

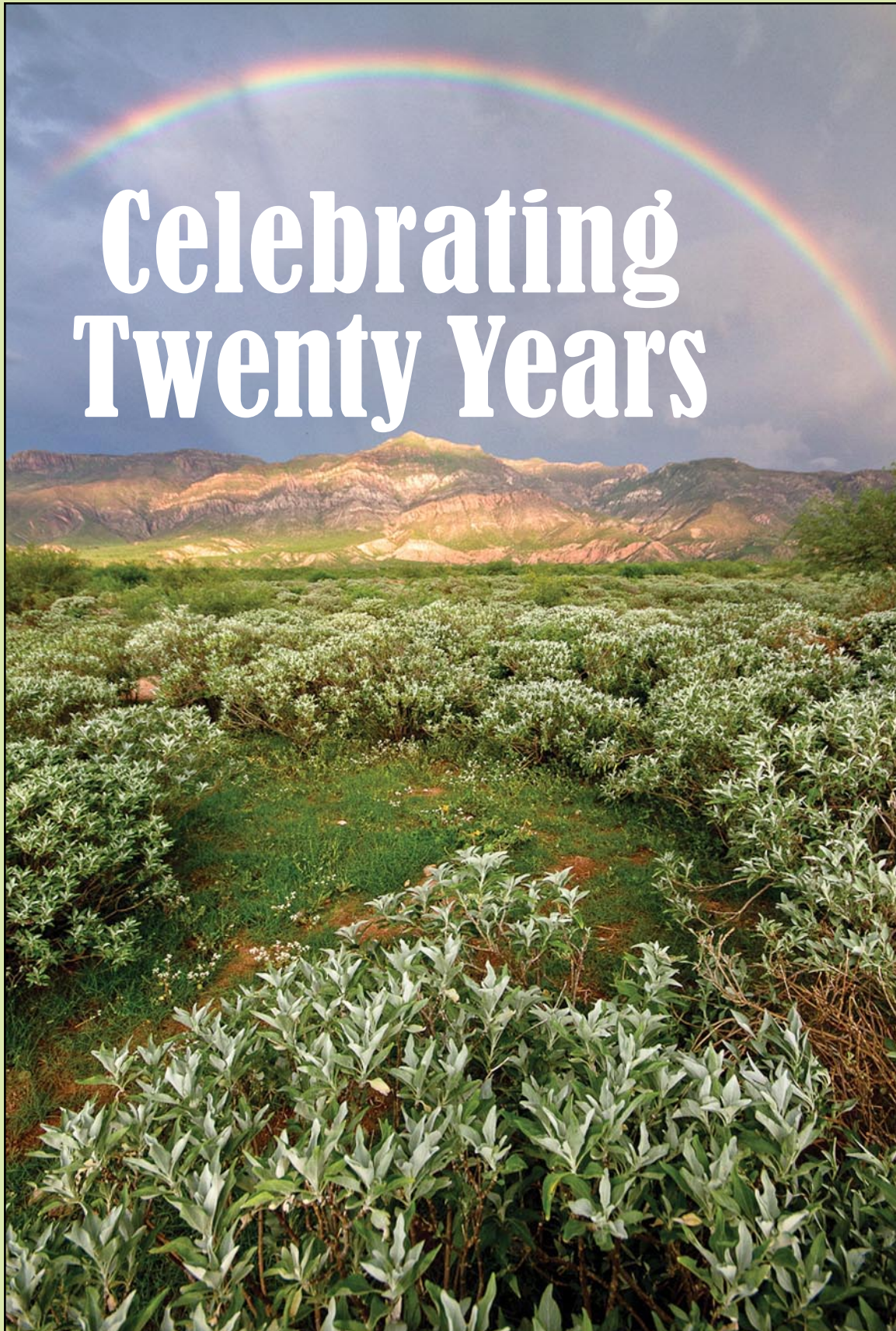


**SKY
ISLAND
ALLIANCE**
Protecting our Mountain Islands
and Desert Seas

Restoring Connections

Vol. 14 Issue 3 Fall 2011

Newsletter of Sky Island Alliance



Celebrating Twenty Years

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Sky Island Alliance: Twenty Years Strong
*Introduced by Acasia Berry with memories
from staff, volunteers, and board members*

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On the road to Sierra Bacadéhuachi. Courtesy Chris Marzonie.

"The impetus for SIA was a truly horrific recreation area proposal proposed by the Bush administration. But that did not limit the organization and Sky Island Alliance recognized the value of our wilderness and special areas from the very beginning and to this day we continue to develop programs and advocate for these exceptional places." Rod Mondt *Founder, Board member, Special Designations Coordinator 2011–present*



Through the Director's Lens

by Melanie Emerson, Executive Director, 2008–present

ge·stalt *noun*

a structure, configuration, or pattern of physical, biological, or psychological phenomena so integrated as to constitute a functional unit with properties not derivable by summation of its parts.

Today marks my literal 1,000th day with Sky Island Alliance. I find it barely believable that almost three years have passed since I began as executive director. But in these past three years, I have seen and experienced remarkable change. As an organization, we have grown (our budget, our staff, our work, our outcomes, our volunteer corps, our partnerships and our potential). We have built on successes of the past, learned from mistakes, and taken on new challenges. In only the past three years we passed two important milestones: 10 years of wildlife tracking and over 200 landscape restoration field weekends; we

documented ocelots in Arizona and new jaguars in Mexico and introduced the groundbreaking Madrean Archipelago Biodiversity Assessment; we implemented the massive Cloverdale Cienega restoration project, advanced the designation of 120,000 acres of wilderness through two proposals, initiated the Arizona Climate Change Network, and carried out two key convenings on climate change adaptation; and, we fought tirelessly to stop a litany of ill-conceived and potentially devastating mining, infrastructure and legislative proposals. When other organizations were unfortunately closing their doors or drastically reducing staff, we more than tripled our work in Mexico, forged new foundation relationships to deepen our programmatic impact, and increased program synergy and overlap to more effectively apply staff time and volunteer effort. This is the power of a local organization with strong support from the community—these accomplishments are possible because of you. I am proud to be able to articulate these highlights as the culmination of years of effort by dedicated staff, board, volunteers, members and funders. Twenty years of effort in fact. I have the luxury of proudly sharing these outcomes because of the bold vision and

tireless work of the thousands of individuals who laid the groundwork and put the vision into action, as well as today's unswerving SIA staff and community. The heart of Sky Island Alliance continues to be that bold vision applied to conservation action—policy, advocacy, and outreach supported by sound science—and to some extent, that heart is immeasurable.

Within the pages that follow, you will read about organizational efforts to exact change, the impact of dedicated individuals, and the engagement of an entire community to protect this region over the past 20 years. We have republished your favorite articles from issues past, and have included new musings on Sky Island ecology, policy, and conservation chronicled eloquently and insightfully. We are reminded of the beginnings of Sky Island Alliance, about the emergence and importance of the wildlife linkages program, the critical work of road surveys and closures, and the beauty and life-giving waters of our riparian treasures. No single article within or single issue of *Restoring Connections* can possibly capture the entirety of what Sky Island Alliance is and the work that has been accomplished. We are often asked to provide a list of our greatest organizational accomplishments (a list that exponentially grows) often for evaluative purposes, for funding support, and for the genuinely curious, be they members, volunteers, reporters, elected officials or partners. So, I have a list that I typically roll out—a list that I continue to add to as new discoveries are made, as important milestones are reached (see above!), as the impacts of years of on-the-ground work are documented. Metrics are important—we set and achieve goals. We understand where we are headed and we are ambitious about outcomes. But metrics do not adequately convey the whole picture. Much as the Sky Island region itself is greater than the sum of all its parts—the trees, streams, wildlife, geology, climate, etc.—so too are SIA's accomplishments. So, you will find that this issue of *Restoring Connections* is a humble attempt to describe the gestalt that is SIA—an organization whose collective effort is greater than the summation of its parts, whose work and outcomes sometimes do not fit neatly into metrics or lists of accomplishments, and whose heart, at one with that of the region, understands that effective change in the lives it impacts cannot truly be quantified.



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Collage from the Cruz del Diablo, Sierra Bacadéhuachi expedition. Courtesy Nick Deyo.

Join me in the choir!

by Julie St. John, Editor, 2006–present

Twenty-one years ago this coming Thanksgiving, I drove my little yellow Toyota past the Tucson City Limits sign. Somewhere in the overstuffed car (with all my most valuable worldly possessions) was a dog-eared, underlined copy of Ed Abbey's *Desert Solitaire* that my friend Jim Krawczyk had lent me, insisting it was required reading if I were going to live in the desert. He was sure it was out of print and he warned me I'd better not lose it.

I read it and quickly found my own copy to earmark. I thought of Abbey as some kind of modern John the Baptist, shouting the Truth for whoever had the wits to hear it. Three years later I was adopted by some of Ed's dearest companions — Clarke Abbey, Marian and Peter Gierlach, Lisa and Doug Peacock, and of course, Sky Island founders Rod and Z — and I found my true family and my life's vocation.

Back then, I was the young'un; now I'm one of the elders. I marvel that the commitment is strong in both the ones who have been with Sky Island Alliance since its early years, and those who were in their early years when it was founded. That the phenomenal can-do intelligence (not to mention potential... hooray for the future!) of the newer staff so effectively complements the non-diminishing fierceness and increasing potency of long-time staff. That our mission is recognized as a group effort — forgive the cliché, but truly there is no "I" in "team."

I see this not only when I visit the office, but when I'm at any SIA-related event. There is such strong conviviality whenever we — staff, volunteers, members — are together. It permeates the air we breathe. I had the good fortune to be fully immersed in this rich atmosphere when I joined the Madrean Archipelago Biodiversity Assessment's expedition into the Sierra Bacadéhuachi this past August. There were 45 of us on that trip — botanists,

entomologists, herpetologists, ornithologists, wildlife trackers, photographers, and 4WD experts — and not a single "I" on the team. From early in the morning to late at night, we shared knowledge, excitement, food, languages, and stories. It was an amazing trip; one I'll long remember.

I have had an amazing journey since I entered the Tucson City Limits. I am grateful to Ed — his solitaire rantings in the desert helped me find my community in the Sky Islands. It's a glorious gospel choir of a community... voices lifted, shouting in the wilderness FOR the wilderness; raising ciénegas from the dead and baptising

native amphibians with healthy riparian habitat; following, protecting and connecting the paths of the righteous wildlife; and always, restoring the mountain islands, the desert seas... and our souls in the process.

Please join us — we have so much good work left to do — *and please join me in laying a solid financial foundation for this important work.* In celebration of our 20th year, Sky Island Alliance has created the Founder's Fund (see page 12) to ensure economic resilience as we move forward protecting and restoring *ecological* resilience to this glorious Sky Island region we call home.



It's easy...



and adds up to make a real difference!

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

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

For more information about setting up a monthly gift, contact Keri at 520.624.7080 x15 or click on the DONATE NOW button at www.skyislandalliance.org

Photo courtesy Chris Marzoni.

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, around the map table planning strategies, 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!

Madrean Archipelago Biodiversity Assessment (MABA) by Nick Deyo

MABA continues its mission to document the biodiversity of plants and animals in the Sky Island region. The program has grown remarkably since its inception in 2009—this summer marked the program's fifth scientific expedition to the Sonoran Sky Islands, saw thousands of species observation records added to the MABA database, and also provided opportunities for outreach and education.

On June 17, Tom Van Devender, Ana Lilia Reina-G., and MABA's new coordinator Nick Deyo went on a scouting trip to the Sierra Bacadéhuachi, located 200 miles south of Douglas, AZ. Enrique Yescas, photographer and editor for *Editorial Imágenes de Sonora* publications, met the SIA team along the way. Enrique has been a long-time supporter of the MABA program and provided access to the Rincón de Guadalupe, a historic compound of white adobe buildings terraced into a hillside of Madrean pine-oak forest. The compound and surrounding Sky Island habitats proved to be a very productive and comfortable location for a MABA expedition.

After scouting and logistics were completed, the expedition to the Sierra Bacadéhuachi was held from July 30 to August 4. This expedition was the largest to date with 45 participants consisting of botanists, entomologists, ornithologists, herpetologists, wildlife trackers, photographers, and support volunteers. MABA expeditions have always brought together groups of talented and passionate individuals, and this expedition was no exception. Thirty-one volunteers from the U.S. represented institutions such as The University of Arizona, Arizona State University, the Missouri Botanical Garden, the Bureau of Land Management, and ConserVentures. Fourteen Mexican participants came from the *Universidad de la Sierra*, the *Reserva Forestal Nacional y Refugio de Fauna Silvestre Ajos-Bavispe*, the *Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora*, and *Editorial Imágenes de Sonora*. As with other expeditions, there were great opportunities for collaboration and interaction among the participants, and for college students to spend time with specialists in the field. MABA provides a shining example of cross-border collaboration. For more on this and earlier expeditions, visit www.skyislandalliance.org/maba.htm (English) or maba-spanish.htm (Spanish).

Well over a thousand observations of plants and animals made on this recent expedition will help document the remarkable biodiversity of the

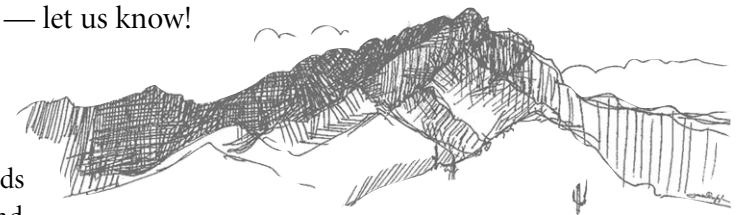
Madrean Archipelago and provide critical data for conservation efforts. Species observations from expeditions as well as records gleaned from herbaria, museum specimens, and scientific literature continue to be added to MABA's online database (www.madrean.org) — this summer alone, 2,480 animal and 4,134 plant observations!

In addition to scientific research, MABA continues to provide an excellent platform for conservation education and outreach. For example, MABA project manager Tom Van Devender is working with professors at the *Universidad de la Sierra* (UNISIERRA) in Moctezuma, Sonora, to create educational materials describing the flora of the Sierra Madera. These booklets use MABA data and photographs and will be distributed to area schools. On August 26 and 27, Trevor Hare and Nick Deyo presented a workshop, primarily in the field, on amphibian monitoring and conservation as part of a herpetology conference at UNISIERRA. Participants learned amphibian identification, monitoring techniques, and conservation practices. Participants were shown MABA's online database and were enthusiastic about using this resource in their own theses and projects.

In other news, Nick Deyo came onboard as the MABA project coordinator in June. He helped organize and participated in the Sierra de Bacadéhuachi expedition and has been supporting the MABA program through trip logistics, database entry, and volunteer coordination. His enthusiasm, skills, and accomplishments are greatly appreciated. As always, we thank the Veolia Environment Foundation for their dedicated and generous support without which this project would not be possible.

Wildlife Linkages Program: Celebrating 10 Years! by Jessica Lambertson

What a busy couple of months! Since June, we have continued gathering wildlife movement information in the region, in addition to completing Transect Conditions Reports on our active study areas. Due to temporary closure of the Coronado National Forest in response to June's fires and July's summer monsoon flood conditions, tracking surveys were postponed in many areas. Despite this difficulty we documented black bears moving with frequency in the Dragoon and Whetstone Mountains; mountain lion and bobcat tracks and sign in the Empire Ranch area; evidence of gray fox, bobcat and increased ATV use in Gardner Canyon; and, rambunctious mountain lion



kittens in the San Bernardino National Wildlife Refuge.

There is so much to share with you about all the incredible tasks we have accomplished in the last few months. Here is a quick taste of what we have been up to:

International Conference of Ecology and Transportation (ICOET) in Seattle, Washington:

Jessica Lambertson presented a paper, *Where Jaguar and Black Bear Meet: Tracking the Pathway of Temperate and Tropical Species in an International Sky Island Corridor*, which will be published in the conference proceedings and available online. She also toured the site of the I-90 Snoqualmie Pass East Project, which is a model of successful agency collaboration and wildlife protection, and explored many new technologies and methods being used around the world in wildlife linkage conservation.

Wildlife Track & Sign Certification: I took an intensive two-day wildlife tracking evaluation in Monroe, Wash. The evaluation is an international scientific standard offered through CyberTracker Conservation and was conducted by biologists Mark Elbroch and Casey McDonald. These evaluations are comprehensive, testing you on anything from frog tracks to antler rubs and rodent burrows, teaching improved observation skills in the process. Sergio and I will both be taking the evaluation next year, and will also bring this opportunity here to our region.

Labor Day weekend wildlife tracking hike on the San Pedro River:

On every muddy bank we found raccoon tracks as well as hog-nosed skunk, white-nosed coati, gray fox, coyote, crayfish, and the biggest surprise — beaver tracks!

Volunteer survey: Tracking volunteers over the last ten years provided feedback on the program and volunteer training. A summary of the survey's results will be available at www.skyislandalliance.org/wildlife.htm.

Pima County Wildlife Corridor Assessment:

Maps are now in the final draft stage and the last public stakeholder workshop was completed on October 4. This assessment builds upon the Pima County Conservation Plan, Arizona Wildlife Linkage Assessment, and local knowledge to give planners a fine-scale tool for integrating wildlife corridor information into new projects.

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.

Fall 2011 Wildlife Tracking Workshop: After leading a well received tracking hike for the Gila River Festival (and discovering raccoon and great blue heron tracks despite the rain!) we held the 17th Wildlife Tracking Workshop in the beautiful Gila Wilderness and Dragoon Mountains. A story about the workshop was published in the Sierra Vista Herald and Bisbee Daily Review, written by Shar Porier. I encourage you to sign up for the next workshop, hosted by the Axle Canyon Preserve in the Burro Mountains!

Wildlife tracking data goes public: Thanks to the hard work of Ed Gilbert, Alex Smith, Christine St. Onge and Jill Kelleman, tracking data is being published online along with information collected by other SIA programs. When complete, you can search the information SIA volunteers are collecting throughout the region, see it on a map, download records and explore the images.

Conservation Policy Program *by Louise Misztal*

We have been working with partners and interested parties to begin implementation of the great ideas generated at the climate adaptation workshop series Sky Island Alliance has been convened. Working closely with the landscape restoration program, Pima County, Arizona Game and Fish, the National Park Service, Coronado National Forest, Bureau of Land Management, and other interested parties, we have been developing a seep and spring assessment and restoration project that will help us better understand and protect these crucial water resources in the region. Seeps and springs emerged from the workshop series as crucial resources that are likely to become even more important for flora and fauna as temperatures increase and precipitation becomes more uncertain. We continue to guide formation of and development of science priorities for the Desert Landscape Conservation Cooperative through our participation on the steering committee and science working group. Sky Island Alliance is ensuring that this landscape-level effort includes Mexican interests and addresses needs of the entire Sky Island region.

We recently met with the Coronado National Forest Supervisor and staff to advocate for a robust public process and environmental analysis as the Coronado proceeds with making changes to the legal system of roads and trails. We continue to coordinate with conservation partners working on the same issues statewide and to push for a

reduction in road miles to protect ecologically sensitive areas.

Speak up for the Santa Ritas—Oppose the Rosemont Mine! The Coronado National Forest released the Draft Environmental Impact Statement for the proposed Rosemont Mine in the Santa Rita Mountains on October 12. The Forest Service is now taking public comments and will be holding public meetings across the region.

If allowed to proceed, the Rosemont Mine will devastate a treasured Sky Island mountain range. The mine will destroy over 4,000 acres of wildlife habitat, obliterate over 18 miles of riparian areas including the headwaters of Davidson Canyon, and will likely draw down and pollute the Santa Cruz aquifer, reducing the region's water availability. It will also destroy the abundant recreation opportunities now found in this area, including birdwatching, hiking, camping, hunting, horseback riding, and mountain biking.

For a link to the Draft EIS and to see the schedule of public meetings, please visit our website at www.skyislandalliance.org. SIA will keep our members informed as this process moves forward - watch for email alerts, upcoming community workshops, and other opportunities to take action. **The fight to save the Santa Ritas is just getting started, and you can make all the difference!**

Special Designations Program *by Rod Mondt*

Like many conservation efforts, advocating for new wilderness areas can be stymied by misinformation and undeserved controversy. Unfortunately, the Land of Legends wilderness campaign in Cochise County has not been immune to these challenges. As inspiring as wilderness is to those who value conservation, it can be intimidating, frightening and ideologically unpalatable to those who are driven by dogma or do not understand the process.

Over the last month, Sky Island Alliance staff has been working hard to convince the Cochise County Board of Supervisors to eliminate anti-wilderness language they recently amended into the Cochise County Comprehensive Plan. The original language outrageously — and falsely — stated that wilderness and other protective designations are “not an appropriate, effective, efficient, economic or wise use of land.”

Although we were successful in convincing the Board to soften this language, we will not give in to the misinformation that drove the Supervisors to adopt the language in the first place. To that end, with our allies and colleagues in Cochise County, we will work to revise the Comprehensive Plan, while hoping to encourage a continued open dialogue with Board members and other county decision-makers.

We are also continuing with our outreach efforts — making presentations, gathering signatures, and building connections with local businesses and community leaders — in order to garner their endorsement of our Land of Legends wilderness. This October, the Bisbee 1000 Great Stair Climb featured a Sky Island Alliance booth and a team of hearty volunteers and staff to run the race and wave the flag for new wilderness in Cochise County.

Finally, in order to shed light on the wonders of what wilderness is and dispel misinformation circulating about what wilderness is not, we are instituting a new educational Q&A column: “Ask the Wilderness Guru.” Each newsletter will include a question for the Wilderness Guru and we will provide the answer in a fun and educational way.

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“In my opinion, what separates Sky Island Alliance from other conservation groups is its ability to mobilize large numbers of volunteers over time — collecting important information on the condition of the Sky Island landscapes, influencing public policy, and stopping ill-conceived projects and proposals in our region.”

David Hodges *Executive Director then Conservation Policy Director, 2002-2010*

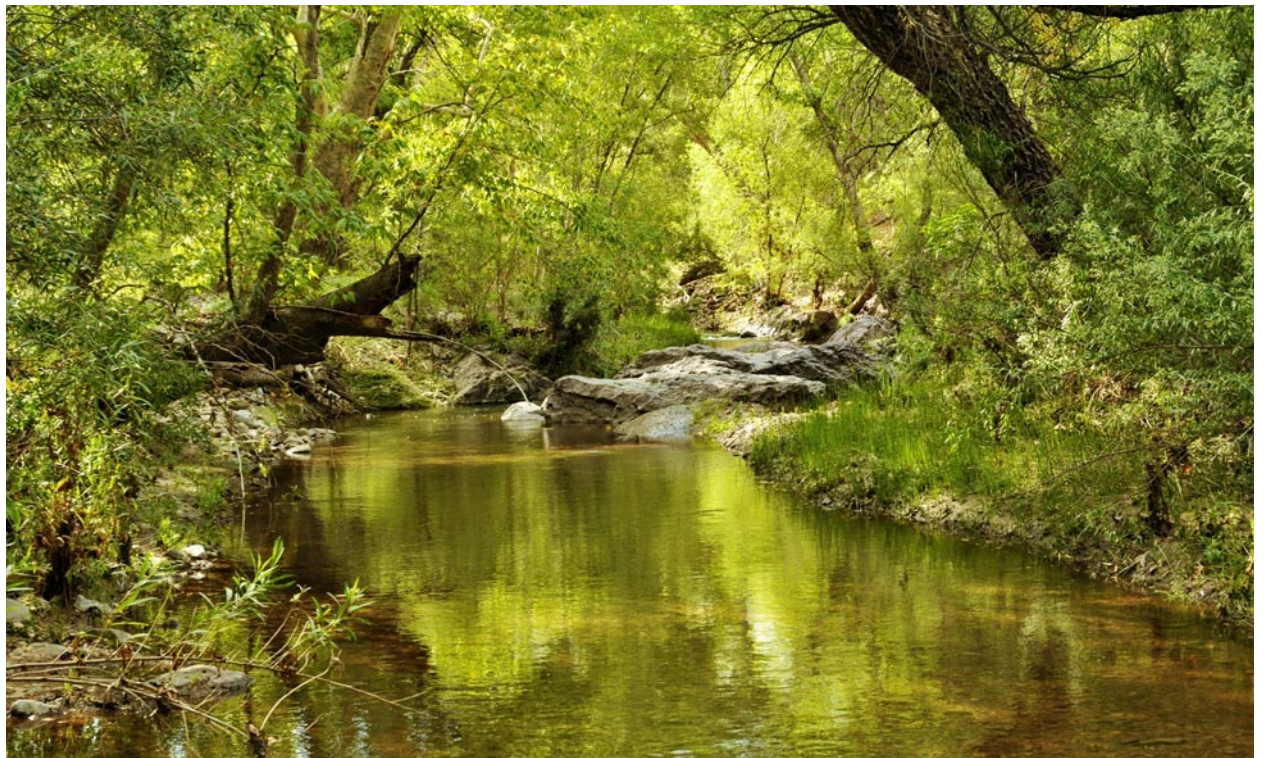
Borderland Musings

by Walt Anderson

Four decades ago, I was a grad student in the School of Natural Resources at the University of Arizona in Tucson. Well before Arizona gained its strong reputation as a hotspot for American birding, there was a small community of birders who sought out the neotropical specialties that crossed the border and the eastern vagrants that popped up now and then in desert oases. There were seasoned experts like Gale Monson, whose knowledge of Southwest birds was encyclopedic, and ragtag graduate students like Carroll Littlefield, an expert on Sandhill Cranes, and Ted Parker, later considered by many as the superstar of birders and field ornithologists. There was none of the competitive, obsessive listing that later infected the birding world, a narrow-minded focus on seeing and ticking off species as fast as possible, the interest in each bird satisfied by a mere checkmark. No, these were naturalist birders, keen observers who sought to learn about the entire ecosystems in which birds were a part. Where a bird nested, what it ate, how it migrated or molted—such were the questions that occupied the curiosities of this generation of field biologists.

Whenever possible, we would load up a tank of gas at twenty-some cents per gallon and take off to one of our favorite oases, ostensibly to bird, but even more so to explore wild places and experience the joys of discovery in nature. Often our paths took us through the dusty border town of Douglas, Arizona under the appalling smokestacks of Phelps Dodge, then likely the largest single point-source of pollution in the Southwest, if not America as a whole. Continuing east along teeth-chattering gravel roads, we passed through the “malpai” badlands of rocky hills, creosote bush, ocotillo, and occasional flash-flood-prone desert washes. We’d pass the old ranch of Texas John Slaughter, where we’d stop to glass for whistling ducks, Neotropical Cormorants, Vermilion Flycatchers, and other oasis birds drawn to the artesian springs there (later much of this became the San Bernardino National Wildlife Refuge established primarily to help save native fishes of the Rio Yaqui watershed).

Our final destination lay at the end of the road just into New Mexico right where that state intersects with Arizona and Sonora: a green finger of Mexican riparian woodland, Guadalupe Canyon. We would stop up at the Magoffin ranch house to pay our respects and get their generous permission; then we’d explore the main canyon of large cottonwoods and sycamores and venture up thorny side washes for arid-adapted specialties. At night, we would listen and watch for the Ridgeway’s Whip-poor-will (now called Buff-collared Nightjar), one of the species that barely entered the United States at this point.



Cajon Bonito. Courtesy Walt Anderson.

We were certainly aware of the proximity of Mexico, but only because we could count birds seen on this side of the weak barbed-wire fence for our U.S. list. At night as we lay in sleeping bags under the canopy of trees and the overarching dome of stars in an unpolluted sky, we might awaken to the footsteps and breathing of men, usually alone or with one companion, heading north to work, seeking employment opportunities that were unavailable south of the border. We might meet them at dusk or in early morning, where a polite exchange of “Buenos Dias” or “Hola” along with shy smiles would be the extent of our interchange.

Walking into an Inferno of Biodiversity

One morning, three of us decided to step over the loose fence and walk south. We had absolutely no idea of what we would find, and the fact that this was “foreign land” made it all the more exciting. For hours we walked through grasslands along ridges, discovering an old cobblestone road that we followed for several miles. There were signs of cattle, but we encountered no people. Finally we descended off the high ridges into a substantial canyon, where a perennial stream meandered under stately cottonwoods. Some cottonwoods had the unmistakable beveled cut marks that indicated beaver presence. We were stunned—beavers had been trapped out in southern Arizona years before. Could this mean that beavers had survived the onslaught of the trappers in La Frontera de Sonora? That canyon, I soon learned, was Cajon Bonito. If dry Guadalupe Canyon was a birding hotspot, this live stream and its gallery forests were a biodiversity inferno. The memory of it haunted my imagination for years.

That was in the early 1970s. More than twenty years later, I accompanied ecologist Mark Briggs into Sonora to join other conservationists as guests of Josiah and Valer Austin, new owners of a ranch on Cajon Bonito. Austins represented a new breed of ranchers, people who could see beyond commodity production into visions of restoring healthy

landscapes, and we were there to see what they were doing and to offer any insights or advice we might have.

For several days we explored the canyon and its watershed—the Sierra San Luis and other rugged mountains. We were thrilled to learn that here lived eight native species of fishes and no exotics (currently, Aravaipa Canyon is the best in Arizona with seven). There was sign of the beavers, descendants of those present in the early 1970s. Some of us immediately began to think of this intact population as the potential source for beaver reintroductions elsewhere in the Southwest, as it is axiomatic that using a local source population takes advantage of local adaptedness.

We saw that Austins were going to close use of the creekbed as a road (it had been the main highway between northern Chihuahua and Sonora for years, and evidence of past heavy use—even of trucks and buses—was still apparent). Riparian areas with removal of stressors like cattle have the capacity to recover quickly, and if Cajon Bonito was considered “one of the most-intact, low-desert watercourses in the American Southwest” (Rinne and Minckley 1991), then its future under Austins’ management looked rosy indeed.

As the biologists and land managers dispersed after several enlightening days in Cajon Bonito, the Austins invited me to linger a bit longer and to go back to Arizona with them. We were thus able to hike downstream to an enchanting side canyon known to them as “The Grotto,” where a waterfall spills over a basalt cliff into a clear pool, where maidenhair ferns cling to the dripping rocks and large sycamores and ash provide perpetual shade. As we drove back toward Agua Prieta where we could cross back into the United States, I told the Austins about the walk from Guadalupe Canyon to Cajon Bonito twenty years before and about the discovery of the beavers. When we were going

through a vehicle checkpoint, we ran into the couple who owned Rancho Puerta Blanca, the “White Gate Ranch” that must have been our point of entry into Mexico all those years before, a time before Mexico built the border highway that now lies north of the cajon. At dinner in a small café in Agua Prieta, Josiah urged me to tell my story to the rancher. His face lit up when I mentioned the beavers, and he said, “Oh, yes, Chappo’s father brought those in from Canada in the 1940s.”

A few hours before, the ecologists I had been with were enthusiastically considering using the Cajon Bonito beavers as a source of animals for transplanting, repopulating beavers across their historical range. The assumption was that these were native animals. I had just learned, entirely by chance, that today’s Cajon Bonito beavers were of Canadian stock, doing just fine, thank you, despite the dramatic differences in climate from their homeland.

Unfolding the Stories of a Landscape

It’s all too easy to see a landscape in its current state without knowing enough about its historical context. The deep arroyo that forces us to detour appears permanent and timeless, when, in fact, a few hundred years ago, native fishes spawned in the marshlands created by beaver dams on this very spot. The stand of straight pines that cloaks the slopes today may be an artifact of past logging and subsequent fire suppression. The dense thickets of mesquite and prickly pear may bear little resemblance to the grasslands that preceded them. And the ecosystems that we view today, those to which we assign value as future conservation lands, may be mirages, as well. I have to remind myself as I think about climate change, about evolving land status in the dynamic borderlands, that “the future’s not what it used to be.” At the same time, the past slips into history; unless we are aware of it, we may be groping in the dark, armed with good intentions but handicapped by the limitations of our knowledge.

As a natural historian, I hope to pass along some of the accumulated wisdom and experience of those who have gone before, to provide some of the clues that will help one decipher the codes of the landscape. I want to share some of the learning rules of the culture of ecological science and conservation biology, guidelines that will permit extrapolation and further personal discovery. Though the Sky Islands of the US/Mexico borderlands are a specific and unique region, the naturalist’s ways of knowing are not geographically bounded. Learning to navigate these islands will help one to sail meaningfully on other waters.

There are patterns on the land, and many of these reflect somewhat predictable underlying causes. Climate, geology, latitude, and soils all influence what can live here and how things go about living here. Biological factors, such as competition,

predation, disease, parasitism, and social systems, are additional determinants of the patterns of life. Humans certainly are among those biological factors, and their (our) influences have at times been highly significant.

“History” is of course, more than a mere chronology of events. There are elements of chance that have influenced these islands just as surely as physical and evolutionary principles have. The arrival of a waif from across the oceanic barrier or the impact of a rare storm or intense fire on the survival of the inhabitants of a small habitat island can set into motion processes unique and unrepeatable. What unfolds is contingent upon what happened before. Continental shiftings, the buckling of crustal surfaces on massive scale, the advances and retreats of a vast Pleistocene Lake or the arm of a shallow sea, the intrusion of heavy metals into certain rocks, the formation of the Bering Land Bridge, the rapid spread of a particular technology — all these, unpredictable in any precise way, have shaped the Sky Islands that we see today and contribute to the context within which the Sky Islands will continue to evolve. Remove copper or Apaches or the arbitrariness of an international boundary, and this landscape today might be quite different.

Natural history is a way of knowing, a way of trying to fathom how the world works. Direct powers of observation are considered within a theoretical framework and in light of the circumstances of history to seek explanations and understanding. Details, unique particularities, are examined and absorbed to become tiny pixels of information. Given enough pixels and a way of organizing them, one may eventually develop a fairly coherent picture of a larger whole. Some pixels may, in fact, help generate others, a form of self replication that may sharpen the resolution of the total image.

Just as a photograph is a representation of something else, at least a step away from the object or feeling it is meant to evoke, any “big picture” of the ecologist or natural historian is not the precise equivalent of “the real world.” We are limited by both our sensory and processing equipment. We do not record nature perfectly; we interpret it.

Our interpretations are, in fact, colored by the kinds of questions we ask and by how we conduct our inquiries. If the current belief of our society is that fires are destructive forces that must be controlled, we may be blind to the restorative powers of fire in an ecosystem in which organisms evolved with frequent, low-intensity fires. When a paradigm shift occurs and we embrace fire as a management tool, we may overlook other ecological effects and end up with “unexpected consequences” (a handy euphemism to cover our “blind spots”). In fact, awareness of the fragmentary nature of even our best models of nature should encourage us to move slowly and with humility. “Land management” may

be just as oxymoronic as “military intelligence.”

Yet both governmental and private organizations are often charged with just that: land management. In truth, we all do it. Our personal choices — picking a site for home building, creating a lawn or garden, selecting our pets, buying our produce or beef, recycling our wastes (or not), supporting our charities, paying our taxes, electing our leaders, driving our cars, and paying our lawyers — all result in land management consequences. The least we can do is try to become aware of the implications of our actions within and beyond our home region.

Natural history is not something we study in the grassland or chaparral or high on the mountaintop, wonderfully esoteric nature worship that we leave behind with Pan in the pansies when we return to our homes and families. Oh, no. A study of the Sky Islands would be incomplete, even deceptive, if we did not consider the cows, the cats, the interstate highways, the second homes, the introduced bullfrogs and starlings, and even economic policies as manifest in NAFTA. The naturalist cannot hide behind a thicket of wild roses bursting with activity of butterflies and songbirds. Discussion of parasitism and predation cannot stop with the gall wasp and the preying mantis as examples. Humans function in these roles, as well.

Claiming our Role in a Natural History

The Sky Islands region may have low human densities (at the moment), but the suburban growth of Tucson, the groundwater thirst of Sierra Vista and Fort Huachuca, and the increase in traffic through all the border towns and along the northernmost highway in Sonora will change this region.

We can debate about which of our activities are “natural” and which are not, but clearly we are ecological players who cannot be ignored in any natural history investigation. As human impacts grow in this region, some understanding of cause and effect may help us make intelligent and responsible decisions. Learning how the place works is the first step to having some power of choice. Our descendants are unlikely to forgive us for intentional ignorance in this time of expanding knowledge and efficient communication.

Any “history” involves condensation and selective interpretation. There are a few obvious limitations to my own interpretations. One is that I live in Arizona, speak English (and stumble through Spanish), read literature generated primarily by natural scientists. The international border is a filter of sorts, allowing only a certain amount of exchange of movement and information. For a long time, the borderlands were on the frontier of both countries, far from the cities and universities that generated or funded scientific inquiries. There are a

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In the Sierra Bacadéhuachi. Courtesy Chip Hedgcock.

Thinking Big, Inspiring Action *by Andy Holdsworth*

From the beginning, Sky Island Alliance thought big. In its first year SIA released its bold proposal for a Sky Island National Biodiversity Conservation Area. Eight years later in 2000 SIA released the Sky Island Wildlands Network Conservation Plan. SIA was searching for effective ways to engage people in its vision in the years between those proposals. I was lucky enough to cross paths with SIA during this search that rooted many of SIA's core programs.

Fresh out of college and recently moved to Arizona in 1995, I heard about a wildlife track count in a place called the Canelo Hills. Intrigued, I drove my '69 Ford Econoline to the Arizona Trail trailhead south of Sonoita. Camped out at the trailhead, I found a welcoming and committed group of people passionate about the conservation of native species and ecosystems of the region. Most of the folks were on the SIA board of directors. Several were new to SIA like me. It was the second or third Canelo Hills Track Count ever. Little did I know that two years later I would have the amazing opportunity to lead these track counts and many other volunteer events. I certainly knew that I was inspired—inspired by the landscape, the historic accounts of Mexican wolf runs, the prospect of finding mountain lion and black bear tracks on a transect. I was inspired to get involved with this group. I continued coming to the track counts and soon volunteered to coordinate them. But track counts were just the beginning.

Between 1995 and 1997 SIA and partners convened three workshops to hatch what would ultimately become the Sky Islands Wildlands Network Conservation Plan. In 1996, my girlfriend (now wife), Hillary, and I drove to the second workshop at the Black Range Lodge on

the edge of the Gila National Forest. We learned about reserve design, sketched core areas, buffer areas and possible corridors between them, discussed strategy, and divvied up fieldwork assignments for ground-truthing our initial sketches. From the breadth of the vision to the knowledge and passion of the assembled group, these workshops were truly inspiring. I signed up for the modest task of identifying the corridors in the Huachuca Mountains area. At the third workshop it turned out that I was one of the few volunteers who completed most of my fieldwork. That became my ticket to becoming SIA's first staff Field Coordinator in 1997. It was also my clue that SIA needed a new volunteer engagement model for this work.

Although people were inspired by the vision of the proposal, it was apparent that asking individuals to field check large areas of the conservation plan was not working. There were many seeds for a new model. From the track counts it was clear how much people enjoy the camaraderie of a group where they could meet new friends and old around the campfire while they swapped stories of the day in the field or experiences of years past. It was also clear that track counts weren't for everyone. For many that didn't see a mountain lion track during a count; perhaps they didn't feel that satisfying tangible result. Plus, we needed field information on the status of roadless areas and the wildland roads around them. From these and other "seeds" SIA's road survey program was born in spring 1998. The first road survey weekend in the Santa Rita Mountains kicked off a burgeoning road and roadless survey effort that attracted new people to SIA and collected essential information for shaping the developing conservation plan and forest management recommendations. The road

survey effort naturally led to the first wildland road closure workshop in the Sky Islands in 1999. With expanded training opportunities and track count locations, the wildlife track counts attracted more volunteers.

Thinking big is a key ingredient in SIA's success. But it is the inspiration of volunteers to act, to commit their free time and unique talents to something larger than themselves that is another essential ingredient. I certainly grew as a person through the work of SIA. And I know many volunteers did too.

Here's to a wonderful first twenty years Sky Island Alliance! It has been so exciting to observe the growth and impact of the organization over the last ten years. I look forward to the next ten and twenty.



Andy was Sky Island Alliance's first paid staff member. He left Tucson to earn his PhD in Conservation Biology and is now Science Policy Coordinator for the Minnesota Department of Natural Resources and President of the Minnesota Society for Conservation Biology



Sky Island Alliance: Twenty Years Strong

A special section to *Restoring Connections* celebrating two decades of protecting and restoring our mountain islands and desert seas

San Bernardino Valley, AZ, March 2005. Courtesy Bob VanDeven archives.

When I first came to Sky Island Alliance in February 2002, SIA was housed in about a 900 square ft. room in the Historic Y. Rachel Kondor and I got hired on pretty much at the same time and were jumping staff from five to seven — joining David Hodges, Matt Skroch, Trevor Hare, Janice Przybyl and intern Cory Jones.

David was struggling to print paychecks, which had not been handed out for long at that point, Trevor was ready to greet everyone with a smile and a pitch to join him in some beautiful place, Janice was preparing for the second tracking workshop, Matt was apparently truly appreciating Lionel Richie for the first time, and Cory was keeping us up with the happenings at the University, coming in late and staying late, making maps.

I had recently moved to the Sky Islands and had camped and backpacked already in the Pinalenos, the Galiuros, and the newly-designated Ironwood Forest National Monument; I had driven up the rim on a windy, steep, narrow dirt road, fully comprehending the continental shift between the Sky Island region and the Rocky Mountain plateau. Having worked in conservation in a number of places, I was familiar with conservation biology and core and corridor planning on a landscape-level. I was familiar with knowing one's bio-region and

working to celebrate and protect it. Sky Island Alliance however, was at a whole other level. The discussions in the office were not of particular mountain ranges or forest units, they were not even of particular drainages or roads — such identifiers were only mentioned briefly to zero in on particular intersections of drainage and road where action was needed to stop erosion or where creating a safe passage might be in order. I was lost and in awe.

In October of 2001, the world was in chaos and a global conversation was happening on a scale not considered a month earlier — even in that context I heard about folks going out with Sky Island Alliance and the Sky Island Festival. Folks were heading out to the mountains and grasslands to celebrate place, work on a project and get out of the city. It sounded great.

When I interviewed with David for the part-time administrative job, and he explained the collaborative process SIA was engaged in, it was clear that I would not agree with all of the stances that SIA took and everything the organization engaged in. But it was also quite clear that nobody I met through the organization was likely to either! What an exciting prospect! A diverse group of people that care about the place they live in and recognize together we can really make a visible

difference — DOING THINGS — not endlessly debating what we disagree on; rather focusing on what can be accomplished. *That* is community, *that* is the human system in line with the larger ecosystem, *that* is something I could get behind. I was tired of arguing — *let's get things done!*

I loved sitting around the fire hearing the stories of weekends past, loved being out there knowing that what we had accomplished that weekend were stories for the future, and I knew that things were just going to keep getting done. And they have! Places we worked on then are showing the results of our efforts. Waves of volunteers and staff and board have come together, dispersed and reformed. Whenever I look at any aspect of the organization I clearly see the contributions of the many amazing people that have created what Sky Island Alliance is today and I see all the pieces in motion continuing to create a vibrant and diverse organization that does amazing work. Each of the unique pieces are still integral to the whole, and we are still growing and emerging. Where will we be in 20 years? Nobody knows because it is an iterative process that you and I are undertaking, an evolution of how we live in place, together, an often motley crew, so much stronger because we all care enough to get things done.

Acasia Berry Associate Director, 2001-present

Beginnings

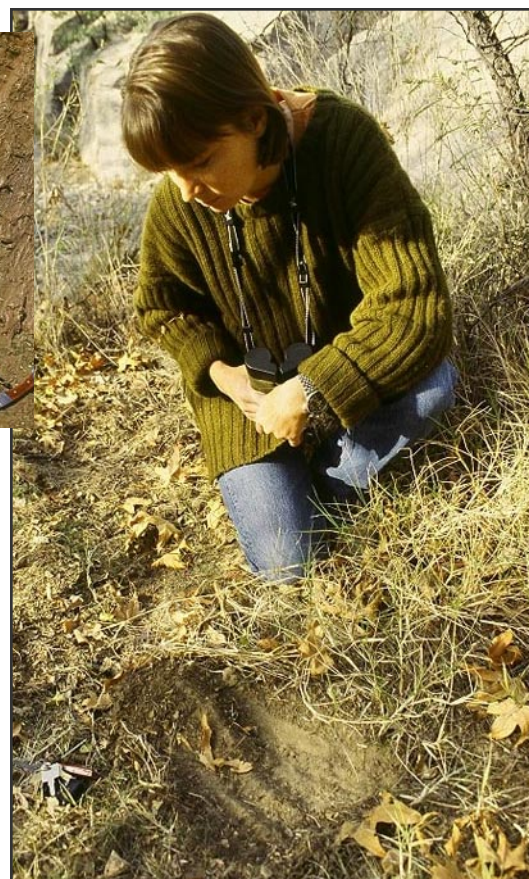
In 1996 I attended an informal wildlife tracking workshop with Sue Morse and Harley Shaw, in conjunction with the Huachuca Track Count, when I was working on a wildlife movement corridor chapter for my book, *The San Pedro River: A Discovery Guide*. We found bear tracks in the San Pedro River, heading up a muddy side wash, and it was very exciting for us all. It was such a beautiful set of perfect tracks, and validation that bears were using the San Pedro for moving between mountain ranges. At the time, Jonathan and I had just moved to Brown Canyon on the Buenos Aires National Wildlife Refuge, as the first caretakers there, and had met David and Christine Coblenz, who were getting involved with wildlife tracking as a conservation tool with Paul Beier. They invited us to the track count.

We learned tracking over the next few years from David and Christine, and from Sue and Harley as we attended more track counts. We really extended our skills in Brown Canyon, where our home was at the center of a female lion's range. We tracked her (and saw her) regularly; the evening after we took this image of a very active scrape area (with multiple cats scraping and depositing both urine and scat), we heard her screaming in the hills just above us as we walked the road—it was a mating call. The next morning we saw her with a male. We were hooked for life on tracking after that, and integrated tracking into our full-time work as naturalists and authors, producing a beginner's guide to wildlife tracking (aimed at young adults).

Fast-forward to 2000. I was hired as the first executive director of Sky Island Alliance. We had just two staff, myself and the field coordinator (Matt Skroch). The tracking program was just in its infancy, without a dedicated coordinator, and without funding. Because of our involvement with the Sky Islands



from left **A perfect set of bear tracks.** **Roseann Hanson observes a mountain lion scrape in Brown Canyon in 1997.** *Courtesy Roseann Hanson.*



Wildlands Network, and the need for field verification of wildlife linkages, we decided to ramp up the tracking program. Janice Pryzbyl had been one of our first and most dedicated volunteers, spending many hours helping in the office, and looking for an opportunity for her master's thesis. We hired Janice as the first Wildlife Monitoring Program coordinator, secured a grant to get it started, and worked with Sue and Paul to develop scientific protocol.

People might not recall but at that time (2000–2001) there was still almost no support in any agency for the concept of Wildlife Movement Corridors. I remember a meeting with ADOT in which the liaison was openly hostile and ridiculed our concept to verify—and subsequently protect—wildlife corridors.

Today, after much work by Janice, hundreds of volunteers, and SIA's policy staff, agencies not only accept the concept, it's now part of their land-use planning and they actively partner with SIA.

Turning field verification, with volunteer "citizen science" data, into land-use policy and permanent land conservation is one of the most significant successes SIA can claim. Corridors identified by SIA were incorporated into the Sonoran Desert Conservation Plan and the Santa Cruz County Comprehensive Plan, to name a few. The photo is an aerial of the Cienega Corridor, something we identified at SIA very early on as an important area, despite it being identified as a "developable" region of "mostly creosote flats and hills" and largely ignored or written off by mainstream conservation groups (at the time). SIA's tracking program helped move it to the top of the list in the SDCP and as an important focal point for ADOT's conservation program.

This legacy will always be one of the things I'm most proud to have been a part of, with SIA.

Roseann Hanson *Executive Director, 2000–2002*

When I was asked to write a story for you about an epiphany moment and the reason I became involved in working for the Sky Island region, a flood of images and memories clamored to get to the head of the line. How do we become who we are, and get to where we are at? For me, it was clinging to my father's hand as we climbed down into a rushing arroyo in the dark of the night to look for spadefoot toads after a flash flood. It was experiencing my first puma tracks in the early spring snow of the Whetstone Mountains. It was applying for every scholarship I could find so I could afford college — knowing I would have to work hard to get where I wanted to be. It was being a Baird Scholar, with a prestigious \$40,000 scholarship to attend The University of Arizona, and realizing I wanted to study Wildlife Management and Conservation — despite the standing joke that "we chose a degree we love but we'll be living in a cardboard box!" I had the honor of working alongside Lisa Haynes with the Wild Cat Research and Conservation Program studying mountain lions and urban bobcats using tracking and remote cameras for almost four years. In 2005, I met Sergio Avila and Mike Quigley one morning at the Epic Café and was welcomed into a world of Wilderness advocacy and jaguar and ocelot research with Sergio's ready grin and Mike's warm chuckle. Sky Island Alliance held an atmosphere of camaraderie and firm purpose that immediately appealed to me. I fondly remember that first field weekend setting cameras in search of jaguars in the rugged Tumacacori Highlands. Mike and I sat with our hands warmed by fresh cups of coffee on the porch of the Bear Valley Ranch, watching the setting sun turn the Atascosa Mountains brilliant orange and the Mexican free-tailed bats swoop overhead. My body ached and my arms and legs were bloodied from long hours hiking through cat claw acacia and shin dagger, but the air smelled of autumn oak leaves and food on the grill. I couldn't help thinking: *I'll take this cardboard box any day.*



An ocelot... in Arizona! © Sky Island Alliance.

Doing what I loved led me right here, and April 12, 2010, my first day as a full-time employee with SIA and the beginning of my transition from Wilderness Outreach Associate to Wildlife Linkages Program Coordinator, marks one of the most inspiring days of my life. That was the day we discovered "Cochise"—the first ocelot photographed in Arizona in over three decades — and I knew I was part of an adventure and an organization that would come to define who I am.

Jessica Lamberton *Volunteer to Wildlife Linkages Program Coordinator, 2006–present*



Mike surveying the vista from the Chiricahuas.
Courtesy Jessica Lamberton.

Generally, when I look back on the Tumacacori Highlands Wilderness experience at Sky Island Alliance it seems to me to be a period of organizational stretching: our first foray into overt politics as a means of achieving conservation goals, our first large-scale effort at

grassroots outreach, our first plunge into the difficult and delicate world of compromise and trying to work with people who don't share our worldview.

We approached this Wilderness campaign in a grassroots fashion: talking with our neighbors and fellow Arizonans in communities across southern Arizona to highlight the special qualities of the Tumacacori Highlands, the threats, and the conservation need. For me, personally, the effort and time was marked by people and events:

When I started on the effort, thinking naively that we would be finished in a year or so.

When Sergio started on the project and we did specific outreach to Nogales communities. There are many nice inter-twinings with both Sergio and Jessica and the growth of SIA with our wilderness efforts.

Meeting with some ranchers and others historically not inclined to our positions and making progress by having honest, respectful discussions; and realizing there are different ways different people can love the land.

Going many times before the Arizona Game and Fish Commission and securing a 5-0 vote in support of the proposal.

Knowing that while we were hiking Atascosa, the jaguar Macho B was roaming the highlands below. This was a powerful motivator for me personally when things got busy, tiring and difficult.

The tragedy of Macho B's death.

Having people approach me after presentations and thank me and SIA for the work we were doing. It was extraordinary.

Spending a very cold and very warm "Art in Wilderness" weekend in the Tumacacori Highlands with a bunch of local artists and the work and long friendships that came out of that. Trevor shoveling coals under folks' camp chairs while Kevin Pakulis played guitar on a very cold spring night that weekend.

Colette Hershey finding her own scholarship money to come here from Wisconsin to intern for Sky Island Alliance's Wilderness program.

Sergio's Nogales office, a.k.a. the Paricutin taco truck; and my Tubac office, a.k.a. the table by the power outlet in the Tubac Deli.

Regardless of not yet having succeeded in getting wilderness designation for the Tumacacori Highlands, a lot of other very good things came of the effort: the new staff and supporters we drew to the organization, the positive press we received, the integration with communities such as Tubac and Green Valley that we achieved, the positive national recognition from our peer groups in the wilderness movement, and the number of people we communicated our message to, of cores and corridors, sky islands, fragile lands, and special species needing protection.

Mike Quigley Wilderness Campaign Coordinator 2004–2010



Tumacacori Highlands. *Courtesy Matt Skroch.*

Linking People to Place

From 1998 to 2008, I enjoyed the wonderful opportunity to accompany Sky Island Alliance through its formative years as a volunteer and staff member. When I first arrived, SIA was a small grassroots group, big on ideas and short on resources. Working from a living room with two staff people and a handful of volunteers, we set our sights on things like inventorying the region's national forests for potential wilderness and identifying wildlife linkages that connected the various sky island ranges. Those two endeavors were reflective of how conservation biology manifested itself in applied conservation efforts, and they served as the underpinnings of many of SIA's programs to come. In the years to follow, the SIA team that I was a part of did great things. We launched the first wilderness campaign in 20 years, supercharged the conservation focus in the Mexican Sky Islands, and gained national significance as an organization working at the cutting edge of science and applied conservation, among other things. Despite some naïve assumptions when I began, I quickly learned that for all science can ever do for conservation, our business is equally or more concerned with the people side of things, too. Relationships. Trust. Shared experiences. Reciprocity. These were the things that SIA came to embrace as quintessential components of successful conservation during the first decade of the millennium. Folks like Acasia Berry, Janice Przybyl, David Hodges, Mike Quigley, and Trevor Hare, among other great staff, took care in building the foundation of SIA through partnerships and collaboration. I'm thankful that the hard work put into building SIA's capacity is stronger than ever. Great things continue to happen, and I look forward to watching SIA's growth and evolution over the years to come. The Sky Islands are in a tenuous position, and now more than ever they need a group like SIA to effectively link science, policy, and management in one of the most splendid places on earth. Happy Anniversary SIA — cheers to 20 more years of hard-hitting conservation action!

Matt Skroch Executive Director, 2005–2008

I became involved with the program because of my love of hiking and being out in the desert, but after many hikes and wanderings I decided I needed more and if I could do some good for all that I love... then so much the better. Meeting like-minded people was an extra added perk!

Dyna Chin Wildlife Linkages Volunteer,
 Las Chivas Wash Transect, 2002–present

Ten Years After

Trying to write about the last ten years of your work or your life is hard. Writing about your passion is easy. Luckily my life and my work and my passion are like a tangled bank along my favorite creek. My family and friends, my community and my landscape — thick-matted growth, fresh and new on top, dark, rotting and organic below, stuck between the sere uplands and the wet flow of that most precious resource. The whole tangled bank, life and work, is infested by wild critters and densely vegetated, transforming energy to sustain our mother earth.

Sky Island Alliance's restoration program, née field program, starts ten years prior with a small black rattlesnake in the desert, flushed down from the Sky Island above by a chubasco that dumped 5 inches of rain in one afternoon on upper Sabino Canyon. The snake was an Arizona black rattlesnake (*Crotalus cerebus*) and generally would only be found at elevations above 4,000 feet, but here was one at 2,000 feet. It was the first one I had ever seen and it made we want to start climbing that island. And so three years later I was — chasing Mexican spotted owls in the Huachucas, the Santa Ritas and Pajaritos, the Peloncillos and Chiricahuas, spending two weeks at a time hiking at night up crazy rock drainages looking for old growth forest and friendly owls. During the days I would sleep a bit, but critters and vistas kept calling me to the trail. As I climbed the peaks and peeked under logs my appreciation of the Sky Islands deepened.

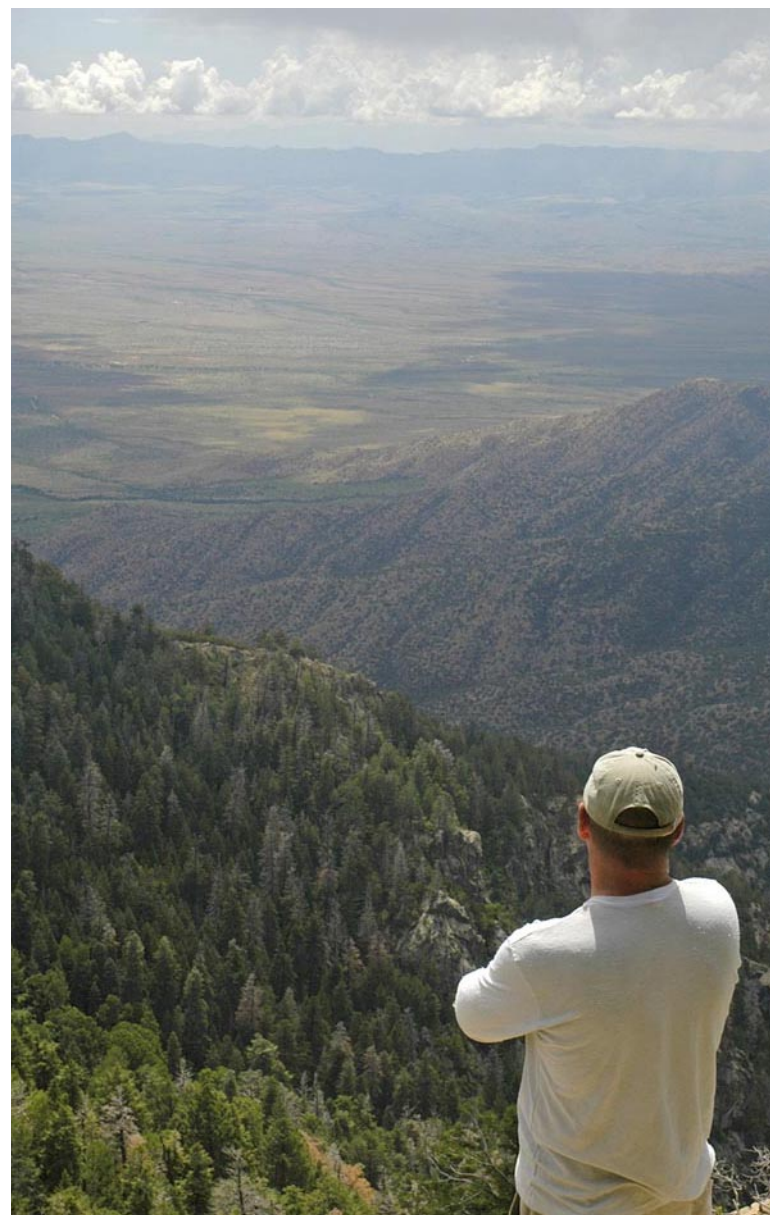
During a stint as a field hand in the Mohawk Dunes chasing sand-swimming lizards and snakes out in the western desert, my boss was Sky Island Alliance founder Dale Turner and my transformation from a biologist to a conservation biologist was cemented as I witnessed folks like Dale, Cecil Schwalbe, Phil Rosen, Tom Van Devender, Richard Felger and Gary Nabhan make a difference. I had witnessed my rattlesnake study sites be steadily developed one by one, one time right on top of my telemetered snake as I stood on bare dirt with a faint beep from below, but what I learned that summer did it. I soon met the coalition of folks working to protect the Sonoran Desert — Carolyn Campbell, Kevin Dahl, Rod Mondt and Nancy Z, Chris and Doug McVie, Rich Genser, Raul Grijalva and Maeveen Behan, and of course Andy Holdsworth and David Hodges (of Sky Island Alliance fame). Soon I started working with Andy to put together the Sonoran Desert Protection Plan under the supervision, help and encouragement from this amazing group of committed individuals. Andy and intern Matt Skroch were running volunteer outings to map and characterize the road system on the Coronado National Forest and although I never went on one of those outings I did buy a Sky Island Alliance hat!

As I was volunteering for Carolyn I continued my urban rattlesnake and Gila monster studies but the

funding soon dried up and I needed gainful employment. Roseann Hanson, Sky Island Alliance's first executive director, had advertised for a field coordinator, as Matt (now an employee) was starting up the Tumacacori Highlands Wilderness work and helping Janice Przybyl start the Wildlife Tracking program. I jumped at the chance. And after a couple of interviews with David, Matt and Roseann at Gentle Ben's Brewery I was offered not-very-much money to do a whole-lotta-work.

I recently added up all the field weekends the field program at SIA was responsible for since that fateful first day I sat at my very own SIA computer and sent out my first missive to the volunteer email list of approximately one hundred dedicated individuals, and it added up to around two hundred volunteer outings. Two hundred weekends is a lot of weekends but when we conservatively estimate 40,000 hours donated by volunteers (that's a twenty-year career for most folks!) you can see that it isn't about SIA or our field programs or staff, its about them, the volunteers. It's funny. I think back on all those volunteers and a half dozen or so really stand out and out of those, four are gone — Mike Seidman, Bob VanDeven, Nancy Seever and Tim Lengerich were some of my favorite people in the whole world and have left their mark on the Sky Islands, the Alliance and me. The other two were with me the weekend we disappeared into the wilds of Aravaipa Canyon's side canyons, stuck on a cliff as the sun set, unable to hike out and calm worried minds 'til first light.

Over the next two years we explored the BLM wildlands, we mapped and characterized roads and roadless areas, we drank dark beer and told white lies around wild camps, and we got to know the Peloncillo Mountains Wilderness, Turtle Mountain and THE Gila Box, Oliver's Butte (the farthest east saguaros in the U.S. that I know of), Secret Haunted Canyon (not its real name), the Apache Box (where, I won't say), the wild uplands and side canyons of the Aravaipa Canyon Wilderness, the Burro Mountains, and the Peloncillos, those little sugarloafs that stretch from the Mexican border to the Gila River. We based where we needed to inventory roadless BLM lands on the 1987 Arizona Wilderness Coalition report to the BLM in preparation for the Arizona Desert Wilderness Act of 1990. The BLM had whittled the list of Wilderness-eligible lands down to the bare minimum and we wanted to know if those proposed areas in the Sky Island region that had been left off the final Wilderness bill were still holding on to their wilderness values, and to our surprise they were. We have since used that information to advocate for



Trevor atop Mt. Graham. Courtesy Sky Jacobs.

continued protection of the wild values and reduce the road system in those areas.

During the time we were out there exploring our wild BLM lands, the U.S. Fish and Wildlife Service was preparing to list the Chiricahua leopard frog (*Lithobates chiricahuensis*) as a threatened species. Interest at the SIA board and staff level, and the inherent knowledge of and concern about the scarcity of aquatic and riparian resources by all, led us to establish a riparian inventory program in early 2003. On April 11 and May 3, thirty volunteers, Dr. Phil Rosen and SIA staff participated in frog survey training workshops and we were off to a great start. However the direction of the Riparian Inventory Program changed forever two weeks later when SIA staff and volunteers traveled to the Burro Mountains to help conduct Forest Service road surveys with the New Mexico Wilderness Alliance and the Upper Gila Watershed Alliance (Las Tres Alianzas) and I met Van Clothier, but more on that later.

The SIA RIP (everybody *nobody* likes an acronym) got off to a great start with a tip from Dale Turner about Bog Hole being dry! Bog Hole Wildlife Area in the upper San Rafael Valley was a ciénega that had been bulldozed into a cattle tank a long time ago. Situated at the very top of the Santa Cruz River Watershed and just over a low divide from Redrock Canyon — home to endangered native fish and the Chiricahua leopard frog — this

large tank was bleeding non-native predatory bullfrogs (*Lithobates catesbeiana*) out into the surrounding landscape and we needed to stop it. Unfortunately we were unable to continue work in this area due to landowner concerns and my mistake in not addressing those concerns directly with the landowner. We did however, during our work, stumble across Scotia Canyon.

Scotia Canyon, on the west flank of the Huachuca Mountains, hosts a fine creek fed by Sylvania Spring and was once home to a thriving population of the Chiricahua leopard frog. Dr. Chuck Lowe, the preeminent desert ecologist, and his students documented the decline of the leopard frog in the canyon soon after the non-native bullfrog arrived in the early 1980s. In 2005, after some inquiries with the Forest Service and a small grant from the National Fish and Wildlife Foundation, we began riparian and frog surveys and investigations into the feasibility of restoring two impounded springs and repairing a headcut in the creek with the aim to eliminate bullfrog breeding habitat and reintroduce the Chiricahua leopard frog. In 2007, with a plan produced by SIA and in cooperation with the Forest Service, U.S. Fish and Wildlife Service, Arizona Game and Fish Department, The Nature Conservancy and Fort Huachuca, we removed three cattle tanks, restored two spring runs and the creek, and removed the population of bullfrogs. Then in 2010 the Chiricahua leopard frog was reintroduced into the canyon and this past summer had a very successful breeding season!

During this time I started hanging out with Van Clothier, a restoration practitioner from Silver City, New Mexico. Van takes a holistic view of landscapes and is an expert in repairing incised arroyos, degraded creeks, and drying wetlands. We invited Van to join us at Cloverdale Creek and Ciénega in the Peloncillo Mountains. The creek had been channelized to dry the wetland, a common practice in the past, and the new landowner wanted it restored. As we walked up and down that creek and across the shrinking wetland I began to understand the relationship between the health of the watershed and the health of Chiricahua leopard frog populations. A healthy watershed stores water and slowly releases it to sustain aquatic and riparian ecosystems, a degraded watershed flushes water through too fast and dries springs, creeks and wetlands. Our motto was Walking Around and Paying Attention — we wanted to know what was happening out there that was impacting ecosystem functioning, healthy habitats, and populations of wildlife and plants, and we wanted to know how we could protect and restore them. As we worked in the Peloncillos and Huachucas we also continued our work on roads and roadless areas, delineating new Wilderness boundaries in the Tumacacori Highlands, closing unneeded and resource-damaging roads in the Santa Rita Mountains and Las Ciénegas National Conservation Area.

In the summer of 2005, I began working as a field scientist monitoring endangered Southwest Willow Flycatchers on the Lower San Pedro River near the old San Manuel mine. Spending my days in the narrow ribbon of riparian habitat as a quiet observer I saw more species of birds, snakes, insects, mammals and herps than I had previously seen in my life: black hawks fishing, baby quail running in leaf litter, tiger beetles hiding in the mud and one wet badger looking for refuge from a monsoon-flooded river. I also saw birds and other critters disturbed and squashed by vehicles driving in the river, trash floating downstream from weekend campers, and a mysterious inflow of water from the old San Manuel mine. I began to identify a personal need to combine my interest in the science of conserving species with a strong need to advocate for their protection and to ensure the places they lived were safe from destruction. I was hooked on this magnificent region and on protecting the wild creatures and special places I deeply appreciated.

I began working full-time for Sky Island Alliance in the fall of 2007, organizing a partnership of diverse organizations and people interested in protecting the biological diversity of the Coronado National Forest and writing an in-depth report documenting the natural and cultural wealth of the Forest. I learned an enormous amount about the region and the people who live here. I took off running and never looked back... before I knew it I was hugging trees!

Louise Misztal *Conservation Policy Program
Coordinator, 2007–present*



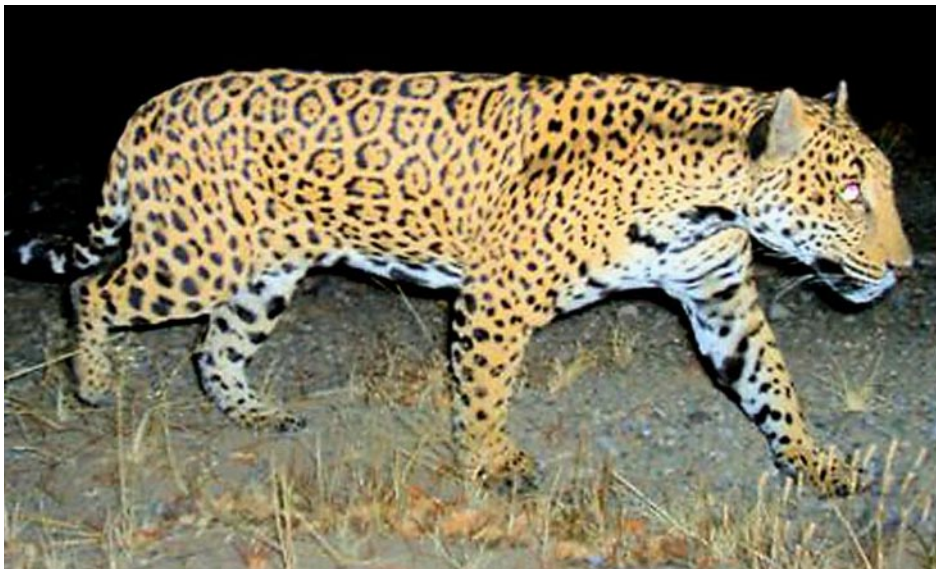
The newly christened Landscape Restoration Program (LRP!) really took off in 2007 with a \$200,000 grant to restore Cloverdale Creek and Ciénega in the Peloncillo Mountains and the hiring of Sarah Williams in early 2008 as field assistant and volunteer manager. Sarah, Van and I, along with a cadre of volunteers and experts including Steve Carson and Craig Sponholtz, and leader/mentor/teacher Bill Zeedyk, began collecting data, plotting and scheming, and planning and designing our restoration. What we soon discovered was that the we didn't quite understand how the creek and ciénega system functioned before it was disturbed, when, how and why it was disturbed, how it functioned in the disturbed state and how it could function in the future. Bill encouraged us not to just do something, but stand there, watch it, observe, take time to learn about the system through the seasons and through various sets of eyes.

With that advice in hand, Sarah, Van and I headed out on a hot June morning to check out other ciénegas. We traveled to Sonora to visit Ciénega Saracachi near Cucurpe and Rancho Los Fresnos on the U.S.-Mexico border, then back to the U.S. to check out the Canelo Ciénega preserve. Ciénega Saracachi is a sizeable wetland fed by several large tributaries and a spring along the Rio Saracachi east of Magdalena, on a private ranch proposed by the Mexican government and the landowners to be a National Protected Area. Sky Island Alliance, in cooperation with the state and federal land and wildlife managers, the University of Montana, and U.S. Fish and Wildlife Service, is planning restoration and research activities at this amazing wetland. Inspired by that trip we continued to plan the Cloverdale restoration and in 2010 we removed

over 6,000 cubic yards of levees and placed three large diversion structures in the creek to reconnect the creek to the ciénega, restoring flow to the drying parts for the first time in decades. The successful project in the Peloncillos and funding for work on Ciénega Creek, Bear Creek in the Huachucas and in Sonora has elevated the restoration program and recently we added Andy Bennett as a field assistant and received funding to continue our work, this time focusing on the springs of our region. We are specifically interested in how we can help land managers protect and restore the springs of the desert, those sacred sites where ancient water brings life to our arid region.

Conclusion is, it's been fun, it's been hard work, it's been very rewarding — but it's the people in the life of the LRP and SIA and the community at large that makes it all go 'round, and it's the place that makes it worth all the blood, sweat and tears. I've mentioned many people so far, but I did in those first ten pre-SIA years marry Janet and we found two kids, Cassidy and Delaney, out in the desert apparently raised by wolves. They grew up with rocks and feathers, bones and bits of wood (one resembled Ronald Reagan), and fantastical stories of sand-swimming snakes and friendly Mexican spotted owls, and they met those critters and the deserts and mountains on many a family outing and SIA volunteer trip. Janet gamely held down the fort, which allowed me to go out there and chase critters, and walk around and pay attention. E.O. Wilson wrote about spending your life around the trunk of a tree and not getting to the root of its life and the ecosystem it is a part of. The Sky Islands, my family and the community are my tree trunk.

Trevor Hare *Landscape Restoration Program,
2001–present*



Jaguar captured on film via remote cameras at El Aribabi. ©Sky Island Alliance and Rancho El Aribabi. **Sergio captured on film watching the sunset at El Aribabi.** Courtesy Melanie Emerson.

Conociendo las Islas Serranos

My time at Sky Island Alliance has been a path of work, enjoyment and personal satisfactions. Today I can recount that path as the natural movement that took me to find a nice place to live, work and start a family. Here I try to connect the dots of that story...

I migrated to Arizona in 2003 like many other people who come here, either chasing a job or a girl. In my case one led to the other. In the beginning of 2003 I had spent several months living in Sonora's Northern Jaguar Preserve, which by then was a project in the making — a coalition of conservation groups and individuals trying to purchase private land in east-central Sonora, where the northernmost breeding population of jaguars in the continent lives, approximately 200 miles south of the international border. At that time, scientists led by Mexican jaguar expert Dr. Carlos Lopez were interested in learning about northern jaguar biology, territories, natural prey, corridors and more. I was part of a field research team that photographed with remote cameras, tracked, captured and radio-collared two jaguars and five mountain lions. We worked hard; we used and developed all sorts of skills, and we learned a lot about northern jaguars. But that learning came with a high price, personally and professionally, and it would shape my vision of work in the future.

The summer of 2004 I was hired by the School of Natural Resources at The University of Arizona to work as a field biologist in a Ferruginous-cactus pygmy owl research project. Led by ornithologist (and local Sonoran "*honoris causa*") Aaron Flesch, and supported by fellow SIA staff Sky Jacobs, the project was conducted in Sonora's western desert around the towns of Caborca, Altar, Magdalena de Kino, Nogales, and Sasabe. About the same time, I was volunteering with the Borderlands Jaguar Detection Project setting up remote cameras in the Coronado National Forest west of Nogales. It was that summer when I collected four jaguar photographs from remote cameras, and I still remember my excitement when I saw the photos. The photos were those of males "Macho A," the sadly famous "Macho B," and a never-seen-again third animal, possibly a female.

I was hired by Sky Island Alliance in the beginning of 2005. I started working as outreach coordinator for the Tumacacori Highlands Wilderness campaign, with the goal to create an 84,000-acre Wilderness area for many protected species, including jaguars as they move into one of the richest and best preserved areas in the state. This was a very serious effort to protect jaguar habitat in Arizona.

So by now I knew where the closest breeding population of jaguars existed in Sonora, and I was aware that some individual jaguars lived west of Nogales, Arizona; but I was still puzzled about the hundreds-of-miles-long path jaguars were using to connect both areas. With that question in mind, Sky Island Alliance initiated field trips in 2005 to scope out the southern side of the Sky Islands in Sonora. It was the ideal opportunity for Sky Island Alliance to expand its work into the Mexican Sky Islands. Between 2005 and 2006 I led several field trips exploring Sierras Cibuta, Azul, La Madera, El Pinito, San Antonio and Mariquita, visiting local people and meeting ranchers while searching for jaguar sign. Those field trips were illustrative in that the region and all its natural life is the same on the north and south sides of the border — trees, grass, wildlife, water — they didn't care about the political boundary, so why would we if we wanted to protect them? The one outstanding difference is that in Arizona and New Mexico we mainly focus on public lands in partnership with land management agencies like the U.S. Forest Service or the Bureau of Land Management. On the other side of the tortilla, Sonora and Chihuahua have vast expanses of private land, which means that our approach to work in Mexico must include building trust and creating strong connections with landowners, and taking opportunities within our reach for achieving our goals effectively. Remote cameras were a safe and natural way to keep a continued "presence" in those ranches while surveying for jaguars and other wildlife, and forging long-term relationships with the locals. In some places this was an easy task — in El Aribabi we photographed an ocelot a few weeks after setting remote cameras and have continued to

document ocelots ever since; in La Esmeralda we found a high potential for restoration of Chiricahua leopard frog populations in close vicinity to Arizona's populations. In other places this connection wasn't strong enough — a ranch in Sierra Cibuta changed owners during our project which resulted in less-friendly interactions with locals and vandalized cameras. We moved on out of there very quickly.

Throughout these years, many people have been an integral part of this program. Some have opened the door to their land and allowed us to work there, some have made a huge difference with their help in the field, and some have provided important input, help in the office, catalogued photographs, and even initiated long-lasting relationships with the organization. As hard and unfair as it might be to point to specific people, I want to mention some that have made a huge difference since our initial work — Jessica Lambertson, who went from interested student to SIA volunteer to Wildlife Linkages program coordinator, participated in the first field trips to set up remote cameras, carrying equipment, hiking in all kind of terrain and adapting to everything that life threw at us in those days, always with a smile and a story to share. Carlos Robles, landowner of El Aribabi ranch and a dedicated conservationist, opened the doors to his ranch and allowed us to partner with him on his personal quest for protecting the region's wildlife and ecological processes — the model of collaboration between Sky Island Alliance and Carlos Robles has been the jumpstart to many other successful partnerships in the region. And last but not least Cynthia Wolf — a highly reliable field biologist, volunteer extraordinaire, tracking instructor, friend, and companion — has strengthened our capacity in the field by taking the time to hike and maintain our remote cameras, find and document jaguar evidence and become a link between volunteers and landowners. Thanks to all of you who have contributed your time and effort to the Northern Mexico Conservation Program.

Over the years, Sky Island Alliance has had many successes from our work in northern Mexico:

Documenting the presence of several jaguars and ocelots (including one ocelot kitten), providing positive evidence of their use of corridors in the region

Sharing biological information that supported the official designation of El Aribabi as a natural protected area;

Initiating the Madrean Archipelago Biodiversity Assessment, a multi-year project led by Dr. Tom Van Devender and supported by Nick Deyo — conducting scientific expeditions to over half a dozen underexplored Sonoran Sky Islands, recording a wide variety of plants and animals, creating and making available an online database of biological information, all the while engaging local communities, universities (Universidad de Sonora and Universidad de la Sierra) and government agencies (Comisión Nacional de Areas Naturales Protegidas and Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora)

Involving and training Mexican and American volunteers, students and landowners in wildlife research and habitat restoration

Collaborating in two wildlife research studies with students from University of Sonora and University of Georgia

Conducting numerous successful volunteer trips and creating alliances with local ranchers, and

Participating in conferences, talks, and other education opportunities for local schools, and engagement of the general public, both in Mexico and the United States.

Personally, this work has embodied something that my father used to talk about 20 years ago and I didn't understand at the time: "I get paid to do what I love and I feel fortunate for it." I'm thankful for this organization to exist, to commit to the work the way it does and to have allowed me to be part of its history. The job I was chasing when I first came to Arizona in 2003 led me to chase a girl who in turn advised me to accept a position at Sky Island Alliance in 2005. Four years later that girl (now a licensed attorney and a leader in conservation issues in the Southwest) agreed to marry me. Jenny and I joined forces and continue enjoying, working and living in this region surrounded by the larger "Sky Island family."

The 20th anniversary of Sky Island Alliance has brought perspective to all achievements and challenges through my tenure in the organization.

In this time SIA created a new program and established itself in a different country within the ecological region that we seek to protect and restore; we have gained credibility and a reputation as an organization that gets things done, that collaborates with a wide variety of partners and that shares and creates opportunities for landowners, students and volunteers to be part of our work. The future of the program goes beyond the use of remote cameras for the identification and protection of wildlife corridors, as we will be stepping up our restoration efforts, continuing scientific expeditions and trainings, encouraging scientists and decision makers to make use of our online databases, and engaging landowners in long-lasting partnerships that combine conservation action, environmental education and appreciation of the region's natural systems. Sky Island Alliance will stay committed to protect and restore the shared environments of the borderlands. Either in the United States or in Mexico, in public or private lands, in English or Spanish — we will think forward. We will think big. We will act.

Sergio Avila Northern Mexico Conservation Program, 2005–present

Through the years, the emergence of new technologies [...] has helped make documentation easier and more precise. But all the fancy gadgetry does not substitute for what we learned early on: That the key to success of the tracking program lies with the volunteers. Their enthusiasm for on-the-ground conservation work and our confidence in their abilities as 'citizen scientists' is what will sustain the Wildlife Linkages Program though the next decade.

Janice Przybyl Wildlife Linkages Program Coordinator, 2001–2010

An old friend, the tracks of a solitary male coati, found us. Although most were double registered, several individual prints had the characteristic little knob on the back of the front paw. We are certain it's the regular visitor because the prints are always the same size and because we find them in the same place year after year—as if he prefers this path to get from wherever to wherever, to opportunistically find his harem in the late-winter breeding season, to avoid them and his frolicsome progeny the rest of the year, and to deliberately give us the thrill of discovery.

Eugene Isaacs Wildlife Linkages Volunteer, 2005–2010 (11.23.09 field notes, North Davidson Canyon transect)



Coati tracks. Courtesy Susan Buchan.

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Please send in your check or renew quickly online!
We rely on membership support for our work to protect the natural treasures of our Sky Island region. *Contributions are tax-deductible; we are a 501(c)(3) non-profit organization.*

Basic membership for one year is \$35, but if you add to that, here's a sampling of what your dollars can do:

\$50 will help us survey 30 miles of roads...

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\$500 supports one remote camera...

\$1,000 contributes to a weekend of riparian restoration!

Fill this out, call, or donate online. It's quick, easy and secure!

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Please bill \$ _____ to my: MasterCard Visa

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- 2004** Matt Skroch promoted to Executive Director. SIA initiates Peloncillo NCA campaign with two potential wilderness areas. Riparian and frog surveys are conducted at Scotia Canyon. SIA participates in the development of the BLM's Aravaipa Ecosystem Management plan for the Driest National Forest through the Forest's revised resource and transportation management planning processes. Outreach begins to Sonoran landowners
- 2005** Julie St. John hired as editor of Restoring Connections. SIA establishes the Coronado Planning Partnership, mobilizing a wide range of individuals and groups to advocate for conservation-based management of the Coronado National Forest. Remote cameras are set up at four additional Sonoran ranches. SIA works with regional and national partners to oppose a second mining proposal for the Rosemont Ranch property, this time from Canadian Mining Company Augusta Resources.
- 2006** Mike Quigley hired as Wilderness Campaign Coordinator; Sky Jacobs joins staff part-time. Friends of Tumacacori Highlands formed. SIA actively opposes a large mine proposed for the Driest National Forest.
- 2007** David Hodges leaves SIA Board to become Executive Director. SIA develops a road survey program to define boundaries of roadless areas. Roseann Hanson. Janice Przybyl hired to lead new Tracking program; Trevor Hare to lead field weekends.
- 2008** Acasia Berry joins staff. SIA takes on sponsorship after four years participating in the Ft. Huachuca Lion Track Count. SIA co-hosts Biodiversity and Management of the Madrean Archipelago Conference with regional organizations to oppose ASARCO mining company's proposal to construct a mine on the border. SIA develops proposal for a National Biodiversity Conservation Area in the Sky Island region. SIA works with regional and national partners to oppose The University of Arizona's proposal to construct telescopes on Mt. Graham.
- 2009** Sky Island Alliance is founded in response to a proposal by the US Forest Service to create a National Recreation Area on portions of the Coronado National Forest. SIA convenes the first of three climate change adaptation workshops and forms the Arizona Climate Change Network. Wildlife Linkages grows to 90 active trackers and holds new mini-workshops for general public. MABA expeditions to Sierra El Tigre and Sierra La Madera. Cloverdale Creek and Cienega restoration work begin.
- 2010** Jenny Neeley hired as Conservation Policy Director; Rod Mondt as Special Designations Program Coordinator. First jaguars photographed; two individuals identified. SIA works with regional and national partners to oppose a second mining proposal for the Rosemont Ranch property, this time from Canadian Mining Company Augusta Resources.
- 2011** Keri Dixon hired as Development Director; Andy Bennett for Landscape Restoration Program; and Nick Deyo for MABA logistics. Ocelot kitten photographed in El Aribabi; ranch becomes a Federally-recognized natural protected area. Sky Island Alliance commissions survey examining public opinion on borderlands conservation, the results of which show strong public support for investing in Ports of Entry rather than more border walls, and strong public opposition to waiving laws along the border. MABA expeditions to Cienega de Saracachi, Sierra San Antonio and Sierra Bacadéhuachi. Landscape Restoration Program celebrates over 200 weekends in the field!

Twenty Years Strong: Our Journey So Far

"I was involved in the campaign to protect Mount Graham during the 1980s and '90s, so I was lucky enough to work with a bunch of great activists. We saw that more bad development proposals were coming to the Sky Islands, and that we could spend the rest of our lives trying to stop them, or we could change the basic paradigm for this region. So we organized Sky Island Alliance as a way to help the world understand the wonder and beauty of this region, and its importance for protecting global biodiversity. SIA was, and still is, a chance to work FOR something good, to promote a positive vision of people living in harmony with an amazing landscape, and with each other across an international border. Great place, great vision, great people: that's what keeps me involved with SIA 20 years later, and why I've served on the Board of Directors for all these years."

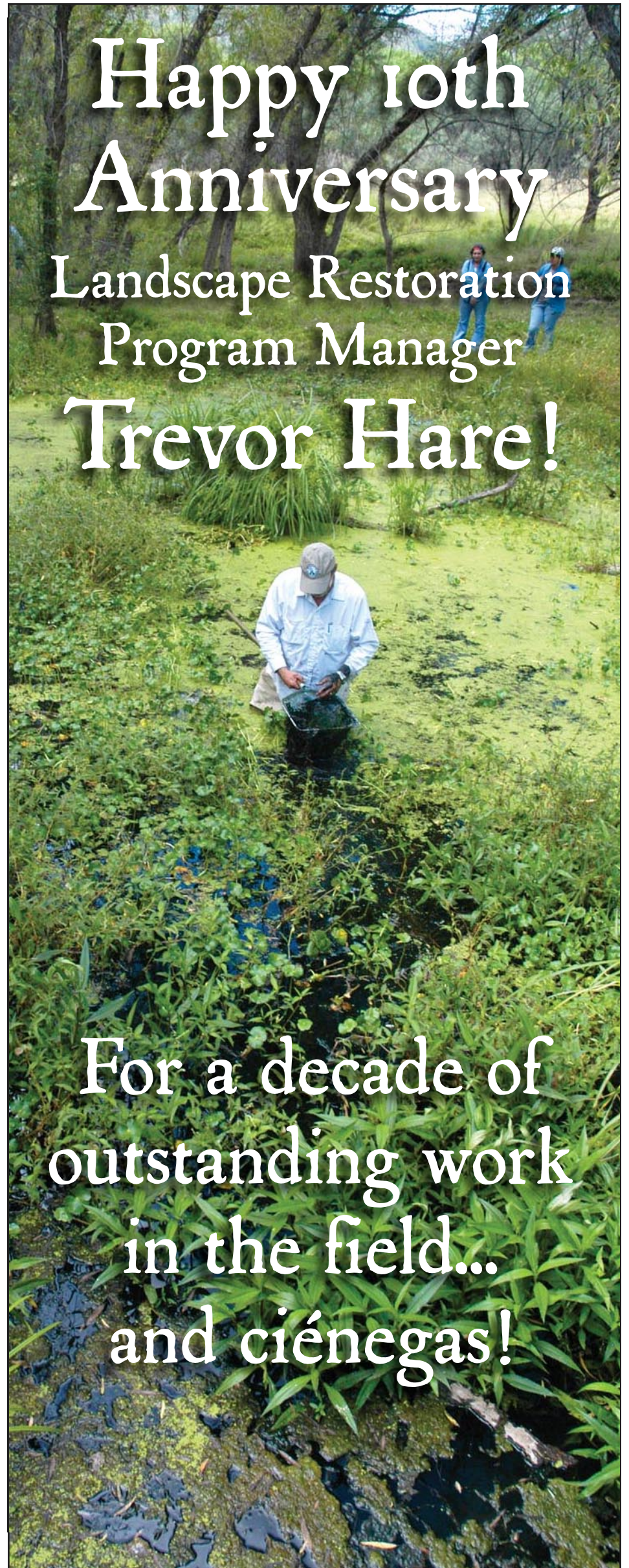
Dale Turner *Founder, Board President, 2009–present*



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Dew drops. Courtesy Sky Jacobs, Administrative Associate, 2004–present

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Happy 10th
Anniversary
Landscape Restoration
Program Manager
Trevor Hare!

For a decade of
outstanding work
in the field...
and ciénegas!

Laughing Waters of Aravaipa *by Bob VanDeven*

Reprinted from Fall 2005 issue: Celebrating Wilderness Heroes

Aravaipa. The word itself might have been shaped by wind moving through cottonwoods and walnut trees, rushing between walls of conglomerate and tuff, swirling through humid grottos thick with ferns and columbines and wild grapes until it finally emerged, fully formed, from the mouth of a canyon. In it one can hear the snap of the flycatcher's beak, the sound of acorns being ground on stone metates, the turning of leaves. It's a suggestive word, mysterious. And though it has an accepted meaning—laughing water—the name Aravaipa says just as much about an idea as it does about a place.

The Aravaipa region is a rorschach blot of grassy tablelands, winding riparian corridors, and agave-studded cliffs hinged at its center by a canyon nearly 1,000 feet deep. The gorge was carved by a perennial stream that drains a vast swath of land between the Galiuro and Santa Theresa Mountains, providing habitat for Arizona's best remaining community of native fish, seven species in all. Sycamores, willows, and other deciduous trees line the banks while the terraces are thick with mesquite and hackberry. Above these stand rank upon rank of saguaro cacti marking the abrupt boundary between woodland and desert. This stratified landscape permits extraordinary diversity in what seems like minimal space; within a single square mile one may glimpse black bears, spotted owls, coatis, and bighorn sheep, as well as 40 species of reptile and nearly a dozen species of bats.

Human beings arrived about 9,500 years ago to take advantage of this abundance; ancient peoples of the Hohokam, Mogollon, and Salado cultures hunted, fished, and farmed the region but the last of these disappeared around 1450 A.D. Perhaps the most well preserved sign of their presence is the tiny cliff dwelling tucked beneath an overhang along a tributary called Turkey Creek. Barely big enough to house a typical family, the mud dwelling was probably occupied for a few months of the year when certain foods were being gathered in the area.

In the late 17th century when Father Kino visited the confluence of the San Pedro River and Aravaipa Creek he encountered both the Tohono O'odam and Sobaipuri tribes, the latter acting as a buffer between hostile Apaches and lands to the west. By the mid 18th century pressure from the Apaches would force the Sobaipuris to abandon their villages and disperse. Exactly when the Apaches settled Aravaipa is not known but they became well established in the canyon and surrounding highlands; the Spanish even referred to that particular band as the Aravaipa Apaches. The Apache Kid and Chief Eskiminzin lived there and used the canyon both as a favored hunting ground

and a convenient link between the San Pedro and Sulphur Springs valleys. The tribe's persistence in this area prompted the army to build Fort Grant just beyond the west end of the canyon and in 1871 this was the site of the infamous Fort Grant massacre in which 144 Apaches, mostly women and children, were killed by an angry mob of local residents. As the reservation system absorbed the scattered remnants of the band the lush bottomlands at either end of the canyon were opened to small scale ranching and farming.

Today the flora, fauna, and historical artifacts of the Aravaipa region are sheltered not only by the canyon but by a rare and fortunate convergence of factors. For starters, the place is remote. Both the east and west ends of the canyon can only be reached by long dirt roads and the tablelands on either side are fragmented by steep drainages that restrict access to four wheel drive vehicles and ATV's. In addition, the free-flowing stream is prone to flash flooding, a process that soon erases any roads or trails etched in the canyon bottom while at the same time knocking back invasive species like tamarisk and bluegill. Aravaipa's wild and pristine character, coupled with its history of use by indigenous peoples, argued strongly for its preservation as wilderness; thus, the region's stony isolation was supplemented by the creation of the Aravaipa Canyon Wilderness in 1984. Now, as roads spread like vines and machines overcome both distance and terrain, it is this designation—this idea—that provides the greatest measure of protection for the canyon and its inhabitants.

Like each of the 662 wilderness areas in the United States, the Aravaipa Canyon Wilderness is a direct descendant of the Wilderness Act of 1964, one of the most farsighted and widely supported pieces of legislation ever passed. The law recognizes the intrinsic value of natural systems and intact landscapes, places where "...the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain." The idea that a portion of our country should remain undeveloped appeals to both the spirit and the intellect: many of us are grateful for the solitude wilderness provides and we understand that humans cannot yet take the full measure of all living things, cannot intrude upon a place without risking the loss of some vital part. As Leopold once wrote, "The first rule of intelligent tinkering is to save all the pieces." Under the Wilderness Act each generation has a chance to decide which lands should be set aside for the benefit of future citizens.



**We will never get to
the end of it, never plumb the
bottom of it, never know the
whole of even so small and trivial
and useless and precious a place
as Aravaipa.**

**Therein lies
our redemption.**

—Edward Abbey

Aravaipa. *Courtesy Bob VanDeven archives.*

While the process is convoluted, it is also intrinsically democratic and locally driven—the power to preserve a place is derived from those who live in and around it, not from Congress or special interests. And at a time when party divisions are more apparent than ever, it's comforting to know that wilderness designation enjoys a 40 year history of bipartisan support. Yet the wilderness process does not end when lines are drawn on a map; such areas must be managed and the finer points of this practice often reveal different opinions about what wilderness is and should be.

The Aravaipa Canyon Wilderness is administered by the Bureau of Land Management and

encompasses about 19,400 acres. In addition, The Nature Conservancy owns and manages 7,800 acres in scattered parcels at either end of the canyon and on the south rim. Prior to the creation of the wilderness the Defenders of Wildlife managed portions of the canyon, employing Edward Abbey as a refuge manager in the mid-1970's. Currently the BLM is engaged in a new planning process for Aravaipa, a periodic event that calls for a review of management goals, issues, and recommendations, both from cooperating partners like TNC and Arizona Game and Fish as well as the general public. This planning process affects not only the wilderness but a substantial portion of the surrounding land, including 7 grazing leases, several of which overlap the wilderness.

As in years past, grazing policy and motor vehicle access are two issues of concern. The Nature Conservancy holds one of the applicable grazing leases but has chosen not to run cattle on it, yet the BLM may require TNC to graze some cattle or forfeit their lease. In addition, the new management plan may allow cattle to graze portions of the canyon bottom. This practice was discontinued long ago because of an official opinion authored by the U.S. Fish and Wildlife Service, however the opinion expires this year and the BLM may choose to open the riparian area to lease holders.

On the south rim of the canyon a rugged jeep trail marks a portion of the wilderness boundary. This road once crossed Virgus Canyon, a major tributary, but Defenders of Wildlife successfully blocked it with a number of large boulders in the 1970s. Since then no vehicle has been able to pass that point from either direction. Now the BLM is considering a plan to remove the boulders and reopen the entire length to ORV use. Ironically, the legislative report that accompanied the wilderness designation actually allowed for and recommended the permanent closure of the road, a move that would sizably expand the wilderness. A similar expansion might be accomplished by including upper Oak Grove Canyon, home to a perennial stream, and Turkey Creek Canyon, an Area of Critical Environmental Concern (ACEC) where the Salado cliff dwelling is located.

The wilderness movement sprang in part from a desire to preserve the best of our heritage but these pieces of the past are colliding with the future. As Sky Island Alliance volunteers have documented, motor vehicles are continually encroaching on wilderness areas and other roadless tracts. Many Americans think of wilderness in terms of the vanished frontier yet they want to challenge that remnant of the frontier with the machines and mindset of the 21st century. The truth is that wilderness has always been a place where humans go to meet nature on her terms and it must remain so if wilderness itself is to endure. In the case of Aravaipa we already accept some limitations for the benefit of the resource—BLM permit restrictions allow no more than 50 people to enter the canyon on a given day, a policy most wilderness users support and one which will probably not be changed. Perhaps we should also accept the idea that prowling the borders of wild areas on ORV's invites abuse and that expanding a wilderness will be viewed by future generations as a much wiser move than hemming it in with more roads.

After his stint as refuge manager Abbey authored a short essay about the canyon. Like much of his work it is expressive, wellcrafted, and to the point. The piece also says much about the value of the canyon as Abbey saw it some 30 years ago when the idea of an Aravaipa Wilderness was just that—an idea. It ends with the following:

“...it seems to me that the world is not nearly big enough and that any portion of its surface, left unpaved and alive, is infinitely rich in details and relationships, in wonder, beauty, mystery, comprehensible only in part. The very existence of existence is itself suggestive of the unknown—not a problem but a mystery.

We will never get to the end of it, never plumb the bottom of it, never know the whole of even so small and trivial and useless and precious a place as Aravaipa. Therein lies our redemption.”

Bob, a gifted photographer and steadfast contributor to Restoring Connections, was a dear friend to the Sky Island community. He died in April 2005.

We Need You... to Volunteer!

Sky Island Alliance formed in 1991 when a group of concerned citizens came together to protect the Sky Islands adjacent to Tucson. Wanting to ensure 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, they worked to keep our public lands intact and wild. 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 new volunteers to join us!

There are Always Opportunities to Rejoice in / Restore our Sky Islands!

Check www.skyislandalliance.org for the latest calendar!

Join our Landscape Restoration Field Weekends

Habitat Restoration Weekends: These trips can be physically demanding although there are still 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 aim to 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 aim to increase quality habitat along vital riparian corridors and heal the sections of degraded watershed.

Riparian and Recreational Impact Surveys: Volunteers gather at a base camp and are paired up with 3 to 4 other volunteers. We provide a map, GPS unit, digital camera, and data sheets. The teams are sent out to adjacent areas to walk out 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 Andy at 520.624.7080 x23 or andy@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. Check www.skyislandalliance.org or join our eNews list for information on our next tracking workshops!

Contact Jessica at 520.624.7080 x21 or jessica@skyislandalliance.org

Represent SIA at Outreach Events

Volunteer to spread the mission of Sky Island Alliance! Throughout the year SIA is invited to participate at several community events throughout the Sky Island region but have limited staff resources to ensure our participation. We are seeking committed volunteers to represent SIA at tabling events, give general presentations to the public and help internally at SIA outreach events and workshops. If you enjoy interacting with public, sharing your knowledge of the region and spreading the mission of SIA, this is the job for you!

Contact Sarah at 520.624.7080 x23 or sarah@skyislandalliance.org OR

Make a Difference

Data entry/analysis and office needs: Data collected in the field is compiled into a database so that Sky Island can put that hard-earned information to work.

Contact Sarah at 520.624.7080 x23 or sarah@skyislandalliance.org

Using Remote Cameras to Inform and Promote Wildlife Conservation

by Sergio Avila, Northern Mexico Conservation Program Manager. Reprinted from Fall 2009 issue: Energy

The use of remote cameras to capture photos of wildlife has increased in wildlife studies, especially to study elusive, rare or cryptic animals. As a research tool, this non-invasive technique does not require capturing or influencing animals' behavior, making remote cameras popular, easy to use and well accepted. Photographs allow researchers to identify species and gender, estimate age, observe family groups, and sometimes assess health status and behavior. However, setting up remote cameras in the field for the purpose of capturing images does not equal "wildlife research." Remote cameras, like radio collars, are mere tools that aid the researcher in the collection of information; and while it's interesting, fun and informative to photograph wildlife, researchers and managers must leverage this information for use in successful conservation actions. In short, we can generate more than an amazing collection of wildlife images.

Common questions from the public on the use of cameras include: "How are the resulting photographs used?" "What do you do with this information?" "Can these analyses be applied to conservation?" The answer to these questions originates in a good project design: a plan that describes the steps to collect, analyze and interpret the information and its intended application for conservation of a species or an area. When photographs demonstrate high species diversity in an area or the continuous presence of a protected species (i.e. Macho B's presence in southern Arizona for 12 years), this information should facilitate the permanent protection of that area.

A variety of research objectives can be addressed by using remote cameras, such as presence or absence

of a species. Mark-recapture methods are applied to estimate density or abundance of species that are identified by individual pelage patterns, like jaguars or tigers. Figures 1 and 2 glimpse into the potential presented by a wildlife study using remote cameras, such as our Cuatro Gatos Project. After our initial success in northern Sonora photographing over 25 species of mammals in the Sierra Azul, including ocelots, and the signing of conservation agreements with partnering landowners, we are now working with university researchers to conduct analysis of our results.

The continuous monitoring of wildlife through these photographs, offers a glance at wildlife populations, diversity of species, group sizes, preferred areas and sometimes their interactions. Examples of interactions are photographs of carnivores transporting their meal to a safe place for dinner (photo, right). Each photograph is stamped with time and date, and associated information includes camera site description (location, vegetation, elevation, topography), date when camera was set and revisited, number of photos and general observations (wet and dry seasons, human activities or presence of domestic animals).

In short, the use of remote cameras for studying wildlife is a safe, non-invasive technique that offers the potential to inform and facilitate conservation action for sensitive or elusive species, and areas with high species diversity. Adequate project design allows to plan for collection, analyzes and application of the information collected. Using

remote cameras, researchers detect presence or absence of a species in an area, and should leverage this information to results that inform about species habits and interactions, beyond spectacular images or videos. By comparing when animals are most often photographed to time cycles we can draw conclusions about species habits and interactions.

The popularity of remote cameras for wildlife monitoring and study presents high potential to inform conservation. If you or anyone you know is interested in setting up and maintaining remote cameras within the Sky Island region and would like to learn the basics to get the best use of this technique, please contact Sergio at 520.624.7080 x16 or sergio@skyislandalliance.org.

Sergio Avila would like to thank biologists Jennifer Yates (University of Georgia) for the use of preliminary analyses from her thesis research, and Nohelia Pacheco and Carolina Piña (Universidad de Sonora) for updating the photo-database with over 30 months of photographs from our remote cameras.

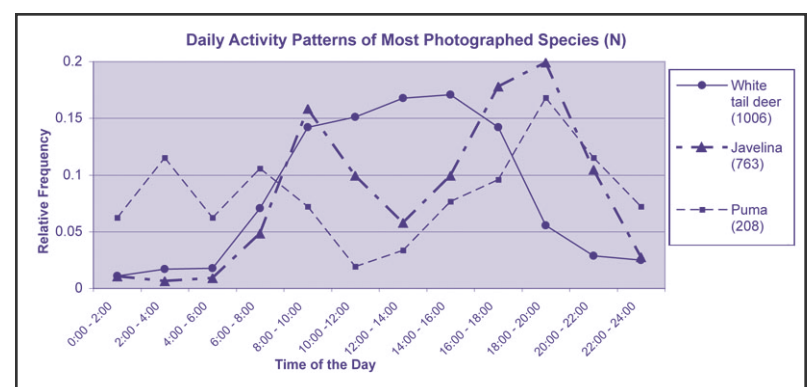


Figure 1. Activity patterns of species most commonly photographed: one predator (puma) and two prey species (deer and javelina). From our photo-data, we plot the relative frequency of capture by species to estimate activity patterns in a 24-hour cycle. The chart shows diurnal habits for deer, with daily activity between 6am and 6pm. Javelina show two daily peaks of activity: one between 8am and 10am and another between 6pm and 8pm. Puma activity, though constant throughout the day, increases at dawn and dusk.

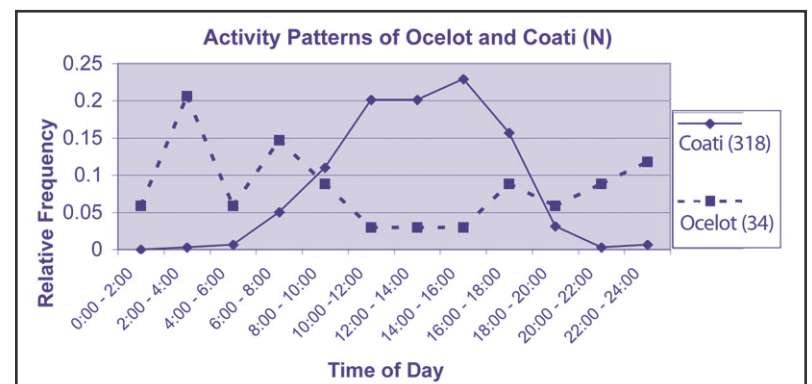


Figure 2. Activity patterns of two mid-sized carnivores (ocelot and coati). The chart shows nocturnal habits for the ocelot (a solitary animal) and diurnal habits for coati (generally moving in groups). Sample size for these two species varies greatly, however this preliminary analysis shows temporal preferences for each one.

Celebrating 20 years: Sky Island Alliance Founders Fund

In 1991 a small group of dedicated conservationists, scientists, nature lovers, wildlife advocates and recreationists identified a need to protect the magnificent Sky Island region. Many of those Founders remain intimately involved in SIA's efforts, and are still working to ensure another 20 years of Sky Island conservation.

For this special anniversary year, we have established the Founders Fund — a year-long campaign to raise \$100,000 to keep SIA initiatives thriving and growing, to deepen and broaden support for the organization's work and its community engagement, and to provide resilience to the organization in a time of economic instability.

To make a contribution, please mail your check to **SIA Founders Fund**, PO Box 41165, Tucson, AZ 85717 or call Keri to make a gift by phone.

Crossing Boundaries

by Mike Quigley, Wilderness Campaign Coordinator, 2004–2010

Reprinted from Summer 2006 issue: *Borders and Boundaries*

Thinking about boundaries and borders, I'm reminded of a Peter Gabriel song, "Not One of Us". The song is about how groups of people make themselves into smaller groups of people to feel strong by excluding others.

Social boundaries are as real as fences or lines on a map. Perhaps that's a vestige of our distant past — where tribal membership and rapidly classifying the real world into threats and nonthreats was necessary for survival. Perhaps that's an extension of the boundary between self and other. Perhaps that easily reinforces a comfortable sense of belonging, or avoids the effort and risk of thoughtful reconsideration, or provides an easy means to dismiss others.

There's comfort in knowns, to be sure. Social boundaries can be useful, defining a set of expectations and patterns for us. But by defining, they divide — us and them, with me or against me, friend or foe, right and wrong.

I'm dismayed that so much of the public and political discussion in America today reinforces the boundaries that separate us rather than the underlying values that unite us. Most of us are a Venn diagram of beliefs and attitudes — overlapping circles describing our current positions on various issues. Imagine layering someone else's diagram on your own — look for the similarities. It's been the rare time when I've found absolutely no overlap. Or when I've found complete overlap. Most of us belong to several communities and groups and we move between them, move through the group boundaries. For most of us, the boundaries are both dynamic and permeable. And underneath we share some common values — even if we express or show them differently.

We have more in common than we have differences. For example, poll after poll shows preserving and protecting the environment ranks high among people's priorities — regardless of their political affiliation, socioeconomic class, or positions on other issues. Environmental stewardship is a core value most Americans share, it's where most of our values' Venn diagrams overlap — whether we're conservationists, office workers, hunters, ranchers, students, construction workers, or whatever.

Then why is it that environmental protection is not a public policy priority? Why is the environment under increasing attack — from owls or affordable housing locally to the seemingly-weekly efforts to sneak drilling in the Arctic National Wildlife Refuge into the next "must pass" bill to hit the Senate? Why, when we share the common ground of

wanting a healthy environment, is that not reflected in our government policies, corporate actions, and even personal choices? And why, if so many of us share the value of preserving our wild heritage, is there so much distrust, bickering, and name-calling around environmental issues and so little collaboration on a truly broad level?

We're being divided to be conquered. We're being presented false dilemmas as givens — it's owls or jobs; it's drilling in the Arctic or gas at 5 bucks a gallon; it's pollution-belching factories or trashing the economy. And we're being placed in little circles and told everyone else is out to get us. Hunters can't talk to environmentalists because the enviros will take away their guns. Conservationists can't talk to ranchers because ranchers just want to abuse the land for profit. Our boundaries become barriers. Our barriers become more stationary and impermeable. Doors close, windows are boarded up. We entrench. And we lose.

We lose because preserving the natural world is a big challenge. With little business profit potential, it's one that requires a lot of helping hands and minds, one that requires conversation and cooperation, and likely some measure of unselfishness. In short, it requires a lot of people—diverse people—working together for the common good. When boundaries become barriers, conversation becomes debate, cooperation becomes selling out, unselfishness becomes weakness, and improving the world becomes a quaint notion rather than an achievable goal.

So what's to be done? I submit that examining one's own biases and beliefs is a good place to start — an open mind is required, caring is required, and we have to be comfortable with ourselves if we're to be comfortable with others. Then, let's talk — to others. Reach out beyond the obvious boundaries; engage in a discussion with someone we might not routinely talk with. And I mean real discussion — not debate. Go to boundaries and look around. Challenge some stereotypes. We'll likely be beaten back or turned away at times. It's not about being Pollyanna-can't-we-just-all-get-along; it's about getting things done.



SIA staffers Sergio Avila and Mike Quigley find common ground at the border. Courtesy Ed LaGrande.

We need to stay true to our principles; but maybe when we go to the boundaries we'll see others looking around and reaching out, maybe we'll learn some things. Regardless, it seems a necessary effort to me — it's at boundaries where the action is, where change occurs, where growth happens.

It's easy to see boundaries, and easy to take them as more than they are. It's easy to see the differences between us. It can be hard to look for the common ground, to see the core values we share with others. It can be hard to reach out across boundaries. We can divide ourselves into smaller groups to feel strong by excluding others. Or, we can include others and be strong.

"Although for many years I have been a member of several environmental organizations, until recent years I was not actively involved in helping preserve wild landscapes. As I neared retirement, I realized that I needed to find a role in conserving these special places for future generations. I began volunteering for Sky Island Alliance and later became a member of the Board of Directors. The more time that I spend in Sky Island Alliance activities, the more I appreciate the accomplishments and dedication of our volunteers and staff, and the more I understand its importance, as the only organization solely devoted to preserving the Sky Island region.

I urge anyone who loves the wild lands and wildlife of our Sky Islands to become a Sky Island Alliance member, and volunteer your time and resources to conserve this amazing area."

Dick Krueger Wildlife Linkages Volunteer,
SIA Board, 2010–present



Golden eagle.
Painting by Walt Anderson.

Borderland Musings *continued from page 7*

few notable exceptions, and that generalization is weakening as more agencies and individuals are shifting attention to the region. This is a positive trend, an essential one, for resource exploitation and settlement (including subdivisions and ranchettes in some

places) are proceeding even as the scientific probing becomes more focused.

At present, the southern half of the Sky Islands is but little studied, though surely there are people who know the flow of its canyons and some of the secrets of its high trails through islands of dark conifers. There is a lot of wild land out there, particularly south of the border, but few scientists spend much time in the rougher parts of even the relatively accessible Chiricahuas or Galiuros or Santa Teresas. To a large extent, accumulated knowledge correlates well with ease of access.

Local people through their own experiences may be aware of just where El Tigre, the Jaguar, prowls or where the northernmost Boa Constrictor lives or where hundreds of bats issue from underground chambers in a place where no scientist has set foot. The wisdom and experience of indigenous people are beginning to be tapped, but our ignorance of what they know is still vast. Often the sightings of local people (whether an editario living close to the land, a rancher, or a temporary visitor from Nogales or Tucson or Willcox) might be dismissed; something doesn't really exist until it can be documented by a bonafide scientist. How much are we missing through this attitude?

Could the Mexican Wolf still roam in the Sierra los Embudos or on the mountain called El Tigre, wrapped in the curve of the Rio Bavispe? Maybe. Skepticism is better than unquestioning acceptance of anything (the onza and the chupacabra are real in the minds of many people living in the borderlands, but so far they have defied scientific documentation). Still, we need to be open to reasonable possibilities. Rare organisms can be incredibly difficult to find, particularly if they are actively secretive. Recent documentation of a living Ocelots in Arizona is good proof of that, but I am not holding my breath on the existence of the chupacabra.

Other organisms may be taxonomically secretive; we don't know yet that they represent something new. Others fairly shout for intensive research once we have declared them "important" through Endangered Species status. Money follows official recognition the way a kangaroo rat runs down its tunnel.

Learning to (How to) Love an Ecosystem

We tend to be woefully ignorant about many things. For example, what's going on in the soil beneath a ten-foot snowpack on Mt. Graham? How does a tiny hummingbird navigate from the tropics to Madera Canyon, then over to Ramsey? We know little about the diversity of nematodes and bacteria and other minute organisms that run the soil ecosystems. We can scarcely imagine how the world is interpreted by a terrapin, a tarantula, a topminnow, or a trogon. But at least we can ask questions, can seek some answers, and more importantly, we can have the heart to know that most of these things matter. Science certainly is not value free, but our shared values will indeed affect how we use our science.

The available literature for the Sky Islands is overwhelmingly biased in favor of certain well-studied areas (e.g., the San Pedro River, the Huachucas and Chiricahuas, some reserves of The Nature Conservancy or National Audubon Society), some organisms (e.g., the Mt. Graham Red Squirrel, Mexican Spotted Owl, Southwestern Willow Flycatcher, Sonoran Topminnow), or broader topics (e.g., riparian ecology, fire ecology, livestock grazing). How often in my research have I been frustrated by a paper showing detailed mapping of species or communities up to but not south of the U.S.-Mexican border? Even paleontological reconstructions tend to stop at the border; I'm told that the requisite packrat middens or wetlands with preserved cores yielding pollen information just aren't there in Sonora.

Perhaps my periodic attempts to pull together some of what's known about this entire region, as incomplete as it must now be, will stimulate others to overcome border blockage and put things into a more complete picture. Perhaps the examples I use will help identify gaps in knowledge that can be remedied.

One well-known environmental educator has written, "You can't love an ecosystem." I take issue with that perception, for I know many who are absolutely in love with pine forests or grasslands or mountain meadows or even caves. But I do grant that most people find it easier to empathize with another vertebrate—a large cat or canid or eagle or owl. For that reason, I am going to tell some of my stories through some of the vertebrates who live in these borderlands. I will also briefly mention other critters (even some of the spineless ones) whose stories are relevant, and through organism-centered accounts, I will describe the ecosystems that support them, the changes in the landscapes that have affected them, and some of the actions people are taking on behalf of them.

Today there is a small army of dedicated people working on conservation issues on both sides of the U.S./Mexico border. Perhaps "army" implies too

high a level of organization to this movement, but they are dedicated to the causes that they embrace. At the same time, many individuals who are not scientists or activists, who live on the land or who visit these landscapes for various reasons, are making decisions that cumulatively steer the ship of history in particular directions. It is for both these groups, anyone who cares about this homeland, that this collection of stories is aimed.

All of these people are important. The idea of heroes and villains in the on-going saga of the borderlands is perhaps a bit misplaced, for our perspectives change over time. Hindsight makes us question the beliefs of prior generations. The long battles against the Apaches, for example, were readily justified by men determined to "settle" and "tame" the Wild West. The sacrifices and hard work of those who saw the land as a rich source of valuable commodities—beaver pelts, mineral ores, timber supplies, grasses ideal for grazing herds—quickly changed the very landscapes that had drawn them here. The pioneers were heroes in their day, yet in retrospect, they were essentially ignorant of the concept of "sustainability" that many espouse today. Should we treat them then as heroes or villains? The question is inadequate, the concept far too simplistic.

I take a certain measure of pride in being a naturalist, someone attuned to the workings of nature and eager to share what I know (again with humble recognition that my knowledge is limited by culture, training, and inherent intellectual deficiencies). Even scale limits me: the microscopic and intergalactic scales overwhelm me. The whole story is beyond my capacity, just as is my ability to conceive of a universe filled with countless galaxies, infinitely large and timeless (though the "big bang" implies at least a starting point). Most of the story along the border is, for me, dark matter.

But the reassuring thing is that I am not alone in this. There are points of light amidst this dark matter, and those are the interesting things anyway. I hope to string together a necklace of these tiny illuminations to draw attention to the graceful neck of the borderlands. Or perhaps it's better to think of these stories as little solar lamps lining a path that can take each of us a bit farther into the heart of our continent. Perhaps the enlightened traveler, emboldened by each successful traverse, can extend the pathways, casting light further into the mysteries of life in the borderlands.



This article originally was posted in Walt's blog:
www.geolobo.com

Rinne, John N. and W. L. Minckley. 1991. Native fishes of arid lands: a dwindling resource of the desert Southwest. Gen Tech. Rep. RM-206. Ft. Collins (CO): U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

Protecting Our Mountain Islands and Desert Seas

continued from page 5

Below is the first installment (names are changed to protect the innocent):

Dear Wilderness Guru,

The Cochise County Board of Supervisors says that wilderness is a “single use” land designation. Is that true? — Hilda the Hiker

Dear Hilda,

Wilderness is not now and never has been a “single use” land designation. The Wilderness Act of 1964 makes it clear that many activities are allowed in wilderness, including, but not limited to, hiking, fishing, hunting, horseback riding, livestock grazing, photography, cross country skiing and other forms of quiet recreation. Wilderness designation eliminates motorized vehicles and other forms of mechanical transportation and it does not allow for the building of permanent structures; however, exceptions exist for fire, law enforcement activities and other emergencies that might arise. — The Wilderness Guru

Do you have a question for the Wilderness Guru? Email guru@skyislandalliance.org!

Landscape Restoration Program

by Andy Bennett and Trevor Hare

It has been a busy summer here at the Landscape Restoration Program, despite the fires and floods that threatened to keep us out of the woods all season! We've been planting and planning, searching and scouring in two countries, and restoring grasslands in our own backyard. The monsoon's blessing has never been far from camp as we've witnessed some tremendous storms out in the field.

Flooding couldn't keep us out of Aravaipa Canyon's amazing east side for too long. An enthusiastic and extremely hard-working crew of volunteers managed to plant over 1,200 native grass plugs along the historic floodplain and in an incised wash that drains some headlands above Aravaipa Creek. We hope the grasses will proliferate and help stabilize the area; slow down, soak in water, and recharge soil moisture; and provide habitat for numerous creatures. Great job, crew (and we saved Annamarie's shoe)!

Flooding? What flooding? The LRP has been waiting diligently since Summer 2010 for floods to hit the Cloverdale area where we installed gully plugs in a manmade creek channel that was robbing Cloverdale Ciénega of water. The plugs are designed to take the majority of flood flows out of the manmade gully and onto the dried ciénega surface but there have been no floods so we don't know yet if it will work as planned! Meanwhile we are in the middle of planning the second phase of the

Cloverdale Creek and Ciénegas Restoration Project and will be breaking ground in the new year!

Late July took us to the southwestern side of the Huachuca Mountains where we continue our work restoring native leopard frogs to the region. Our surveys of four canyons brought us some inspiring views of the expansive area that, with dedicated work, may once again have its full complement of native amphibians. We found many potential release sites for the Federally-threatened Chiricahua leopard frog, but we also found crayfish and bullfrogs — aquatic threats to our native species.

Our Sky Island landscape stretches across borders and politics and demands that we work internationally and imaginatively. We traveled to Rancho Esmeralda in the Sierra Esmeralda of northern Sonora, Mexico, to survey several riparian areas. The rancher has been slowly phasing out cattle grazing on his land, and the results are wonderful to see. We found a relatively healthy stream corridor — with native lowland leopard frogs, snakes and signs of many other animals — that is regenerating nicely from historic over-grazing.

We continued our work on Las Ciénegas National Conservation Area where we are repairing and healing the grasslands through erosion control work on incised arroyos and headcuts, the ephemeral drainages which feed Ciénega Creek. We have been working in the Los Pozos drainage where the BLM has been busy removing mesquite that had invaded the grasslands. The combination of erosion control and shrub removal will pay long-term dividends in habitat regeneration and water retention on the landscape.

Finally the Restoration Program was recently awarded two new grants that will keep us all very busy over the next three years on both sides of our border. The first is a Neotropical Migratory Bird Conservation Act grant (thanks to partner Aaron Flesch) to restore up to 30 miles of cottonwood-willow forests along creeks in Sonora. The second is a Bureau of Reclamation Landscape Conservation Cooperative grant to inventory, assess and develop management tools to protect and restore springs and seeps in the Sky Island region!

Northern Mexico Conservation Program

by Sergio Avila

This summer we continued mapping and analyzing border barriers and related infrastructure in our



Two types of vehicle barriers at San Bernardino National Wildlife Refuge. Courtesy Sergio Avila.

Bring Back the Cats project. This project was funded by many of you, including anonymous donors, to ensure the recovery of wild feline populations by maintaining and improving habitat connectivity along the borderlands within the Sky Island region. In Phase 1 we flew along the border to photograph our region's section of border from the air. With the addition of Caroline Patrick, a graduate student in Geographic Information Systems at The University of Arizona, we started Phase 2 of the project — visiting sections of the border region, taking photographs and using GPS units to locate different types of infrastructure (i.e. pedestrian fence, vehicle barrier, metal bollard); recording evidence of the barriers' impacts on protected lands, wildlife habitats and trans-boundary water courses; and compiling anecdotal information resulting from the lack of regulation for the construction of those barriers. We conducted visits to the Buenos Aires and San Bernardino National Wildlife Refuges, the San Pedro Riparian National Conservation Area, and practically the entire Arizona-Sonora border within the Sky Island region.

As an example, the photo above, taken in the San Bernardino National Wildlife Refuge, shows two types of vehicle barriers installed along the San Bernardino Valley in southeastern Arizona. The barrier was built within protected habitat for native desert fish, amphibian and bird species, where materials and techniques employed for construction affect the natural water courses and habitat qualities for these species (water contaminated with concrete, sediment, trash).

Ultimately this project will disseminate analyses of impacts from infrastructure on watersheds, wildlife species, and protected lands (federal and private) along the international border.





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Protecting our Mountain Islands
and Desert Seas

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Sky Island Alliance 20th Anniversary Benefit Concert
The world's premier Native American flutist and acclaimed Yaqui classical guitarist are helping Sky Island Alliance celebrate 20 years of conservation!

**R. Carlos Nakai
& Gabriel Ayala**

Friday, November 11

Grace St. Paul Episcopal Church
2331 East Adams St. in Tucson

Appetizer Reception
begins at 6:30pm
Concert to follow

Tickets: \$65 available at
www.skyislandalliance.org

and
Yikes Toys
Tucson Audubon Nature Shop on University
Madaras Gallery/Skyline

Thanks to our volunteers...

A poem by Nancy Zierenberg, Board Secretary, 1991–2010, read at the 2007 Volunteer Appreciation Party.



Photo courtesy SIA archives.

for 20 great years!

Some of our board members
couldn't be here today,
but as a Board, we have something to say.
In the beginning there were a bunch of us
who got together to make a fuss.
We drew lines on maps,
discussed wolves and wilderness,
and how we always seemed to
have to settle for less and less.

Our bunch was made up of biologists,
botanists, ecologists and more.
All were wilderness freaks
who were gettin' kind of sore.
We were tired of seeing wild places
fragmented and chipped away
so we were determined to be bold
and have our say.

The proposal that evolved to
protect our Sky Islands
incorporated good science
and we formed an alliance.
At first our growth was slow
but we somehow persisted
But it really turned around
when a bunch of volunteers assisted!

We laid out a plan to
do some ground truthing,

checking wildlife sign and
doing excess road sleuthing.
The wildlife showed us
their movement corridors
that helped us determine
the buffers from the cores.

It's all documented with techno tools
We have photos and maps,
measurements and rules.
We've won partnerships
we never could have guessed
With the forest service, ADOT
and all the rest.

Put on conferences attended by herds
Made "sky islands"
common household words
But it never could have happened
without our faithful volunteers
You've built SIA's reputation
and shifted its gears

With our primo staff,
you've built the best there is,
You're loyal, competent, fun,
and gee whiz,
We just want you all to know
how grateful we is!

*With deep appreciation, from the
Sky Island Alliance Board*