



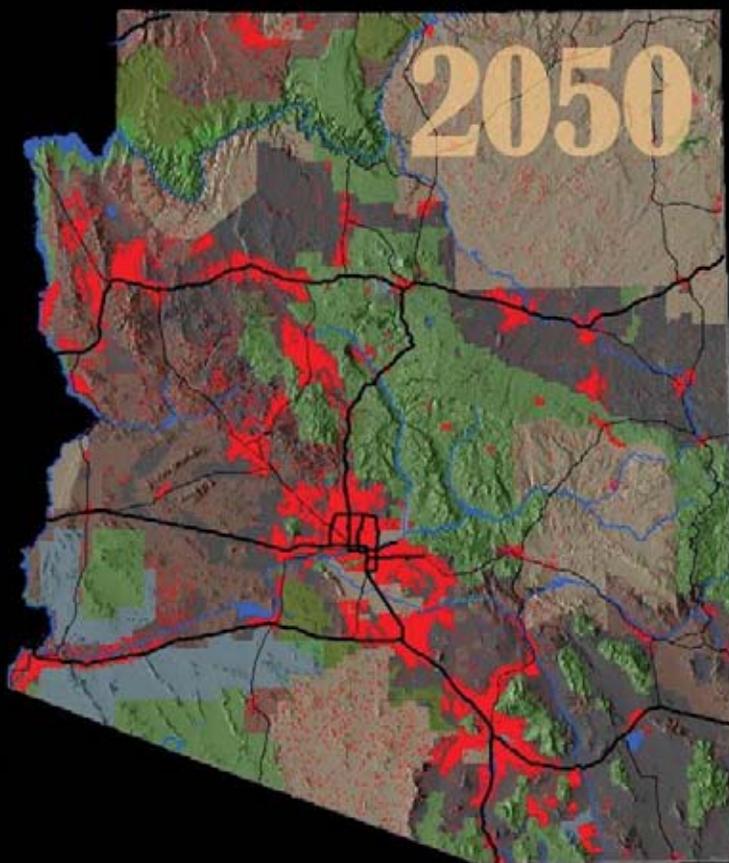
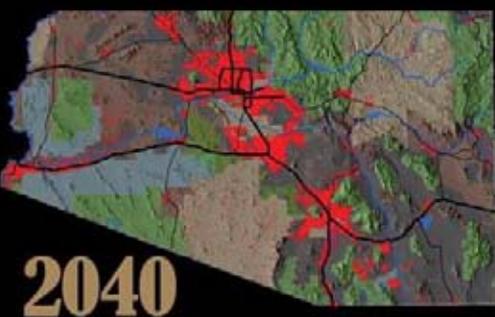
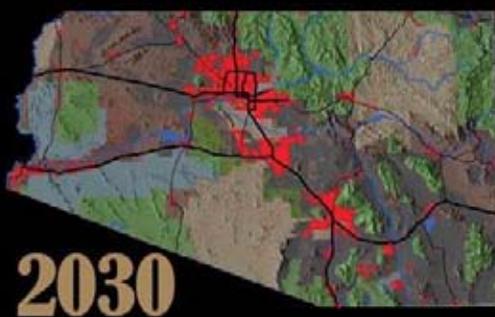
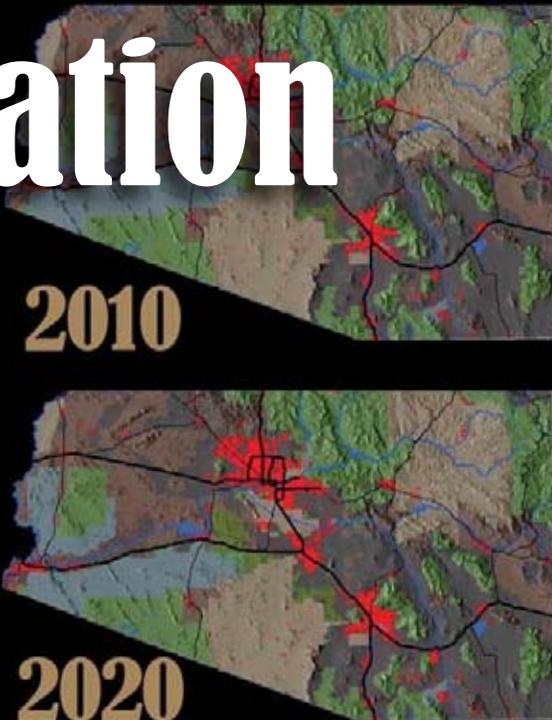
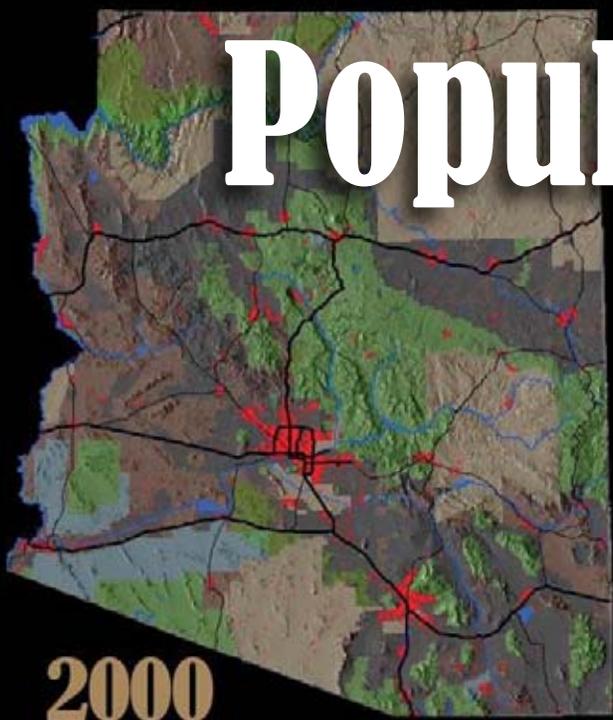
**SKY
ISLAND
ALLIANCE**
Protecting our Mountain Islands
and Desert Seas

Restoring Connections

Vol. 11 Issue 1 Spring 2008

Newsletter of the Sky Island Alliance

Population



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From the Director's Desk

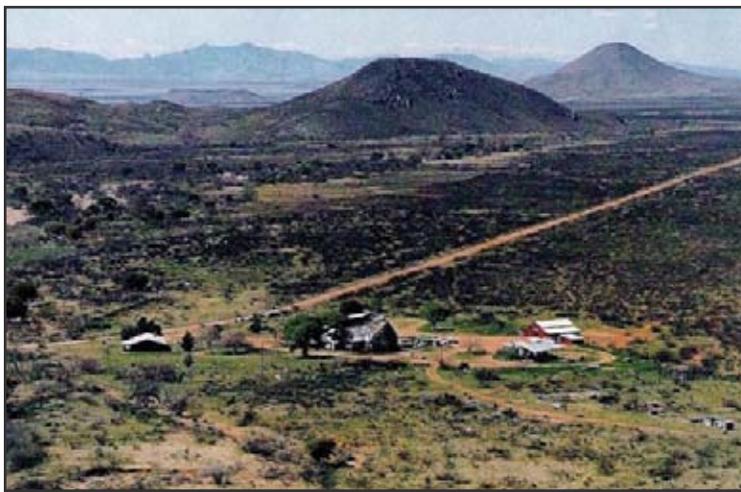
It was a recent Sky Island Alliance event where I found myself enthralled in conversation with an elder. It wasn't the first time I've tried to take advantage of learning from those who've hung around these parts for much longer than I, but this particular conversation had an impact that I wouldn't fully appreciate until my brain digested it several days later.

Our chatter covered a variety of topics, but came into focus when he began conjuring up memories about specific places that, not long ago, were very different than today. The first revelation involved State Highway 191 north of Clifton, Arizona. A windy chunk of blacktop that inches its way northward up the Mogollon Rim through the "Blue Range" and Apache National Forest, US 191 eventually reaches Alpine, Arizona, at the headwaters of the San Francisco River. RVs and tourists now climb the nationally recognized Scenic Byway for a glimpse at the wild country it separates. Perhaps you've driven it yourself — you keep your eyes glued on the road as you crank the wheel for hairpin curves every couple hundred yards. In places, you can see an old road cut. I had wondered what its story was over the years. During that conversation, it became clear.

Only a couple generations ago, US 191 was a dirt track, carved from the wilderness in the same year Aldo Leopold successfully protected the Gila Wilderness — 1924. When it rained, you didn't dare drive it. When you did, you'd plan on a full day or more to travel the 95 miles between the two towns.

Progress came and changed US 191, and progress continues to change our Sky Island landscape today. Now as well as then, the yardstick that measures progress is almost invariably one thing — growth. In that way, the Sky Islands have seen their share of progress.

Growth is a mantra that most live by here. Cities and states depend on it to sustain their budgets, whole industries are built upon it, and the U.S. economy is inextricably linked to it. The consequences of this relationship are profound. What would happen if the Sky Islands population stopped growing? It's a question that I don't hear very often, even though this inevitable scenario may be upon us in our lifetime.



Cattle ranch for sale in Sulphur Springs Valley.

In southeastern Arizona, the ecological impacts of growth are fairly well understood, and fundamentally provide the majority of challenges to a functioning ecosystem and full complement of native species. In many

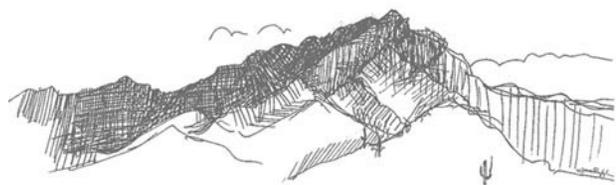
ways, it's actually the pattern of growth that many conservationists are concerned with. Instead of our cities and towns absorbing the majority of new residents, growth continues to sprawl outward. Through data provided by the last U.S. Census (2000), we can understand this better.

In Cochise County, which hosts the majority of our Sky Islands in the U.S., it wasn't Sierra Vista, Tombstone, Benson, or Douglas that grew the fastest (although they did grow significantly). Instead, it was the unincorporated portions of the County that grew most. In the 10 years between 1990 and 2000, the rural parts of Cochise County grew by 36% to over 47,000 people. Sierra Vista notwithstanding, rural Cochise County sustains more residents than the six remaining incorporated cities in the county.

In Santa Cruz County, the story is similar. Unincorporated areas — once sleepy towns or ranches such as Tubac, Salero Ranch, and Sonoita — accounted for a 78% population increase, while Patagonia and Nogales stayed relatively static in their numbers. Pima County? Well, it's hard for anybody to top the 520% increase that Marana boasted, though unincorporated areas actually outpaced the City of Tucson, regardless of the large annexations that have occurred over the years.

It is actually not uncommon to find yourself in conversation with someone who can remember when Swan Road was the edge of Tucson, when Sierra Vista was just a backwater military reservation in the desert, or when Benson was a simple highway stop between Tucson and Willcox. Heck, I was talking with someone not much over forty years old last week who described Rio Rico as a few start-up houses just off the interstate.

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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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I'll stop short of being a NIMBY (not-in-my-backyard) and calling for us to stop growth in its tracks. I wasn't born here, nor were most of those who work here. Rather than simply bad-mouth our population increase and pine for the days gone by, it's more important to be asking the right questions about how much longer we can sustain the unsustainable, and what choices we should be making today to ensure a bright tomorrow.

I do know one thing — growth is going into places that it shouldn't. Sopori Ranch, Smith Ranch, Eureka Springs Ranch, Lone Mountain Ranch — they are all places that contribute more to our regional character and health as open space, not master planned communities. Given these developments, the protection of wilderness and wildlife linkages takes on a new sense of urgency in a rapidly congested region. Landuse planning and leadership from local and county governments, spurred by the support of their constituents, is also a key element to making wise choices for the next generations.

Already, I've noted a number of instances where I found myself in the same place as that elder was with me, telling a friend or colleague what State Route 83 used to look like, how the views from Mt. Wrightson didn't include Sahuarita and Quail Creek, or how the grasslands near Sonoita were an endless expanse to the Canelo Hills. I'm too young for that — many of us are — though I take heart in knowing that I am part of a plan to ensure that the future of Sky Island wildlands isn't run over by today's outdated definition of progress. You are a part of that future too. The time is now, folks. Let's not miss this opportunity to redefine our choices and boundaries.



Matt Skroch, Executive Director

Board Transitions

First, a belated welcome to Sadie Hadley who joined the board last summer. A native Arizonan, Sadie grew up on a working cattle ranch on the US-Mexico border. After receiving a B.A. in Cultural Anthropology and an M.A. in Eastern Classical Literature and Sanskrit, she studied and worked in the Himalayan region for several years, and recently spent time in Mongolia observing traditional grazing practices. Involved in conservation ranching projects through the Animas Foundation and The Malpai Borderlands Group, Sadie has a special interest in cross-border conservation and ecological issues, and recently completed the Master Watershed Stewardship Program through the University of Arizona and Pima County.

A fond farewell (but not goodbye!) to Angel Montoya, who resigned in December to more actively focus on Wilderness issues in New Mexico and grassland issues in Northern Chihuahua. We thank Angel for his excellent service to SIA, his commitment to conservation, and his friendship.

Finally, a warm welcome to Carol Cullen. Carol is the Executive Director of the Tubac Chamber of Commerce. Carol is committed to working with the local business community to preserve the natural landscapes, open space and special rural character of the area. These are the environmental amenities that create sustainable commercial value for tourism, a staple of the Southern Arizona economy. Carol has extensive experience in research and evaluation, having served as a professional evaluator for most of her career reviewing state, national, and international programs.

Finding a Partnership with the Earth

I remember a dream from last night... I was in a slightly lush landscape than Sonoita — the trees were tall, the vegetation almost impenetrable. It was evidently more populated than Sonoita because I was turning off a major city street onto a dirt road, into an area I knew to be mostly untouched by people except for their foot trails. I began following handmade "signs" onto a series of two-tracks. The number and frequency of signs grew until I came out of the vegetation and could see that the way ahead was being cleared for development. A bird leapt from a branch singing, a flash of green iridescence as the sunlight shimmered on its feathers, but it couldn't fly away; it simply hovered. I couldn't proceed any further when I realized the developments were branching out faster than I could trace my way through them. I turned away, feeling a huge regret that I had never gotten to know this landscape and now it was too late.

When I began working on this issue of *Restoring Connections*, I had only a general idea of what it would mean to present the issue of population to you. So I read Jared Diamond's *Collapse*, which traces the patterns of pre-historic to historic societies that have succeeded or failed in living within the constraints of their natural environment — sobering stories as we apply them to the world today. Then a friend sent me a link to Diamond's *New York Times* op-ed (1/2/08), "What is Your Consumption Factor?"* Use this framework when you read Monique Lane's thoughtful essay on page 7:

The population especially of the developing world is growing, and some people remain fixated on this. They note that populations of countries like Kenya are growing rapidly, and they say that's a big problem. Yes, it is a problem for Kenya's more than 30 million people, but it's not a burden on the whole world, because Kenyans consume so little. (Their relative per capita rate is 1.) A real problem for the world is that each of us 300 million Americans consumes as much as 32 Kenyans. With 10 times the population, the United States consumes 320 times more resources than Kenya does.

I found links to an amazing set of human population projections from the Maricopa Association of Governments (J. Peach and J. Williams. 2003, many included herein). But there was something missing... ah, the natural world. I had completely gone human-centric. And that is why I am so delighted to also present you with perspectives where the the focus is the fate of Mexican wolf and mountain lion populations and the San Pedro River.

The global has become local. The Sky Islands can no longer be islands unto themselves. They share the effects of global warming, deforestation, air and water pollution with the rest of the planet. There's an insatiable desire for the copper in their mountainsides. The watertables in their desert seas are being sucked dry by the straws of ever-expanding human communities. And now their rich biodiversity is being vivisected by an international border.

The local must become global. Humans are not separate from natural processes, we just act like we are. It is time we, the People of the Sky Islands, made economic, social and political choices that acknowledge that we cannot survive if we don't have plants and pollinators, sunlight and clean water, intact natural systems. Lead the rest of the world by example. Protect our open spaces. De-tread our global footprint by buying local food and products. Build for the future by restoring the ecological processes we've harmed. Remember that it takes a village to raise a child and act appropriately. Most of all, live today so you don't regret tomorrow. — *Julie St. John, Editor*

*I would have loved to have reprinted the entire essay for you, but it doesn't seem fair to have to pay a *New York Times* reprint charge when all my other writers so generously contribute their time... *thank you, you are worth your weight in gold!*



Photo by Janice Przybyl.

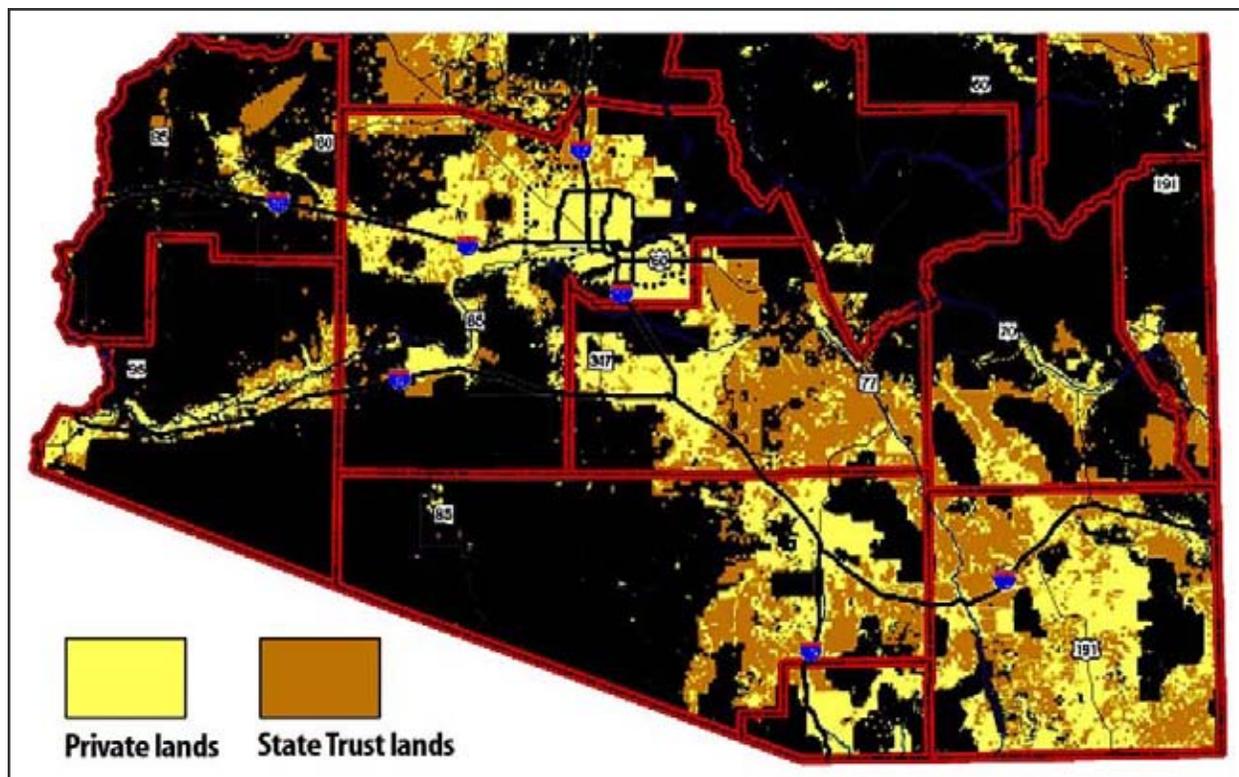
A New Focus Brings (the Potential of) Hope for Open Spaces

by Louise Misztal, Conservation Associate

Natural areas in the United States are being converted to developed land at rate of 6,000 acres per day. The U.S. Forest Service considers this rate “alarming” and feels they can no longer fulfill their mission without addressing this rapid nationwide loss of open space. Many of the 175 National Forests and Grasslands across the National Forest System are faced with increased impacts from escalating development on private rural land along their boundaries. The U.S. Forest Service estimates that by the year 2030, some 21.7 million acres of rural private land located within 10 miles of national forest will undergo a substantial increase in housing density. This will affect the ability of the Forest Service to carry out management practices, and to conserve the ecosystem services and resources of national forests.

Here in the Sky Island Region of the southwestern U.S. and northwestern Mexico, population growth continues to exacerbate habitat fragmentation and destruction. A serious problem across the country, it is of unique importance in the Sky Island Region, where 1.7 million acres of Forest Service land are scattered among twelve mountainous areas. The Coronado National Forest manages twelve distinct Ecosystem Management Areas that are separated by intervening low-elevation grassland and desert habitat. For wildlife moving between Sky Island mountain ranges, this means traversing land owned by a variety of entities ranging from private to state to other federal agencies. The demographic trends in the area surrounding the Coronado National Forest show sustained and rapid population growth that is expected to continue for the foreseeable future. Growth in the region continues to push into the urban fringe and beyond, as more and more people seek to live in scenic and rural areas.

With the population of the United States projected to increase by at least 135 million people by 2050, the outlook for open space is grim. Here in southern Arizona, the Coronado National Forest faces the possibility that the mountain ranges they manage will become completely isolated from each other by development in the intervening lowlands. This will greatly hinder the survival of many well-known forest residents such as bears, bobcats and mountain lions. However, while growth may be inevitable, how and where it occurs is not predetermined. Due to the negative affects of nearby development on the integrity and biodiversity of national forest lands, the Forest Service has made a decision to address the conservation of open space.



A landscape at risk— developable lands in southern Arizona. Black areas show tribal lands or those managed by federal agencies.
J. Peach and J. Williams. 2003. "Population Dynamics of the U.S.-Mexican Border Region." Unpublished, forthcoming SCERP Monograph. San Diego: SCERP/SDSU Press.

In 2006, the Forest Service came out with a new focus for management direction known as the four threats: fuel and fires, invasive species, loss of open space, and unmanaged recreation. These threats were identified to refocus the national discussion on these important aspects of the Forest Service's work. In March of 2007, Forest Service Chief Abigail Kimbell stated, "the loss of open space is an urgent and important problem, and the Forest Service clearly has a role in helping balance growth and development with open space conservation."

The new importance of conserving open space is further illustrated by the Forest Services' Nationwide 2007–2012 Strategic Plan, which includes conservation of open space as one of seven goals. No such goal existed in the 2004–2008 strategic plan. At the end of 2007, the Forest Service came out with a National Open Space Conservation Strategy to achieve the goal. The Forest Service has come to the realization that in order to maintain the ecological and recreational values of their land, they must look beyond their boundaries at what is happening in surrounding lands.

The new national strategy is being reflected locally on the Coronado National Forest. The Coronado is currently working to revise its Forest Plan, first implemented in 1986. In a series of public meetings in the fall of 2007, the Coronado sought to refine information it had gathered from a previous round of public meetings and to begin to focus on specific topic areas. Conservation of Open Space was highlighted as one of five key aspects of the management plan revision. Rapid population growth in Arizona and New Mexico has been very apparent to the Coronado over the past decade, as access to popular forest areas has been limited and the rural character of southern Arizona has begun to diminish. The current forest plan does not address these pressures on the forest. The Coronado now seeks to create a new management direction that

will address sustainability within and beyond the forest boundary. Coordination with nearby landowners and involvement in land planning processes are important tools that have been identified by both the Forest Service and the public.

The previous Forest Service management style of focusing solely within the boundaries of the National Forest is no longer sufficient to fulfill the agencies mission to "sustain the health, diversity, productivity of the Nation's forests and grasslands to meet the needs of present and future generations." The Forest Service's new national vision of "an interconnected network of open space across the landscape" is a vision shared locally by Sky Island Alliance. By looking beyond their boundaries and into the future, the Forest Service stands a better chance of maintaining forest qualities the public greatly appreciates, including opportunities for quiet and solitude, and scenic views. As one Forest Service employee asked during a planning meeting, "what do you want to see and hear while recreating on forest lands?" Sky Island Alliance believes the answer to that question lies, in part, in a new Coronado forest plan that takes responsibility for conserving open space.

Louise Misztal, a conservation biologist in the Planning Program at Sky Island Alliance, is currently working on Forest Planning issues on the Coronado National Forest. She can be reached at louise@skyislandalliance.org.

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The Disappearing San Pedro River

by Randy Serraglio, San Pedro Campaign Manager for the Center for Biological Diversity

By now, Sky Island Alliance members are probably well versed in the dynamics of population growth and the threats and challenges posed to the ecology of the Sky Islands. It is a problem that pervades the West, but is particularly critical in southern Arizona, an extremely sensitive region of what is now the nation's fastest-growing state.

We know that development and roads can be barriers to wildlife movement in and between the Sky Islands, but one "highway" is itself threatened by growth. Flowing north from its headwaters near Cananea, Mexico, to its confluence with the Gila near Winkelman, Arizona, the San Pedro River is a linear oasis connecting the Sierra Madre in the south with the Rocky Mountains in the north. The river serves as a corridor for millions of migratory songbirds each year, with nearly half of all avian species in North America sighted there. It is also home to the second-highest diversity of land mammals on the planet, topped

only by the cloud forests of Costa Rica. Several imperiled species depend on the San Pedro for survival, including the southwestern willow flycatcher, yellow-billed cuckoo, Huachuca water umbel, loach minnow, and spikedace.

Recognition of the San Pedro's supreme ecological importance is widespread. Twenty years ago, the U.S. Congress designated forty-five miles of the Upper San Pedro as the nation's first Riparian National Conservation Area. The river appears on The Nature Conservancy's list of the northern hemisphere's Last Great Places, and it was the first Globally Important Bird Area named by the American Bird Conservancy.

Despite all of these accolades and more, the San Pedro River is in trouble. The upper reaches of the river, where much of its perennial flow is found, lie very close to the booming town of Sierra Vista and the economic engine of Fort Huachuca. Driven by the rapid expansion of the Fort and the town's desirability as a destination community, Sierra Vista's population of 50,000 has just about doubled in the last 30 years, and may double again in the next few decades.

The implications for the river are dire, and rest mostly on immutable laws of physics. In the dry times of the year, desert rivers such as the San Pedro often depend entirely on groundwater aquifers flowing just beneath the surface to sustain their surface flows. Unfortunately, Sierra Vista's human population is also entirely dependent on groundwater, the pumping of which through thousands of commercial and individual wells has created a groundwater deficit. Simply put, far more water is being pumped out of the ground every year than is being recharged by precipitation.

Much of the water that sustains the San Pedro falls as precipitation on the slopes of Sky Islands such as the Huachuca Mountains, where it infiltrates the soil, recharges the aquifer, and then flows underground toward the river. The problem is that it must first pass beneath the thousands of straws that slake Sierra Vista's thirst, where some of it is intercepted, or "captured," before it can reach the river.

Compounding this dynamic is the law of conservation of mass: all of that pumping creates a "cone of depression" in the aquifer that lowers the water table in the area of the pumping. The laws of physics dictate that new sources of water will be sought to remedy the imbalance in the system, raising the specter that the cone will



San Pedro River. Photo by Robin Silver.

eventually grow to the point that it pulls water away from the river and toward the pumps.

One need only ponder the dry ditch that used to be the perennially-flowing Santa Cruz River in Tucson to see the tragedy that would result if this dynamic were to continue. In fact, numerous desert rivers have already suffered this fate, and while the San Pedro is one of the very few that still persist, it has lost two-thirds of its average base flow in the last 60 years. Most alarmingly, at a crucial gauge on the river, pre-monsoon dry season flows have dropped to zero three years in a row, an event that had never occurred in the previous 75 years of record-keeping.

Now that we have entered an era of sustained drought, global warming, and other macro-scale stresses and uncertainties, it is more urgent than ever to focus on the one factor in the San Pedro's peril that we can control: excessive groundwater pumping, driven by rampant, poorly-planned growth. Unfortunately, here in Arizona, established water law does not recognize the connection between groundwater and surface flows in rivers, despite a clear scientific consensus on the matter.

The Center for Biological Diversity has litigated issues surrounding the San Pedro for almost twenty years, winning protections for various endangered species and forcing Fort Huachuca to take some responsibility for its negative impacts on the river. While the Fort has done an admirable job of cutting its overall water use in half, even while its personnel have significantly

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Map by Curtis Bradley.

No Lobo Left Wild? Escalating Removals Threaten Survival of Remaining Mexican Gray Wolf Populations

Article and tables by Jean C. Ossorio and David R. Parsons
with photos courtesy US Fish & Wildlife Service.

The first of eleven reintroduced Mexican gray wolves (*Canis lupus baileyi*) stepped cautiously out of their pre-release pens into the snowy Apache National Forest on March 29, 1998. Contrary to the predictions of some skeptics, reintroduced lobos adjusted well to life in the wild. They killed elk, staked out territories, excavated dens, and whelped dozens of pups during the first ten years of the project.

Projections in the Final Environmental Impact Statement called for a total of 66 wolves to be released during the first five years of the reintroduction. After 2002, new releases would stop. Future increases through natural recruitment would result in a population of approximately 102 wolves and 18 breeding pairs by the end of 2006. Unfortunately, actual population figures have fallen far short of those projections.

The annual end-of-year aerial survey of Mexican wolves conducted by the Interagency Field Team revealed only 52 lobos in the wild at the end of 2007. Even more disturbing, the number of breeding pairs, defined in the rule governing the reintroduction as *an adult male wolf and an adult female wolf that have produced at least two pups during the previous breeding season that survived until December 31 of the year of their birth*, fell from six at the end of 2006 to only three. Only nine pups survived until the end of the year. Two of those pups were killed on the highway during the first ten days of 2008.

From 1998 through 2003, actual population figures closely tracked projections. From 2004 through 2007, however, the number of Mexican wolves in the wild fell far behind, with actual decreases in population in 2004, 2005, and 2007. The population lagged behind projections despite the fact that new releases continued every year since 2002 with the exception of 2007. The 99

initial releases exceeded projections by 50%. Without the additional 33 released wolves and their surviving offspring, the wild population at the beginning of 2008 would have been even lower than the 52 wolves counted in the 2007 end-of-year survey.

The primary reason for the failure of the wild population to reach



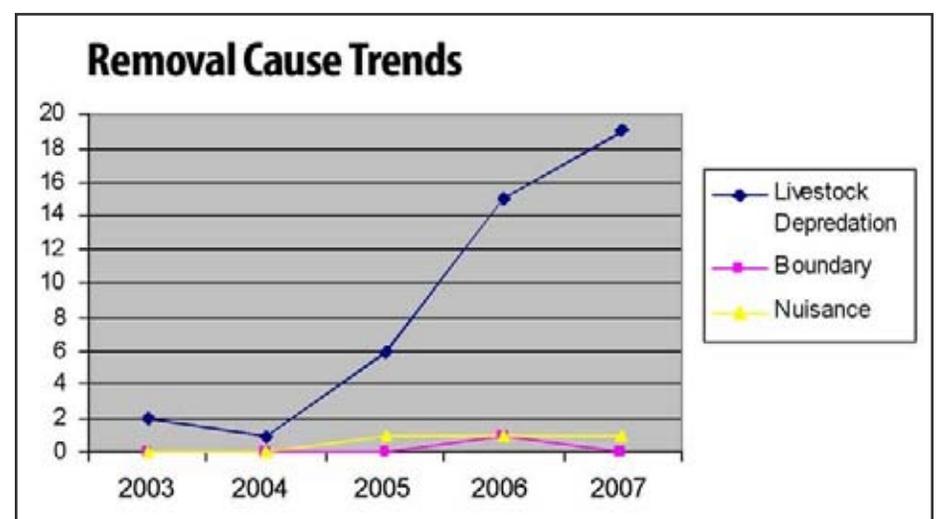
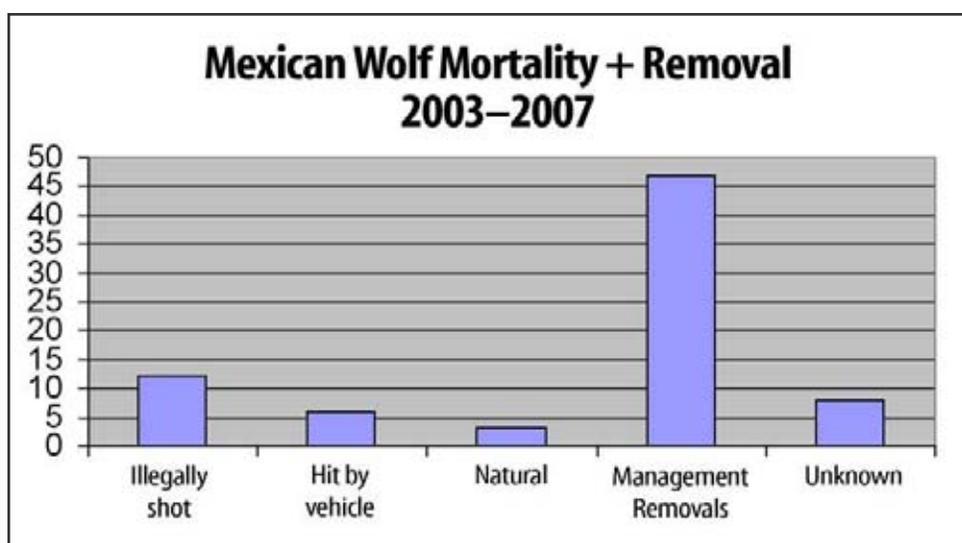
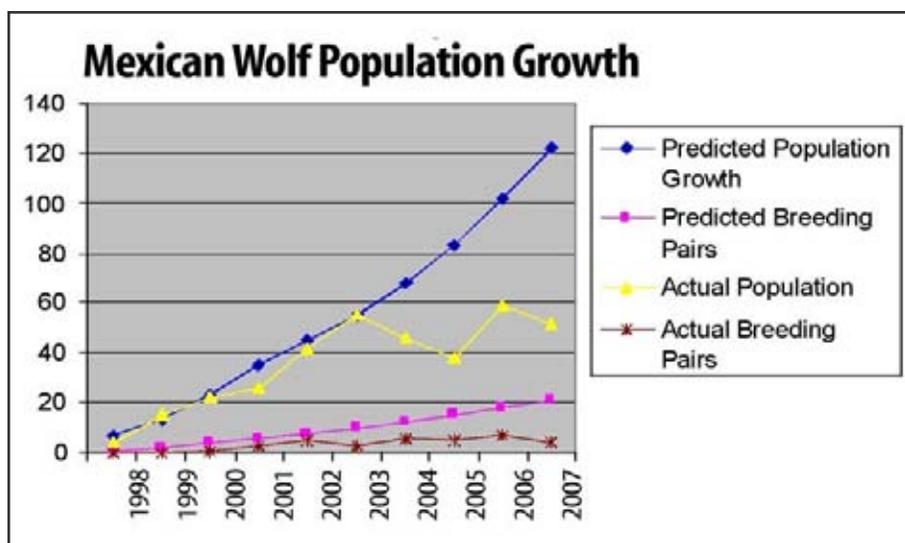
Wolf pup howling. Photo courtesy USFWS.

projected levels has been aggressive removal of wolves from the wild by project managers. Management removals far outstripped any other cause of loss of Mexican wolves in the five year period beginning in 2003. (see tables below from Parsons and Ossorio, 2007, updated to include 2007 end-of-year figures.)

An analysis of the causes of management removals reveals that the single greatest cause of removals of lobos from the wild, whether by lethal or non-lethal methods, was livestock depredations. Removals for being outside the boundary of the recovery area and for nuisance behavior, such as hanging around human habitations, remained at very low levels. This escalating rate of removals for depredations is a direct result of the application, beginning in 2005, of a rigid, punitive policy (known as Standard Operating Procedure 13.0) of removing any Mexican wolf that government investigators determine killed three or more head of livestock within a 365-day period. Despite repeated calls for its rescission by the conservation community and the Governor of New Mexico, SOP 13.0 remains in effect, unchanged, today.

Lobo managers do not consider extenuating circumstances, such as the presence of untreated livestock carcasses habituating the wolves to killing cattle, nor do they take into account the genetic value of the particular animals when assessing depredations. An egregious example of failure to consider genetics was the lethal removal

continued next page





LEFT **M728 at Sevilleita.** CENTER **Female with pups.** RIGHT **Saddle pack 2004 litter in a vari-kennel at Sevilleita. Their daddy was Saddle AM574, the extremely high value wolf mentioned in this article. He was shot for depredations on 7/11/04. The puppies were born in captivity a few months earlier, following the recapture of their mother.**

of the original Saddle pack alpha male, AM574. Internal project emails obtained through the Freedom of Information Act show that this wolf was genetically the sixth-ranked lobo in the entire wild and captive population at the time of his shooting, with half of his genes deriving from the rare Aragon lineage of Mexican wolves.

Removals in 2007 included 10 wild-born pups — more than the 9 pups known to survive on December 31! These 10 pups from the Saddle and Aspen packs represented two of the three largest known litters born in the wild during the year. All 10 pups removed bore genetic material from at least two of the three lineages of Mexican wolves in captivity: McBride, Ghost Ranch, and Aragon.

A recent analysis by Fredrickson *et al.* (2007) concludes that cross-lineage wolves (those with ancestry from two or more lineages) exhibited superior fitness as compared with single-lineage Mexican wolves, especially McBride wolves, which they describe as having “low fitness” in the wild. Of wolves with known ancestry in the Blue Range Wolf Recovery Area (BRWRA) population, more are of pure McBride lineage than of any other lineage. Fredrickson *et al.* (2007) found that “in the wild population, 52% more pups were observed among packs producing cross-lineage pups than those producing pure McBride lineage pups.”

Each of the three lineages has “substantial numbers” of unique alleles (gene forms) which create “large heterotic effects (improved fitness in offspring of cross-lineage matings).” According to Fredrickson and colleagues, proper genetic management of the wild BRWRA population of Mexican wolves through carefully planned mixing of genes from the three lineages can result in a “genetic rescue” of the wild population.

The U.S. Fish & Wildlife Service and its cooperating agencies have promulgated no formal management procedures or guidelines for improving or maximizing the genetic integrity and viability of the BRWRA population of Mexican wolves. In fact, as noted above, management actions to date have been antithetical to genetic fitness, since removals

under SOP 13.0 do not consider the genetic value or reproductive status of wolves targeted for lethal control or permanent removal.

The implications for the success of the BRWRA reintroduction, and ultimately, for the recovery of the Mexican wolf, are clear. The USFWS should immediately declare a moratorium on removals of lobos from the wild, except in those cases where removal is required in the Final Rule: immediate threat to human life and wolves caught in the act of attacking livestock on private land. The infamous SOP 13.0 is a purely discretionary management policy permitted, but not required, under the 10(j) rule governing Mexican wolf reintroduction. The continuation of such a draconian removal policy could well result in the second extinction of the Mexican wolf in the wild within a very few years. The moratorium should remain in effect until the objective of at least 100 lobos has been met and sustained in the Apache and Gila National Forests.

The USFWS should also work with genetics experts, both within and independent of the Mexican Wolf Species Survival Plan (the captive breeding program) to promulgate a standard operating procedure on genetics, which would direct both release policy and removal policy from the point of view of maximizing the genetic diversity, and thus the fitness, of the wolves in the wild. It is not too late to save the lobo, but the window of opportunity is closing fast.

Jean Ossorio is a retired teacher and has been a supporter of Mexican wolf recovery since the beginning of the reintroduction program. She has seen 25 Mexican wolves in the wild, while spending at least 165 nights tent-camping in Mexican wolf home ranges since 1998. She has led informal groups of women on wolf country outings, and was co-leader of the first two commercially outfitted wildlife watching trips in Mexican wolf territory in the Gila National Forest in 2006.

Dave Parsons is a professional wildlife biologist. He is retired from the U.S. Fish & Wildlife Service, where from 1990 to 1999 he led the USFWS's effort to recover the endangered Mexican gray wolf.

Currently, Dave is the Carnivore Conservation Biologist for The Rewilding Institute. In April 2007 at the North American Wolf Conference, Dave received the 2006 “Alpha Award” for his “outstanding professional achievement and leadership toward the recovery of Mexican wolves.” Dave is on the Board of Directors of the New Mexico Wilderness Alliance.

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See Donna Stevens' related essay on page 12.



San Pedro River

continued from page 5

increased in number, growth in the surrounding area continues to outstrip the gains that have been made. Local jurisdictions lack the political will and the legal tools to control the situation.

To protect the San Pedro and the rest of Arizona's remaining threatened rivers, it will be necessary to change Arizona water law to more closely reflect scientific reality. The technology exists to replace water that is pumped out of the ground through artificial recharge projects using effluent, runoff, and so on. We need only develop the legal framework to implement these solutions to protect what precious little remains of our desert riparian habitat.

Randy Serraglio is a longtime SIA supporter and volunteer. His partner, Louise Misztal, is a Conservation Associate and GIS Technician on Sky Island Alliance staff.

Growth & Population

by Trevor Hare, Landscape Restoration Program

“Growth for the sake of growth is the ideology of the cancer cell.” — Ed Abbey

“And of cactus.” — Trevor Hare

One small tree in my front yard would not grow, but as a velvet mesquite, a native to the desert, it took a very measured approach to growth. I didn't water it much, after all it is a desert dweller, and I didn't prune it as I saw beauty in its 3 trunks and wild but puny appearance. After 11 years of contemplating its place in the world it decided to grow, and grow it did, 3 feet a year over the last 4 years. That mesquite tree is now a lovely adolescent with a great future in shading the wildflowers and native grasses in my front yard. On the other hand those damn prickly pears will not stop. They grow with an abandon that is truly amazing, from 2 small cuttings 15 years ago when I ripped the lawn out, they have grown into a couple of behemoths. I didn't water the cactus much either but they didn't really care, they apparently thought they had it all figured out and grew and grew and grew. But a hard freeze is exactly that, hard. As I walked outside that early morning a couple of years back I could hear them groaning and cracking and I watched those behemoths drop more than half their mass to the ground as cactusicles.

The conversion of natural open space to cheap stucco tract housing and worthless commercial strip malls has proceeded unchecked in my twenty plus years in the Tucson basin but a hard freeze is upon us and much like my prickly pear, development plans are dropping like frozen cacti. Two phenomena are driving the downturn in the building industry, one is greed and one is awareness. Greed has resulted in an overabundance of poorly planned communities of crappy houses built in areas remote from services and jobs. Awareness is resulting in a desire for better communities planned and built with sustainable, context sensitive, and ecological ideals. Sustainable means energy efficient homes and businesses built with local materials that are non-polluting and low water-use. Context sensitive means that you can walk to work, or at least have efficient public transit, and to your local market, your local art house and your local pub; it means the open space in and around your community will be livable, safe, connected with gardens and greenways, play areas and meeting places. Ecological means reducing the carbon

footprint, reducing impediments to native species using open spaces, reducing the impact of domestic animals and other invasive exotic species on wildlife and vegetation, and preserving your wildlands.

Yes, part of this growing sustainable communities paradigm is conserving wild wide-open spaces, but as I lived through the destruction of the Tucson basin I was also watching the transformation of the southern Arizona rural landscape every time I ventured into the Sky Island Region. For Sale signs everywhere. Billboards offering 20- and 40-acre lots. Oak savannas carved up with roads and powerlines. Italian cypress and rye grass assaulting my sensibilities. Hummers and ATVs parked in front of out-of-place Midwestern homes complete with lawns. You'd think a footprint of a 10,000 square foot building envelope out of the 1.74 million square feet in a 40-acre, ¼ of a ¼ section, or even the close to half a million square feet in a 10-acre parcel wouldn't have much of an impact on that parcel or the surrounding matrix of low density housing and wildlife habitat. But it does, immensely, and only through proactive voices and revolutionary ideas can we deal with it. The watershed problems, the disruption of wildlife behavior and their use of movement corridors, and all the mortality associated with more roads, more powerlines, more dogs and more cats, the habituation of large critters to human trash and handouts, the invasion by non-native landscaping plant and light pollution are issues we can deal with.

So, again, I have to ask for at least the twentieth time in these pages — What Are We Going To Do About It? We are going to go out there! We are going to make difference. A difference in how our public lands are managed, what we protect and what we restore. We are going to place one rock dams, we are going to rip out manmade impoundments, we are going to decompact road surfaces and install vertical mulching, we are going to talk to our neighbors, we are going to drink Bacanora with Mexican cowboys and beer with government employees, we are going to sit on a rock, smell the earth and smile.

Books of Note

When I asked Sky Island Alliance staff to recommend titles that came top to mind when they thought about population issues (even books that might not be an obvious link to anyone else), I got an instant deluge of emails:

Trevor recommends:

Cross-Pollinations: The Marriage of Science and Poetry by Gary Paul Nabhan

Thrillcraft: The Environmental Consequences of Motorized Recreation, edited by George Wuerthner

Moniqua recommends (and Sky and Mike concur):

Cadillac Desert by Marc Reisner — *The story of the spectacularly unsustainable growth of THE desert metropolis made possible by greedy business interests and ignorant (in the nicest possible way) Americans who beg, borrow and steal from the environment and each other what little water those poor desert rivers have to offer. What more could you want? Besides, you can't talk about population growth in the west without talking about water.*

Lahsha recommends:

Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder by Richard Louv — *It discusses the need for children today to have significant exposure to and unstructured play time outdoors and in nature.*

Every Day Blessings and **Grace for the Moment** both by Max Lucado. — *Daily reminders and encouragement of the powerful connections of actions and faith in our lives.*

Louise recommends:

The Geography of Nowhere by James Howard Knustler — *More about growth patterns than population*

Mike recommends:

Southern Arizona Nature Almanac: A Seasonal Guide to Pima County and Beyond by Roseann and Jonathan Hanson — *A great introduction to living here*

The Hidden Connections: Integrating The Biological, Cognitive, and Social Dimensions of Life into a Science of Sustainability by Fritjof Capra

The Poetry of Robert Frost

The Quark and the Jaguar: Adventures in the Simple and the Complex by Murray Gell-Mann (seconded by Moniqua)

Common Wealth: Economics for a Crowded Planet by Jeffrey Sachs

The Last Man by Mary Shelley

Galapagos by Kurt Vonnegut

David recommends:

Good News by Ed Abbey

Sergio recommends:

Killing the Natives by Guy McPherson

Julie recommends: Read Jared Diamond!



The perspective is wilderness, from the hike to Atascosa Lookout in the Tumacacori Highlands.

The Year-End Snapshot: 2007

From atop a mountain peak in southeastern Arizona, one's gaze falls upon a folded fabric of earth that strikes awe, resonates beauty, and hosts one of the most biologically diverse corners of the world. Neither desolate desert nor expanses of scrubland occur here. It is a place of subtropical oaks, soaring pine-clad cliffs, and undulating hills of grassland and forest.

The Sky Island region of the North American continent is a globally unique region where several major biological provinces overlap, creating an explosion of life found nowhere else in the world. This territory of isolated, forested mountains surrounded by seas of grassland tells a fascinating story of evolutionary convergence and unparalleled diversity.

Humans have been a part of the Sky Island landscape for millennia, though today, our impacts on the land have reached a breaking point. Global, national, and regional developments have brought into focus several major drivers that strike at the core of the Sky Islands' ecological health.

Innovative approaches, creative partnerships, and an intense level of commitment on behalf of the Sky Island's residents are needed to ensure that our natural heritage remains for future generations. Sky Island Alliance is answering that call. Through a unique blend of science, grassroots organizing, policy development and on-the-ground restoration, Sky Island Alliance has been hailed as the most effective regional conservation organization in the Southwest. We have never been alone — our success is driven by many, many people working together to achieve common goals. This approach will continue to define our organization for years to come.

— *Matt Skroch, Executive Director*

Many Thanks

to the roughly 1,000 donors, members, volunteers and businesses that contributed to Sky Island Alliance in 2007. *It is your contributions that have made this work possible.* While many have contributed significantly, and we would like to thank you by name, out of courtesy to those who do not wish to be thanked publicly we have chosen not too.



The following businesses contributed in 2007:

Arbico
Arizona-Sonora Desert Museum
B&B Cactus Nursery
Blue Jewel
Brooklyn Pizza
Clos LaChance Winery
Desert Survivors
Eagle Optics
El Parador Restaurant
Fox Theater
Warren Glenn
Josie's House of Flowers
Lotus Massage and Wellness
Center
Many Hats Advertising
Miraval Resort and Spa
National Wildlife Federation
Native Seeds/Search
Parasol
Photographic Works
Providence Institute
REI
Romano Real Estate
Sierra Network Solutions
Summit Hut
The Nature Conservancy—
Ramsey Canyon Nature Shop
Jeannie Tucker
Wild Bird Store

Protecting Special Places

Sky Island Alliance recognizes the significant conservation value of Wilderness Areas and other protected areas on public land. Our organization is a leader in conservation planning efforts to protect ecologically significant land throughout the Sky Island region.

Tumacacori Highlands

Sky Island Alliance and its Friends of the Tumacacori Highlands project organized thousands of businesses, organizations, and individuals to speak out for the lasting protection of the magnificent Tumacacori Highlands in 2007. In August, the campaign's first major milestone was reached with the introduction of federal legislation by southern Arizona Congressman Raúl Grijalva, who has championed the initiative since its inception.

Reaching out to non-traditional allies over the course of the year, the Wilderness campaign attracted the strong support of the National Council of Churches and the Arizona Ecumenical Council. After three years of negotiations, Sky Island Alliance has also secured the support of the

ranch that would become surrounded by the designation.

In November, Sky Island Alliance staff and the Tubac Chamber of Commerce co-testified to the Subcommittee on Parks, Forests, and Public lands on behalf of Representative Grijalva's legislation to create the Wilderness Area.

The Peloncillo National Conservation Area

As one of the largest intact landscapes remaining in the U.S. portion of the Sky Islands, the greater Peloncillo Mountain region is safe harbor to a large slice of the region's natural heritage. The threat of subdivision of private lands and unchecked motorized recreation is growing and could pinch off important wildlife linkages that connect habitat to the Chiricahua Mountains.

Sky Island Alliance is committed to working with landowner partners in the Peloncillo region to secure a permanent layer of protection against overzealous development. Throughout 2007, we



worked with stakeholders in the Peloncillo region to begin drafting a comprehensive management plan for a National Conservation Area, which will require an act of Congress to create. By providing a coordinated framework of natural resource management, conservation easement assistance, and public lands protection, a National Conservation Area will ensure that this unbroken landscape will remain in its natural glory for generations to come.

Other 2007 highlights in the Peloncillo region include:

The release of the Peloncillo Science Report, the first comprehensive resource for the natural history of the region, written and edited by scientists and research experts working within the area. The report can be downloaded at the Publications page of Sky Island Alliance's website.

Restoration work in the Red Windmill Draw in cooperation with the Malpai Ranch. Twenty volunteers spent two days with restoration practitioner Van Clothier as they set one-rock dams to control erosion and induce meandering in a degraded watershed.



LEFT It takes a community to raise a piece of legislation — Congressman Grijalva, flanked by his cadre of Tumacacori Highlands Wilderness Campaign supporters. RIGHT Matt Skroch, Carol Cullen and Mike Quigley in the Subcommittee Room after testifying for Congressman Grijalva's bill.

Playing Defense

Sky Island Alliance is proactive in seeking long-term protection for the region's natural heritage, but that doesn't mean we ignore bad policy and poor land management. With mining exploration and motorized recreation at an all-time high, in addition to an impermeable border wall being constructed through the center of the region, Sky Island Alliance's policy shop has been busy organizing and advocating against these harmful threats.

After six exploratory drilling projects were approved in the Pajarito and Patagonia Mountains without regard for wildlife or public process, Sky Island Alliance initiated a legal review of the projects since no consideration of

the jaguar or other imperiled wildlife were considered.

Over the past decade, thousands of miles of roads have been carved across Arizona and New Mexico's National Forests. Sky Island Alliance helped secure more than \$50 million from Congress to initiate their large-scale removal, approved in the December Interior Appropriations bill.

Sky Island Alliance is a regional leader in the fight to give permanence to the National Landscape Conservation System (NLCS), the Bureau of Land Management's premier lands under special protective status across the West. We've highlighted the Las Cienegas National

Conservation Area as a chief example for why the BLM must provide necessary resources to the NLCS for conservation management and law enforcement.

Upon receiving the proposal to construct an interstate bypass through the Galiuro Mountains or San Pedro River Valley, Sky Island Alliance provided critical wildlife linkage information to make the case against such project.

Sky Island Alliance has been and remains involved in a large-scale fuels reduction and forest restoration project on Mt. Graham — the largest of its kind ever in the Sky Island region. We have provided input at every step and this project is much the better for our participation.

Northern Mexico Conservation Program

While the political line of the U.S.-Mexico border bifurcates the ecologically-defined Sky Island region, wildlife and ecosystems make no such distinction.

South of the border, Sky Island Alliance has launched the Northern Mexico Conservation Program to work cooperatively with landowners, Mexican non-profits, and government agencies in research and conservation projects on private and federal land.

Results are already pouring in:

In February, the program's conservation research arm took the first photos of wild ocelots in their native habitat of the Sky Islands. This



LEFT Ranchers and volunteers tracking. ABOVE Ocelot at Rancho El Aribabi



landmark discovery has sparked a flurry of scientific inquiries and conservation actions related to protecting this unique Sky Island resident. Our remote cameras have continually reaffirmed resident individuals just south of the border.

In April, Sky Island Alliance hosted a multi-stakeholder conservation summit for the northern population of jaguars. The meeting defined data gaps, collaborative opportunities,

and agreed-upon conservation actions to be shared by interested parties.

In November, Sky Island Alliance and Rancho El Aribabi, a 10,000-acre ranch in the Sierra Azul of Sonora, signed a historic conservation agreement that protects native species such as ocelot and jaguar, provides the landowner with assistance for research and restoration projects, and builds a template for other Mexican ranches to benefit from ecological restoration and ecotourism.

Safe Passage for Wildlife

Sky Island Alliance's Wildlife Linkages Program is focused on protecting vital landscape linkages between our isolated Sky Island mountain ranges. The program's approach is unique in its incorporation of "citizen scientists," building grassroots support for protection campaigns that is dovetailed with conservation biology research. The collected data is now being used to advocate for the protection of verified wildlife linkages between mountain ranges.

In 2007, Sky Island Alliance received the Federal Highway Administration's Environmental Excellence Award for our role in producing the first statewide assessment of wildlife linkages in Arizona. This assessment lays the groundwork for ensuring that future road and highway projects consider the needs of wildlife passage across the landscape. It will also encourage the retrofitting or new construction of wildlife-friendly bridges and underpasses so that populations of wildlife stay connected and viable. Partners in this project include the Arizona Department of Transportation, Arizona Game & Fish Department, Northern Arizona University, U.S. Fish & Wildlife Service, Wildlands Project, U.S. Forest Service, and the U.S. Department of Transportation.

Other 2007 highlights include:

Wildlife Tracking Workshop: As part of the Northern Mexico Conservation effort, we held our first wildlife tracking workshop at Rancho El Aribabi

in Sonora, Mexico. The fall 2007 class of newly-trained volunteers passed with flying colors in December. After undergoing a five-day intensive training by Sky Island Alliance and regional wildlife experts, our new volunteers join the 60 currently active trained volunteers to survey wildlife transects in connective habitat across the Sky Island region.

Interstate-10 Avra Valley Bio-corridor:

For over a year, Sky Island Alliance volunteers have been conducting tracking surveys along the north-south stretch between the Interstate 10 and the Tortolitas. We are at the table with our tracking data to help inform Pima County, Arizona Game & Fish Department and other agencies how to best protect possibly the last viable wildlife passage under I-10 between the Tortolita and Tucson mountains and sustain landscape permeability with tools such as land acquisition, setbacks, buffers, and easements.

Regional Transportation Authority (RTA) Critical Wildlife Linkages Subcommittee: Sky Island Alliance is the non-governmental organization (NGO) on the RTA subcommittee which reviews and recommends wildlife mitigation projects for funding.

Road Ecology Center, University of California, Davis, John Muir Institute of the Environment: A report co-



Riparian area bisected by a road.

authored by Janice Przybyl and Chuck Barclay, Arizona Department of Transportation, Natural Resources, Tucson, was electronically published on the Road Ecology Center website. The report, "Using remote-sensing cameras and track surveys to assess wildlife movement through a probable wildlife linkage bisected by two major highways," originally accompanied a poster presentation at the 2005 International Conference on Ecology & Transportation.

O'odham Boys and Girls Club: T'Jewedga event at Kentucky Camp in the Santa Rita Mountains, sponsored by the Coronado National Forest. Last July, Sergio Avila, Janice Przybyl and Sky Island Alliance intern Collette Hershey spent a day with 30 teens and youngsters, teaching tracking, tracing, and casting tracks. It was a rewarding to share knowledge and passion with future generations of conservation leaders.

Restoring Our Natural Heritage

At the core of Sky Island Alliance's land and wildlife conservation formula is a hands-on approach to solving problems. The Landscape Restoration Program is focused on restoring wildlife habitat "one rock at a time" on public and private lands alike throughout the region.

Road Decommissioning Projects on Public Land

Roads are the ultimate habitat fragmentation driver throughout the Sky Islands. With more than 1,000 miles of unauthorized, illegal roads on the Coronado National Forest alone, our wildlands can't afford to be chewed up any longer. With a legion of volunteers and the cooperation of land management agencies, Sky Island Alliance has continued to be a regional and national leader for the removal of travelways on public lands. We have closed roads, installed erosion control structures and restored habitat in the Santa Rita, Chiricahua, and Peloncillo Mountains, and on Las Cienegas National Conservation Area.

Restoring Riparian Areas

On the western flank of the Huachuca Mountains, Sky Island Alliance led efforts to restore the lush riparian area and endangered species habitat found in Scotia Canyon. Working with our partners at The Nature Conservancy and the Coronado National Forest, we are proud to report that after intensive earthwork and land re-contouring, Scotia Canyon will enjoy a naturally functioning riparian area for the first time in decades.

In the southern Peloncillo Mountains, Sky Island Alliance has initiated another large-scale restoration project on one of the largest cienegas in the region. With the support of the State of New Mexico and local landowners, we'll be leading a three-year restoration project that entails the removal of several large water impoundments that impact the cienega.



Decommissioning Bull Frog Habitat

Policy & Planning Shop

In 2007, several million acres of public land in the Sky Island Region were opened up for extensive review through several processes: the revision of their long-term management plans, and travel management planning. These processes spell opportunity for conservationists, and Sky Island Alliance made sure the issues that mean the most for wildlife and wild places were front and center.

In the beginning of the year, Sky Island Alliance worked with almost forty partner groups to form the Coronado Planning Partnership. The goal of this partnership is to ensure that the 1.8-million acre Coronado National Forest is managed primarily for its conservation value over the next several decades. This collection of conservation organizations, ranchers, and quiet recreationists are working together to promote the protection of roadless areas, return of natural fire regimes, restriction of off-road vehicles, and decommissioning of unnecessary roads.

Highlights of Sky Island Alliance and the Coronado Planning Partnership include:

The release of comprehensive status review and conservation recommendations for each Sky Island managed by the Coronado National Forest. These reports build the case for specific management prescriptions in each area bolstered by a wealth of information for each mountain.

Public Town Halls in rural areas across southeastern Arizona to collect input from residents and build support for conservation-based management on the National Forest.

The release of comprehensive travel management recommendations to the Coronado National Forest for each Sky Island mountain. Through the use of GIS analysis, Sky Island Alliance used a science-based methodology to recommend the decommissioning of hundreds of miles of unnecessary roads.



Canelo Hills Track Count

Frogs and other Aquatic Amphibians and Reptiles

In cooperation with wildlife and land management agencies Sky Island Alliance is participating in conservation action planning for the imperiled wildlife that depend on riparian areas to live in the arid Sky Island region

Connecting People to Place

Sky Island Alliance is committed as a public resource for connecting people to place. Without the education, understanding, and care of those whom live, work, and play throughout the region, the quest to protect the rich natural heritage of the Sky Island region falls on deaf ears.

Each of Sky Island Alliance's conservation programs is designed to engage and educate people in a sincere and substantial way. In 2007, we hosted dozens of volunteer field weekends that engaged hundreds of people directly in land and wildlife conservation, in addition to reaching scores of youth and adults through educational presentations, interactive demonstrations, and public events.

Some highlights of our quest to reach, educate, and activate the Sky Island's constituents include:

More than 300 volunteers came out into the field at far-flung Sky Island locations to restore

and monitor native wildlife and their habitat through the Landscape Restoration Program.

Sky Island Alliance's Winter Speaker Series brought leading conservation thinkers to public forums to present their recent experiences, perspectives, and recommendations for protecting the Sky Islands.

Staff gave presentations to dozens of youth and student groups, including the Tohono O'odham Nation, University of Sonora, University of Arizona, Arizona State University, Gentle Hands Center for Children, and many more.

We raised awareness of Sky Island conservation issues through the media, including the *Washington Post*, *Arizona Republic*, *Arizona Highways*, *Audubon Magazine*, National Public Radio, the Discovery Channel, and many of our regional or local media outlets.

Motherhood v. Mother Earth?

by Moniqua Lane, Development Associate

When I became pregnant, I knew one thing for sure about my future baby: he or she would wear cloth diapers. Then I started researching cloth diapers and thought that maybe disposable wasn't really so bad. Then I changed my mind back to cloth, then back to disposable. Then... Well, at the rate I'm going, my baby will end up as bare-bottomed as a baboon! Anyhow, cloth v. disposable is a lightweight debate for the eco-conscious parent. As far as I'm concerned, the heavyweight fight for the procreating environmentalists isn't cloth v. disposable, it's having a child v. not doing so at all. What, what I ask you, is an eco-conscious, baby-minded couple to make of the population issue?

Back in September, round about the end of my first trimester and my first week working at Sky Island Alliance, an online news magazine posed the same question more bluntly. It asked whether Americans should stop having kids to save the environment from the ravages of global warming. I hadn't thought about childbearing as it relates to the environment in any serious way, but, suddenly, the issue was at the fore of my mind and, to my surprise, causing me some angst. The jumping off point for the article was Alan Weisman's book, *The World Without Us*, which essentially describes the benefits of human depopulation and encourages people, not necessarily to stop having kids immediately, but to only have one child per couple for a few generations. Eventually the human population would dwindle to a fairly sustainable 1.6 billion people, and, I suppose, both environmental and biological imperatives will have been met.

Weisman's book was a bestseller and marks a warm mainstream reception to a set of questions the environmental community has been wrestling with for awhile now. What is the environmental impact of a growing population and does anything we do matter if we're not willing to address directly the consequences of population growth? I don't know the answer to the latter question, but we all already know the answer to the first. Human population growth comes at a huge cost to the environment.

Strictly in terms of global warming, when I give birth I am nearly doubling my carbon dioxide output. There is no lifestyle change I can make; there is no policy decision any government could make, that would offset the cost of adding another carbon dioxide producer. That says nothing for the cost of adding another resource consumer. It seems to me that the crux of many environmental issues is not so much what we people are doing to the rest of the natural world, but rather the enormous scale on which we're doing it. It's not that natural resource consumption is *per se* necessarily harmful, it's that so many people want or need to consume those resources that we are consuming them in

unsustainable amounts. And I'm about to add one more consumer to the bunch. Is my child the straw that will break the camel's back? It's enough to send this soon-to-be Earth mama into a spasms of guilt!

Fortunately for my eco-conscience, there are all sorts of justifications I can use to assuage my procreationist guilt. The U.S. fertility rate (the average number of children a woman can expect to have during the course of her life) had been below the 2.1-child replacement level until 2006 when it reached replacement level. For over 30 years, women such as myself were not popping out kids fast enough to replace us Americans. Actually, we still aren't. Fertility rates for U.S.-born women are up at 2.0, but still slightly below replacement levels; fertility rates for immigrant women from the top five immigrant-sending countries (births which account for about 25% of all U.S. births) are at about 2.9. This neat little numbers game would allow me to shrug the environmental burden off my shoulders and onto the already heavily-laden shoulders of some poor woman in a developing country with a high fertility rate. This line of thinking won't work for me. I have too limited a grasp of statistics to be able to make any real sense out of them (much less trust or derive any comfort from them), and laying yet another problem at the feet of immigrants increases, not decreases, my overall burden of guilt.

Taking a different tack, some argue that due to technological and policy advances, each individual of a future generation will have less of an environmental impact than individuals of this generation. Perhaps. But if there's one thing we humans should have learned, it is to expect unintended, negative consequences of our technological breakthroughs. Down that same optimistic road, many demographers predict that global population growth will level off by the middle of this century, anyhow. In other words, maybe we can just ignore it and the problem will resolve itself. Perhaps. But if there's one thing we humans should have learned by now it's that ignoring problems doesn't make them go away. What happens to our environment in the meanwhile? Will it be too late to reverse whatever happens? Do I really want to bury my head in the sand when it comes to one of the most pressing problems of our time, one that all of us humans created, one that I directly contributed to with the birth of my child?

The most base, perhaps most instinctual, rejoinder to any call for depopulation is that there is no point to people trying to save the planet if they don't intend for other people in future generations to enjoy a "restored" planet. The flip side of that coin is that the environment is worth protecting for its own sake, not for our own human interests. Personally, I



Pregnant Earth, created by Leigh Althaus for the Global Art Project for Peace. www.globalartproject.org

can't buy into either of these arguments. Frankly, while I'd love for my child and other future generations to see an environmental gem like the Tumacacori Highlands in its unspoiled splendor, I work to protect the Highlands because *I* want to see them in their unspoiled splendor. Maybe if I ever become a grandmother I'll care more deeply about the world I leave to my grandchildren, but right now, that's too distant an incentive to motivate me one way or the other. As for saving the environment for its own sake, I can only go so far with an argument that presupposes that humans are an unnatural intrusion upon the natural world. Certainly we make intrusions upon non-human species and we do unnatural things within our ecological systems, but are we humans not of the same dust as the flycatchers and the bobcats? If I'm not willing to let jaguars or leopard frogs be sacrificed for some larger cause like commercial progress, why should I be willing to allow my own species to be sacrificed for environmental progress? Just as I ask myself why I should privilege the existence of humans over the existence of reptiles, I also ask myself that question in reverse. (I don't want to hear one word about how frogs don't drill for oil or ocelots don't graze cattle. It's a meditation point, not a definitive answer.)

It's that last koan-like set of questions that helped me resolve some of my angst surrounding the population issue. I'd been thinking a lot about why I shouldn't have a child, but neglected to ask myself why I should. I'd been examining the environmental "cons" and trying very hard to negate them, but I hadn't really advanced any of the "pros." Indeed, I almost think I assumed that there weren't any.

Well, for me, the major "pro" in having a kid (regardless of whether I'm considering environmental issues), lies in that old cliché about childbearing being the greatest expression of hope, of optimism. I am generally optimistic, but specific to the environment, I'm optimistic that people can solve the problems we've created. When I consider the large scale threats this planet might face — global climate change, mass species extinction, asteroid or comet collision — I ask myself who will even be able to make an attempt to protect the planet, whatever shape it's in, then? When it comes

continued on page 11

Mountain Lions and Land Ethics

by Jessica Lamberton, Wildlife Linkages Program and Landscape Restoration volunteer

I walk out to the edge of my street on Thursday morning, pulling a battered green garbage can behind me. There are cracks in the pavement where stray lupines and Mexican gold poppies from my yard are starting to emerge as little feathery fingers, making corridors of green in the asphalt. The air feels like rain. In the middle of the city, surrounded by dilapidated housing and the sound of traffic, I am startled by the loud call of a cactus wren. I know that if I drive for an hour, I can retreat from the confusion of life and people to find solitude in wilderness. Anyone can. That includes every one of the 552,000 people living in the City of Tucson this year.

The world's human population has grown more since 1950 than it has in the last four million years. This is having a profound effect on wilderness preservation and landscape connectivity, and creates unique challenges to living in environmentally sustainable ways.

The concept of natural resource preservation is closely tied with human use. Finding a sustainable balance between our footprint on the landscape today and how to preserve it for tomorrow gives rise to many conflicts of interest. Writer and conservationist Sigurd Olson once wrote that "solitude and the spirit of the wild cannot be preserved without complete protection." Protection as Olson describes retains a genuine wilderness experience for people by guaranteeing the existence of primitive natural areas and thriving wildlife

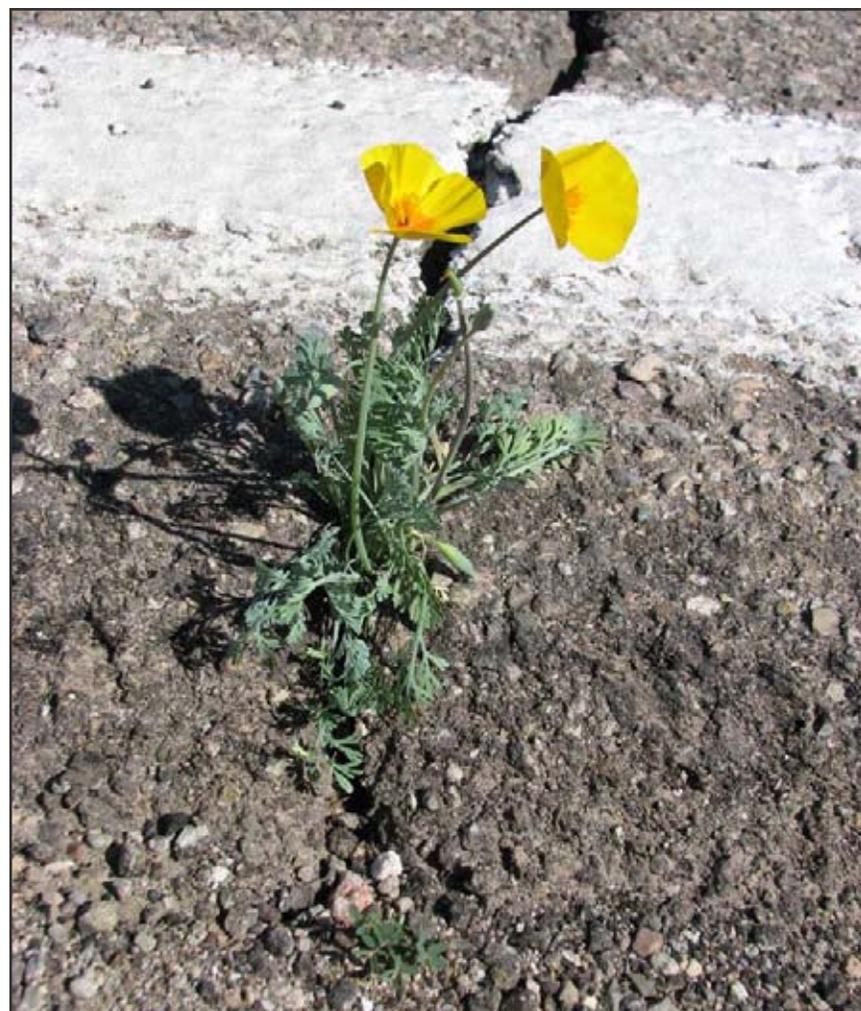
Because there are many ways of expressing "a genuine wilderness experience," in combination they often lead to degradation of the land and its resources, increased conflicts between different

types of recreational users, and further dispersal of people into more remote and sensitive areas. And as human populations continue to spread toward these natural areas, there are more people in remote places, stressing wildlife populations and the health of the landscape, and diminishing any real opportunities for those who seek solitude.

This is not to argue that in order to preserve wild lands we must keep out the people. The current generation can benefit a great deal from the experiences found in nature. For some, it is enough to have the simple knowledge that such places exist, and continue to exist. For me, it is better to provide people with a wilderness experience to soothe the spirit.



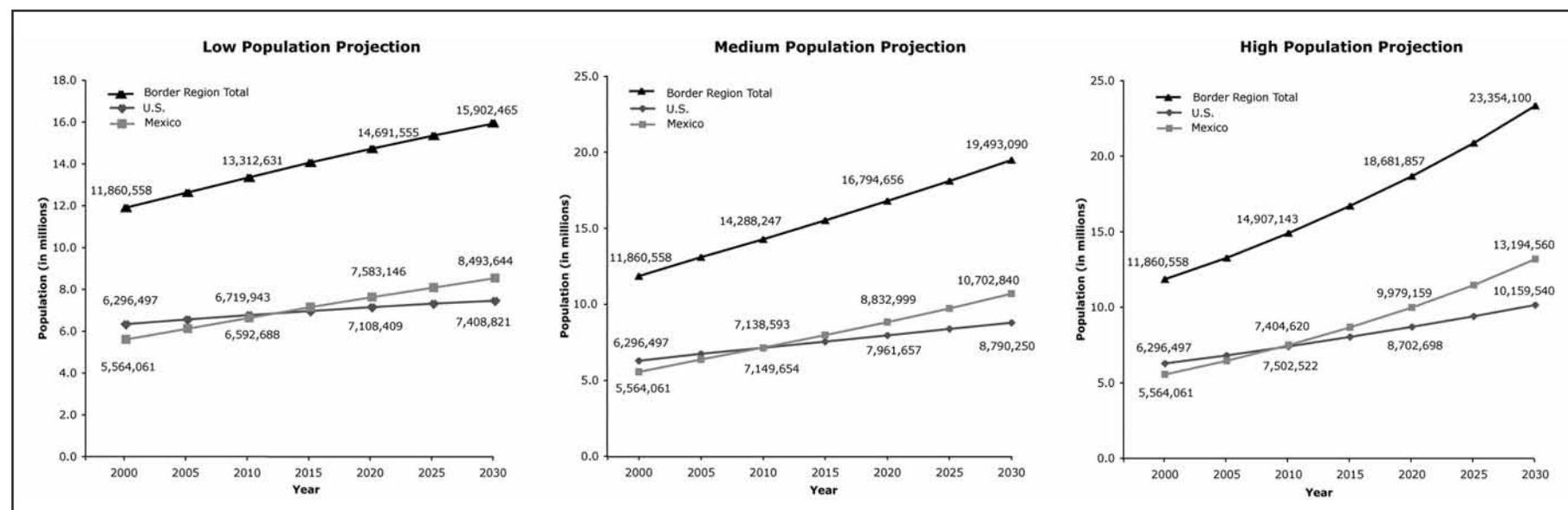
I stop to readjust my backpack up on a saddle in the Tucson Mountains, where I am setting camera traps for mountain lions as part of a University of Arizona project. To the east, I can see Tucson spreading out in front of my feet in a grey haze of roads and buildings. Behind me is the reassuring view of rugged mountains and drainages. I can see several hikers, as well as an archery hunter and his son scouting for deer, and I wonder how I will find a good site to place my last camera without it being too obvious to passing visitors. My work is exciting, but I feel a sense of sadness



Poppies 1, Pavement 0. Photo courtesy Ken Lamberton

at the same time. I am trying to learn how many mountain lions live in the Tucson Mountain Park and whether they are becoming isolated here. I might not get good news.

Mountain lions (*Puma concolor*) have large home ranges and frequently travel across the valley floor to reach other mountain ranges (see the Summer 2006 issue of *Restoring Connections* for a map detailing one lion's range). This allows them to mate and disperse to avoid inbreeding. Barriers like the I-10 freeway and urban development are limiting their ability to continue this genetic exchange. The best we can do is to conserve the corridors they are using, once we identify them. Without gene flow, I may be simply documenting the decline of these graceful cats from Tucson.



Border-Wide Population Projections J. Peach and J. Williams. 2003. "Population Dynamics of the U.S.-Mexican Border Region." Unpublished, forthcoming SCERP Monograph. San Diego: SCERP/SDSU Press.

The border region between the U.S. and Mexico is growing quickly, and now that the border is being fenced, closing established wildlife corridors, the jaguar, mountain lion and many other smaller species will soon find themselves with nowhere to go.



There are approximately 1,026,000 people currently living in Pima County. In two years, it is projected that Pima County's population will increase by 20,000, and by 2050 reach 1,770,000. The U.S. expects to reach 420 million people by 2050, a leap of 120 million in fifty years. If this projection is correct, we might no longer be exporting food to other countries. Instead, we might require imported food to survive. Seasonally, the majority of U.S. fruits and vegetables are already imported from Mexico.

We are multiplying exponentially — and what can we do? The problem seems impossible to solve, other than to grimly wait for the carrying capacity of the planet to correct us with plague or starvation. Many believe that we must advocate sustainability and conservation education, hoping to create policy changes and increase people's willingness to alter lifestyles. I don't believe that will accomplish everything that is needed. The general public appears to remain unconcerned, only practicing sustainability if it benefits them but will not go far enough to live in the environment in ways to benefit their neighbor. What is needed is not merely knowledge and understanding, but a land ethic.



Mountains lions need room to roam... and find it ... in northern Sonora's rural landscapes. Photo ©2007 El Aribabi/Sky Island Alliance

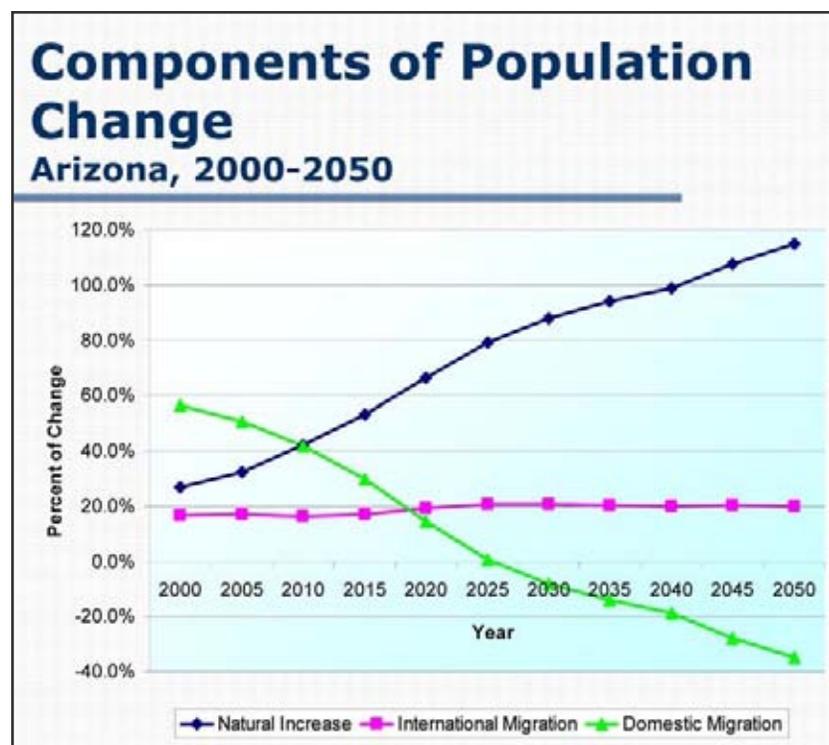
This is not a new concept. Aldo Leopold, the father of conservation, saw this in the early 1900s. His observations are quoted so frequently among biologists and conservationists that he has become almost cliché. In *A Sand County Almanac* Leopold writes: "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."



Back at home, I walk back up the driveway thinking about corridors. I like the idea of poppies in the asphalt and wildlife passages through the city. I've been reading Alan Weisman's book *Gaviotas: A Village to Reinvent*

the World, which describes a Columbian village's attempt to live in complete sustainability in the most inhospitable place imaginable — and succeeding. Maybe in our ingenuity and passion for the spirit of wildness we can find the solution to living sustainably in our environment. The trick will be making our land ethic contagious.

Jessica Lamberton is a long-time volunteer and supporter of Sky Island Alliance, with a degree in Wildlife Management from the University of Arizona. She is currently working as a Research Technician studying urban bobcats and mountain lions in Tucson, Arizona while she pursues her Masters degree. Of herself she says, "I will always consider myself a wannabe wildlife biologist."



J. Peach and J. Williams. 2003. "Population Dynamics of the U.S.-Mexican Border Region." Unpublished, forthcoming SCERP Monograph. San Diego: SCERP/SDSU Press.

Motherhood v. Mother Earth?

continued from page 9

to destroying the planet, we humans certainly aren't the only potential source of destruction, but as near as I can tell, we are the only potential source of salvation. Whether it's figuring out how to reforest the Amazon or close a hole in the ozone layer or avert an impending asteroid strike, we humans are the only stewards this planet has; we are the only protectors of carbon-based life on this planet. So, I am not necessarily planning on laying the burden of environmental protection and restoration at my child's feet, but I do start to wonder. Can the planet afford for me not to have children?

We are all missing Monique in the office. She is at home right now, shifting her focus to Josie's population issues.

Second extinction near for reintroduced wolves

By Donna Stevens; first published 9 March 2008 in the Arizona Republic.

Back in 2001 and 2002 a Mexican gray wolf ranged through my extended backyard. Neither my daughter, my partner nor I ever saw him, though we spent a lot of time outdoors. I might have heard a howl once but I'm not sure; whatever I heard was a long way away.

The two-year old male, who had been trapped as a pup with his pack for scavenging on a horse carcass in Arizona, upon release with unrelated animals, split apart from them and ranged widely. His territory, a circuit he made, extended from just south of Silver City, New Mexico, through the Burro Mountains of the Gila National Forest where I live, south past I-10 west of Lordsburg and almost to Mexico, then northeastward almost to I-25, then west again to the Burros.

Those were drought years and deer were sparse, but jackrabbits were abundant down in the desert as were cattle carcasses. The wolf was never known to get into trouble.

The government eventually trapped that wolf for straying outside the recovery area. We haven't had any resident wolves around here, just rumors of them passing through, since 2002.

I raised my two children in the Gila, and eked out a living waiting tables in Silver City until I finished college and found more rewarding work. What sustained us was the beauty of this landscape and its wild inhabitants.

When I first arrived in the Gila from Santa Fe in 1987, I was breathtaken by the steep, red-tinted canyons and the amazing Gila River where I camped regularly. Soon I was paying a lot of attention to the plants, and I noticed that what the river giveth in plant life — seedlings of cottonwoods, willows and sycamores — the cattle taketh away. When the river flooded, nothing held the banks and ancient shade-giving trees were swept away. The cobblestone along the river was hard and naked on my bare feet, and mined with painful thorns from a vine that was not native to the area — their presence facilitated by grazing.

I also learned that Mexican wolves, which used to live here and maintained the balance, had been exterminated to protect the livestock. And that they were languishing in zoos, and would one day be reintroduced.

It seemed the planning for the reintroduction program went on forever and that we'd never have real wolves on the ground. But finally in 1998 the reintroduction began. I knew there would be conflict and heartbreak

for the wolves, but never imagined we'd be on the verge of losing the population almost ten years later.

Ultimately, I've learned to see my fate as one with my family and this landscape. "My" wolf, the reclusive loner of the Burros and the desert, may have felt some similar affinity for the vast landscape he trotted through and the other wolves he became close to.

In 2003 he had been re-released into the high country of Arizona and became the alpha male of the Hon-Dah pack. In 2005, the pack was seen feeding on a cow carcass of an animal that, when necropsied, turned out to have died of non-wolf causes. They began killing cattle and in May 2006 the government shot him dead, and captured his mate, two yearling sons and six newborn pups. Within a few days of their capture, all but one yearling died in captivity. He is still behind bars.

I still live in a beautiful place. My children have grown up, and my long-time partner is now my husband. But we don't expect to see a wolf on our hikes through the woods these days until the agency charged with reintroducing the wolf follows through with its job.

The citizens of our nation have gone through a lengthy democratic decision making process with regard to the Mexican gray wolf, a process that actually started with the passage of the Endangered Species Act when I was a young woman. The overwhelming majority supports the Lobo's recovery, including most of us living in rural areas who know that there will be difficulties and that we'll have to adapt.

The U.S. Fish & Wildlife Service is legally and morally bound to carry out our decision, and in the face of the possible second extinction of the Mexican wolf in the wild, I am losing patience and I am outraged.

Donna Stevens is a conservationist and amateur botanist. She works for the Upper Gila Watershed Alliance www.ugwa.org and the Gila Conservation Coalition www.gilaconservation.org in Silver City, New Mexico.



ABOVE **Blue Range Primitive Area, November 1994, looking with great anticipation towards New Mexico, where the wolves would be released.** This photo is from a visit to the Round River Conservation Studies camp on the Blue River where students were collecting environmental data as well as working to lay a groundwork of support from area residents. I had become involved in the movement to reintroduce Mexican wolves in 1993 when I was researching a lead article for *Desert Skies*, a fine quarterly once published by the Summit Hut. One of the perks of being a writer is that you are often included in activities that are usually reserved for the *corps d'elite* — in this case, I was trained to participate in an Arizona Game & Fish howling survey in Patagonia and Sonoita. My partner and I took turns howling and operating sound equipment to capture any wolf response. Sadly, only a few coyotes saw fit to answer. Weeks later, when a photographer and I were admitted into the Desert Museum after hours to get the cover shot, I experienced my own version of Leopold's "fierce green fire dying" — I watched the old female wolf morph into somebody's dog as the Ralston Purina Wolf Chow hit the bowl. Two or three years later, I attended an evening fundraiser at the Phoenix Zoo. I was standing outside the wolf enclosure next to Mike Seidman, one of *baileyi's* patron saints, waiting. We were not disappointed. I hope with all my heart that Mike, who died five years ago, will once again work his magic, and one night I will again hear *baileyi's* chorus... in the wild. — Julie St. John

I Know My Stuff

by Cynthia Prendergast, Wildlife Linkages Volunteer

Steve and I are in Saguaro East on a beautiful sunny day. We've just come back a few days ago from Sky Island Alliance's tracking training session in Mexico and we're looking for tracks for our homework assignment. We are supposed to fully document wildlife sign, showing GPS coordinates, a habitat photo, several track photos, name, date, description of area. Our first challenge is figuring out which areas are likely to have lots of good tracks. We've lived here less than a year and although we've heard about several places, they're unfamiliar. But we do know where Saguaro East is so we decide to go there to see if that might be a good place to look for tracks. We're city people, we dodge traffic and fight crowds, we haven't seen wild animal tracks, other than raccoon tracks leading from garbage cans. It's exciting to think we may happen upon something more exotic.

Experiencing the wilds beyond Tucson is so opposite from the dreary weather and urban corporate life we left behind in Philadelphia. We know how to drive in crazy traffic: if you don't want to get rear-ended, run the red light because the four cars behind you intend to run the same light. Ask us what commuter train to catch and we could tell you. Ask us the cheapest places to park and we could tell you. But get us out in the desert and we trip over chollas, lose our way on



Purrrfect feline tracks. Measuring determines these are from a bobcat. Photo by Janice Przybyl.

the trails, and are only just now discovering that clothes come in SPF values.

About five minutes into our walk, we see something, right there on the trail. Four round toe pads, big lobed plantar pad, no claw marks, the unmistakable C curving between plantar pad and toe pads. Bobcat! Wow! Seems like this is a good trail after all. A man riding a mule is coming towards us. Probably the park ranger. We'd seen his vehicle parked near the trailhead. Maybe he's seen a bobcat? No, he hasn't. We show him the tracks. Nope, he says, those are dog tracks. Wait a minute! This guy's wrong. Shouldn't a park ranger know tracks? Didn't he see the lobes on the plantar pad, the round toe pads, the C-shape in between? Those aren't dog tracks.

I've just come from an intensive training session with Sky Island Alliance and I know my stuff.

We watch him ride on down the trail, slowly, looking down at the tracks. He stops his mule, turns around and calls back at us, You're right, he says, they're bobcat tracks. I look at Steve. We know our stuff.

But now we've got to go buy a camera, so we head out to Best Buy and pick one out. Fast. Who knows how many people are out there stepping on our bobcat print? I know, we should have had the camera before we went tracking, but who knew we'd actually see a bobcat track? Lucky break for us, back at Saguaro East, the track is still there, undisturbed. It's a little tricky using the camera for the first time out in the field. We take lots of photos, just in case. We keep the camera in with our other tracking gear now that we know what we're doing, and that there really are bobcat tracks out there.

Cynthia Prendergast, a Wildlife Linkages volunteer, is a recent transplant from Philadelphia. Every six weeks she monitors the Cienega Creek transect on the Empire Ranch, between the Whetstone Mountains and the Santa Rites, looking for tracks of bobcat, mountain lion, jaguar, coati, and Mexican wolf. She has seen three mountain lion tracks since her training in October.



Size matters. Tri-lobed, leading toe, but too small for mountain lion. Photo by Janice Przybyl.

Cisterns and Rainwater Harvesting

by Charles J. Cole and Carol R. Townsend

Water is perhaps the scarcest and most precious life-sustaining resource in the desert and desert-grassland seas that surround the Sky Islands. With human population growth increasing, particularly in the Phoenix and Tucson areas, but also in nearby areas such as Las Vegas, demand for water will outstrip supply in a matter of years. Imagine the stampede for bottled water on the day people open their taps and nothing flows, or the costs to obtain reliable additional tons of potable water from... where and how? The well-known problems of flooding in New Orleans from Hurricane Katrina and the lack of preparedness for that event make us wonder what preparedness there is in the arid Southwest for the opposite problem — the day when the water runs out.

Homeowners, architects, builders, and governing bodies can effectively address this problem now by encouraging capture of rainwater off roofs and other places and storing it in large tanks or cisterns. With proper design, implementation, and treatment a single house can have enough pure water for all of its household uses, in the absence of town water or a well. For example, at our house near Tucson our large cistern could have provided 100% of our household needs for two of the last three years, and that includes maintaining a swimming pool. Our builder designed the system by modifying one described by Peter L. Pfeiffer in *Fine Homebuilding* (2001, No. 142, Oct./Nov. issue, pp. 84—89).

The basics of our system are as follows. Rain flows down the metal sloping roof to gutters, then downspouts take the water into underground pipes. These pipes feed it through two filters and then into the cistern, of approximately 26,000 gallon capacity, buried, of swimming-pool-like construction, and covered with a cement top.

When water is needed in the house, a pump sends it out of the cistern, through a 20-micron filter and into a pressure tank, operating automatically, similar to the pump system in a well. From there, it goes through three more filters (a carbon filter, 5-micron sediment filter, and 10-micron carbon-block filter) and passes over an ultra-violet light to kill possible biological contaminants, then into the house. For the water we drink and use for cooking, we also have a small reverse osmosis filter system under the kitchen sink. Annual maintenance of the system requires periodic hosing down of the pre-cistern filters and change of the other filters and U-V light bulb.

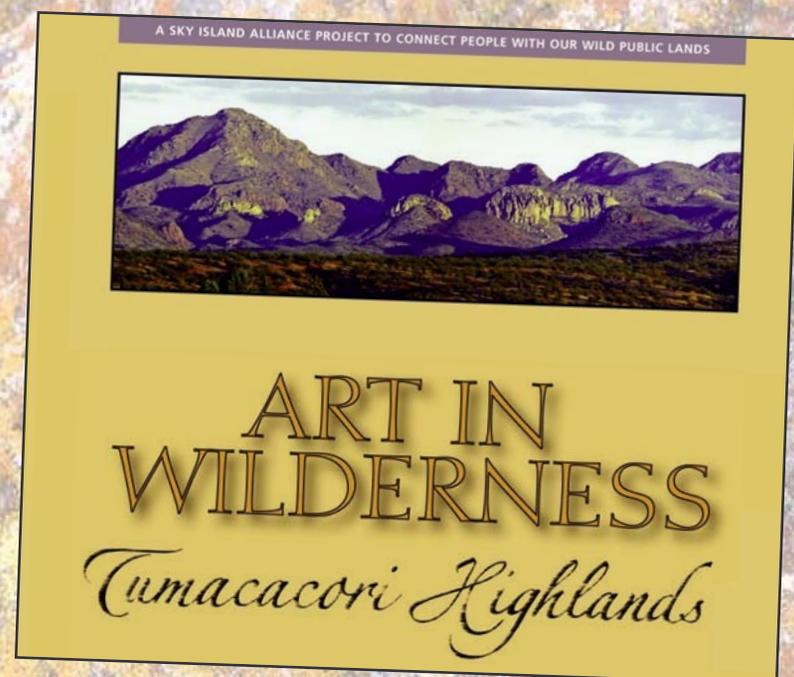
Although our system was easily installed as part of the original house construction, retrofitting to existing buildings is possible. It is even possible to provision several buildings off a large centralized system or off several smaller ones, as some resorts do in Australia. Some people install inexpensive above-ground water storage tanks, which can be unsightly but also can be hidden behind vine-covered trellises or fences, or within a decorative faux-rock structure such as exhibitors use for natural-looking displays at the Arizona-Sonora Desert Museum.

Anybody who is seriously interested in learning more about our system is invited to call (520-743-3402) or email (cole@amnh.org) for an appointment to see it. We are not selling anything and have no personal interest other than to spread the word. Any interested person who sees our system is encouraged to go forward and build a better one and continue to spread the word. The potential is great, as is the need. Arizona has the opportunity to develop and provide leadership in this important area.

We're Honored!

Summit Hut presented a donation check to Sky Island Alliance before a crowd of hundreds at the southern Arizona screening of the Banff Mountain Film Festival. The Banff Mountain Film Festival is a long-running program of the Banff Centre, which is a world-renowned arts, cultural and educational institution that promotes the development of creative work in the arts, science, business and environmental arenas. For this year's event, the Summit Hut and film festival staff hand-picked two-and-a-half hours from the 9-day event to tailor it for a southern Arizona audience. The film festival, held at the Fox Theatre on March 28, was hosted by the Summit Hut.

The next time you visit one of Summit Hut's two Tucson locations, please let them know just how much we all appreciate their support of Sky Island Alliance.



A magical collection from 19 artists, poets, writers, photographers... Beautiful 4-color reproductions of original art... 2 CDs with music and readings...

As inspiring as the wild lands they seek to protect...

See www.skyislandalliance.org for ordering information.

You can be part of JAGUAR and OCELOT conservation efforts in the Sky Island Region! Adopt a camera and support on-the-ground research & conservation.

Interested?

Please contact Sergio Avila at sergio@skyislandalliance.org — for more information on this project, please visit www.skyislandalliance.org/jaguars.htm

Next issue? Water!
**Send your essays, art,
 poetry, photography,
 book reviews, and
 article ideas to
 julie@skyislandalliance.org**

Join the Legacy Club!

Comprised of our monthly and quarterly donors, this program is an easy way to donate to SIA and helps us tremendously! By donating just \$10 a month, you can turn your yearly \$35 membership contribution into \$120. Or, by donating \$50 every quarter, your yearly contribution would total \$200! There are many different donation options through this program. If you are interested, please call Acasia at 520.624.7080 x10 or click on the Donate Now button at

www.skyislandalliance.org

Landscape Restoration Field Schedule: **Spring into Summer 2008**

4-6 April. Peloncillo Mountains Riparian Restoration. Get yourself muddy and help us erect one-rock dams to protect a ciénega watershed! Must RSVP and be able to leave Tucson at noon Friday.

18-20 April. Road Closure and Restoration Weekend. Get your hands dirty and play a direct role in improving the ecological health of your public lands! Within 3 hours of Tucson.

2-4 May. Tres Alianzas Restoration Weekend on the San Francisco River. We will meet the New Mexico Wilderness Alliance and Upper Gila Watershed Alliance folks along the San Francisco River for a service project to benefit wildlife and wildlands! 3.5 hours from Tucson.

23-25 May. Huachuca Mountains Bullfrog Control Work Weekend. We will be out there installing bullfrog-proof fencing, draining impoundments and eradicating these exotic invasive nasty critters. 2 hours of Tucson.

6-8 June. Peloncillo Mountains Riparian Restoration. Get yourself muddy and help us erect one-rock dams to protect a ciénega watershed! Must RSVP and be able to leave Tucson at noon Friday.

20-22 June. Road Closure and Restoration Weekend. Get your hands dirty and play a direct role in improving the ecological health of your public lands! Within 3 hours of Tucson.

There's always more opportunities to rejoice in / restore our Sky Islands!

Watch www.skyislandalliance.org for the latest schedule!

or contact Trevor at trevor@skyislandalliance.org or 520 624-7080 x14.

Wishlist:

Late model SUV, Bobcat or other small tractor, Utility trailer — must be in good running condition and ready for fieldwork; Digital cameras; Road closure materials—boulders & steel posts



SKY ISLAND ALLIANCE
 Protecting our Mountain Islands and Desert Seas

Join us!

Join or renew here OR through our secure website:

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.

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

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My check is enclosed

Please bill \$_____ to my: MasterCard Visa American Express

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Sky Island Alliance PO Box 41165, Tucson, AZ 85717

Tumacacori T-Shirts!!



"The vanishing wilderness is yet a part of our western heritage. We westerners have known the wilds during our lifetimes and we must see to it that our grandchildren are not denied the same rich experience during theirs." - Senator Frank Church

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- 100% organic cotton; *not* pre-shrunk.
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- Wilderness quotation (see above) on the back!
- Men's on a light-tan shirt, women's on a green-tea shirt.
- See pictures on our website at: www.TumacacoriWild.org

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Quantity	Size	Quantity	Size
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_____	L	_____	L
_____	M	_____	M
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Tasting the Sky Islands

The Second Annual People and Places Awards Banquet & Auction

Friday, May 16, 2008, 7:30pm at the Stillwell Twiggs House in Tucson

The Tequila Tasting

featuring agave liquors from the Sky Island region... and beyond

The Banquet

featuring dishes using ingredients native to the Sky Island region

The Awards

honoring the people who are making a difference, who inspire us

The Live and Silent Auctions

including artwork by Diana Madaras,
a hiking trip in the Gila Wilderness with Wild by Nature Tours,
and a trip to Rancho El Aribabi with activities such as hiking,
birding and wildlife "tracking" with Sergio Avila

\$40 per person for Sky Island Alliance members, \$50 per person for non-members
Tables (8-10 people) are also available. Contact Moniqua for information or to purchase a table:
624-7080 x 17 or moniqua@skyislandalliance.org

We hope to see you there!



photo by Bob Van Deven