilderness First Aid training hosted by REI in Tucson. We learned how to act in emergency situations in the outdoors, and how to treat common injuries, accidents and illnesses. This training is one more step towards ensuring that SIA staff is prepared, responsive and aware, especially when conducting work in the field. I liked it, it was useful and fun; but still would prefer to never have to use it.

### **Conservation Policy Program**

*by Jenny Neeley*

Sky Island Alliance continues our efforts to protect the Patagonia Mountains from numerous harmful mining proposals. Our legal challenge continues against the Coronado National Forest's approval of Wildcat Silver's Hardshell Mine, which would transform areas within the fragile Harshaw Creek watershed into a 600-foot deep open-pit mine and processing plant, with almost 3,000 acres of National Forest lands buried under mining waste. This proposal threatens to disrupt a critical wildlife linkage for jaguars and ocelots, and destroy essential habitat for endangered Mexican spotted owls and lesser long-nosed bats. Yet, the Forest Service approved the project without complying with the National Environmental Policy Act (NEPA) or the Endangered Species Act, a decision we and our partners, Defenders of Wildlife and the Patagonia Area Resource Alliance, have challenged in U.S. District Court.

We also continue to watch separate drilling proposals from Regal Resources, Inc., and Oz Exploration, Ltd., both located less than four miles from the Hardshell site. Neither of these projects has received approval from the Forest Service yet, but we will be watching to ensure that, like the Hardshell project, the Forest completes the required environmental assessments before allowing either of these projects to move forward.

Another bad idea that caught our attention is El Paso Corp.'s proposed natural gas pipeline in Altar Valley and the Buenos Aires National Wildlife Refuge. Sky Island Alliance, Altar Valley landowners, the Refuge manager, and Pima County officials recently attended a presentation by El Paso representatives, but unfortunately many of the residents' and agencies' concerns remained unaddressed, including those related to the

difficulties in restoring vegetation disturbance in this arid region, and avoiding a new road being carved through the heart of the valley, as well as related border security concerns. We will continue to work with landowners and agencies to monitor this proposal and make sure it does not fragment this important Sky Island grassland.

Finally, the Southline Transmission Project began its NEPA Environmental Review process on April 4. This proposed new transmission line would span from the Afton substation south of Las Cruces to the Saguaro substation northwest of Tucson. The Bureau of Land Management has initiated a 60-day scoping process to solicit public comments and identify issues, opportunities, and concerns that should be considered in the preparation of a Draft Environmental Impact Statement. This scoping period is currently scheduled to end on June 4, 2012. Sky Island Alliance has been and will continue to closely monitor this project. We will keep our members informed of its progress through our e-news and electronic alerts. Stay tuned!

### **Madrean Archipelago Biodiversity Assessment (MABA)** *by Nick Deyo*

Preparation for the third Biodiversity & Management of the Madrean Archipelago conference (May 1-5) made the last three months a busy period for the MABA project. MABA Project Manager Tom Van Devender wrote five papers for the conference proceedings and presented a keynote address on the progress and importance of the MABA program for documenting and conserving the biodiversity of the Sky Island region. Nick Deyo and Sky Island Alliance intern Alex Smith performed a GIS analysis systematically defining 55 Sky Island mountain ranges and complexes in the United States and Mexico. The resulting map builds on previous efforts to describe the Sky Islands by McLaughlin (1965) and Warshall (1995) and mapped by Brown and Lowe in 1980. However, it is unique because it includes entire mountain ranges from their toe slope to their peaks and all of their habitats inbetween. Previous efforts limited Sky Islands to isolated patches of oak woodlands. This spatial data allowed Nick and Alex to examine species data for individual Sky Islands and see where more collection efforts, including MABA expeditions, can begin to fill in data gaps. This research was also presented at the Madrean Conference.

*continued on page 18*



### **Youth Volunteer Meagan Bethel's Award-winning Science Project**

Meagan Bethel, youth SIA member and volunteer, is racking up the accolades for her science fair project analyzing Sky Island Alliance remote camera data to compare wildlife activity in response to wildfire. It all started with an award at the Southern Arizona Regional Science and Engineering Fair this past spring. She then entered her project in national competitions and received the Young Naturalist Award from the American Museum of Natural History in New York City which includes \$1,000 and a trip in June for a behind the scenes tour and ceremony. Meagan also placed first for the Eco-Hero competition from Action for Nature.

Congratulations, Meagan! SIA is proud to be a part of your award-winning scientific effort!

### **Spring Ecological Assessment Training a Success!**

Sky Island Alliance celebrated Earth Day weekend by kicking off the field portion of our Spring Ecological Assessment Project. Springs are among the most biologically and culturally important and highly threatened ecosystems on earth. However they are little studied and poorly understood. In April, SIA hosted a training with Dr. Larry Stevens of the Spring Stewardship Institute. Attendees included 19 volunteers and 5 agency personnel. Participants learned about the ecological importance of springs, the different types of springs, and how to map spring sites and collect important data on their characteristics and human impacts to them. This information will fill an important data void about the Sky Island region. Thanks goes to Dr. Stevens and the volunteers and resource managers who spent their weekend with us. See related article on page 17.



# It Begins with Curiosity and Ends With Conservation: Citizen Science *by Jessica Lamberton*

I once envied leaders in the conservation movement for their discoveries. How wonderful it would be to realize something important and share it with the world, just like Rachel Carson, Jane Goodall or Aldo Leopold? It wasn't until I was much older that I understood I had been walking in their footsteps all along — through my home-grown science fair projects, hiking in the desert washes with my grandmother and talking about where the water went, and keeping a nature journal for all my bird lists, pressed plants and amateur sketches of bugs.

You've heard the term more and more in recent times, but the concept of citizen science is hardly new. Citizen scientists are scattered throughout history: from Mayan stargazers to Sir Isaac Newton, Benjamin Franklin, and Charles Darwin. It wasn't until the 1900s that science became formalized by white coats and clean laboratories, the domain of degree-holding scientists working for universities and government.

It was the conservation movement that brought back amateur — and passionate! — individuals contributing to science. We became reminded that anyone can observe and record what they see, and make new discoveries. We can challenge each other to see the world differently. I find that comforting. There is always something new to learn and discover, and in the sharing, change that can be made.

Today's common definition of a citizen scientist is simply "a volunteer who collects or processes data to answer a scientific question" ([www.openscientist.org](http://www.openscientist.org)). But I also rather like the two definitions provided by Cornell University's Bruce Lewenstein: "citizen science is the engagement of non-scientists in decision-making about policy issues having scientific components;" and, "the engagement of research scientists in democratic and policy process." There's the key: it's all about advocacy! And it is *fun* as well as meaningful. Citizen scientists are motivated by curiosity, the delight of discovery, and by a desire to make the world a better place. It is that motivation which leads to conservation.

The citizen scientist is not the person who simply sat under a tree one day and was lucky enough to have an apple knock an idea into his head (sorry Mr. Newton). Science in all its forms begins with curiosity and a question posed... the citizen

scientist is the person, no matter their age or background, who is aware of their surroundings, asking questions and searching for answers. Those who volunteer with Sky Island Alliance are part of a community of citizen scientists that do this with purpose. Whether joining us for an hour in the office, a weekend in the field, or a year surveying a riverbed for tracks, they are part of a larger collective effort that is changing the world.

We have used the data our cadre of citizen scientist volunteers have collected to advocate for the protection of borderland connectivity in the San

you have contributed to the Arizona Climate Change Network, we will be asking you to help us inventory, assess, and ultimately improve protection of crucial seeps and springs — the lifeblood habitat for many native plants and endemic species that are extremely susceptible to a warming climate.

Aldo Leopold, considered by many in the U.S. to be the father of conservation ecology, wrote that "We can be ethical only in relation to something we can see, feel, understand, or otherwise have faith in."

Has citizen science opened up your eyes to a closer connection with this region? Has it inspired you to

become more environmentally aware in other areas of your life?

For me, most empathically, *yes*.

Somewhere between catching bugs for my journal and where I am writing this to you today, the world has been improved. I can be proud to say I helped make it happen, as have each and every one of our volunteers, past and present. We have expanded our knowledge and our desire to put it to use. Sky Island Alliance has provided the means, and is a source of discovery, action and change for all of us.

So get outside this weekend. You will have fun, learn something new, and help make the world a better place. And after you've surveyed your transect or taken that photo, share your enthusiasm and knowledge with friends and family. The citizen science movement is contagious, and it is just the beginning. Let's see what else we can do.



Jessica, Sergio, and Wildlife Linkages volunteers gather 'round the laptop to check out remote camera footage at Sky Island Alliance's first Wildlife Tracking Refresher Workshop in March (see article page 19). *Courtesy Tim Cook.*

Bernardino Valley and Animas Valley; to make new maps which better explain the most biologically important places in northern Mexico to focus our efforts; and to defeat a proposal to widen Scenic Highway 83, which would have impacted an important wildlife corridor.

With the invaluable time and effort of our volunteers over the past 10 years, we have conducted surveys, assessed and collected baseline data towards the development of a comprehensive restoration plan in the Las Nutrias watershed, eradicated invasive species, and begun restoring 20 miles of neo-tropical migratory bird habitat on the Río Santa Cruz, Río Cócosperra, and the Río and Ciénega de Saracachi.

Just this year, citizen scientists helped us *discover new species* and animal range extensions, and took incredible photographs of plant and animal observations during our Madrean Archipelago Biodiversity Assessment expeditions in Mexico. In the coming year, as a direct result of the expertise

## Want to learn more about citizen science? Jessica recommends reading:

*Citizen Science: Public Participation in Environmental Research* edited by Janis Dickinson and Rick Bonney

*The Woods Scientist* by Stephan Swinburne and Susan Morse

*Last Child in the Woods* by Richard Louv  
*A Sand County Almanac* by Aldo Leopold



# Leaving a Legacy of Conservation in the Sky Islands: Your Values, Your Legacy

by Keri Dixon, Dick Krueger and Carianne Funicelli Campbell

If you want to protect the wild places, native animals and plants you treasure, please consider naming Sky Island Alliance in your will or trust. You may not be able to give a major gift today, but you can still leave a legacy that reflects your individual values and passion for this unique region.

We are launching our Legacy Giving program this year, and know there are more than a handful of members who have already made the decision to include SIA in their plans. Here are two who want to share their stories in the hope of encouraging more members, like you, to consider a similar gift.

We would be honored and grateful to be notified of your intentions to include Sky Island Alliance in your will or estate. If you have questions, please contact Keri Dixon at 520.624.7080 x15 or we encourage you to seek counsel from a trusted advisor to plan your gift.

## Dick Krueger, Board President, Member since 2005

The Sky Islands are an important part of my life. Everywhere I go I feel the presence of the mountains, whether on a short walk with my dog in the shadow of the Catalinas or on a backpacking trip to a remote wilderness. Being surrounded by beautiful, wild deserts and mountains rich with biodiversity inspires me, and has caused me to reflect on what we can do to preserve the Sky Islands for future generations.

I believe in the way Sky Island Alliance is approaching conservation in this region I care about - and that's why I'm involved.

I want to make a significant contribution to the preservation of the Sky Island region. By volunteering time, making regular and generous financial gifts, I want to leave a conservation legacy. In helping our kids and grandkids develop a love for wild lands and wildlife, too, we can lay the foundation for the ongoing preservation of the Sky Islands.



Dick and Sue Krueger

Another very important way I hope to leave a conservation legacy is to make a financial gift through my estate plan. When my wife Sue and I reviewed our wills last year, we decided that in addition to helping our family, we wanted to contribute to the long-term protection and restoration of the Sky Island region by making a bequest to the Sky Island Alliance. It was a quick and easy process, which left us with a good feeling that we are doing something meaningful for the future of the Sky Islands.

I hope you will consider making a legacy gift to help ensure the continuation of Sky Island Alliance's outstanding conservation and restoration work.

## Carianne Funicelli Campbell, Member since 2006

I moved to Arizona from the east coast in 1993, right out of high school, to attend Prescott College. I didn't know much, but I knew I kind of liked plants — I had even keyed one out (I still remember it — Virginia bluebells [*Mertensia virginica*]) with my high school Ecology teacher. I had never been west of the Mississippi River, but as soon as I saw those wide open spaces, well, I was blown away. Soon it became crystal clear that southern Arizona was to be my home. I remember the first time I saw the Sonoran Desert, as I unzipped a tent one morning, having arrived at Organ Pipe Cactus National Monument the previous evening in the dark. I was stupefied by what I saw — those crazy and irresistible Dr. Seuss plants! Suddenly my life came into focus, and this desert was undeniably where I had to live and work.



Carianne Funicelli Campbell

It is funny now to reflect back on those initial impressions of the west and southern Arizona, nearly 20 years later. Now I know of the subtle and beautiful seasonal shifts — how the air changes from winter to spring, and how myriad shades of green are ever-evolving, but *explode* during the summer monsoon. Thinking of all the special places that I have been to, as well as the countless others that are still on my list, ensures me that I'll never have reason to regret choosing to live in this amazing landscape.

A few years ago, while helping my mother update her will, I realized it was time to consider my own contributions and legacy. I was surprised at how easy it was to incorporate a charitable gift to Sky Island Alliance into my will. My advisor also assured me that it will be easy to adjust my commitment as my assets and/or family considerations change throughout my life. SIA's work to protect these special unknown places and their incredible biological values is something that I am continuously proud to support — now and in the future.

**It's easy...  
and adds up  
to make a  
real difference!**

**Donate just \$10, \$15,  
or \$20 a month:**

**Monthly gifts add up to  
real conservation gains  
for the Sky Islands.**

Photo courtesy Bob Van Deven archives

**To start giving monthly, call  
Keri at 520.624.7080 x15  
or click on DONATE NOW at  
[www.skyislandalliance.org](http://www.skyislandalliance.org)**



# Beyond the Data Sheet

by Cynthia Prendergast, Volunteer

Every six weeks I monitor the Cienega Creek transect on the Empire Ranch, between the Whetstone Mountains and the Santa Ritas, looking for tracks of bobcat, mountain lion, jaguar, coati, and Mexican wolf. Although it would be beyond my wildest dreams to see jaguar tracks, it has been very exciting to see mountain lion tracks. So far, in the months since my training back in October 2010, I've seen three mountain lion tracks: one in Saguaro East park, and two others in the Cienega transect. My team has identified bobcat and coati tracks in our transect each time we've monitored so it's exciting to know the wildlife is out there, aware of us even if we see only their tracks. For me, it's a very cool thing to do, something I never would have thought I'd be doing if it weren't for attending a presentation on bobcats which included a live bobcat. I'd been looking for a way to be a part of this western desert landscape that was so new to me after living in Philadelphia, so one look at that bobcat and I was hooked. Lisa Haynes, who also presented a talk that day, put me in touch with Sky Island Alliance. Janice got me on board, and here I am.



"When Leslie, Virginia, Steve and I were monitoring the transect on October 10, 2009, we saw parallel mountain lion tracks going in the same direction. One set of tracks was definitely much smaller than the other so we were excited that they were tracks of a mother with her baby. I took the photo of Leslie and Virginia pointing to show how parallel the tracks were, plus it would be a good way to help us remember the event." — Cynthia

We try to arrive by 7:00 a.m. The four of us are invariably tired but we don't talk about it. We feel privileged to have the beautiful high desert of the Cienega on the Empire Ranch as our transect. Usually we find two or three of the focal species, so our hopes are high.

On the way in, a few minutes before the turn-off from Route 83 onto the ranch, I can see Biscuit. This is what I've learned to call the mountain with the rounded, knobby outline. When I see it, I know I'm about to enter a special world where I might see a herd of pronghorn in the near distance or a mother pronghorn escorting her young one across the road, because I have; or quail hunters firing shots; or a big hairy tarantula crossing the road, because I have. One time, Virginia actually spotted a mountain lion moving through the grasses. Coyotes, hawks, wild horses, they're all here somewhere, including I hope, bobcat, coati, and mountain lion whose tracks, when we find them, make our efforts worthwhile to Sky Island Alliance. The thought of all these possibilities chases away that boggy feeling behind the eyes from having to wake up so early.

Steve and I usually see Virginia's car and Leslie's pickup a quarter mile away at the water tank, our meeting place. They climb into our back seat and we bounce along the dirt road, catching up on news from the six weeks since we've seen them. Leslie is sick of grading exams or has stories of her crazy eighth-graders. Virginia is back from a physics conference in Paris or has been removing mesquite to protect her house in Elgin from fires.

I usually hop out to open and close the three cattle gates on our way in because I like to. Leslie and Virginia do the hopping out on our way back. Steve always does the driving. We take note of how the landscape has changed since we were there last. It's never the same. We notice charred yuccas, or absence of mesquites, or a lushness, depending on the seasons or whether there have been fires. Leslie knows the names of the grasses and has been teaching me to distinguish invasive Johnson grass from indigenous types. What used to look pretty to me is now offensive.

When we arrive at our usual parking spot (an area of anthills that we discovered the hard way), the talking stops. We strap on our gear and get down to tracking. We all want to be the first to find something. Invariably we head to the muddy area just down the slope from the car because we've seen mountain lion tracks there before. We are like dogs, poking around, convinced that if we've seen it once, we'll see it again, that there just has to be something important down here. But not always. It's a disappointment, but we have the whole rest of the transect to do yet, so we trot along, ever hopeful.

Leslie forges ahead because she never eats beforehand and wants to make sure we stay focused so we can make the late breakfast at Coyote Crossing where we always go afterwards. Steve with his long legs, is right alongside her. Virginia and I, who've eaten, are more leisurely and get involved in rodent tracks and somehow the conversation takes a turn to how her dogs battled some rattlesnakes or how the other day I'd seen a coyote on my street and other non-

tracking topics, and we start lagging behind.

Cries of "Hey come look at this!" come from Leslie, who always seems to be the first to spot something. "Yes, they're bobcat tracks!" "No, they're not!" One time the discussion lasted for forty-five minutes. Okay, we'll mark the spot and revisit it on our way back. I stop to re-tie my shoe. A shadow slides across the ground, then is gone. It's a low flying hawk, inspecting us. We are interlopers here. Desert creatures, naturally equipped with all the right fur and feathers, live here unaided, but for us it takes just the right clothing and gear to be a part of this landscape, even for a morning.

We've been monitoring this transect for four years, which means we've been over this same terrain about thirty times. What at first was an unknown stretch has revealed herself to be a special place with her own personality. There's the part that's straight and wide whose high, eroded sides make us feel somewhat trapped and vulnerable, even though overhead we see the wide blue sky. In summer, the sun bears down on us a little too much, and in winter, it's where we're the coldest because the slopes cast a big shadow.

There's the place where you have to watch out for the stickers that jump onto your pants and boots. It's a place of grasshoppers in the fall. Beetles scurry along the rest of the year. Gnarly tree roots hang onto the slopes. Steve and I are always amazed by those trees and Leslie by the beetles. Leslie is also excited by the sight of an unusual stone. Her anthropology and archaeology

*continued next page*



background kicks in and we're treated to pottery shard factoids.

There's the part of the transect where a big hole sometimes fills with water, and at other times is empty, revealing old tracks caught in the dried mud. When we see vehicle tracks, they tend to stop here.

Then there's the place that makes a turn to the right, with a definite change from open pathway to a terrain of trees and foliage. It's so pleasant it makes you want to linger. According to tracking expert, Lisa Haynes, if we like a place, most likely a wild cat will, too. We'd seen mountain lion tracks here a couple of times, so of course we like to spend some time snooping around. I like to think that even though we don't see her, she's there, watching us. It's strange how we're not afraid. I've wanted to see a mountain lion for so long that if I ever do, I wonder if I'll remember to be still, or if I'll be attacked because my urge to try to communicate with her is so strong.

Toward the end of the transect is the part where the trees are thick and the ground is soft. We've seen a lot here, bobcat, mountain lion, and coati. We talk in terms of "seeing" these focal species, when what we really mean is that we've seen their tracks. Leslie says there's a word for this: *synecdoche*, a figure of speech by which a whole is known from its part. We feel this when we see the round perfection of a bobcat track and sense that

we've seen the perfect little carnivore herself. When we witness those four round toe pads and that lovely lobed plantar pad, the bobcat is there for us. Just because the track was made in the past doesn't mean its reality is gone. We're thrilled to see it. I whip out my tracking ruler and bend down reverently over the track with my camera. Steve gets busy with his GPS, and Virginia is ready with her measuring tape.

It's as if we've primed a pump. Now that we've found a track, our vision has sharpened. We're seeing them everywhere. For this last stretch of the transect, we've had to slide under a barbed wire fence, the lowest of the wires appropriately lacking barbs so that while it keeps the cattle out, other creatures can manage to go through. We all hate this little exercise because it means unstrapping our packs and getting down into the leaf litter on our stomachs, but we do it because we're pretty sure there's a payoff on the other side. This is where Leslie once saw a coati. Yes, actually saw a coati. After years of seeing only their tracks, Leslie actually spotted one. We charged after her, slogging through the mud, but the coati had gone, or had made herself invisible to us, probably wondering at our dog-like behavior, sniffing and rooting around collecting so much mud on our boots we could hardly walk.

Regardless of the magic of *synecdoche*, if there's anything better than seeing the track, it's seeing the creature itself. It's what keeps us coming back

to this boggy area, just as we're attracted to the bit of transect where we'd once seen the mountain lion tracks. And yet, if you ask us if that's all that keeps us coming back, the answer would be, 'No.' We love not only these exciting parts but all the places in between. The four of us share an appreciation of this landscape as a special place, almost a personality, that sometimes allows us to see a part of her if we're open and aware — and lucky — who always rewards us when we show up simply to renew our connection with her.

Yes, we always have a big breakfast together afterwards in Sonoita. And yes, we fill out the official data sheet right there while we're waiting for our order. Together we try to remember when it rained last, how many other species we spotted, and what the substrate was like. When we're done, and all the blanks are filled in, we look it over and marvel that our morning's experiences could wind up looking so scientific on the page when the reality we've experienced feels so different.



*Shortly after I wrote this piece, Virginia shared with us the sad news that she had breast cancer. We supported her as best we could until her last day, April 5, 2012. We grieve for our friend, as we mourn the loss of the tracking times we'll never have together, and we wonder how we'll be out there on the transect with only her spirit to keep us company.*

## My Immersion into the Natural World of the Sky Islands *by Jim Chumbley, Volunteer*

I have been a regular volunteer with Sky Island Alliance since last October. I am a recent habitué of Tucson, having just arrived February 2011. Even though I had visited Tucson frequently, actually residing here created an entirely new perspective of southeast Arizona. I arrived excited about enmeshing myself in my new community and embarking upon journeys of exploration.

One of the first friends I met upon arrival kept talking about this "tracking program" with which she was involved, and an organization called Sky Island Alliance. I was mesmerized by her stories of discovering mountain lion tracks in remote mountains with exotic names like the Dragoons. Since I have the luxury of not needing to be employed, I was searching for a non-profit with which to invest my time, and Sky Island Alliance sounded like a perfect fit for me. About the same time, I attended Tucson Audubon's first annual wildlife festival, and sat in on the presentation from Sergio Avila. Viewing the photos that he shared of jaguars and ocelots captured by remote cameras just

on the Mexican side of the border was the catalyst for me to offer my services.

Sergio steered me to the upcoming tracking workshop and my vision of purposeful treks in remote areas, searching for elusive animal signs, was materializing. My previous wildlife biology experience proved useful during the training, and soon I found that I was a "tracker." I was so excited to be joining the Sky Island Alliance team and help gather important data.

Once my introduction to Sky Island Alliance was complete, there was no project that I didn't want to participate in. From entering photos from MABA expeditions while sharing an office with Tom Van Devender — who could provide stories for almost all of the images and is one of the most venerated Sonoran researchers — to camping on the estate of Sierra Esmeralda in northern Mexico while surveying some of the most verdant streams in the Madrean



Jim Chumbley (far left) with a tracking team in the Gila Wilderness during the Fall 2011 Wildlife Tracking Workshop. From left to right: Jim Chumbley, Alex Smith, Jessica Lambertson, Bill Azevedo, Graciela Robinson, and Samantha Hammer. *Courtesy Sergio Avila.*

region, to sharing with my tracking mentors my own mountain lion data reaped from personal meanderings throughout the desert southwest, involvement with Sky Island Alliance is an important part of my life and provides a purpose for my immersion in the natural world of the Sonoran Desert.





# SIA Restoration Volunteers Rock! OR

Everything you wanted to know about Landscape Restoration but were afraid to ask...

by Sarah Williams



## MOVING ROCKS, 101

**MEDIA LUNA** There are two types of Media Luna (half moon) structures and both are used to manage sheet flow and prevent erosion. **1** These volunteers are working on relatively flat ground at Las Ciénegas National Conservation Area so their media luna is “tips up” which disperses erosive channelized flow and reestablishes sheet flow where it once occurred. *Photo by Sarah Williams.* **ZUNI BOWL** Zuni bowls are headcut control structures composed of rock-lined step falls and plunge pools which convert the single cascade of an eroding headcut into a series of smaller step falls. **2** A windy day out at Las Cienegas National Conservation Area doesn't deter SIA volunteers as they build a large zuni bowl to control erosion in an arroyo that feeds into Cienega Creek. *Photo by Sarah Williams.* **3** A monitoring photo shows volunteer-built erosion control rock structures at Las Cienegas National Conservation Area have stood the test of a season. *Photo by Trevor Hare.* **ONE ROCK DAM** One rock dams are literally one layer of rocks laid on channel beds to slow the flow of water. The single layer of rock increases soil moisture, infiltration, and plant growth. **4** Mark Haberstich of The Nature Conservancy works on the finishing touches of a one rock dam in Aravaipa Canyon. *Photo by Trevor Hare.*





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**POST VANES, REVEG & SURVEYS, 101**

**POST VANES** Post vanes are structures used to deflect streamflow toward the opposite bank. They can also be used to induce meandering or to reduce bank erosion. **5** To reduce bank erosion in Adobo Wash, a tributary to Aravaipa Creek, volunteers build a post vane structure using local materials. *Photo by Sarah Williams.* Later, volunteers pose by their well-built finished product. *Photo by Jeff Conn.* **REVEGETATION** **6** Volunteers plant sacaton grass plugs in an effort to revegetate eroded uplands above Aravaipa Creek. *Photo by Nick Deyo.* Volunteer Annamarie Schaecher shows one of the grass plugs she's planting. *Photo by Valerie Johnson.* **7** Volunteers plant riparian tree saplings along Aravaipa Creek to help control further erosion to the creek bank. *Photo by Sarah Williams* **SURVEYS** **8** SIA staffer Nick Deyo and volunteer Dagmar Cushing conduct a riparian survey in the Sierra Esmeralda range in Sonora, Mexico. *Photo by Keri Dixon.* A surveyee. *SIA archive photo.* **9** A desert illustration of two paths in the woods... and it has made all the difference! A road survey in the Las Ciénegas NCA. *SIA archives.*



# La Sierra Madre: The Mother Range

by Jonathan and Roseann Hanson

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*It's fitting that Mexico would give all three of its major mountain ranges the same name, differentiated only by their location — Sierra Madre Occidental, Sierra Madre Oriental, Sierra Madre del Sur. After all, this is a land where devotion to the ideal of the maternal is endemic, where shrines to the Virgin are rarely a stone's throw apart, and where madres, abuelas, and tias have traditionally ground the corn, dried the carne, and pounded the chile that comprises the life-sustaining triumvirate of Mexican cuisine.*

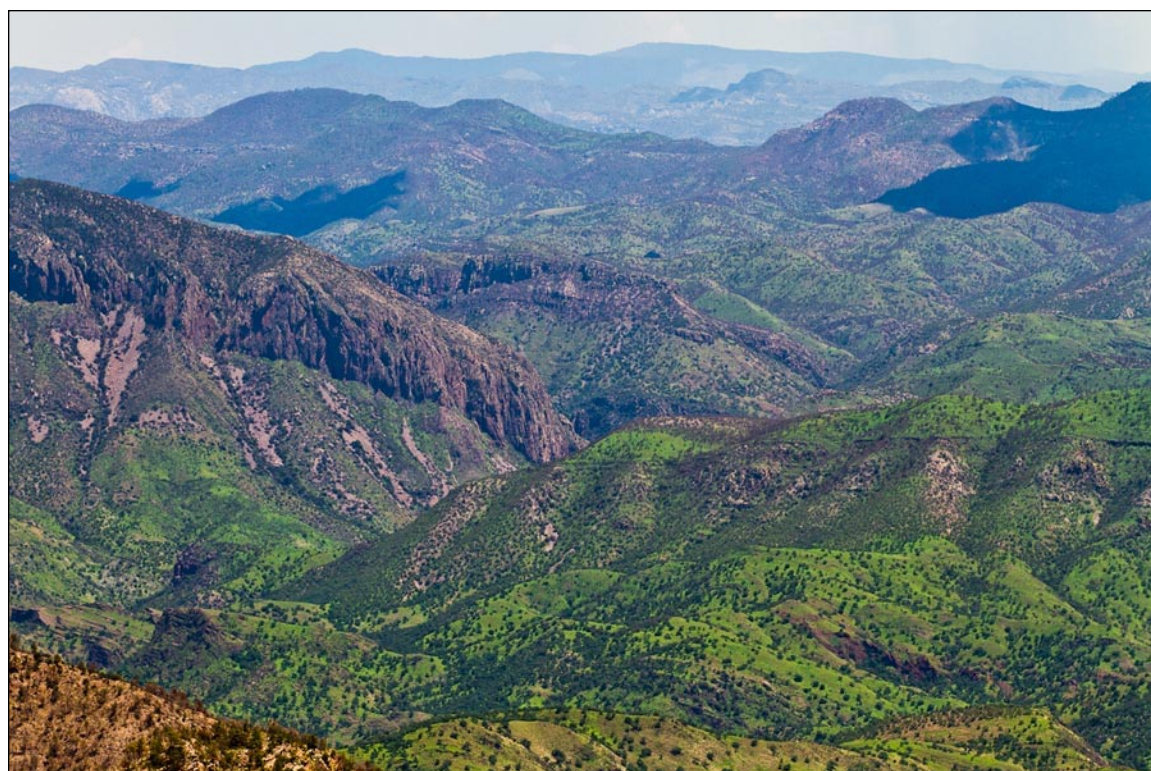
The *sierras* give life to the country too. Peaks ten thousand feet tall scrape rain from clouds spawned in two oceans and two seas, sending it cascading through pine and fir forests where thick-billed parrots screech at stooping goshawks, down through oak woodlands where moonlight fires the eyes of jaguars and ocelots, and out to water the valleys and plains where corn grows, cows graze, and chiles ripen in the sun.

What better goal for a scientific expedition, then, than to explore and celebrate the life in its myriad forms that springs from the Mother Range? That's the idea behind MABA—the Madrean Archipelago Biodiversity Assessment.

MABA is the brainchild of the Tucson-based Sky Island Alliance, one of the most effective grassroots conservation organizations in the U.S. The continuing mission of the MABA project is to catalog biodiversity in the Sky Island region of northwestern Mexico and the southwestern United States, where the Madrean Archipelago rises up in isolated “islands” from the surrounding grasslands and deserts and provides a refuge for plant and animal species that couldn't



The 14 kilometers from Bacadéhuachi to Rincón de Guadalupe took nearly 4 hours of sometimes-difficult driving in four-wheel low-range.



Overlooking the Valle de los Padres. Courtesy Chris Marzonie.

exist here otherwise. Each MABA expedition brings together scientists from multiple disciplines and countries, and focuses on a specific area, generally around a stationary base camp where cataloging specimens is easier.

At the end of July, Roseann and I accompanied the latest MABA expedition into the Sierra Madre Occidental, to a remote property in the state of Sonora, Mexico, called El Rincón de Guadalupe. The property is in a wild region accessible by four-wheel-drive roads, east of Hermosillo.

Our function on the team was to initiate a survey of the large mammal residents of the area, by recording animal tracks and sign (such as scat and scrapes) and setting up motion-triggered infrared trail cameras. Because of our background in expedition travel, we were also to provide 4WD expertise and backup for the 15 vehicles along on the trip. Chris Marzonie, longtime friend, professional photographer, and overlander, also came along to provide another pair of sharp eyes for tracking, and a higher level of 4WD expertise than our own (this was Chris's second MABA trip).

After the usual amusing border chaos at Douglas, Arizona, and Agua Prieta, Sonora, the convoy turned south on Mexico 17, then east at Moctezuma. The road began twisting and climbing through the foothills, and everywhere we saw evidence of the massive freeze that hit the entire region in January (it dropped to 14°F at our house). The tree morning glories seemed especially affected, and appeared to have lost 80 to 90 percent of their mass—yet new growth was already showing between the skeletonized frozen limbs. Agaves, too, had turned brown and crisp. But the dead matter showed up as

discreet tan blotches amid the intense green growth spawned by the summer rains.

At Huásabas we turned south to spend the night at a hotel in Granados, where a crew from CONANP, the Mexican corollary to the U.S. Forest Service, cooked us up a satisfying *barbacoa* as a light drizzle fell—presaging more rain, I suspected.

The following morning our group was granted a transcendent experience, when we stopped to visit the plain but graceful 18th-century mission church in Granados. I had noticed that one of the herpetologists on the trip, a young man named Robert Villa, of Tucson, had brought along a battered violin case. Now, with some trepidation, I watched him carry it into the church, where he brought out an instrument that glowed with the same patina as the ancient wooden pews and altar. Standing in the aisle near the front, Robert produced the discordant notes that always accompany the tuning of an instrument. And then, as I and the rest of the group—along with a quickly growing number of the town's residents—stood, entranced, the perfect strains of a Bach concerto rose through the sunlight slanting in through the windows, and filled the far corners of the mission. The already towering arch of the nave seemed to soar even higher, the air brightened and shimmered in tune with the movement of Robert's bow. By the time the last notes faded away, more than one of us were blinking back tears.

Later that morning, in the more elegant mission at Bacadéhuachi, where we were to turn off the pavement, Robert repeated his performance with an anonymous medieval Sephardic piece every bit as eloquent as the Bach.

Did I predict rain? At about 2:00 in the afternoon I stood ankle deep in a muddy torrent, soaked to the skin, marshaling vehicle after vehicle up a



sluice whose proper line changed with the passage of each set of scabbling tires, as cantaloupe-sized rocks washed down the gully in the runoff. Rain jacket? Of course I had a rain jacket—a hastily grabbed years-old equipment-review subject, the cut-rate waterproofing of which had apparently simply evaporated.

Meanwhile, Chris was far down the mountain, tending to a participant's well-used Tacoma with a clutch that turned out to be, happily, only temporarily fried by enthusiastic use. Fortunately Chris's and our two-meter radios were connecting well despite the folded terrain, so we knew who was where.

By the evening, all the vehicles had made it to Rincón de Guadalupe, with Chris bringing up the tail gunner position, and we settled in to the bunkhouse or our tents as personal preference and equipment dictated. The “pro” overlanding contingent got to show off, as Roseann and I pitched our spacious Turbo Tent next to Chris's full-on two-room OzTent. Chris set up his cocktail table with a selection of tequila and bacanora, the signature liquor of Sonora brewed from roasted *Agave pacifica* by *vinateros* in backyard stills. Once fellow tracker Tim Cook added his wine, and we had spread out a selection of absurdly expensive camp chairs, our little compound was elected the de facto lounge of the entire place.

The old tin-roofed, mud-adobe structures of Rincón de Guadalupe, perched precariously on a ponderosa- and cedar-forested hillside at about 5,800 feet elevation, have a troubled history. Shortly after the Mexican revolution, those in power decided the Catholic church was *personae non gratae*, and persecution became institutionalized.

A group of priests and nuns from Hermosillo, in the desert lowlands of Sonora, fled into the Sierra

Madre and built a hidden sanctuary—which was discovered by the government and burned to the ground, fortunately when the nuns and priests were absent. After decades of persecution, the church was finally permitted to practice their faith freely, and in 1945, led by the indomitable bishop of Sonora, Juan Fortino Navarrete y Guerrero, a group of survivors built the compound that remains today. The church's property encompasses about 7,000 acres of wild landscape in the Sierra de Bacadéhuachi, most of it unroaded and harboring beautiful Madrean pine-oak forests.

If you've ever traveled with a group of dedicated biologists, you know there's no “okay-camp's-up-let's-relax” interlude. Within 15 minutes of our arrival, the entomologists had white sheets up behind UV bulbs to attract flying insects, the herpetologists were out turning over logs and rocks, and the ornithologists were poring through the woods, eyes fixed to their Nikons and Leicas, ears attuned to owl and nightjar calls. Before the first night was out, new range extensions had been set for several species—an astonishing start.

After dinner, I stood before one of John Palting's sheets for an hour or more, captivated by the thousands of bugs, beetles, and moths clinging to the cloth. They ranged from tiny drab things a few millimeters long, which John seemed to be able to differentiate at a glance from 10 feet away, to hummingbird-sized monsters patterned like swirled toffee—and one exquisite, scallop-winged, monoplane-like creature that looked like something a miniature Blériot might have piloted across the Channel.

You can get an idea of the task facing the MABA group by glancing at overall numbers for the Sierra Madre Occidental. Within the range's 900-mile length and 86,000 square miles (the size of Minnesota) you can find 200 species . . . of oak



SIA founder and former Board President Dale Turner is a dedicated and essential member of MABA expeditions. *Courtesy Sky Jacobs.*

trees. Figure total plant diversity at another 3,000 estimated species. Well over half of the 1,000 bird species found in North America can be seen here. Over a hundred species of mammals, a higher-still count of amphibians and reptiles. New species are still being found, including several on past MABA expeditions, and species range extensions are commonplace discoveries. Little wonder the group wasted no time getting to work.

Over the next three days—a cruelly short window—the group added species after species to the catalog of wildlife and plants in the area. Hard rains had erased all recent spoor, so our mammal tracking efforts merely recorded the common species leaving fresh sign—white-tailed deer, raccoon, skunk, and coatimundi (a long-tailed relative of the raccoon), which roam these parts in large troops.

After studying maps and discussing with our tracking team, which comprised two Sky Island Alliance volunteers and a Sonoran biologist, we placed our single trail camera (one of ours had malfunctioned) at a confluence of two large drainages that we hoped would funnel animals conveniently. Happily, in just two nights the infrared camera recorded two deer, a grey fox, an Apache fox squirrel, an opossum, and a botanist. And this represented a new range extension for the botanist.

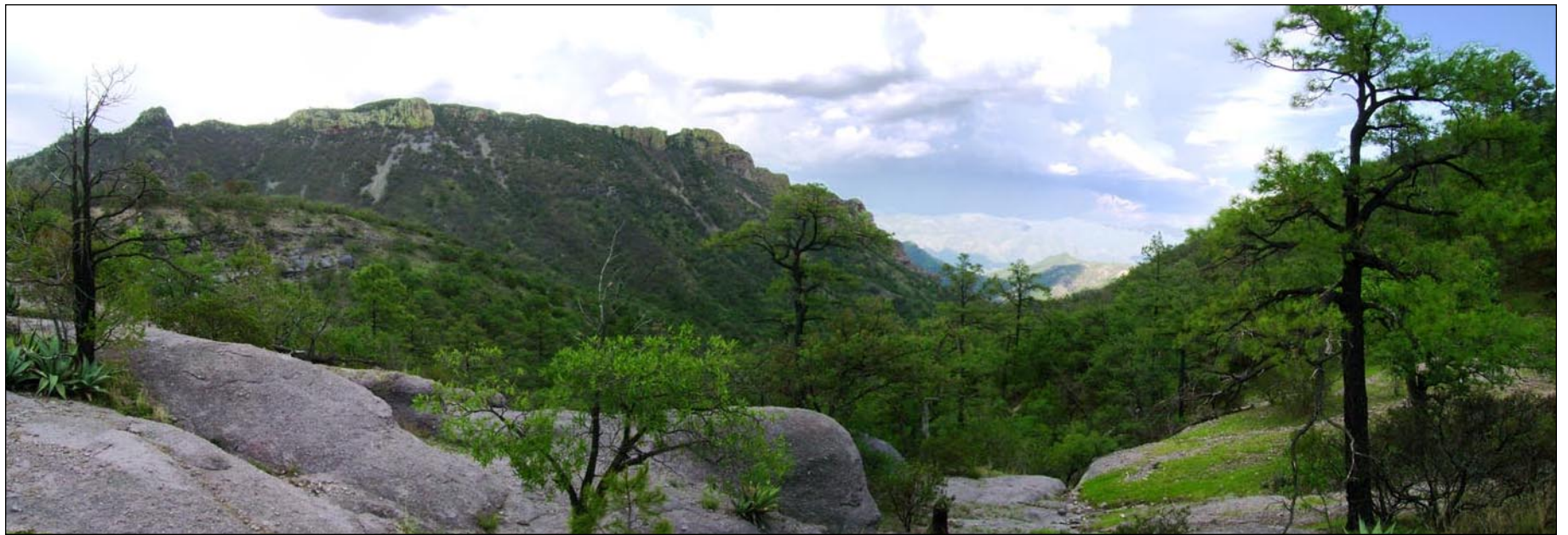
Our pre-trip, map-based projections of the ground we wanted to cover on foot proved to be



FROM LEFT Our group photo: what a diverse and amazing assemblage of volunteers! *Courtesy Chris Marzonie.*

*continued next page*





Will it storm... or won't it? The question on the last day's excursion. (It did, by the way, and the accompanying hail was sharp and fierce.) *Courtesy Nick Deyo.*

## La Sierra Madre: The Mother Range *continued*

hilariously optimistic in the precipitous terrain. A full day's energetic bushwhacking and bouldering down one watercourse and up another probably encompassed three miles of straight-line travel.

We added two canyon tree frogs to the herpetologists' total for our trouble, and gained a sense of the immensity of the Sierras.

Throughout our stay, the CONANP crew, headed up by the ever-jovial Omar Gutiérrez-Castro and Roberto Torres-García, stuffed us with proper Sonoran food (except for a spaghetti night). Two puppies belonging to the resident caretakers, scrawny and intimidated by the crush of people at first, were by the last night lolling upside down in laps, stomachs the size of bowling balls.

Robert treated us to an extended concert in the tiny, austere chapel—fully as inspiring in its hand-hewn simplicity as the soaring churches. And we got the story behind Robert's violin: an 18th-century masterpiece built by a student of the

legendary Stradivari—and bestowed to the talented Robert as a gift by an anonymous benefactor who had heard him play a recital in junior high school on a rented Chinese instrument.

A heavy rain and hail storm the day before we left presaged interesting conditions on the road down the mountain. We left an hour ahead of the main group, accompanied by Tim Cook with his well-outfitted Jeep, to help clear the trail. As it turned out, the lower reaches had apparently been missed by the storm. We had to pull one downed oak tree out of the road, and add a few rocks to an undercut ravine. But otherwise it was smooth driving for us in the lead, and most of the rest of the group, gravity being on their side this time. But once again luck did not hold for tail-gunner Chris—a Ford pickup that had flattened a tire on the way up destroyed another on the way down, beyond any chance of a repair. A second spare, borrowed from another vehicle, was bolted on, at which point it was discovered the offset firmly grounded the rim against the brake disc. Contacted by radio, we were about to head back up the mountain with the spare from a Ford Explorer that was with us, when Chris called to say they had simply swapped rims front to back and were underway again.

As we waited in the town square in Bacadéhuachi, eating ice-cream popsicles from the little *tienda*, a group of young biologists garnered intelligence on the whereabouts of a back-yard bacanora still, and wandered off to find it. We pressed them on pain of death to bring back some for hard-working Chris, who had been determined to sample the local product.

In due course the group returned with a hodgepodge of bottles conscripted for the purpose, including one they handed to us. A sniff revealed a potency that promised something in a different universe than even the finest commercial

concoction—and when Chris drove up, he insisted on decanting some for us to take home.

Mission accomplished (the biology, not the hooch), our group began to disperse. Tom van Devender, the leader of Sky Island Alliance's MABA project, headed for Nogales, where the agricultural inspection station would examine his dozens of plant specimens. Another group had just one more spot in the nearby hills they wanted to check. And we, Chris, and two other vehicles headed back north, immediate destination Fronteras, where, on the way south, Roseann had sworn she'd glimpsed a sign reading *El Museo del Indio Geronimo*. A museum here devoted to Geronimo, the Apache scourge of Mexico? We had to see . . .



*POSTSCRIPT: At home two nights later, under a violet sunset, Roseann and I broke out that backyard bacanora and filled two shot glasses. First sip—an explosion of raw flavors that seemed to echo the Mother Range that had given birth to it. Heavy smoke from oak fires, earthiness from the roasting pits, the tang of agave heart, and the sinus-clearing bite of alcohol—I didn't even want to guess at the proof of this stuff. A cautious second sip, then a less-cautious third, simply overlaid the first impressions with yet more power.*

*I took another sip, but this time I held it just behind my tongue, which revealed an astonishing subtlety concealed by the initial jolt. This was no moonshine; there was true craft evident here. The longer I held it, the more complex became the messages it sent. Finally I let it burn pleasurably down my throat.*

*Did the aftertaste shimmer with just a hint of the strains of a violin sending notes soaring through the nave of a mission church?*

*Maybe I'd had enough.*

“Last August's MABA trip was the highlight of my summer. The opportunity to look for animal tracks in a remote, wild and beautiful mountain range in Sonora, coupled with the chance to observe the passion and dedication of scientists from many disciplines, as they catalogued the biodiversity of the area, was a great experience. To see so many people care so deeply, and to more fully understand the importance of their work in the preservation of the region was exhilarating. All this, plus the opportunity of getting to know new and interesting people, made this a very memorable trip.”

— Dick Krueger, Board President



# Voluntarios sin Fronteras: Volunteer Cross-Pollination in the Sky Islands

by Sergio Avila

Here at Sky Island Alliance we work to protect and restore the native species and habitats of the Sky Island region. Our work focuses on an ecological region that hosts a high diversity of species, habitats and their interactions which have evolved over millions of years. The goals of our programs are based on the premise that plants, animals, and the ecological and evolutionary processes that link them exist within natural boundaries such as species' distribution, elevation and temperature ranges, or transition zones between vegetation types like desert grasslands and oak woodlands.

Over the past two centuries, the natural ecology of the borderlands at the US and Mexico has been profoundly altered by a myriad of human interactions within and across these two countries. The straight, arbitrary line — with its political, cultural and socioeconomic consequences — is not reflective of natural processes, divides ecosystems and watersheds, and keeps us in constant search for creative ways to preserve the complex biological and physical interactions. In addition, the introduction of non-native species, unsustainable use of natural resources, blocks to wildlife movement paths, and an expansive human population, have dramatically altered the landscape and the biodiversity of the region. More than ever, species survival depends on connectivity of habitats in patterns established before the political border. Thus, we strive to maintain and improve the natural historic conditions of the land, and mitigate and adapt to new conditions like the changing climate.

Historically, SIA and its volunteers concentrated their work north of the political line that divides our region. Working mostly on public lands of Arizona and New Mexico, by collaborating with agencies and participating in public processes, SIA organized and led volunteers on surveys and protection of roadless areas, wildlife monitoring and restoration of native habitats, designation of Wilderness areas and other actions for the benefit of species like leopard frogs, Mexican gray wolves and migratory birds. In our 20 years as an organization, volunteers have put an effort equivalent to over 50 years of field work in just the United States!

Today, our work south of that political line has improved, our relationships strengthened, and our accomplishments multiplied, using ingenuity and creative collaboration to overcome challenging circumstances in the conservation of trans-boundary environments. Without a doubt, the involvement and active participation of our volunteers is invaluable in achieving our mission across the region.

In February, we camped in northern Sonora's Sierra La Esmeralda with a group that included eight volunteers, both new and returning, from Arizona. Located 10 miles straight south of Peña Blanca Lake in Arizona, Sierra La Esmeralda is a mountainous area that stretches across the



Volunteers from Arizona and Cananea, Sonora, take a group photo by their rock work — a grand zuni bowl. Courtesy Sergio Avila.

border, a place where trogons and five-striped sparrows find rest on their way to Sycamore Canyon and the Pajarita Wilderness. We hiked along drainages surveying stands of willow, cottonwood, ash, and sycamore trees. We stayed in Rancho La Esmeralda, a privately owned property with a large Hacienda-style bunkhouse, swimming pool and other amenities, all powered by solar energy. For some of the volunteers from Arizona, it was their first time in Mexico.

Similarly, on a watershed restoration weekend in Aravaipa Canyon in Arizona, we welcomed eleven new volunteers from Sonora. Led by instructors Van Clothier from Stream Dynamics Inc., and Mark Haberstich and Stace Walker from The Nature Conservancy, students and professors from the Instituto Tecnológico Superior de

Cananea, a state technical college, learned about and helped with habitat restoration by building erosion control structures, planting close to 100 willow and desert hackberry saplings, and clearing overgrown mesquites. This was the first time a group of volunteers from Mexico came to the U.S. to participate on a field weekend with Sky Island Alliance!

The intentions of both field weekends were to monitor and restore the natural conditions of the land and its inhabitants, to teach progressive techniques which can easily be replicated, and to provide an experience of natural areas that made it difficult to remember which the side of the border was which. By joining forces on a

common goal, both trips also accomplished a tenuous, less visible goal: to bring people together, share ideas, exchange thoughts and put hands to work, shoulder-to-shoulder in a fun way.

I recall a field trip to Sonora in 2005 when a then-vegetarian volunteer from Alaska tried some tacos de carne asada and said: "I feel bad for real vegetarians." I also remember taking a journalist to Sonora who, after walking along the Río Cocóspera for a while, said: "I don't even remember what country I'm in!" These experiences highlight the fact that, in spite of the political boundaries, volunteers enjoy natural 'borders' — curvy lines of a creek running along a canyon or a set of tracks left in the dirt. The political border is certainly there, it is real and it won't

go anywhere — we still use our passports, get searched when crossing through that horrible metal wall, and speak a different language depending on which side we live.

Elegant trogons, black bears, and monarch butterflies carry no passports when moving through the region, but they know full well where to find water, food or mates, and the routes to reach them. Their boundaries are those irregular patches of habitat contained within temperature and elevation ranges, where sycamore trees and manzanitas stand. Similarly, the work of our volunteers has no borders. Regardless of country, their continuous efforts — planting saplings, controlling erosion, tracking wildlife, rain or freeze — is making a huge difference... in so many ways.





# Walking Around and Paying Attention

by Trevor Hare

We must pay attention or we will miss it: we'll miss the sign of the lion or the box turtle, the sound of the trogon or the little montane rattler, the flash of a white tail or a striped tail. While the vitals of the ecosystem are easily missed, they are what we want to see while we're out there. The threats are even easier to miss: the sign of the exploration geologist or surveyor, a knickpoint (sharp change in channel slope) in an arroyo, a two-track heading offtrail, the invasion of noxious organisms into grasslands and aquatic systems, stream capture (erosion) from a dirt road, a drying wetland, over-utilization by cattle, introduced disease, or climate change. Staying vigilant so that we recognize these threats in the moment is one of our most essential tasks, whether we are a concerned citizen volunteer or a highly trained conservation biologist. We must read the landscape: *Standing, walking, and paying close attention.*



Walking around these mountain islands and desert grassland seas should be a sensory exploration where sight, sounds and smells enhanced by wonder and wanderlust guide us. We must slow down, notice the small things both good and bad and we must document them, both good and bad. Humans, like rats, are social animals and we tend to walk too fast, talk too much and pay too little attention. Nature, from its geological root to its living crown, is in constant movement across space and time. Sometimes nature moves as fast as a hummingbird's wing and sometimes as slow as a pebble heading down a creek towards the Gulf of California. Mountainsides come crashing down in seconds and genes infer fitness over millennia. Nature does not easily give up its secrets to the casual observer. To notice this ebb and flow of nature and its ecosystem processes we must be still, whether for a minute, a day or a lifetime, and we must be quiet to hear and see and begin to understand.

Spending time in the field, in long and thoughtful observation of the rich natural heritage of landforms and lifeforms in the Sky Island region has allowed Sky Island Alliance to protect, to restore and to effectively advocate on behalf of a landscape that needs more lovers, and plants and animals that need more friends. From the volunteer advocate to the citizen scientist, the nature lover to the conservationist, we all have to get out there and walk it so we can inform the social and political process. We have to demand action in the face of unprecedented threats to the home planet.

Over the last ten years, SIA has spent over 200 weekends in the field with volunteers walking

roads and wilderness areas, chasing critters great and small, and learning about and collecting data on frogs and fish, cats and coatis, snakes and snails, roads and roadless areas. Adding the tens of thousands of hours spent by Landscape Restoration program staff in the field, talking and walking with agency personnel, landowners, consultants and other partners, the sum of SIA's investment in the field is amazing. We are proud of how much time we have spent out there standing, walking, busting our humps, and paying attention — it has made us uniquely able to plan, propose and implement protective and restorative actions, and to advocate, to be a true voice in the wilderness for wild critters and wild places.

Yes, the field work can be hard. It means long hours spent away from family and home, in the heat or the cold, the rain or snow, with swarms of mosquitoes, blister beetles, chiggers and biting flies. Yet Nature's harsh reality is a tonic compared to what we see out there when we pay attention: the sign of exploratory geologists, the faint tracks of motorized wreckcreators, and the heartbreaking destruction of wetland and upland, forest and desert. These are wounds we cannot ignore, yet when we return from the field to the comfy confines of our home or office, and we crave the hot shower and the warm embrace, what we really

are thinking about is the vistas, the experience, the critters and the camaraderie: the next trip out there, anywhere, armed with knowledge and experience we will go forth and defend, restore and advocate for the place we love with a big ol' grin on our face.



## DATA ENTRY

by Jefferson Carter, SIA Poet Laureate & Office Volunteer

I can't even look at the image, two hands displaying what looks like an olive-drab hot water bottle, a Colorado River toad (*Bufo alvarius*), its sides bulging over & between the fingers gripping it. I can't imagine licking the parotoid glands on its back

& getting high. I open the next image, like something you'd see on a memorable acid trip. A Pipeline Swallowtail larva (*Battus philenor*), scarlet, horned, a three-inch boiled lobster dripping off a dead branch. I look around

the office. Pale Nick (*Homo sapiens sapiens*) at his computer, skinny Vicki (*Homo sapiens sapiens*) at hers. . . .

Now where was I?



Restoration volunteers on a field weekend in Aravaipa Canyon.



# Protecting Springs in the Sky Island Region

by Louise Misztal

This year Sky Island Alliance started a new project: to study, protect and restore springs and seeps. Both springs and seeps occur where the aquifer surface meets the ground surface; the higher volume springs flow while seeps often form a puddle and do not flow beyond their above-ground location. Although these amazing resources cover only a tiny fraction of land in the arid southwest, they support an immense amount of biological diversity, endemism and productivity. Springs provide habitat for aquatic plants and animals; are a source of water for terrestrial animals and of food and cover for birds; and are sites of cultural importance to indigenous cultures. At the landscape scale, they play a key role in providing refugia for migratory birds, reptiles and amphibians, and are expected to become an increasingly important resource for many species as the changing climate continues to alter precipitation patterns and temperatures.

Despite the critical nature of springs in the region, basic information about their physical and biological characteristics is very limited and they are poorly understood. To effectively protect, monitor, and restore springs, it is necessary to characterize their current status, the species they support, and opportunities for their protection and restoration. Sky Island Alliance is pleased to be teaming with Dr. Larry Stevens of the Spring Stewardship Institute to develop and implement spring assessment protocols for the Sky Island region. We have also been working closely with land and wildlife management agencies, researchers, and conservation organizations to develop the project. With these important partners, we will determine where to conduct our initial spring assessments and how best to support stewardship of these resources.

This April, Sky Island Alliance held our first spring assessment protocol training in cooperation with Pima County Natural Resources, Parks & Recreation and Dr. Stevens. We will begin conducting field work in May and continue through 2013. This project is a new, exciting way for volunteers to apply their skills in the field and “get their feet wet” assessing important characteristics of springs. We’ll be in the field all summer visiting new places to gather critical data, and also actively ‘doing something’ to address the very real and expected impacts of climate change.

Even if you weren’t able to attend the training you can still participate in the project by lending your expertise and assistance to spring assessment teams. We are looking for those of you who can identify riparian and wetland plants in the field, who love to birdwatch for a good cause, who can seek out and identify mammal tracks in muddy places, who can sneak up on snakes, and anyone else who is willing to spend a day or two in the field exploring these sites. Stay tuned for volunteer weekend and daytrip announcements as we plan our field work, and join us in protecting these amazing waters.

Contact Louise Misztal ([louise@skyislandalliance.org](mailto:louise@skyislandalliance.org)) or Nick Deyo ([nick@skyislandalliance.org](mailto:nick@skyislandalliance.org)) for more information.



Madera Canyon's Kent Spring Falls in the Santa Rita Mountains. *Courtesy Doug Moore.*

## Efforts that really make a difference

by Bruce Hilpert, Volunteer

Why do I love supporting and volunteering for Sky Island Alliance? When I first thought about this question, my response included the usual things that come to mind: I enjoy being outdoors in southern Arizona. I like working on projects that accomplish good things and I love meeting all the interesting like-minded people on SIA projects. However, as I thought a bit more about it, I realized one of the biggest things that makes Sky Island Alliance unique.

Let me preface my realization by saying that I support a number of environmental organizations with my membership dollars. Most of these are policy-oriented organizations such as Natural Resources Defense Council, Environmental Defense Fund, Surfrider Foundation and other national groups that do important work lobbying at the state and national level. While these efforts are certainly important, Sky Island Alliance is different. It takes on the practical, hands-on work that really makes a difference to the ecosystems, animal populations and our collective personal experience in the outdoors. In the past few years I have helped block off wildcat ATV trails, helped build erosion control devices, planted native species to help build a healthier stream and riparian area, removed barbed wire fences to enhance wildlife migration, and even trapped a few invasive bullfrogs.

These efforts may not have affected national policy, but they had a tremendous impact on the local ecology and our everyday outdoor experience. *It is one thing to pass legislation or create a rule that ATVs are only allowed on established roads at a site, but if nothing is done to close off the unauthorized roads, then the rule has no meaning. SIA makes these things happen!*



## Join the Tradition... Volunteer!

Sky Island Alliance formed in 1991 by a group of concerned scientists, conservationists and activists who wanted to keep our public lands intact and wild so that future generations would have an opportunity to enjoy the quiet solitude of a mountain meadow and experience a landscape where native species still roamed. Today, Sky Island Alliance gathers people together to protect our rich natural heritage and restore native species and habitats. New volunteers come out all the time, whether they are seasoned backpackers or have never looked at, much less know what a topographic map is. We welcome you to join us!

### There are Always Volunteer Opportunities to Rejoice in and Restore our Sky Islands!

Check [www.skyislandalliance.org](http://www.skyislandalliance.org) for the latest calendar!

### Join our Landscape Restoration Field Weekends

**Habitat Restoration Weekends:** These trips can be physically demanding but have a wide variety of tasks to suit different skills and fitness levels. Current program work focuses largely on riparian restoration. Volunteers learn hands-on restoration techniques such as building one-rock dams and other water harvesting structures that control erosion, trap sediment, stabilize stream banks and retain water on the landscape. These structures, combined with the planting of young, riparian trees and grasses — increase quality wildlife habitat along vital riparian corridors.

**Riparian and Recreational Impact Surveys:** Volunteers gather at a base camp and are matched with three to four other volunteers. We provide a map, GPS unit, digital camera, and data sheets. The teams are sent out to walk a riparian area or road transect. Each team collects photo and geospatial points to document their findings. Depending on the distance to the site, volunteers drive out for the day or camp out.

Contact Christopher at 520.624.7080 x24 or [christopher@skyislandalliance.org](mailto:christopher@skyislandalliance.org)

### Adopt a Transect

**Monitoring the presence of mammal species in important intermountain corridors:** This volunteer program involves the largest time commitment. After an extensive training in identification and documentation of wildlife sign, volunteers are teamed up with other trained trackers to monitor a transect (tracking route) every six weeks. Join our eNews list or check [www.skyislandalliance.org](http://www.skyislandalliance.org) for info on our next tracking workshops!

Contact Jessica at 520.624.7080 x21 or [jessica@skyislandalliance.org](mailto:jessica@skyislandalliance.org)

### Represent SIA at Outreach Events

**Volunteer to spread the mission of Sky Island Alliance!** SIA is regularly invited to participate in community events within the Sky Island region, but have limited staff resources to ensure our participation. We are seeking committed volunteers to represent SIA at public events, give presentations to the public and help at SIA outreach events and workshops. If you enjoy interacting with new people, sharing your knowledge of the region, and furthering the mission of SIA, this is the job for you!

Contact Sarah at 520.624.7080 x23 or [sarah@skyislandalliance.org](mailto:sarah@skyislandalliance.org)

### Make a Difference

**Data entry, analysis and office needs:** Enter and analyze data collected in the field so that Sky Island can put that hard-earned information to work.

Contact Sarah at 520.624.7080 x23 or [sarah@skyislandalliance.org](mailto:sarah@skyislandalliance.org)

**We're looking for a few members who have expertise in planned or legacy giving:** If you feel well-versed from experience, whether on the finance or legal side, to participate in the conversation to help us develop and launch a more formal program, please contact [keri@skyislandalliance.org](mailto:keri@skyislandalliance.org)

## Protecting Our Mountain Islands and Desert Seas *continued from page 5*

In other exciting news, longtime MABA collaborators at the Universidad de la Sierra, in Moctezuma, Sonora, have published three books highlighting the biodiversity of the Sierra Madera, a Sky Island in central Sonora. Gertrudis Yanes, María de la Paz Montañez, Hugo Silva, and Enrique Montañón worked with Tom Van Devender and Ana Lilia Reina to author the field guide *Catálogo de Plantas: Arbóreas, Arbutivas y Hierbas de Sierra Madera*. This book contains many images taken on MABA expeditions and shared through the MABA database. Hugo Silva took the lead on the *Catálogo de Fauna de Sierra Madera*, which features index pages with color thumbnails and larger black-and-white images, and species accounts. Mayra Ríos-Madero, a participant on two MABA expeditions, contributed drawings of 20 plants and animals for the third publication — a coloring book for children. All three of these important works were made possible through support from the Ajos-Bavispe Reserve and a Wildlife Without Borders grant from the US Fish and Wildlife Service and will be used to educate Sonoran school children about the incredible biodiversity in their backyards.

Important contributions to the MABA database ([www.madreal.org](http://www.madreal.org)) over the last three months include 2,577 records of Sonoran mammals from the Monte L. Bean Life Science Museum at Brigham Young University in Provo, Utah. BYU Curator of Mammals, Duke Rogers, provided the data, which can be accessed under a separate BYU search collection button in the MABA database. Tom Van Devender, with help from George Ferguson, prepared 159 amphibians and reptiles records collected in Sonora in 1935 by Barry Campbell for the MABA database. Campbell was from the University of Michigan Museum of Zoology, which had a great tradition of exploration in Mexico. All told, 4,974 new species records have been added to the MABA database since January.

On February 14, Tom Van Devender participated in Melissa Valenzuela-Yáñez's thesis defense for her undergraduate degree in biology at the Universidad de Sierra. Melissa has been an active participant in MABA field expeditions. Her thesis, entitled "Flora Vascular de Ejido de Tonibabi; Moctezuma, Sonora," summarizes six months of plant collections in a major wetland in the Sierra Madera. Tom was active in other outreach activities including representing MABA at the ninth annual Arizona Botany Meeting at the Desert Museum on February 18, and helping to lead an Arizona Native Plant Society wildflower field trip to the beautiful Pinacate Reserve in northwest Sonora. At the end of March, Tom Van Devender, Ana Lilia Reina, John Palting, and Chip Hedgcock returned to the Rincón de Guadalupe in the Sierra de Bacadéhuachi to make observations on spring flowers, moths, amphibians and reptiles.

### Landscape Restoration Program

*by Trevor Hare*

Spring has sprung and summer is bearing down on us like a saber-toothed tiger but it's an important time to be out there in the field — restoration structures need to be installed and get settled in before the monsoons arrive. Volunteer work in the lower elevations must happen before it gets too damn hot. Plans must be in hand for data collection on riparian area use by spring-migrating birds. And we must be eradicating bullfrogs before breeding occurs in June and dispersal in August. So we have been out there, one of our busiest springs ever, walking and talking, planning and implementing, learning new things and meeting with old friends and new partners.

It's been an exciting spring. In addition to hiring a new Conservation Assistant for the Landscape Restoration Program (see more next page), we braved the cold, rain and snow, spending weeks on six ranches in Sonora and one in New Mexico. We have walked and talked the bullfrog problem and found a solution in the Pajarito Mountains through lots of volunteer effort.

*continued next page*



We have done restoration work in the Altar, Aravaipa, Ciénega Creek and San Simon valleys, and planned restoration in the Huachuca Mountains. We even traveled to Washington, DC, to confab with other groups who work on Bureau of Land Management wildlands issues across the West. In addition, the new year always brings a flurry of program planning work, not only looking at our work plans for the coming year but our funding plans to get money in the door for next year and the year after.

Over three weeks in late January and early February we implemented Phase Two of the Cloverdale Ciénega and Creek Restoration Project. After two years of planning, we removed approximately 300 invasive juniper trees from the drying ciénega surface and used them to control erosion along one mile of the adjacent creek. We constructed 48 structures, baffles, and weirs to slow water down and promote infiltration, encouraging riparian vegetation growth on the banks and floodplains, and increasing habitat for the Chiricahua leopard frog and other cool aquatic and riparian critters.

After an initial series of site visits in Sonora in late 2011, we really got going on our Sonoran Creek Restoration Project in February, March and April. In cooperation with the University of Montana and the US Fish and Wildlife Service we planned restoration along twenty miles of the Río Cocóspera, Río Santa Cruz, Arroyo Milpillias, and the Plancha de Plata. Baseline data is being collected on vegetation, geomorphology, and the abundance and composition of Neotropical migratory bird species.

In March, SIA was thrilled to welcome Christopher Morris to the Landscape Restoration program and we immediately put his skills to use. Christopher brings years of experience in managing people and projects to benefit the natural world, and is fluent in Spanish which has been instrumental in our recent work in Sonora. I have also recently learned that he can speak a bit of Chinese with our very enthusiastic volunteer from China. Christopher will be leading many of our volunteer efforts in the field and I encourage everybody to get out there with him, have some fun and do some good work!

So while we have accomplished a lot this spring, the job of conservation is never over and we will march forth into the heat and monsoons armed with boots and shovels, maps and plans, nets and spotlights. We will construct rock dams and Zuni Bowls, seine dirty stock tanks and clear lakes, and plant cottonwood and willow saplings. We will walk drainages in search of springs and their amazing diversity of life. All to promote the conservation of this amazing region, in our daily lives, with our friends and family, with agency personnel and elected officials, and out in the field armed with the tricks and tools of the trade.

So get online and check our calendar of events, chat with Sarah or Christopher about all the great field and office volunteer opportunities, or just get out there!



By the end of the weekend, the trackers reported their level of confidence in their tracking skills rose from 10-70% to 70-90%. *Courtesy Sergio Avila.*

## Wildlife Trackers Refresh their Confidence *by Jessica Lamberton*

Sky Island Alliance held a wildlife tracking refresher course at the Amerind Museum in Dragoon, Arizona this March. Thirty previously-trained tracking volunteers — some who recently joined us this year and others who took the first workshop ten years ago — joined Jessica Lamberton and Sergio Avila to refresh their knowledge of tracking and sense of community, and to discuss methods for improved communication, data collection and sharing of information. We learned that since they've been tracking with SIA, some volunteers have become recognized as wildlife experts by their neighbors, while others like to keep their tracking field guides in their bathroom for light reading.

Periodically throughout the two days of the Refresher Workshop, we asked people to stand up and move to a spot representing the degree of their answer or feeling in response to a question. Then we would discuss why we chose to stand where we did. Here are the results of some of those questions:

At the beginning of the refresher, we asked: **How confident do you feel about tracking?** On a scale of 0 to 100%, trackers ranged between 10% to 70%, grouped mostly near 50%. A few of the responses captured included: *I am not sure about the smaller animals; I would like more practice seeing different tracks; If someone else is more confident with a different answer then I am less sure.*

**How useful do you find tracking outside of SIA?** On a scale of 0 to 100%, trackers grouped in the 40-105% range. Responses included: *Hiking; Quality of life; Appreciating wildlife; Getting out with the grandkids; Getting to be known by neighbors as an expert; I wish I had more opportunities to share my knowledge; I have a purpose when I track; I enjoy seeing the story on the ground; I don't have to see animals to know they are there; I keep my tracking book in the bathroom; I gave a presentation on tracking for school; Everyday I live it; Being more aware; I find it personally beneficial.*

**How engaged do you feel to the Wildlife Linkages Program?** On a scale of 0 to 100%, trackers ranged 10% to 100%. Low engagement responses included: *My scheduling/work/school conflicts; My team is inactive; I live here seasonally.* Mid-range responses were: *I don't have strong computer skills; I'm not involved in analysis.* High-level responses included: *I volunteer with a remote camera; I help on multiple transects.*

Then, at the end of refresher, we asked them to once again indicate: **How confident do you feel about tracking?** On a scale of 0 to 100%, trackers ranged around 70-90%. What a difference two days can make! Responses included: *After this weekend I went from 10% confident to 90%; I didn't know hardly anything about scat before; I'm excited to learn scat identification.*

Volunteers have come, stayed and gone, but the work they do for the region is invaluable. We appreciate our volunteers' continued involvement and enthusiasm, and are happy to reconnect with longtime volunteers, as well as with those who have recently joined the program.







**SKY ISLAND ALLIANCE**  
 Protecting our Mountain Islands and Desert Seas

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Sky Island Alliance's 6th Annual  
*Mountain Islands Desert Seas*  
 Awards Banquet

**Thursday, May 24 — 5:00pm**  
 Saguaro Buttes, 5825 S. Old Spanish Trail, nestled against the Rincons, just south of Saguaro National Park East

Sky Island Alliance's 6th Annual  
*Mountain Islands Desert Seas*  
 Awards Banquet

THURSDAY, MAY 24 — 5:00PM

On this night we'll honor people  
 who are making a difference...  
 who inspire us:

- Jim Mahoney *Bureau of Land Management*  
 AGENCY LEADERSHIP AWARD
- George Farmer & Linda Zatorpek *Axle Canyon Preserve*  
 LAND STEWARDSHIP AWARD
- Bill Roe *Pima County Conservation Acquisition Commission*  
 PUBLIC SERVICE AWARD
- Imágenes de Sonora *Enrique Yescas*  
 BUSINESS CONSERVATION AWARD
- Dale Turner  
 MIKE SEIDMAN MEMORIAL AWARD
- Gayle Hartmann  
 NANCY ZIERENBERG SKY ISLAND ADVOCATE AWARD

Tucson's Homegrown Conservation Organization

# Sky Island Alliance

## Community Speaker Series

*Celebrating the Sky Island Landscape, Its Peoples and Cultures*

Join in the festivities as regional authors, photographers, scientists, and advocates share their knowledge of and passion for this magnificent place we all call home — mountain islands rising from seas of grasslands and high desert. This summer series is dedicated to Sky Island Alliance founder Nancy "Z" Zierenberg.

**Open to the Public with a suggested donation of \$5**  
 at ZUZI! Theater & Studio in The Historic Y, 738 N. 5th Ave., Tucson 85705

**Wed, Jun 6** 6:00p Welcome Reception  
 7:00p Jack Dykinga *Blessed by Light (a tribute too Nancy Z)*

**Wed, Jun 13** 6:30p Jean Ossorio *Lobos at a Crossroads*

**Wed, Jun 20** 6:30p Wynne Brown *Remarkable Pioneer Women of Arizona's Sky Islands*

**Wed, Jun 27** 6:30p Justin Schmidt *Vinegaroons and other bizarre arthropods from the Sky Island Region*

