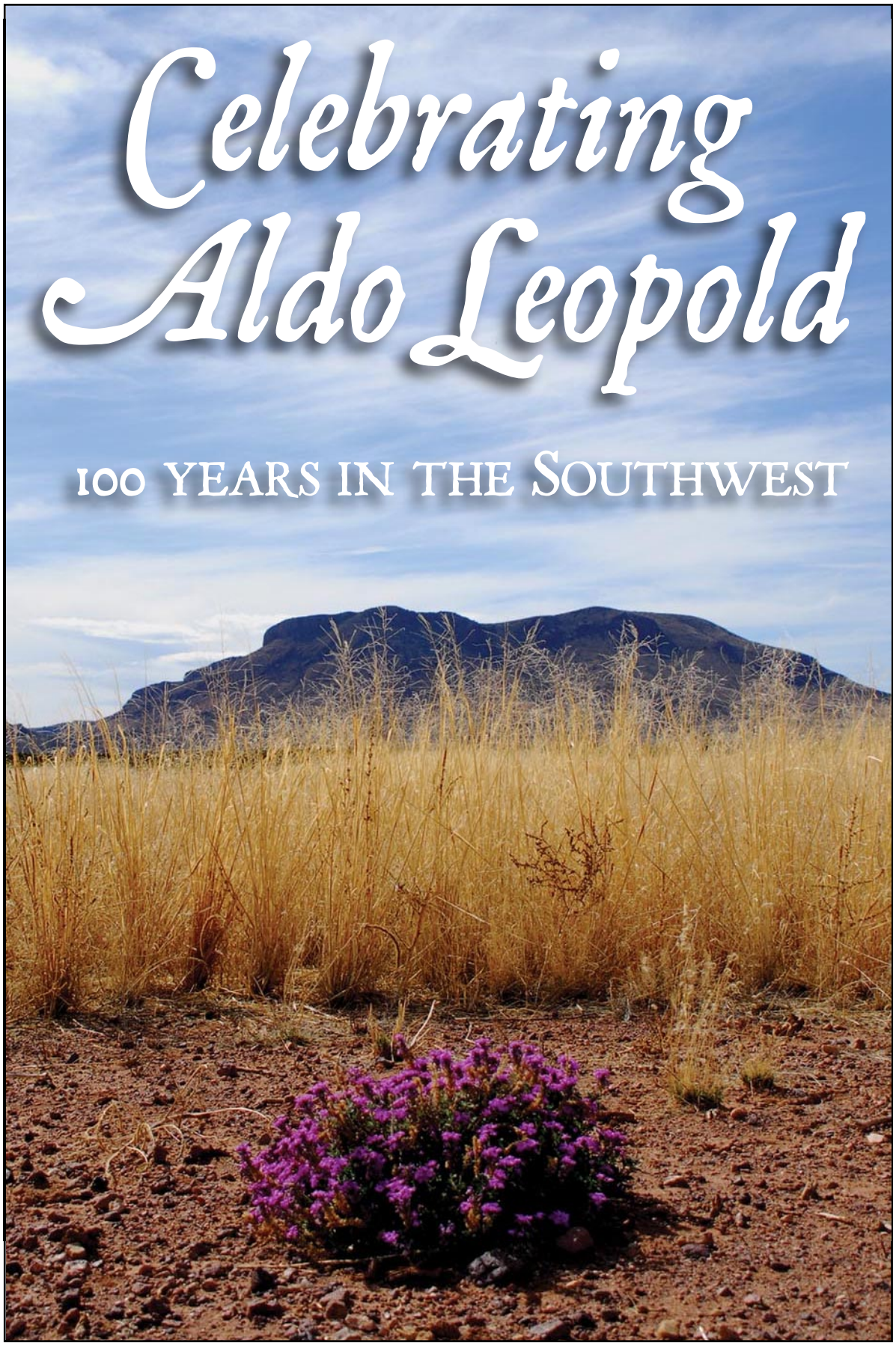
SKY ISLAND ALLIANCE
Protecting our Mountain Islands and Desert Seas

# Restoring Connections

**Vol. 12 Issue 1 Spring 2009** Newsletter of the **Sky Island Alliance**




**San Bernardino, 2009. *Courtesy Melanie Emerson.***

## In this issue:



## Plus

# Through the Director's Lens

*by Melanie Emerson, Executive Director*

As the new executive director of Sky Island Alliance, I would like to thank you for your support of this exceptional organization. I am impressed with and humbled by the dedication of the greater Sky Island Alliance community: your individual commitment to conservation in the region, your contribution of time and resources, your eagerness to make change and your vision of a healthy landscape. You are volunteers, members, landowners, donors, scientists, neighbors—and you are the backbone of this organization—the reason why we are able to effectively advocate for and realize conservation achievements, both on the ground and through policy.

**We are facing challenging times.** I constitute but a minor piece of a larger landscape of change that is affecting and will continue to impact the Sky Islands. The good news is that we have a President who we expect will prove to be progressive in conservation and environmental policy. He is collaborative, a science-based decision-maker, innovative, an organizer and committed—in short, a snapshot of some of the best qualities of SIA. I believe we will see support from the Obama Administration in the coming years—but we cannot wait for that support to come to the Sky Islands. We need to couple that future promise with support and action today.

Regionally, we are facing a devastating reality. Last month, the Arizona State Legislature clarified its intentions for the next two years, by approving an initial budget cut that will:

- Permanently close five State parks now with three more slated for closure by June
- Strip nearly $5 million from the State Heritage Fund, and
- Reduce the Department of Environmental Quality's operating budget by nearly $30 million with another $14 million taken from programs

We can expect this trend to continue with additional budget cuts to environmental, energy, conservation, wildlife, and recreation programs, as well as new legislation that will weaken environmental regulations and enforcement in the state and could set precedent in the region.

*Now more than ever your support is needed.*

We have been receiving clear indications from Foundations and individual contributors that we should expect cuts in 2009 funding, due to the falling stock market and global economic depression. We are resilient. We are taking a variety of measures to ensure that SIA is financially sound both by cutting costs and increasing development strategies, while planning to increase SIA's reach and impact in 2009. Your help in supporting SIA as a volunteer, member or donor this year will be the difference in allowing us to weather the storm. Please consider setting up a recurring contribution to the organization. This provides us with stable and predictable support, key to our success in times of economic uncertainty.

**There is opportunity amidst the challenge.** Our commitment and dedication to our natural heritage can and must persevere not in spite of, but because of increased threats. We will continue pursuing our mission by protecting and restoring core habitats, ensuring safe passage along corridors, healing

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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.

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# Welcome to the Sky Island Alliance board, Ana Córdova!

Ana Córdova is a researcher and professor of urban sustainability at COLEF (El Colegio de la Frontera Norte) in Ciudad Juárez, Chihuahua. Previously, as Director General for Research on Ecological Land-Use Planning and Ecosystems Conservation at the National Institute of Ecology in Mexico City, Ana analyzed the potential environmental impacts of the border wall between the U.S. and Mexico. She has also been a consultant for the Commission for Environmental Cooperation of North America and The Nature Conservancy; has served as Director of the Center of Environmental Quality at the Technological Institute of Monterrey in Chihuahua; and worked in the Rural Development Office of the State Government of Chihuahua. She holds a Bachelor's degree in Biology from Harvard University and a Master's and PhD in Natural Resource Policy and Management from Cornell University.

wounds on the landscape, and acting as a voice for the wild and voiceless. We will make 2009 the year for Tumacacori Highlands Wilderness designation—what could be more fitting to celebrate the 100th anniversary of Aldo Leopold's arrival in the West? We will expand outreach and conservation efforts in northern Sonora teaming with scientists around the region and world to effectively document its unique biological diversity. We will continue to advocate for massive reduction of roads on our public lands, and incorporate data on species' movement across the landscape into regional transportation planning.

We will *continue* to champion the Sky Islands' ecological health while counteracting the very real threats of climate change, growth, and population shift, through science, advocacy, policy, and restoration.

I look forward to meeting and getting to know each and every one of you. Please feel free to call, stop by or make an email introduction! I hope that Julie's interview with my sister gives you a better sense of who I am… I am sure that we all have much in common as we work in tandem to protect this spectacular region.

**In gratitude**

On a final note, I would like to wholeheartedly thank Matt Skroch for his 10 years of service and dedication to Sky Island Alliance. His contributions to this organization are innumerable and invaluable. We have grown as a movement and an organization because of his commitment and vision. We look forward to his continued contributions from his new path as a graduate student at The University of Arizona and beyond.

Regards,

Melanie Emerson

> *"Not to have known — as most men have not — either the mountain or the desert is not to have known one's self."*
>
> — Joseph Wood Krutch
> *American writer, critic, and naturalist*

# *To leave a lasting legacy* *by Julie St. John, Editor*

What an honor it has been to work on this issue of *Restoring Connections.* To delve into the writings and living legacies of the man who transformed the way we relate to the natural world. And what a pity that we have come to prove his theses again and again without the big picture sinking in. "WWAD" — that's the next slogan I want to see emblazoned on cars, tshirts, billboards, buildings — What Would Aldo Do?

One hundred years ago this year Aldo Leopold came out to the Southwest to work for the U.S. Forest Service in Arizona and New Mexico. The fifteen years he spent here, in what he called "the cream of creation," had a profound effect on the rest of his life's work. You've likely read about the "fierce green fire" dying in the she-wolf's eyes… but read on:

"We all strive for safety, prosperity, comfort, long life, and dullness. The deer strives with his supple legs, the cowman with traps and poison, the statesman with pen, the most of us with machines, votes and dollars, but it all comes to the same thing: peace in our time. A measure of success in this is all well enough, and perhaps is a requisite to objective thinking, but too much safety seems to yield only danger in the long run. Perhaps this is behind Thoreau's dictum: In wildness is the salvation of the world. Perhaps this is the hidden meaning in the howl of the wolf, long known among mountains but seldom perceived among men."

Leopold shot that wolf (and many others before her), but it was through witnessing her moment of death that he was transformed — her fierce green fire steadily built its message into Leopold's conscience. This month we mourned the death of Macho B — the incredibly long-lived jaguar of the Arizona-Sonora borderlands. Trapped and released by wildlife officials, he spent his last days with a huge radio collar around his neck to promote a better scientific understanding of his species. When the collar alerted the authorities that his health was failing, he was re-captured and helicoptered to the Phoenix Zoo, where he was diagnosed with kidney failure and euthanized to "put him out of his misery." His loss is monumental to so many of us — whether we sought to protect, manage, or study his species — but especially anyone who felt the borderlands were just that more magical because he was there. None of us will know how Macho B felt about all of the human interventions — whether in the name of science or mercy — but for myself I mourn that he ever had to wear a collar and especially that he died removed from all things wild. Will Macho B's death be *our* transformative moment? What "hidden meaning" might it teach us? Only time will tell.

**It's time for you and me and our elected officials to not only begin "thinking like a mountain" but *acting* like one!** Our actions will not only transform us, but inspire — literally *breathe spirit into* — those around us… especially the children in our lives.

Although we've elected a President and representatives and handed them a strong mandate for change, this is no time for us to rest on our laurels — our work has just begun! As I see it, we need to be working for transformation on all levels — not just the grasstops but also the grassroots and the grass shoots (you know, the children). Before we can truly exist ecologically in an interspecies community, we need to get the hang of living in a strong intraspecies community. My watershed, your watershed… *gee, Our Watershed.*

Ask yourself: What would Aldo do? Beyond his writings, we have his living legacies among us and they continue to breathe spirit into his work. Author Richard Louv implores us to *Leave no child inside!* Minister of Wilderness Bart Koehler signs his emails *Go Wild.* And here in Aldo's cream of creation, we are asking you to join Sky Island Alliance in our ambitious and newly energized (welcome Melanie!) work of protecting and restoring the Sky Islands… *Yes we will… Go Wild!*

Please, raise your muddy hands, your audacious hearts, your joyful voices, and join us!

## Upcoming Opportunities for Getting Out & Into the Sky Islands

### Landscape Restoration Field Dates

**March 20–22** **Tres Allianzas Restoration Workshop** in the Burro Mountains in southwest New Mexico

**April 3–5** **Peloncillos Restoration Weekend**

**April 17–19** **Chiricahua Mountains Healthy Lands Project** (RSVP required) Road Surveys in conjunction with Great Old Broads. Cost-sharing fee: $40 to $60. Breakfast & dinner provided. Port-a-potty available.

**There are always more opportunities to rejoice in / restore our Sky Islands!** Watch **www.skyislandalliance.org** for the latest schedule! or contact Sarah at 520.624.7080 x23 or **sarah@skyislandalliance.org**

### Tumacacori Highlands Nature Writing Hike

**April 4:** See the awe-inspiring views from Atascosa Lookout on this moderate level hike with local author Ken Lamberton, winner of the 2002 John Burroughs Award for Nature Writing. Learn about the life and work of Edward Abbey, hear a reading and learn something new about the Tumacacori Highlands! RSVP to Jessica at **jessica@skyislandalliance.org**.

## Next issue? Inspire us!

**Send your essays, art, photography, book reviews, poetry, & ideas to**

**julie@skyislandalliance.org**

**Song of the Waters.** ***Courtesy Melanie Emerson***

# Meet our new Executive Director! *by Julie St. John, Editor*

While staff has been spending the last few months getting to know our new Executive Director, Melanie Emerson, Sergio pointed out to me that our Sky Island Alliance members and supporters would appreciate a personal introduction as well. So, the other day I had a very enjoyable hour speaking with Melanie's twin sister, Pam, who stopped over in Tucson on her way back from Chile (where she'd been visiting old friends from her Peace Corps days) to her adopted hometown of Seattle (where she works for the Environmental Protection Agency). She is very proud of her sister.

I was curious if there were any indications from their youth that Melanie would end up leading an action-oriented conservation group like Sky Island Alliance. Pam spoke of Melanie's interest in and passion for photography. Growing up in central New York her family didn't take summer excursions to the majestic National Parks or lengthy road trips to the West. Melanie connected deeply with nature and the grandeur of sun-dotted canyons, serpentine rivers and jutting outcrops from the dramatic and vast landscape images of Ansel Adams and the delicate details of Robert Weston. And it was through Dorothea Lange's filter — poverty-stricken sharecroppers, displaced farm families, and migrant workers of the Depression — that she recognized that disconnection from the landscape impoverished both bodies and souls. There was something about nature, "so beautiful, so unnameable." She was moved, through her own photography and activism, to try to convey the inspiration she felt.

Inspiration was coupled with advocacy, even in her earliest years. With regularity, both Melanie and Pam traveled to Washington D.C. as teens to participate in actions on the National Mall, but it was in their own small town high school where Melanie showed amazing capacity and empathy for someone her age. At just 15 years old, she witnessed the unfair treatment of her teachers, working almost an entire year without a contract—their dedication, commitment and compassion. Melanie, sensing this injustice and unwavering in her determination for fair resolution, organized a sit-in of the entire student body. Within a few short days the school board and the teachers had signed a new contract. Pam emphasized that it was Melanie's innate understanding and use of agency for social change—especially at an age when most people are concerned about friends, clothes, cars and dating—that clearly indicated she was on a distinctive path.

As we talked, Pam began fleshing out Melanie's resume. After earning a B.S. in the relatively new field of environmental science, Melanie landed her first job with the Broome County Division of Solid Waste Management. She was part of a team that not only achieved ambitious targets set by the State, but that led the nation in recycling (ranked second only to King Co., WA), by drastically reducing the wastestream and instituting unique collaborations with business to safely dispose of hazards. Then she spent 2.5 years in the Peace Corps in Panama as an environmental education teacher-trainer. After returning stateside, she earned an M.A. in conflict resolution, while working at a Seattle environmental mediation and public involvement consulting firm where, in one instance, she led up to 14 parties through scientifically complex hydropower negotiations. Her ability to bring people together, to understand another's worldview while advocating her own convictions, has made her exceptionally effective in bridging and reconciling disparate positions.

Melanie came to southern Arizona initially to lend her skills to the U.S. Institute for Environmental Conflict Resolution (part of the Morris K. Udall Congressional Foundation). She subsequently worked as the state program director for the American Friends Service Committee (an international Quaker social justice and humanitarian aid organization) and for the past four years at The University of Arizona.

As Pam related to me, throughout Melanie's career, she has consistently worked to put better practices in place, "rolling up her sleeves and getting to the nitty gritty." It's a part of their Jewish upbringing — "tikkun olam" which, roughly translated, means to repair or restore the world. There's no expectation anyone will complete the task, but that all will work towards its completion, whatever their calling. Melanie and Pam both grew up with this ethic, and wouldn't the world be a better place if all the world's children were raised to feel personally responsible to make the world a better place? All I can tell you is, the Sky Islands and the vision of Sky Island Alliance are very fortunate indeed.

# Estella Leopold, Her Father's Daughter *by Julie St. John, Editor*

It took me almost twenty years in my environmental career to read the copy of *A Sand County Almanac* that had been sitting patiently on my bookshelf — it was well worth the wait, and though far later than I would like to admit, the perfect time.

Every morning I sat at the picnic table in my backyard, cup of coffee close by, and would alternately chortle and sigh my way through his essays. What an amazing man — to speak so eloquently, with such intelligence, perception and heart. No one, that I know of anyway, writes like this anymore and we are far poorer for it. It saddens me that he laid these thoughts down over sixty years ago, inspiring countless readers in the intervening years, and yet we have, in my opinion, regressed in how our culture relates to the natural world.

I had the honor of speaking with his youngest daughter, Estella, a few weeks ago. Even in her eighties — with a distinguished career as both an advocate of the natural world and a professor emeritus in biology at the University of Washington — she is almost dismissive of her contributions in the light of what her older siblings have accomplished.

It was one hundred years ago this year that Aldo Leopold earned his Master's from the Yale School of Forestry and took a job with the U.S. Forest Service, working in New Mexico and Arizona, which were still territories at the time. It was in New Mexico that he married and where his first four children were born — Starker (1913–1983), Luna (1915–2006), Nina (b. 1917), and Carl (b. 1919). In 1924 the Forest Service transferred Leopold to Madison, Wisconsin, and it was there, in 1927, where Estella was born. Leopold left the Forest Service in 1928 and conducted independent contract work — mostly wildlife and game surveys throughout the U.S. — until 1933, when he was appointed Professor of Game Management in the Agricultural Economics Department at the University of Wisconsin in Madison. Estella told me she was about eight years old when they bought "The Shack" — literally a chicken coop they reconfigured into their weekend/holiday retreat from Leopold's high-powered lifestyle in Madison.

It was at the Shack that the Leopold children were given full rein to explore the natural world, how it works, and the relationship between people and the environment. The Encyclopedia of Earth (**www.eoearth.org**) has a wonderful entry on the Leopold children. When I asked Estella about her father "gently pushing" her away from entomology to the study of plants, she laughed and told me she was about ten at the time and didn't feel like there was anything left that her brothers and sister weren't already into! When you read *A Sand County Almanac* you get a feel for how wonder-full those years at the Shack were for the Leopold family — that is was not only an ecological restoration experiment they were undertaking, but an alchemical process that transformed their lives. All five children became respected scientists and conservationists in their own right, and three — Starker, Luna and Estella — were elected members of the National Academy of Sciences, a remarkable and unparalleled achievement for one family.

I asked Estella about when she first knew that her father was important in a larger sense than she'd been aware of as his daughter. She told me it was shortly after he died. She had just earned her Bachelor's in Botany from Madison and was on her way to graduate school in Berkeley. She stopped over in Denver and attended the Conservation Section of Pan American Union where her father had been scheduled to speak. Many people came up to her and shook her hand, including Bill Vogt, an esteemed ecologist and ornithologist who headed the Conservation Section. Later, Starker Leopold worked for Vogt in Mexico, studying wildlife and eventually publishing *Wildlife in Mexico*, which was translated into Spanish. Estella laughed when she told me that wildlife biologists in Mexico still hold her brother's book in high esteem and his name is even more prominent than their father's.

When I asked Estella for the greatest influences in her life, her answer did not fall outside of the family — her father of course, but her brothers and sister as well. "Starker saw EVERYTHING," she began. "We were rafting down the Green River and pulled up to a sandy bar. Starker leapt out and exclaimed 'A mountain lion was just resting under this tree!' He looked around for a moment and then pointed, 'And he jumped twelve feet to there; it must have been when we were approaching.'" Estella's voice gets more excited as she continues. "'Now a cat will only rest like this after a meal…' and Carl stops for a moment and listens. 'I hear flies,' he says and sure enough he leads us to the carcass of a deer that's 25 to 30 yards away. 'The lion grabbed him by the neck and killed him,' he finishes." I can still hear the wonder in her voice as she says, "He recreated the whole scene; asking and then answering his own questions."

While Starker could tell stories about wildlife, Luna could tell stories about rivers and how water moves soil and is widely credited for developing the scientific foundation for the field of fluvial geomorphology. It was Luna who took responsibility for the final editing and publishing of his father's essays that became *A Sand County Almanac*. Estella told me Luna became "like a second father to me" after their father died.

Nina, a well-known and highly respected researcher and naturalist, returned to Wisconsin in 1976 and lives near the Shack on the Leopold Memorial Reserve. It is she who is carrying on her family's work, restoring the landscape and maintaining detailed ecological observations and records. Ten years ago, she was senior author of a study published in the Proceedings of the National Academy of Sciences that analyzed these phenological records and demonstrated that climate change was affecting the region and its native ecosystems. Estella told me that her sister will announce "that's the first cardinal of the season" or "those flowers are appearing two weeks earlier than they used to." Just imagine… a father and daughter recording and reporting data on the same land from the 1930s to today.

Carl Leopold is the botanist of the family as well as a well-known plant physiologist. In 1992, after retiring from a distinguished career in science and research, he founded the Tropical Forestry Initiative (TFI), a non-profit organization that runs a demonstration project for restoration of tropical forests in Costa Rica. As Estella told me, "He is replanting the native rainforest."

As for Estella, after earning a PhD in plant science from Yale University she joined the US Geological Survey's paleontology laboratory in Denver. Her scientific work there combined with her willingness to get involved in a major political battle were key to the 1969 creation of the Florrissant Fossil Beds National Monument — when development of the area was imminent "we were in the courts four times" to stop the bulldozers. In the meantime, Estella and her colleagues worked to pass legislation "and it took three years but we got it through Congress." While still with the Survey she took a one-year teaching position and loved it so much she left USGS and became director of the Quarternary Research Center at the University of Washington. She of course called it an "admin job" and told me she had to wait six years to teach! Now a professor emeritus, over the years she's taught through the Biology, Zoology, Botany and Forestry departments and has seen the curriculum move from the holistic big picture that her dad espoused, to a "little black box focus" on the cellular and genome levels. "The students do not seem to be getting any field experience. They study the little pieces without understanding the big picture of where the species live within the ecosystem."

When I asked her what we should be doing to carry on her father's vision, she said "Read Richard Louv's *Last Child in the Woods* and get kids out into the field! Get universities to return to looking at the whole organism!"

And her message to President Obama: "LEAVE PREDATORS ALONE!"

I couldn't have said it better myself.

**President Lyndon B. Johnson signing the Wilderness Act, September 3, 1964.** ***Courtesy of National Park Service, Harpers Ferry Center, Historic Graphic Collection, Abbie Rowe, photographer.*** Note Stewart Udall, Secretary of the Interior, is at the far right and Representative Mo Udall is second from left (in back with the bow tie).

# Wilderness: Of, By, and For the People *by Doug Scott*

The world's first Wilderness area—the Gila Wilderness near Silver City, New Mexico—was established in 1924, thanks to Aldo Leopold, then an official in the Southwest regional office of the U.S. Forest Service. The decision was made by an order of the regional forester. By 1939, Forest Service officials had established 14 million acres of these preserved areas, including five areas in Arizona — Mazatzal, Superstition, Chiricahua, Galiuro and Sierra Ancha (see box next page). In those years, great reliance was placed on this kind of discretionary decision made by administrative order. But all along, Leopold envisioned a ***national*** policy of wilderness preservation, embracing a ***broader*** array of federal lands (such as the wild portions of national parks), and assuring ***stronger protection*** than could be achieved by this kind of too-easily changed agency decision.

Moreover, Leopold was one of the visionaries who understood that for wilderness protection to be truly permanent would require active support by vigilant citizens throughout the country. In 1935, he joined Bob Marshall and others to found The Wilderness Society to help mobilize citizen action to defend wilderness.

As the economy boomed after World War II, conservationists were increasingly alarmed by surging assaults on the roadless federal lands that they sought to preserve—more roads being pushed into undeveloped country, more logging, more threats from dam-builders and mining companies—even in portions of the 14 million acres the agency had earlier set apart as Wilderness Areas. Leopold agreed with the head of the Izaak Walton League of America who wrote that none of our Wilderness Areas were truly protected: "There is no assurance that any one of them, or all of them, might not be abolished as they were created—by administrative decree. They exist by sufferance and administrative policy—not by law."

These threads came together to shape our modern approach to wilderness preservation in America: the visions of a nationwide system of Wilderness Areas in our national forests, national parks, and other public lands, each protected by Act of Congress, with vigilant citizens taking an active role in wilderness decisions. These elements united in the Wilderness Act—a landmark of national conservation conceived and drafted by leaders of the wilderness movement and enacted in September 1964, after eight years of effort in Congress.

When the Wilderness Act became law, some doubted that it could succeed. That original Act protected just 9 million acres of federal lands in 13 states—in Arizona just those five areas originally identified by the Forest Service, amounting to less than 600,000 acres.

Now, in the 45th year of work to fulfill the promise of the Wilderness Act, we can see how it has worked. Using the example of Arizona, over those 45 years Congress has extended protection of the Act to 86 additional Wilderness Areas, so that now this protective statutory shield embraces nearly 4 million acres in the state. Behind the success in protecting every area is a story of effective grassroots citizen advocacy.

**Howard Zahniser, architect of the Wilderness Act. *Courtesy the Zahniser family.*** Note the saguaro in the background.

# Wilderness in Arizona

There were five Wilderness Areas established by the 1964 Wilderness Act:

| | Acres in 1964 | Acres today |
|---|---|---|
| Sierra Ancha Wilderness | 28,850 | 20,850 |
| Established as a Primitive Area in 1933. | | |
| Mazatzal Wilderness | 205,000 | 252,390 |
| Established as a Primitive Area in 1938, it was named "Wilderness" in 1940. | | |
| Superstition Wilderness | 124,140 | 159,757 |
| Established as a Primitive Area in 1939, it was named "Wilderness" in 1940. | | |
| Chiricahua Wilderness | 18,000 | 87,700 |
| Galiuro Wilderness | 55,000 | 76,317 |

Today there are 91 Wilderness Areas in Arizona — 47 managed by the Bureau of Land Management (1,482,766 total acres), 36 by the Forest Service (1,351,708 total acres), and 4 each by Fish and Wildlife Service (1,352,475 acres) and National Park Service (444,055 acres). The map below, courtesy **www.wilderness.net**, shows the distribution of Wilderness in the Sky Islands of the U.S.

Of course, there remains much more to do, as Sky Island Alliance and other conservation groups—and similar groups across the country—work to extend the proven protection of the 1964 Wilderness Act to additional areas. This means organizing on-the-ground field studies to prepare each proposal and tireless educational work to build public support, enlisting more citizens to lend their voices to the effort.

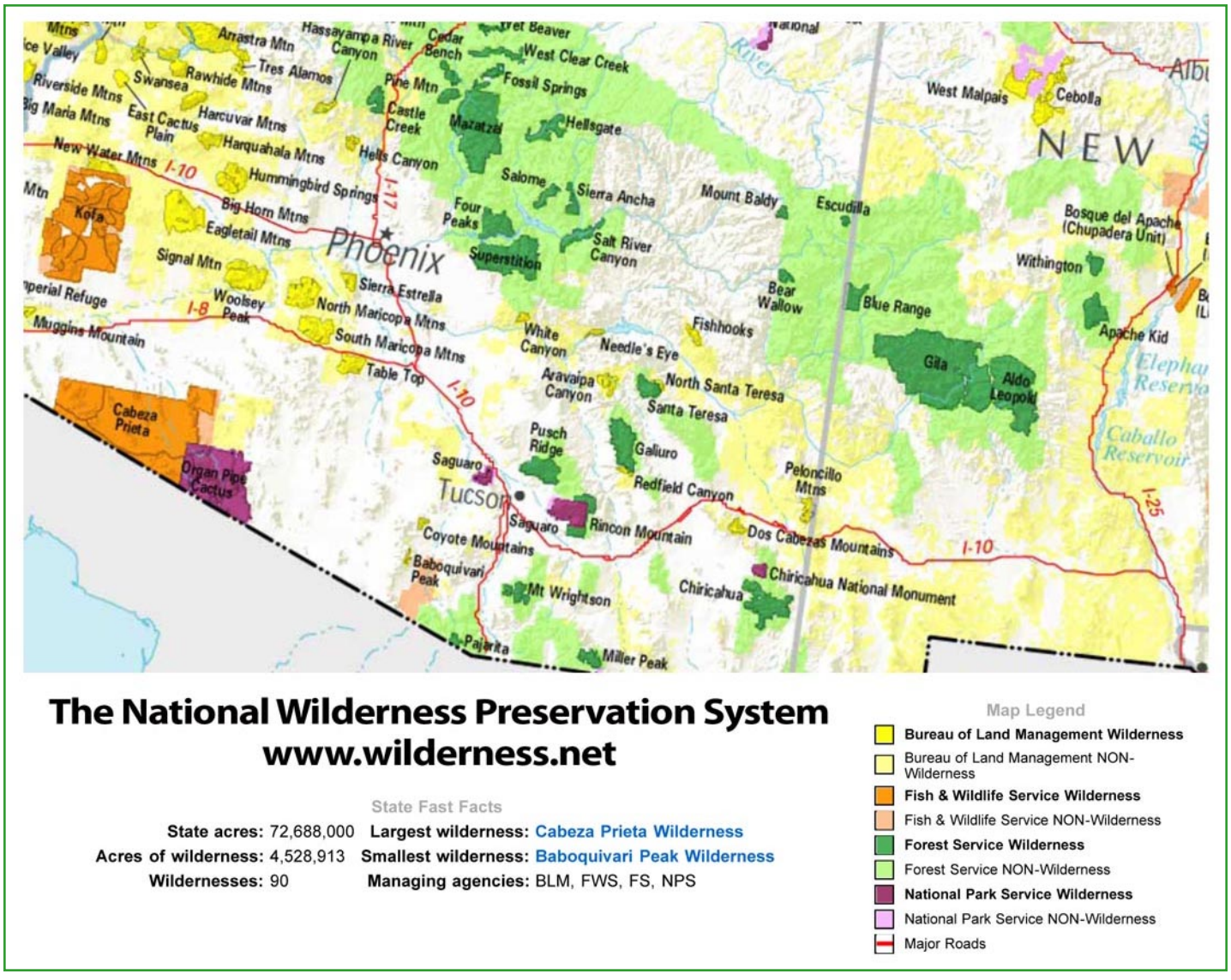
By putting decisions about which wilderness areas will be protected in the hands of Congress, the Wilderness Act opened the means for ordinary citizens from all walks of life to take an active role in these choices. No longer is the fate of these lands left to closed-door agency meetings, for citizen groups have learned to rally public opinion, building the kind of broad and nonpartisan support that encourages members of Congress — of both political parties — to get behind the effort. In Arizona, for example, previous Wilderness bills have been co-championed by such diverse but visionary leaders as Democrat Morris Udall and Republicans Barry Goldwater and John McCain.

This is exactly the process that the Sky Island Alliance, its allies, and Congressman Raul Grijalva have pursued with the proposed Tumacacori Highlands Wilderness near Nogales.

It will take an Act of Congress to extend the protection of the Wilderness Act to an additional area such as this … and passing such a law is always hard work. But the very fact that it is hard is the key to the strength of this protection. Once achieved, it would take another Act of Congress to alter the protective status or trim back its boundaries.

The lesson of this history is clear: people preserve wilderness, succeeding by exercising their roles as citizens, raising their voices on behalf of future generations and keeping at it until their voices are heard all the way to the halls of Congress.

Doug Scott is policy director of the Campaign for America's Wilderness which provides lobbying, communications, and policy support for Wilderness proposals championed by citizen organizations across the country. He is author of *The Enduring Wilderness: Protecting Our Natural Heritage through the Wilderness Act* (Fulcrum, 2004) and *Our Wilderness: America's Common Ground* (Fulcrum, 2009).



**Courtesy Melanie Emerson**

# Conservation as a Moral Issue *by Aldo Leopold*

*Excerpted from: "Some Fundamentals of Conservation in the Southwest" (1923), courtesy Aldo Leopold Foundation Archives* ***www.aldoleopold.org***

Thus far we have considered the problem of conservation of land purely as an economic issue. A false front of exclusively economic determinism is so habitual to Americans in discussing public questions that one must speak in the language of compound interest to get a hearing. In my opinion, however, one can not round out a real understanding of the situation in the Southwest without likewise considering its moral aspects.

In past and more outspoken days conservation was put in terms of decency rather than dollars. Who can not feel the moral scorn and contempt for poor craftsmanship in the voice of Ezekiel when he asks: *Seemeth it a small thing unto you to have fed upon good pasture, but ye must tread down with your feet the residue of your pasture? And to have drunk of the clear waters, but ye must foul the residue with your feet?*

In these two sentences may be found an epitome of the moral question involved. Ezekiel seems to scorn waste, pollution, and unnecessary damage as something unworthy—as something damaging not only to the reputation of the waster, but to the self-respect of the craft and the society of which he is a member. We might even draw from his words a broader concept—that the privilege of possessing the earth entails the responsibility of passing it on, the better for our use, not only to immediate posterity, but to the Unknown Future, the nature of which is not given us to know. It is possible that Ezekiel respected the soil, not only as a craftsman respects his material, but as a moral being respects a living thing.

Many of the world's most penetrating minds have regarded our so-called "inanimate nature" as a living thing, and probably many of us who have neither the time nor the ability to reason out conclusions on such matters by logical processes have felt intuitively that there existed between man and the earth a closer and deeper relation than would necessarily follow the mechanistic conception of the earth as our physical provider and abiding place.

Of course, in discussing such matters we are beset on all sides with the pitfalls of language. The very words *living thing* have an inherited and arbitrary meaning derived not from reality, but from human perceptions of human affairs. But we must use them for better or for worse.

A good expression of this conception of an organized animate nature is given by the Russian philosopher Ouspensky, who presents the following analogy:

> *Were we to observe, from the inside, one cubic centimetre of the human body, knowing nothing of the existence of the entire body and of man himself, then the phenomena going on in this little cube of flesh would seem like elemental phenomena in inanimate nature.*

He then states that it is at least not impossible to regard the earth's parts—soil, mountains, rivers, atmosphere, etc.—as organs, or parts of organs, of a coordinated whole, each part with a definite function. And, if we could see this whole, as a whole, through a great period of time, we might perceive not only organs with coordinated functions, but possibly also that process of consumption and replacement which in biology we call the metabolism, or growth. In such a case we

## A Note on the Text by Susan Flader

*A quarter century before "The Land Ethic," Leopold had attempted an integrated statement of his conservation philosophy in an essay titled "Some Fundamentals of Conservation in the Southwest." The essay presents Leopold's analysis of the deterioration of organic resources in the Southwest, together with an assessment of economic implications, and concludes with a discussion of "conservation as a moral issue." It is perhaps the most significant of Leopold's unpublished manuscripts, for he was not to address the ethical question again for a decade, and then in a strikingly different manner.*

*"Some Fundamentals" was broader than Leopold's previous writings, not only in its consideration of a range of organic and mineral resources, but also in its more extensive discussion of the causes of erosion and it its demonstration of man's responsibility for conservative land use. In brief, Leopold argued that climatic change had not been a factor in the deterioration of organic resources in the Southwest in historic times but that the nature of the climate, characterized by periodic drought, had resulted in a delicately balanced equilibrium that was easily upset by man. In a challenge to traditional Forest Service dogma, he maintained that grazing was a much more destructive element than either fire or logging.*

*Leopold's extensive discussion of climate and his dismissal of climatic change as a factor of erosion seemed intended to establish man's responsibility, not only as against the geologic view of erosion as a natural world-building process but also as against the popular conception of destructive erosion as an "act of God." His treatment of conservation as a moral issue was certainly an outgrowth of his belief that man must bear responsibility for much of the destruction wrought by erosion and for ameliorating its effects by conservative land use.*

*The most significant source for Leopold's discussion of conservation as a moral issue in "Some Fundamentals" was probably P. D. Ouspensky's* Tertium Organum. *Although Leopold's personal copy is dated 1925, the work was translated from the Russian in 1920 and created quite a stir in the United States, going through two editions and several printings in the early twenties. Leopold was most taken with Ouspensky's notion of consciousness as an attribute of all material, inorganic as well as organic.* Tertium Organum *provided a philosophic rationale and terminology for the functional interrelatedness of soils, waters, climate, plants, and animals that Leopold had always intuitively sensed. Leopold undoubtedly noted the harmony of Ouspensky's organic philosophy also with the naturalistic philosophy of John Burroughs in* Accepting the Universe *(1920). With the combined support of Ouspensky and Burroughs, Leopold in "Some Fundamentals" confronted the religious question of man's relationship to the earth—whether as master or plain citizen—more directly than anywhere else in his writings.*

Susan Flader chairs the Board of Directors for the Aldo Leopold Foundation. She has written extensively about Leopold and his land ethic philosophy. Her comments originally appeared as an introduction to "Some Fundamentals" in *Environmental Ethics* journal.

would have all the visible attributes of a living thing, which we do not now realize to be such because it is too big, and its life processes too slow. And there would also follow that invisible attribute—a soul, or consciousness—which not only Ouspensky, but many philosophers of all ages, ascribe to all living things and aggregations thereof, including the "dead" earth.

There is not much discrepancy, except in language, between this conception of a living earth, and the conception of a dead earth, with enormously slow, intricate, and interrelated functions among its parts, as given us by physics, chemistry, and geology. The essential thing for present purposes is that both admit the interdependent functions of the elements. But "anything indivisible is a living being," says Ouspensky. Possibly, in our intuitive perceptions, which may be truer than our science and less impeded by words than our philosophies, we realize the indivisibility of the earth—its soil, mountains, rivers, forests, climate, plants, and animals, and respect it collectively not only as a useful servant but as a living being, vastly less alive than ourselves in degree, but vastly greater than ourselves in time and space—a being that was old when the morning stars sang together, and, when the last of us has been gathered unto his fathers, will still be young.

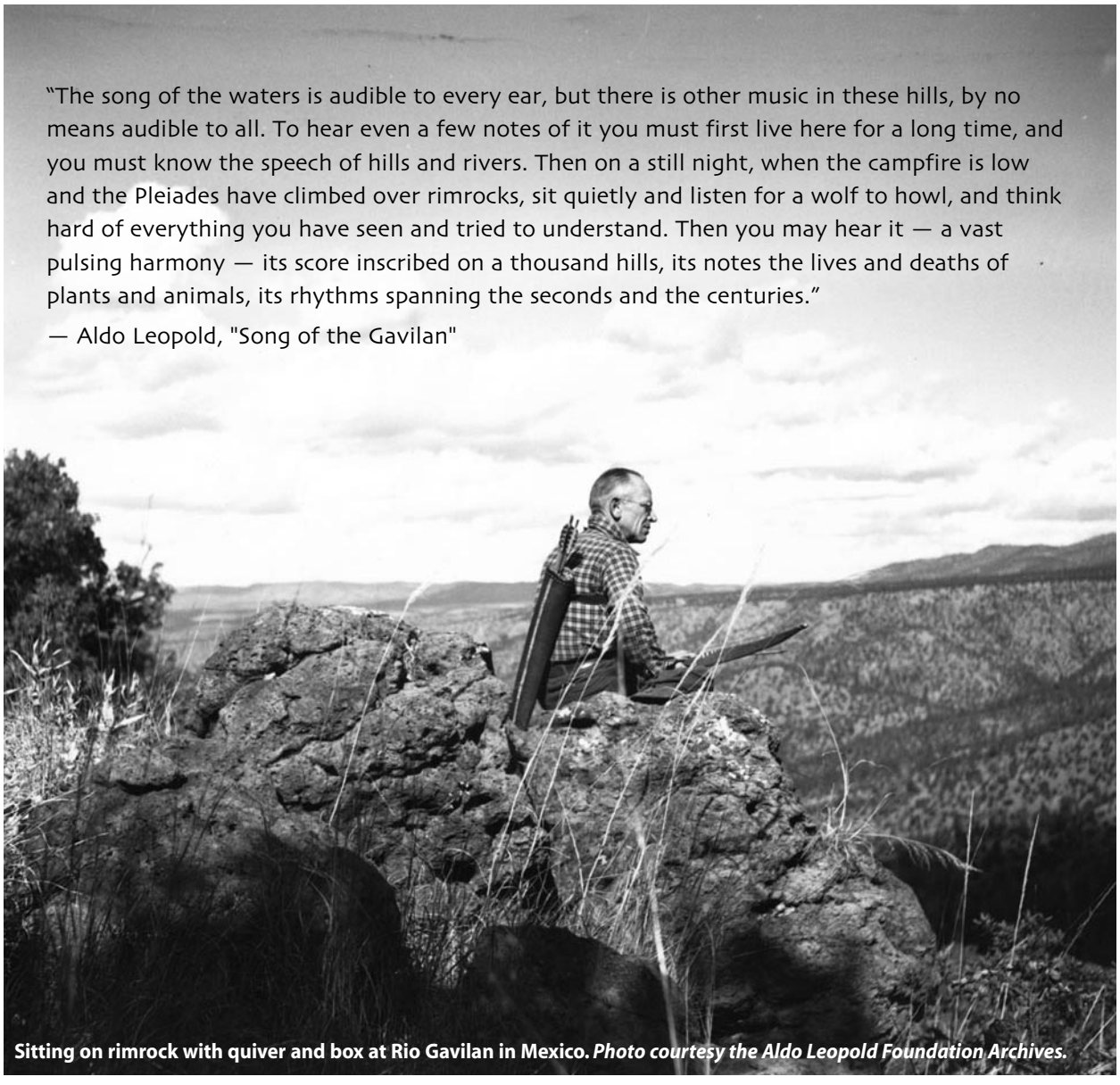
Philosophy, then, suggests one reason why we can not destroy the earth with moral impunity; namely, that the "dead" earth is an organism possessing a certain kind and degree of life, which we intuitively respect as such. Possibly, to most men of affairs, this reason is too intangible to either accept or reject as a guide to human conduct. But philosophy also offers another and more easily debatable question: was the earth made for man's use, or has man merely the privilege of temporarily possessing an earth made for other and inscrutable purposes? The question of what he can properly do with it must necessarily be affected by this question.

Most religions, insofar as I know, are premised squarely on the assumption that man is the end and purpose of creation, and that not only the dead earth, but all creatures thereon, exist solely for his use. The mechanistic or scientific philosophy does not start with this as a premise, but ends with it as a conclusion, and hence may be placed in the same category for the purpose in hand. This high opinion of his own importance in the universe Jeanette Marks stigmatizes as "the great human impertinence." John Muir, in defense of rattlesnakes, protests: ". . . as if nothing that does not obviously make for the benefit of man had any right to exist; as if our ways were God's ways." But the noblest expression of this anthropomorphism is Bryant's "Thanatopsis":

> ...The hills
> Rock-ribbed and ancient as the sun—the vales
> Stretching in pensive quietness between;
> The venerable woods—rivers that move
> In majesty, and the complaining brooks
> That make the meadows green, and, poured round all
> Old oceans gray and melancholy waste—
> *Are but the solemn decorations all*
> *Of the great tomb of man.*

"The song of the waters is audible to every ear, but there is other music in these hills, by no means audible to all. To hear even a few notes of it you must first live here for a long time, and you must know the speech of hills and rivers. Then on a still night, when the campfire is low and the Pleiades have climbed over rimrocks, sit quietly and listen for a wolf to howl, and think hard of everything you have seen and tried to understand. Then you may hear it — a vast pulsing harmony — its score inscribed on a thousand hills, its notes the lives and deaths of plants and animals, its rhythms spanning the seconds and the centuries."

— Aldo Leopold, "Song of the Gavilan"



**Sitting on rimrock with quiver and box at Rio Gavilan in Mexico.** ***Photo courtesy the Aldo Leopold Foundation Archives.***

Since most of mankind today profess either one of the anthropomorphic religions or the scientific school of thought which is likewise anthropomorphic, I will not dispute the point. It just occurs to me, however, in answer to the scientists, that God started his show a good many million years before he had any men for audience—a sad waste of both actors and music—and in answer to both, that it is just barely possible that God himself likes to hear birds sing and see flowers grow. But here again we encounter the insufficiency of words as symbols for realities.

Granting that the earth is for man—there is still a question: what man? Did not the cliff dwellers who tilled and irrigated these our valleys think that they were the pinnacle of creation—that these valleys were made for them? Undoubtedly. And then the Pueblos? Yes. And then the Spaniards? Not only thought so, but said so. And now we Americans? Ours beyond a doubt! (How happy a definition is that one of Hadley's which states, "Truth is that which prevails in the long run"!).

Five races—five cultures—have flourished here. We may truthfully say of our four predecessors that they left the earth alive, undamaged. Is it possibly a proper question for us to consider what the sixth shall say about us? If we are logically anthropomorphic, yes. We and

> . . . all that tread
> The globe are but a handful to the tribes
> That slumber in its bosom. Take the wings
> Of morning; pierce the Barcan wilderness
> Or lose thyself in the continuous woods
> Where rolls the Oregon, and hears no sound
> Save his own dashings—yet the dead are there,
> And millions in those solitudes, since first
> The flight of years began, have laid them down
> In their last sleep.

And so, in time, shall we. And if there be, indeed, a special nobility inherent in the human race—a special cosmic value, distinctive from and superior to all other life—by what token shall it be manifest?

By a society decently respectful of its own and all other life, capable of inhabiting the earth without defiling it? Or by a society like that of John Burroughs' potato bug, which exterminated the potato, and thereby exterminated itself? As one or the other shall we be judged in "the derisive silence of eternity."

# Aldo Leopold's Green Fire at 100: Looking Back, Looking Ahead

*by Dan Shilling; nature photos by Sky Jacobs (www.wildsonora.com)*

**Sunset from the Sierra Huachinera, Sonora.**

> There are some who can live without wild things, and some who cannot. These essays are the delights and dilemmas of one who cannot.
>
> — *Aldo Leopold*

Fresh from his classes in forestry at Yale, the 22-year-old Iowan of respectable German stock settled in, awkwardly at first, to his role as an assistant forester in the hills of Arizona. Aldo Leopold's next fifteen years in the Southwest affected him in profound, rewarding, and sometimes painful ways — providing insight but also testing his physical stamina and moral convictions.

That first year on the job, 1909, he likely never passed up an opportunity to shoot a wolf, a standard Forest Service practice of the time. After one incident, however, Leopold sensed a disconnect between his training and the experience of nature in the shadows of Escudilla Mountain, an experience he would describe 35 years later:

> We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes — something known only to her and to the mountain. I was young then and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.

So wrote Leopold in one of his many landmark passages, this one from a brief 1944 essay titled "Thinking Like a Mountain," one of the most famous statements in environmental literature. Later the essay would become a centerpiece in *A Sand County Almanac*, a collection of Leopold's writings published in 1949, a year after his untimely death in Wisconsin. Today, *Sand County* is regarded as one of the foremost "nature books" ever written, rivaling Thoreau's *Walden.* Leopold's lean but poetic prose, often brimming with literary allusion, historical perspective, and philosophical reflection, continues to inspire artists and activists, scholars and politicians, theologians and planners, and an increasingly international public.

This is not to suggest Leopold doesn't have detractors: critics have labeled his philosophy naïve, some scientists say he contributed little, others brand Leopold a hypocrite because he hunted, wise-use advocates consider him unrealistic, and others object to the cult-like aura that surrounds his legacy. Leopold would probably be the first to say he is no prophet, although writers as celebrated as Wallace Stegner have called him that. Disputes aside, there is little doubt *A Sand County Almanac* will remain an essential narrative of the environmental canon.

### The Road to *A Sand County Almanac*

Today Aldo Leopold is remembered as many things: the father of game management and environmental ethics; an activist who in the early 1930s called for boycotting products manufactured with child labor or in an environmentally harmful manner; an advocate for threatened animals two generations before the Endangered Species Act; an architect of the nation's Wilderness Areas; a political player who helped push through environmental legislation; a founding member of the Wilderness Society; and a researcher who, nearly twenty years before Rachel Carson, warned about DDT: "Do we realize that industry, which has been our good servant, might make a poor master?"

When an earlier observer of wilderness, Henry David Thoreau, died in 1862, he was known by a relatively small number of acquaintances in New England, and only a few people had read his *Walden*, destined to become a bible of the environmental movement and western literature. Likewise, although he published hundreds of articles, Leopold was mostly unknown outside forestry circles when he died in 1948, and *A Sand County Almanac* sold only modestly when published a year later. That

would change during the 1960s and ’70s when nearly every student majoring in earth sciences, or a new discipline called environmental ethics, could be seen walking across campus with Leopold’s little book. Why had *A Sand County Almanac* joined the ranks of *Walden*? Why do many people working in conservation today often point to *Sand County* as the book responsible for their career decision?

Aldo Leopold lived during a time (1887-1948) when more Americans were beginning to appreciate the outdoors as something other than a resource to exploit. His era witnessed the founding of the Boy Scouts, Wilderness Society, and Sierra Club; the growth of recreation in public lands; the first great political debates over land; photography, painting, and literature turning their attention to the West and its magnificent landscapes; and the creation of the National Park Service and similar land management agencies.

Leopold lived through and symbolized these developments. An early disciple of Gifford Pinchot’s utilitarian land policies, which dominated the Progressive Era, Theodore Roosevelt’s administration, and Yale’s curriculum, Leopold had shot the wolf on a ridge in eastern Arizona, a routine act since the Forest Service’s eradication policy held that fewer predators benefited ranchers and left more game for hunters. But the “fierce green fire” ebbing in her eyes planted a thought young Aldo did not fully grasp, let alone express, for decades: that a natural and sustainable reciprocity already regulated the hillside absent his management theory.

Leopold’s long transition, from a young, somewhat haughty resource manager to a humble environmental sage, in many ways parallels the nation’s passage from unabashed utilitarianism to a more sensitive appreciation of “the cogs and wheels,” as Leopold described nature’s parts, prompting historian Susan Flader to comment that his “intellectual development mirrors the history of ecological and evolutionary thought.” In that sense Leopold serves as a touchstone to explore the intellectual and moral development of th century attitudes toward nature.

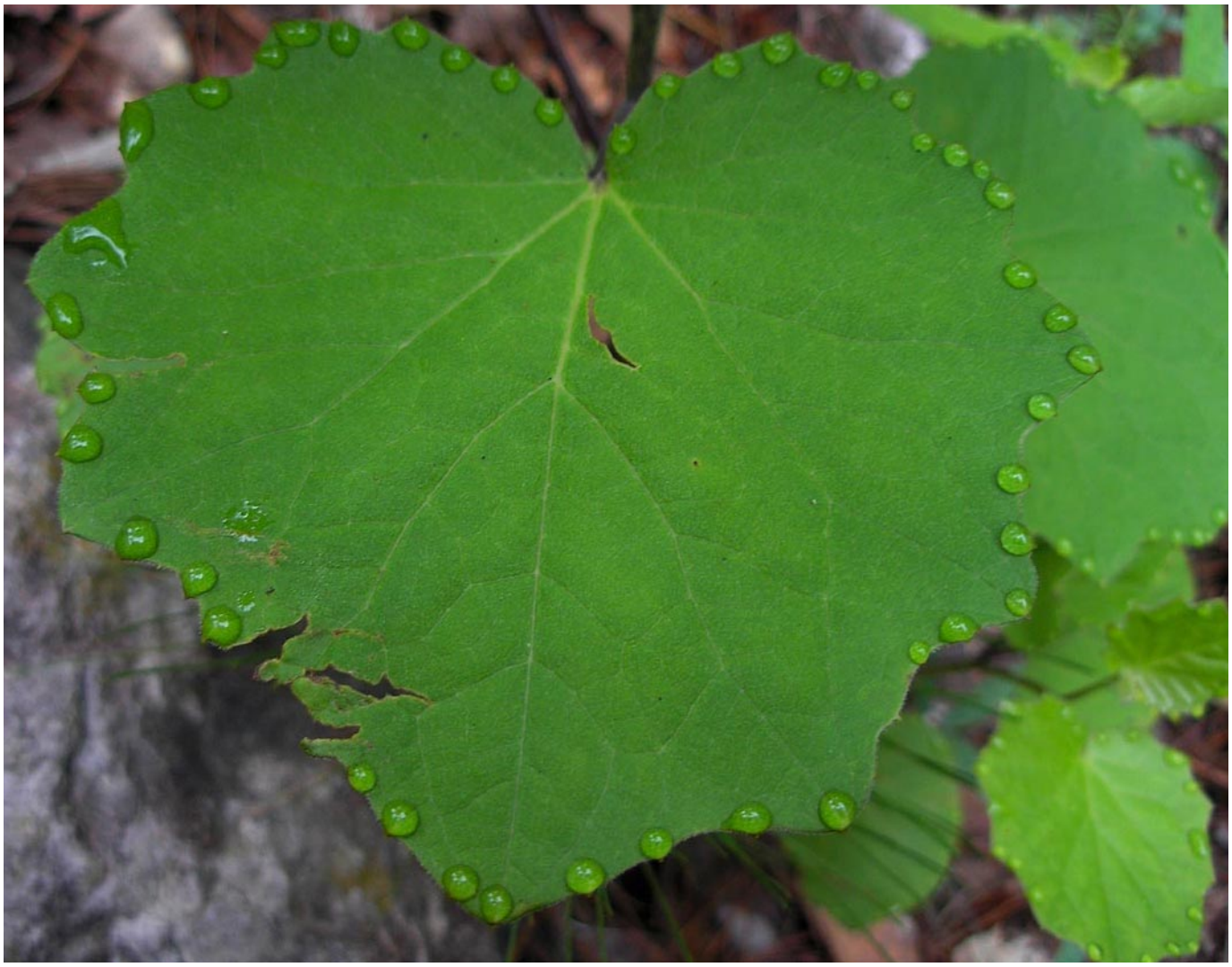
True to Progressive Era doctrine, though, Leopold saw beyond trees and mountains to the core of our character, writing about the “futility of trying to improve the face of the land without improving ourselves.” Earlier, his famous neighbor at the University of Wisconsin, historian Frederick Jackson Turner, had emphasized the connection between land and character in his renowned 1893 talk, “The Significance of the Frontier in America.” Historians today may challenge Turner’s frontier thesis, but few question the link between culture and nature. Similarly, Leopold understood that identity is a byproduct of land — that we shape it and are shaped *by* it, and if we destroy the environment we risk undermining democracy itself: “Many of the

**Twisted *Quercus* at El Riito in the foothills of Sierra Madre.**

attributes most distinctive of America and Americans are [due to] the impress of the wilderness. … Shall we now exterminate this thing that made us Americans?”

Democracy and land is a theme that runs through many of Leopold’s journals, letters, and essays, not only *A Sand County Almanac*. A prolific author, he published more than five hundred articles and two influential books; and although Leopold would write his most well-known essays after leaving the Southwest for Wisconsin in 1924, his experiences in Arizona, New Mexico, and Mexico helped shape his thinking about the land and our relationship to it, a process that culminated in the Land Ethic: “In short, a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it.” Glimpses of that well-known decree appear as early as the mid-1930s in Leopold’s essays, and one source of this expression can be traced to an earlier time — a mountain in Arizona in 1909.

That his odyssey began in the Southwest should not be overlooked, and as Leopold himself said, the journey is a byproduct of both the formal and outdoor classrooms: “[T]he evolution of a land ethic is an intellectual as well as emotional process.” Fittingly, the 2009 Centennial Celebration of Leopold’s arrival to the Southwest will consider both



**Dew drops in Sierra Huachinera.**

the intellectual and emotional dimensions of his life, literature, and legacy. The organizers hope to encourage conversations that look back at the scientific, personal, and cultural influences on Leopold's thought, at the same time participants will consider the applicability of his words today.

**The Southwest**

One reason Leopold's legacy will likely endure and even grow is that he is something of a benchmark, where science, land, and culture coalesce in meaningful ways. That interdisciplinary complexion explains in part why *A Sand County Almanac* is taught across the curriculum — in philosophy classes, for example, as well as literature and environmental courses. Other writers echoed Leopold's passion for wildness, such as John Muir or Henry David Thoreau, but they lacked his formal scientific training. Still others like Ralph Waldo Emerson shared Leopold's fascination with the idea of nature, but not his rapport with trees and dirt. When Emerson, the elder statesman of environmental philosophy, visited Muir in Yosemite in 1871, the famous Transcendentalist left his young admirer puzzled because he was reluctant to step into the natural world Muir adored.

Leopold would have gladly joined Muir on his hike and sat for hours talking about the meaning of nature with Emerson. In the mature Leopold, Yale and Escudilla are joined together, wrapped in a Southwestern heritage where indigenous and Mexican land-use values were still detectable, if not dominant. Adding to the unique cultural framework of Leopold's surroundings, in 1912 a young Aldo, Anglo and Protestant, married into a reputable Hispanic family — Catholic and proprietors of thousands of cattle-grazing acres. Exploring these and other cultural collisions can reveal additional insights into the evolution of Leopold's thinking.

Other influences on his intellectual development have previously been discussed. For example, Leopold's views were formed in part by his exposure to philosophers such as the Russian P.D. Ouspensky; he was fond of Muir, who was fighting to save Hetch Hetchy during Leopold's Southwest years; and he admired the novels of Sinclair Lewis, who triggered Leopold's thoughts about fascism and provided a pet adjective to describe people who regard land as a commodity: "Babbittian." We should also ask about the ways the Southwest's natural, social, and cultural landscapes influenced Leopold. What, for example, did he take away from his contact with Native Americans and the land practices of his Mexican in-laws, not to mention a natural setting that looks and responds differently than his native Iowa?

Similar to indigenous beliefs grounded in a recognition that land, animals, and humans are part of the same "community," Leopold's words challenged a nation intoxicated with progress to alter its relationship to land — from detached exploitation to a bond grounded in "love, respect, and admiration." Certainly he invoked spiritual insights of earlier cultures, what Thoreau called Indian Wisdom, but to make his case agreeable to an era steeped in technological certitude, Leopold also invoked the emerging science of ecology, at the same time he encouraged philosophers to extend moral considerability beyond the human orbit.

Spend time with Leopold and you sense that he isn't just talking about trees, rivers, and critters. Leopold's "Land Ethic," his capstone essay, begins with a story about the murder of Odysseus's slave girls — his point being that just as we once considered slaves "property," we continue to think of nature the same way, and he calls for us to grant all lands and creatures natural "rights." For Leopold, the Land Ethic is not merely an environmental end in itself, but a means to a just society, because our relationship to nature speaks volumes about how we treat one another: "To change ideas about what land is for, is to change ideas about what anything is for."

It's fair to say that Leopold was taught one thing about predators by his professors at Yale and colleagues in the Forest Service, and quite another by Thoreau, Muir, George Marsh, Eastern philosophy, Russian mysticism, *and the land itself* — although that discovery would take him years to unravel. We can trace the development of his Land Ethic, in fact, by tracking the arc of his attitude toward wolves: as he slowly begins to appreciate the role of predators so too does he grasp that nature has its own principles, a realization brought home to him in Mexico: "It was here [in Sonora] that I first clearly realized that land is an organism and that all my life I had seen only sick land, whereas here was a biota still in perfect aboriginal health." Similarly, during that Arizona mountain moment in 1909 he intuited at least some of this relationship and eventually became an eloquent voice for stewardship: "The last word in ignorance is the man who says of an animal or plant: 'What good is it?'"

**Leopold Now**

Environmental challenges notwithstanding, Leopold would have much to celebrate today: the passage of important legislation, such as the Endangered Species Act and Wilderness Act; the beginning of Earth Day in 1970; the visibility environmentalism receives, to the point Al Gore wins a Nobel Prize and Oscar; developments in hybrid cars, alternative energy, and sustainable agriculture; the reintroduction of wolves; recycling and other green enhancements. And, advocate of Jeffersonian politics that he was, Leopold would be proud of citizens who challenge disastrous policies, who help change society's values about what matters:

> The direction is clear, and the first step is to *throw your weight around* on matters of right and wrong in land-use. Cease being intimidated by the argument that a right action is impossible because it does not yield maximum profits, or

> that a wrong action is to be condoned because it pays. That philosophy is dead in human relations, and its funeral in land-relations is overdue.

Still, he'd probably be sad and angry: "One of the penalties of an ecological education is that one lives alone in a world of wounds." That we even talk about drilling near national parks would enrage him; that the U.S. has never ratified Kyoto would embarrass him; that we continue to subsidize mining companies would disgust him; that species extinction continues unabated would sadden him; that the family farm is nearly a relic would upset him; and, most of all, that too many politicians remain tethered to oil and growth industries, governing as if they never left the board room, would sicken him: "We are remodeling Alhambra with a steam-shovel, and we are proud of our yardage…. A stump [is] our symbol of progress."

For years Aldo Leopold submitted his collection of essays for publication, always to be rejected. Editors expected a "nature book" and didn't understand why a forester wrote about ethics, history, and literature. Disappointed but determined, Leopold kept refining and resubmitting his essays, and finally in the spring of 1948 he received a letter from Oxford University Press agreeing to publish the book. A week later Aldo Leopold died of a heart attack while fighting a grass fire on a neighbor's farm. He never saw his book in print, nor did he have any idea how *A Sand County Almanac* would eventually be regarded. One reason it endures is precisely *because* of the moral tendencies publishers questioned. Similar to Rachel Carson, another scientist, Leopold argues that science and technology are fine things, but they are only tools that produce more tools, not the wisdom that tells society what to do with them. For that, Leopold says, we need a philosophy that helps us "rewrite the objectives of science."

> Our tools are better than we are, and they grow faster than we do. … If science cannot lead us to wisdom as well as power, it is surely no science at all.

If you haven't dipped into *A Sand County Almanac* or Leopold's other essays in a while, pick them up. The words age well. If you have the chance, visit his "Shack" north of Madison, Wisconsin, where he, his wife Estella, and their five children learned to live on and with the land. It was there, on April 21, 1948, that Aldo rushed to put out a fire. He was 61.

Dan Shilling is former executive director of the Arizona Humanities Council. His recent book, *Civic Tourism: The Poetry and Politics of Place,* uses Aldo Leopold's concepts to plan grassroots economic development. Dan is co-directing the ASU summer institute on Leopold listed (see box on right). He lives in Phoenix.

**The beloved "Shack" where the Leopold family would escape the manicured environments of Madison, Wisconsin. Many of Aldo's experiences here would become central episodes in *A Sand County Almanac*. *Courtesy Dan Shilling*.**

# Aldo Leopold Centennial Events in Arizona and New Mexico

### June 22–July 17

**A Fierce Green Fire at 100: Aldo Leopold and the Roots of Environmental Ethics,** a Summer Institute for College Faculty, sponsored by the ASU Institute for Humanities Research and funded by the National Endowment for the Humanities. Guest faculty includes Curt Meine, Susan Flader, Julianne Warren, J. Baird Callicott, and Scott Russell Sanders. Prescott, Arizona. Information: **www.asu.edu/clas/ihr**

### September (dates TBA)

**Upper Gila Watershed Alliance Gila River Festival** will have an Aldo Leopold focus. Information: **www.ugwa.org/**

### September 7 (including weekend)

**White Mountain Conservation League** event in White Mountains of eastern Arizona. Information: **azwmcl.org/**

### October

The Bosque School, an environment and community learning-based school in Albuquerque, New Mexico, will present a site-specific work by Patrick Dougherty on the school grounds along the Rio Grande River and create **a student curriculum inspired by the work of Aldo Leopold** in conjunction with the Aldo Leopold Centennial Celebration. Patrick Dougherty began to experiment with tree saplings as construction material and his work quickly evolved from single pieces on conventional pedestals to monumental scale environments which required saplings by the truckloads. His installations were recently featured at the Desert Botanical Garden in Phoenix. Information: **www.bosqueschool.org** and **www.stickwork.net**

### November 4–6

The Quivira Coalition's 8th Annual Conference, **"Living Leopold: the Land Ethic and a New Agrarianism"** will be held in Albuquerque, New Mexico. In this 'practitioners' conference, the Quivira Coalition will feature farmers, ranchers, scientists, and conservationists who are "living Leopold" today — people who are implementing his vision of a land ethic on the back forty. Ultimately, the goal of the conference is to facilitate, and possibly speed up, the knitting process. We need a new 'whole' — and quickly. We can start by reinvigorating the land ethic and inaugurating an annual celebration of the new agrarianism. Information: **www.quiviracoalition.org**

### Additional events:

You can get more information by visiting the Aldo Leopold Centennial website at **www.leopoldcelebration.org.**

**U.S. Forest Service** public events around the Aldo Leopold Centennial can be found as specific dates are planned by visiting the Region 3 website at **www.fs.fed.us/r3/**

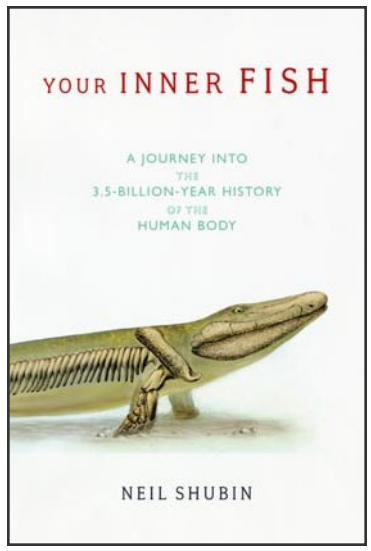
Please contact Cyndi Tuell at ctuell@biologicaldiversity, 520-623-5262, ext 308, if you would like to share an event with the Arizona and New Mexico Travel Management/ORV coalition.

# Book Review

## Your Inner Fish: A Journey into the 3.5-Billion-Year History of the Human Body

by Neil Shubin, Pantheon Books, NY (2008), 202 pages.

*Reviewed by Reed Mencke*




Cute titles like "Your Inner Fish" can be a flag for superficiality so my inner bullshit meter was turned all the way up as I began this book. But Neil Shubin is no New Age guru and there is no bullshit in this book. It offers instead a profound vision of who we are. "Fish" is the tantalizing tale of the 3.5-billion-year epic journey that created what is arguably Earth's greatest Rube Goldberg Machine, the human body.

Shubin is uniquely qualified to tell this story of bodies because he is a scientist who has discovered bodies. Strange bodies. Ancient bodies. Ancestral bodies. In 2004 Shubin and his talented research team discovered the fossil of *Tiktaalik* off the shore of Greenland. *Tiktaalik*, arguably the greatest paleontology find of the decade, was the long sought link between fish and the first land creatures, the tetrapods. *Tiktaalik* had fins like a fish but used them to crawl about on the shallow mud flats where it was safe from the giant ocean predators of the Devonian period. So limb-like were *Tiktaalik's* fins that it would have been capable of doing push ups! *Tiktaalik* was the first creature to walk on land. To do this required, among other things, some new kinds of joints. Bend your wrist back and forth. Open and close your hand. You are using joints innovated by *Tiktaalik* and his relatives. Every limbed creature since *Tiktaalik* has retained these features.

*Your Inner Fish* relates the deep history of the human body and is a tale of bones and tissues, of limbs and teeth and eyes and ears and brains and how all body plans of all creatures have much in common. The great question Shubin would explore with us has to do with our debt to these creature ancestors.

Shubin begins this tale of bodies and strange ancestry by directing our attention to one of our defining human experiences: the life that every human mother has felt developing inside her body during the nine months of pregnancy when her future child is literally a part of her own body. Modern parents not only feel that life, but, thanks to the sonogram taken when the pregnancy is well into the fifth month, they get to see it.

Scientists have been observing embryonic life for literally hundreds of years. They have looked at embryos of human babies and chickens and reptiles and virtually every living creature. What have they learned?

Early in the first human trimester long before sonogram time, when a baby has just a few hundreds of the two trillion cells it will have at delivery, a human embryo is quite indistinguishable from a fish embryo; it even has gills. As it grows older tiny little limb buds appear**.** Development proceeds from tiny buds, to paddles, to complete limbs. Experiments on chicken embryos show that development of those limb buds, the structures that will later become the baby's arms and legs and hands and feet, is controlled by a small patch of tissue near the tip of the limb bud. Remove the little patch of tissue and the bud stops developing. Remove it early and the baby will be born with just the stump of an upper arm. Remove it a little later and you get an upper arm and forearm but no hand. Remove it still later and the limbs will be nearly complete but the digits will be deformed.

What makes this seemingly magical patch of limb-producing tissue? A gene, of course. The gene is called *Sonic hedgehog.* This gene is, in effect, the recipe for making a good human limb. Just as a cake removed too early from the oven or lacking some important ingredient may look more like a pudding than a cake so, will a limb be damaged if the *Sonic hedgehog* gene is altered by toxicity (alcohol, drugs, poor nutrition, etc.) during its development. The crucial time for all this occurs during weeks three to eight of the baby's development.

But here's the astounding part. *Sonic hedgehog* is not unique to humans and chickens. It is found in every creature that has limbs of any kind. The legs and hoofs of your favorite horse, the paws of your dog, and even the wings of a Turkey vulture are all made by *Sonic hedgehog.*

How can such different limbs be made by the same gene? It is due to molecular switches within the gene. Flip a few switches and you get a different kind of limb. What do we owe to fish? The *Sonic hedgehog* gene is one of their gifts. Long before *Tiktaalik* and its descendants walked on land primitive sharks already possessed the *Sonic hedgehog* gene. They used it to make their fins!

The story goes on. Read this fascinating little book and you discover that virtually every part of your body is a gift from a fish or some other simple creature. Our basic body plan and the genes that control its development in the embryo can be traced all the way back to a primitive marine animal, the sea anemone

All human embryos have gills and gill arches and in the early weeks of development are virtually identical with fish embryos. From the embryo's gill arches our heads develop. This leads to a complicated pathway for our trigeminal nerve that frustrates many first-year medical students. Thus the organization of our head and trigeminal nerve are built on a blueprint that was first worked out by ancient jawless fishes.

So are our teeth. And the molecule (hydroxyappatite) that makes our teeth hard was originally created by predator bacteria during the first several billion years of life on our planet, a time so dominated by single-celled creatures that it might well be called "the age of bacteria." Bacteria also evolved the mitochondria that live in every cell of our body and run the vital machinery of respiration. Opsin, the receptor molecule that allows our retina to detect light, is yet another gift from bacteria and opsin is found in all creatures with eyes: humans, our fellow mammals, insects with compound eyes, and even simple creatures like jellyfish that possess light sensitive eyespots.

Thus, with Neil Shubin's expert guidance, we find our body to be Earth's most wondrous of Rube Goldberg machines, built out of spare parts, and oddly shaped structures and wired like an old apartment house. Shubin explains how all ailments trace to this **cobbled** engineering. Suffer from sleep apnea? The flexible larynx that allows us to speak is recycled from the cartilage of shark skeleton. While a good material for making vibrations and speech sounds it is sometimes too flexible and in some humans when the supporting muscles relax during sleep the recycled shark cartilage collapses, blocking the air passage. Likewise it turns out that shark testes are located above their enormous liver and this pattern has been handed down to human males

*continued next page*

## Books of Note

**Want to expand your perspective about *Wildness* and *Wilderness?* Sky Island Alliance staff recommends:**

**Melanie recommends:** A children's book…**Where Once There Was a Wood** by Denise Fleming, and if I have to be a grown-up, this one too: **The End of Nature by Bill McKibben** or a melding of the two: **The Sense of Wonder** by Rachel Carson.

**Julie recommends: Finding Home** Writings from Orion; A.B. Guthrie's five-part series starting with **The Big Sky**; and the first part of Cormac McCarthy's **The Crossing**.

And we strongly second Estella's recommendation: **Last Child in the Woods** by Richard Louv.

## The Chiricahua Leopard Frog Goes International *by Sarah Williams*

The year of 2008 was hailed as "The Year of the Frog" by many local and national conservation organizations. But just because we have rolled into 2009 doesn't mean we should stop thinking, caring, and acting when it comes to protecting these dynamic amphibians. According to a recent article from BBC news, "About one-third of all amphibians are listed as threatened species, with habitat loss the biggest factor." A decline in area frog populations can also be an early warning signal of environmental degradation as their fragile and permeable skin is more susceptible to nature's elements.

Here in the Sky Island region there are a number of threatened reptile and amphibian species that need immediate attention in terms of reintroduction, recovery and protection. One species in particular was recently featured in National Geographic magazine — the Chiricahua leopard frog (*Lithobates chiricahuensis*). The January 2009 issue highlighted the plight of 20 federally listed threatened or endangered species across the United States, six of which are found in our Sky Island region. The article estimated that there are only 5000 adult Chiricahua leopard frogs left in the wild so it's not too late to join in the fight to save these imperiled critters.

To learn more about how you can take direct action to help the Chiricahua leopard frog and other threatened native riparian species contact Sky Island Alliance.

## Your Inner Fish *continued*

so that our testes must travel far through the body cavity to the scrotum leaving a weak spot in the body cavity that makes us prone to hernia. A third example from this very long list is the fact that birth defects often affect both the eyes and the ears. This says Shubin can be traced back to the venomous 20 eyed box jellyfish, an Australian species that lacks the *Pax 6 and Pax 2* genes that make eyes and ears but does possess a primitive version, a sort of mosaic gene that has characteristics of both, a genetic linkage of eye and ear development that seems to have carried down to vertebrates and mammals all the way to us humans.

All in all "Fish" gets my vote for "Best read in 2008." Here you will find a glowing example of how to tell a scientific story to nonscientists. First, Shubin picked a great theme: the life story of our most intimate acquaintance, our own body. He guides us to discover how the myriad structures and functions of that body constitute the machinery, the boundary parameters that define our human nature. He develops the body theme with great clarity and helpful metaphors, and almost no technical jargon. "Fish" is perhaps the most readable saga to date of how we got to be who we are and the enormous debt we owe to some of Earth's simplest creatures. Read it and you will surely experience a deep wonder for nature's "*Infinite forms most beautiful*".

## *Arne Naess* Founder of Deep Ecology

27 January 1912 — 12 January 2009

Norway's best-known philosopher, Næss taught that ecology should not be concerned with man's place in nature but with every part of nature on an equal basis, because the natural order has intrinsic value that transcends human values. Indeed, humans could only attain "realisation of the Self" as part of an entire ecosphere. He urged the green movement to "not only protect the planet for the sake of humans, but also, for the sake of the planet itself, to keep ecosystems healthy for their own sake." Shallow ecology, he believed, meant thinking the big ecological problems could be resolved within an industrial, capitalist society. Deep meant asking deeper questions and understanding that society itself has caused the Earth-threatening ecological crisis. His concept, grounded in the teachings of Spinoza, Gandhi and Buddha, entered the mainstream green movement in the 1980s.

Naess was also a mountaineer and an activist who chained himself to rocks in front of Mardalsfossen, a waterfall in a Norwegian fjord, and refused to descend until plans to build a dam were dropped. The demonstrators were carried away by police but the action was a success. Probably the best tribute of all for Naess is in his own words, as are recorded in a wonderful 1997 documentary, *The Call of the Mountain: Arne Naess and the Deep Ecology Movement (*available on YouTube).

"Only a mountain can get me that view with this fantastic horizon, and where you feel also powerful, at the same as you are very, very small, that is important philosophically. That the less you are in relation to the surroundings, the stars and the mountain, the more you intensely feel that you somehow symbolically get part of it. You get greater. You get on par with it. You get to feel good with it. So, the more tiny you are, the more in some sense you are together with something great and therefore, get something of that greatness."

"The term 'deep ecology,' or better, 'to be a supporter of the deep ecology movement,' that is a long term, but is more basic. That is: to join in activism, to get rid of the ecological crisis. To join on the basis of your life-philosophy or religion. That is to say: your motivation comes from your total view or your philosophical, religious opinions, so that you feel, when you are working in favour of free nature, you are working for something within your self, that demands that, demands changes. So you are motivated from what I call the 'deeper premises.' You go all the way back. If we ask you: 'Why do you do this, why?' the supporters of the deep ecology movement do not stop with, for instance: 'It is bad for the health when you have such pollution, it is bad for this, bad for that.' …But they say: 'Hah, if it is necessary: no car. If it is necessary, I will not go by airplane in my vacations, I will not so-and-so. And I need no such-and-such products, which require a lot of energy to be made.' So it's... it flows from their inclination to live in a way that is universalisable."

# The Promise Poem

*by Lahsha Brown, Conservation Associate, when she was 15*

I will sing you songs of rainbows,
Of sunsets and moonlit streams,
Of lofty clouds which float upon a summer's breeze.

I will sing you the song of night in a peaceful meadow,
Of deep dark woods in somnolent slumber
And the hoot of the owl as he wakes from his rest.

I will sing you the song of cool crystal water
As it gurgles down with expectant energy
Sparkling dew on the early rose
And the crack of thirsty leaves on the dry path.

I will sing you songs of soft shadows
In the mist of the twilight
Melodies of the nightingale echo across the water
Joining with the crickets as they hum their tiresome ballad.

I will sing you songs of life.

**Bart and Mike (see next page), in the middle of nowhere, but getting where they need to go. *Courtesy Danica Norris.***

**San Bernardino, 2009. *Courtesy Melanie Emerson.***

# Speaking in Tongues

*by Jeri L. Edwards*

It's something like 97 degrees in the shade when you arrive at the trailhead,
late afternoon sun caramelizes the muscle-bound mountains.
Heat, wrapped in wind, carries no refuge up the switchbacked path,
the cup of your back a hollow of sweat,
yet you know what awaits.
The relentless rise abrupts with a series of swales, a pulpy chaparral,
then another short burst, a scramble over pockmarked boulders,
a yielding turn, color ignites color, solitude meets the sky.
Upon the three-fingered wash, all springs have run dry,
no succor in this season.
The companion of a cicada's staccato
in a stand of old alligator junipers entices you to linger,
but you persevere upward to crest before sundown.
And somewhere along the trail,
in an inexplicable moment,
the expansiveness takes over your space,
recalibrates your inner plumb line.
And though you arrive at the summit,
feet heavy, mouth chalky,
all things appear new.
Raptors rush overhead, swoop for kill down folds of steep ravines,
Quail scribble in dried leaves,
Lizards scurry like sandpaper in brittle grass.
And as the last paean of light drapes silk on distant crags,
You stand motionless, but not alone.
Wildness speaks in tongues to those who listen.

# There's a complex chord of harmony in this wild place *by Bart Koehler*

In the first sentence of the introduction to his classic, *A Sand County Almanac*, pioneering wilderness leader Aldo Leopold wrote: "There are some who can live without wild things, and some who cannot." Aldo couldn't live without wild things. Neither can many of us. I thought that I was going to write an essay for the Sky Island Alliance about why wilderness is important. I was going to write about the need to preserve wild places to protect watersheds, wildlife habitat, open spaces, quality recreation, scenic beauty, and a rich and vibrant human history. I thought I'd expound about patriotism, democracy at work, and how faith, hope and love are all essential to saving wild places in Congress.

But this isn't that essay. Not by a long shot. Instead, my pen hit paper and other thoughts began to flow. These reflections come from a trip into the Tumacacori Highlands along a stretch of Bartolo Canyon. As a songwriter, I can't label the lines that follow. They aren't really poetry, nor strict prose. I can't even tell if this is any good. It's just mine. So bear with me as this warhorse tries his hand at whatever this is.

✶✶✶ ✶✶✶ ✶✶✶ ✶✶✶ ✶✶✶

There's something in this wild place that tugs at my heart. I can't explain it. It just is. When we come into a wild place we become more alive. The music of this place abounds with every sight and sound. These are echoes of the music of a very special wild place.

There is a complex chord of harmony that embraces us, in this wild place.

- ✶ The wind whistling through the trees, galloping across the grass and humming in the cactus thorns.
- ✶ The trill of the wren, darting from one hiding spot to the next — unseen but enveloping.
- ✶ The wing beats of a golden eagle far above, keeping a watchful eye on everything.
- ✶ The rhythm of a mountain lion gracefully flowing up an arroyo just hours before you.
- ✶ The trickle of a life-giving spring in a parched canyon: walls awash with chartreuse lichen.
- ✶ The symphony of songs from water, precious water, echoing over small boulders.
- ✶ The startling quick-thunder of wings from a covey of montezuma quail.
- ✶ The light pounding of a deer bounding in the prickly brush.
- ✶ The thumping in your chest, while you hope that that hooded skunk doesn't come any closer and force some wild action or reaction…
- ✶ The brilliant burst of scarlet when the ocotillos bloom and their blazing glory renewed.
- ✶ A Hallelujah Chorus from a wild choir of coyotes.
- ✶ The sun beating, heating and then retreating while painting the mountains with flamelight.
- ✶ The steady stepping of the hooves of your faithful and trusty mountain horse.
- ✶ The soft-leather sound of your saddle and gear, reassuring you that you'll "get there."
- ✶ The drumbeat of your heart as you marvel at the full moon rising above the Tumacacoris.
- ✶ The peace and happiness and the calming, grounding, sharing of all of these wild music wonders with a dear friend, a long-time compatriot, or a loved one by your side.

There is a complex chord of harmony that embraces us, in this wild place.

*— Bart Koehler is the Senior Wilderness Campaigns Director for The Wilderness Society's Wilderness Support Center. His award-winning work has helped bedrock grassroots folks protect many millions of acres of Wilderness over the past 38 years — from the Wild West, to Alaska, to Eastern Forests, and along the rocky trails on Capitol Hill. During this time he's been a ranch hand, produced two albums of original music, and eaten a lot of trail dust. He's currently helping with the Tumacacori Highlands Wilderness effort.*

## Baja Arizona *by Bart Koehler, with Mike Quigley and Sergio Avila*

**CHORUS:**

```
G5          Am7       D             G5
I'M GOING BACK TO BAJA ARIZONA
         Am7                  D                  G5
THE SAGUAROS AND OCOTILLOS CALL ME HOME
            Am7          D                      G5
THERE'S A SKY ISLAND RANGE WEST OF TUBAC
                Am7         D                                  G5
THE TUMACACORI HIGHLANDS, WHERE THE JAGUAR ROAMS
```

```
        Am7            D               G5
Deep Down in the mysterious canyons,
           Am7             D           G5
and way up high to the mountain crest
       Am7          D              G5
Wander thru the oak and the grasslands,
    Am7          D             G5
A living legacy in the great southwest.
```

**CHORUS**

```
            Am7          D             G5
Ramanote, Pajarita and Bartolo Canyons,
       Am7              D         G5
Bear Valley north to Apache Pass
     Am7    D                 G5
Atascosa to Lion Mountain,
       Am7                   D                      G5
Let's bless this land with protections that will last.
```

**CHORUS**

```
                  Am7           D                 G5
Where Edward Abbey is still up there on the lookout,
      Am7           D                 G5
and cowboys still ride this rugged range
           Am7              D                  G5
We must keep a promise to future generations,
         Am7              D                 G5
So this beauty and real freedom will remain.
```

**CHORUS**

```
           Am7           D          G5
Hay una tierra especial y hermosa,
      Am7          D           G5
que hipnotiza a toda persona,
    Am7       D        G5
Al norte de Sonora,
       Am7     D           G5
es mi querida Baja Arizona.

       Am7           D       G5
Altas montanas y cañones,
         Am7     D           G5
colinas de pastizales y robles,
         Am7  D          G5
Donde los jaguares vagan,
           Am7             D          G5
nuestros hermanos animales nobles.

      Am7      D              G5
Una isla rodeada de desierto,
   Am7      D              G5
silvestre siempre debe ser.
         Am7      D                   G5
Esta es nuestra herencia, es cierto,
      Am7       D     G5
y la debemos proteger.

       Am7          D        G5
Agua cristalina y aire fresco,
       Am7       D     G5
de la montaña al cañón,
           Am7    D           G5
Podemos mantenerlo silvestre,
      Am7            D        G5
para que siempre sea cabron!
```

**CHORUS**

**Chords:**

**G5:**
EADGBE
320033

**Am7:**
EADGBE
xx2010

**D:**
EADGBE
xx0232

# 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 the meeting, doing outreach… you name it, if it's important to the Sky Island region, we are there. We hope you're inspired — let us know!

## Landscape Restoration *by Sarah Williams*

About twice a year we take a break from swinging picks and shovels, heaving wheelbarrows full of dirt, hiking miles in all types of weather with backpacks full of cameras, GPS units and clipboards to just have some fun. Fun without the tools, maps and data sheets. Fun as a reward for months of sweat equity in the name of conservation. Fun in our Sky Island playground. So in October we headed out on a volunteer non-work weekend to the Mescal Mountains (ok — we were also scoping out a potential restoration project) where we hiked amongst saguaros and giant ash trees and swam in clear deep bedrock pools cascading in succession down a lush canyon to meet the Gila River. I won't go into the rattlesnake campfire story, but that was fun too.

Our fun quota replenished, it was back to work. Close, decommission and restore — three verbs that were well worn this past fall. We started in the badlands, building one rock dams and berms to help restore proper watershed function on the Malpai Ranch just east of Douglas. Then it was off to Las Cienegas National Conservation Area to close and re-close unauthorized roads carved by ORVs. Early winter found us working on the Coronado National Forest in the west flank of the Patagonia Mountains, faced with an endless supply of road decommissioning to be done.

The turn of the new year has brought a surge in volunteer weekend attendance, a stalwart combination of new faces and experienced hands all working towards a common goal — protecting our beloved Sky Island region. Our spring calendar is chock-full of varied restoration projects with many more opportunities lining up for the rest of the year. From restoring native frog populations to surveying for human and ORV damage to helping a river flow and flourish, it all takes dedication and hard work. Work that is rewarding, impactful and necessary. Work that is also… fun.

**Mission Accomplished!** ***Courtesy Sarah Williams.***

## Northern Mexico Conservation Program: More than a cat project *by Sergio Avila*

It was only two years ago when Sky Island Alliance staff and volunteers initiated a search for the secretive jaguar in the sky islands south of the Sonora–Arizona border. The idea didn't have a name, a large budget or a thought-out plan, but there was a feeling amongst SIA people that this was a good opportunity to explore and discover a region poorly known and full of potential.

It was only six weeks later when one of our cameras picked up a blurry image of a slender, small cat: ears and tail pointing back, spotted skin… the first live ocelot in the region ever photographed, and the first record in 40 years. Months later, a group of ranchers, conservationists, journalists and wildlife enthusiasts, sitting around the camp fire under a clear sky, witnessed the founding of the Northern Mexico Conservation Program.

To date, over twenty volunteer field trips have been conducted, thirty-one remote cameras have been installed and monitored from west of Nogales to east of Agua Prieta; 22 species of wild mammals, several birds, and reptiles have been recorded in photographs, tracks and direct observations; a memorandum of understanding was signed to protect 10,000 acres of wildlife habitat in El Aribabi; and we partnered with the University of Georgia to analyze data from our cameras.

We have high expectations for 2009: signing additional memoranda of understanding for over 50,000 acres of predator friendly ranches in San Bernardino Valley and Sierra La Esmeralda; promoting the official designation of a natural protected area in El Aribabi; initiating restoration activities for Chiricahua leopard frogs and other riparian species; involving Mexican students in our research and conservation activities; and maintaining good relations with local land owners.

In northern Mexico, we are committed to further the mission of Sky Island Alliance: to protect and restore the native wildlife and habitats of *las Islas Serranas.*

Want to know more? Please visit: **www.skyislandalliance.org/jaguars.htm**, contact Sergio Avila at: sergio@skyislandalliance.org, or call 520-624-7080 x16

## Policy and Planning *by David Hodges*

The Coronado National Forest continues to work on revising its Land and Resource Management Plan, as well as determining a forest-wide transportation system via the Travel Management Planning Rule. At SIA we have continued significant involvement in both processes. Though we do not know at this point what changes the recent election will bring to the future of forest planning, we anticipate that there will be changes. In the meantime, we are moving forward with the existing process.

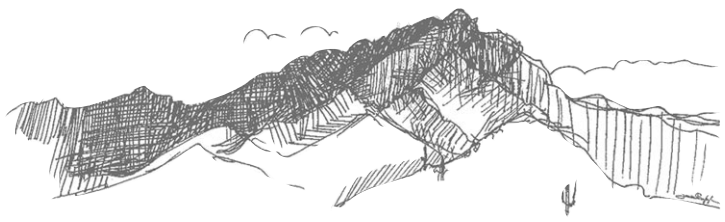
In late fall, with the Coronado Planning Partnership, we released *State of the Coronado National Forest: An Assessment and Recommendations for the 21st Century.* This report looks at the current conditions on the forest, as well as threats, assets, species of management concern, Wilderness suitability, special management areas and our recommendations for future management. You can view or download the report at the Sky Island Action Center website — **www.skyislandaction.org/state_of_coronado.html**. We are currently writing comments on the Forest Service's Desired Conditions for the new Forest Plan.

The Coronado is scheduled to release its Proposed Action on Travel Management for the Santa Catalina and Nogales Ranger Districts this spring. This is the first step in lowering the road density on many areas of the national forest while defragmenting the landscape. As a part of Travel Management Planning, we will prepare a written response to the Proposed Action and will provide these comments (as well as the above-mentioned forest planning comments) to our members when completed, to help you prepare your own comments.

Outside of forest and transportation system planning have begun to work more in Cochise County. Over the past few months we have begun working with partners there to develop a county-wide conservation strategy. One of the first steps has been to create maps which show lands under various conservation protections and identify other critical lands not currently protected. Look for more details on this in the next issue of *Restoring Connections.*

## Wilderness *by Mike Quigley*

As we begin 2009, we have a new President and Administration, a new Congress, and the Tumacacori Highlands Wilderness Act will have a new bill number when it is reintroduced in the U.S. House of Representatives. Congressman Raul Grijalva first introduced legislation to preserve the Tumacacori Highlands as Wilderness in late 2007; and the bill was heard in subcommittee. With



national elections, the focus on the economy and other factors, the bill did not come up for a vote before the Congress adjourned in 2008. Consequently, Congressman Grijalva will reintroduce the legislation shortly — we'll let you know by email alert when that happens!

Meanwhile, we have been continuing to educate folks about the Tumacacori Highlands and build support for Wilderness designation. We've been particularly active in Green Valley, where more than half of the households represented by Homeowners' Associations (HOAs) have expressed support — thank you to our friends in GV for the help! If you represent a group (anywhere in Arizona) that would like a presentation on Wilderness and the Tumacacori Highlands, please contact us.

We need your help to make 2009 the year we get more Wilderness in Arizona! The single best thing you can do to help is to call or write Senators McCain and Kyl, and your Representative, Congresswoman Giffords for many of you, and tell them you want more Wilderness in Arizona and you want them to make Tumacacori Highlands happen this year. If you are in Congressman Grijalva's district (many of you), please write or call him as well — he's dedicated and fully supportive and let's remember to say "thank you" and "good work" to him. Please see our website — **www.tumacacoriwild.org/take_action.html** — for contact information.

## Wildlife Linkages *by Janice Przybyl*

*Linking field data to conservation action with the help of volunteers.*

**Tracking workshop.** Half a dozen and six more of the same… that's how many tracking workshops we got under our collective volunteer belt. This year the first training weekend, October 24–26, took place at the Buenos Aires Wildlife Refuge's Education Center in Brown Canyon in the Baboquivari Mountains — Arizona's westernmost Sky Island range. A month later, we regrouped at the University of Arizona's Santa Rita Experimental Range in Florida Canyon. All fourteen volunteers successfully completed the workshop and are now being integrated into the different ongoing monitoring projects throughout Arizona and New Mexico.

**Mini-tracking workshop at Rancho Vistoso.** In an effort to engage a wider constituency of "citizen scientists" we held a one-day tracking workshop for members of the Rancho Vistoso hiking club. This was an abridged version of the above-mentioned five-day workshop. Main emphasis was placed on protocols and acquiring photo-documentation skills. Volunteers send in photographs of wildlife tracks found during their adventures. This information augments data collected by tracking volunteers on established transects and will be used to develop a more comprehensive picture of how wildlife utilize the Santa Catalina-Tortolita Linkage.

**Wildlife Linkages Scoping and Demonstration Workshop** Last Fall, Sky Island Alliance and Pima County co-hosted a two part workshop conducted by Dr. Paul Beier (NAU). Using the Tortolita Linkage as a case study, participates discussed outputs and features that would improve the workability of Beier's Corridor Evaluation Tool. We brought together a diverse selection of county and city planners, state and federal agency folks. Based on input from participants at the first workshop, Beier later presented alternatives to the original Tortolita Linkages and this Spring will release a revised and improved design model and evaluative tool.


SKY ISLAND ALLIANCE
Protecting our Mountain Islands and Desert Seas

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***www.skyislandalliance.org***

If you received this newsletter and it's time to renew your membership, please send in your check! If you are reading a friend's newsletter, consider joining us. We rely on members for our basic operations. Contributions are tax-deductible; we are a 501(c)(3) organization.

Basic membership is only $35, but if you add a little to that, here's a sampling of what your dollars can do: **$50** will help us survey 30 miles of roads… **$75** will sponsor volunteer training workshops… **$100** will close one mile of road.

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❑ My check is enclosed
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# What is Wild?

*by Sergio Avila for Sky Island Alliance staff*

"Wild" entails freedom, living in a natural state, unexplained, out of human control or influence. Wilderness is the space where wild lives, thrives — cold, dry, inhospitable, far away — that is *wild*.

Wild is not wild anymore when humans interject. Humans need, want, search, investigate; humans seem to be afraid of wild, and develop forms of un-wilding the wild, and then justify it. The control of Nature, playing god just to show that no matter how wild *wild* is, it can be tamed, controlled, subdued.

The death of an Arizona wild jaguar leaves an enormous void in our land and in our hearts. This is an incredibly sad loss for conservation, for this was the only known wild jaguar living in the United States and possibly the oldest jaguar living in the wild. The jaguar was first photographed in 1996 in a western sky island, and soon became a symbol of Arizona's wild heritage. This individual jaguar was proof of Arizona's unique biodiversity and represented a hope for his whole species in the U.S.

The jaguar was identified, photographed, publicized, but this wasn't enough. For some, just knowing that he was out there, out of human influence was enough; others needed, wanted to know more. What about respect, dignity, or any other traits that we ask for ourselves, for our elders or for our families?

As we grieve for his death, Sky Island Alliance will continue to work on wildlife and habitat conservation, training volunteers, using non-invasive research techniques as well as conservation and restoration measures to protect wild,


USFWS

healthy habitats and connectivity across the region. We stay committed to our principles of landscape level conservation, and reassure our supporters that we continue to work on behalf of the region's unique biodiversity, through all our programs.

This issue of *Restoring Connections* is dedicated to the wild jaguar and to all the people, past and present, working to preserve wild places and wild lives.

Wild will not die. Wild will prevail. Wild will be celebrated as the highest, purest, most perfect form of life.