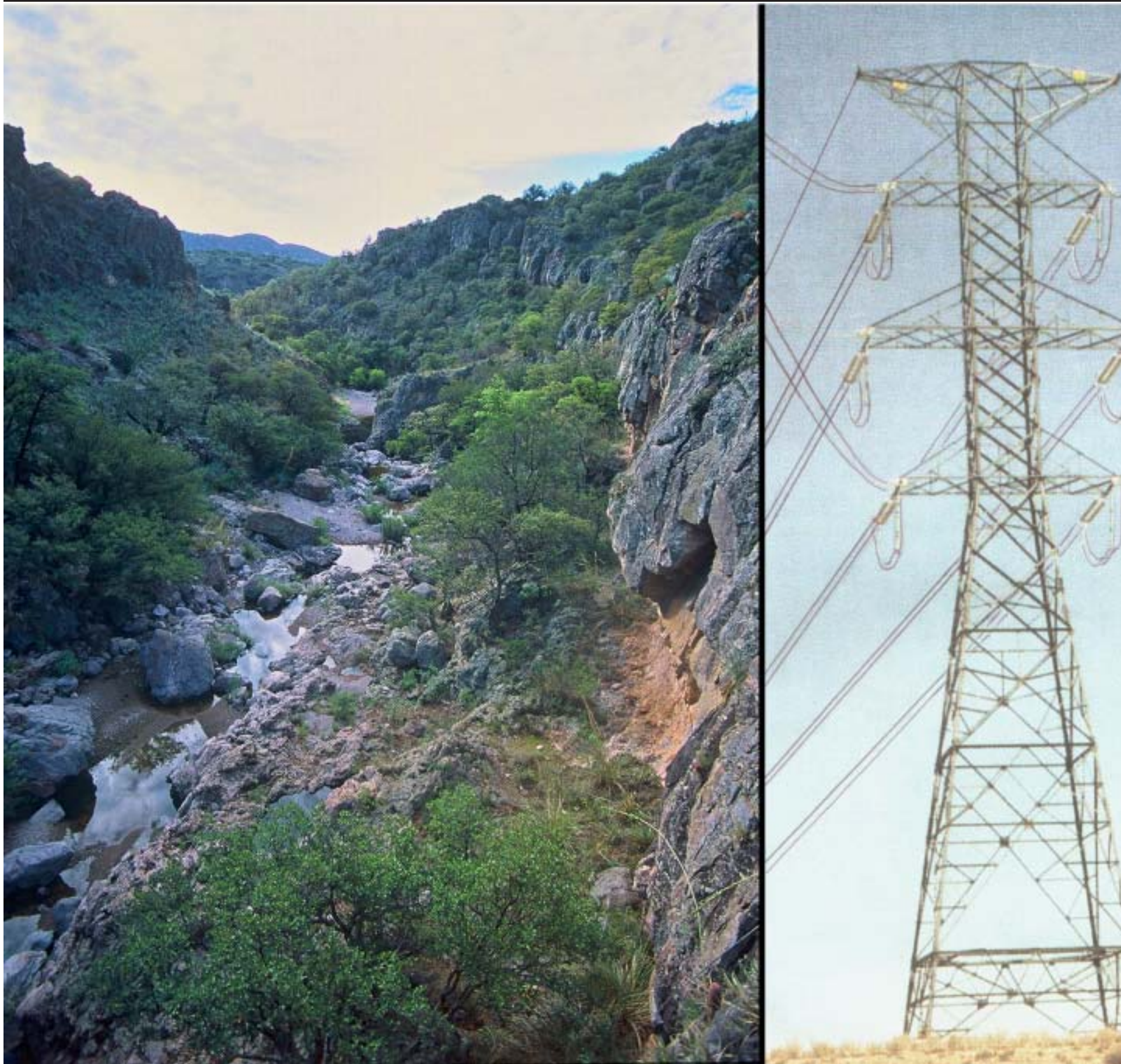


# Restoring Connections



Newsletter of the Sky Island Alliance

Vol. 6 Issue 3 Fall 2003



Peck Canyon, Tumacacori Highlands roadless area; powerline proposed to bisect this roadless area

**INSIDE: Tumacacori Highlands: threats and opportunities**  
plus... ❖ After the fire ❖ Fall outings & Sky Island events



# Sky Island Alliance

## Protecting Our Mountain Islands & Desert Seas

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Sky Island Alliance is a non-profit membership organization dedicated to restoring and protecting the unique diversity of the Sky Islands of South-eastern Arizona, Southwestern New Mexico, and Northern Mexico.

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### Newsletter

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*Front cover: Peck Canyon, Tumacacori Mountains, photo by Matt Scroch. The power pole shown is from the Draft Environmental Impact Statement (see page four), one of two types proposed for this line that would either cross (western route) or run right down the middle of this canyon (crossover route).*

*Back cover: sunset over Atascosa Peak and Lookout Peak, photo by Bob VanDeven. Powerline (western route) would cut straight across the foreground of this image.*

*Eratum: Yes, we goofed. Last issue's cover shot was labeled as Appleton-Whittell Research Ranch. In fact, it was taken nearby on Fort Huachuca. Both sites have active prescribed fire programs.*

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*Thumb Butte, Tumacacori Highlands*

*photo by Bob VanDeven*

## Many Thanks to Our Contributors!

Ellie Kurtz, Marshal Magruder, and Maggie Milinovitch, concerned citizens against the powerlines; Bob VanDeven, photographer and writer extraordinaire; Joe Cicero, SIA volunteer entomologist; Suzanne L. Collins, Center for North American Herpetology in Lawrence KS; Sally Gall, assistant manager of Buenos Aires NWR; Sky Jacobs, self-trained naturalist and artist; Albert Lannon, SIA tracker; Paul Mirocha, naturalist and professional artist; Dennis Pepe, owner of the excellent Green Fire Bookshop in Tucson, AZ; Mary Scott, local webmaster and photographer (see more of her photos at [Birdingamerica.com](http://Birdingamerica.com)); Lyn Wilson, Arizona League of Conservation Voters; and, of course, the SIA staff.

## Comings and goings

Welcome back on the board to one of SIA's founding members, environmental historian Paul Hirt. Paul worked on the 1984 National Forest Wilderness Act and the first Coronado National Forest Plans, co-founded the Coalition for the Preservation of Mt. Graham, and has worked on many other campaigns on public land, grazing, mining, water, and urban sprawl issues. He is now a professor of History and American Studies at Washington State University, and author of a number of books and articles including *A Conspiracy Of Optimism: Management Of The National Forests Since World War II*. Paul and wife Linda live in Pullman, WA, but return frequently to their "real home" in the Chiricahuas, where SIA had its founding gathering way back in 1991.

- Roseanne Hanson has bowed out of board responsibilities, and we thank her roundly for her years of service!
- Rachel Kondor has seized the opportunity to reform Washington D.C., taking a position as congressman Raul Grijalva's chief environmental aid. Go Rachel! Go Rachel!

### Seeking SIA newsletter submissions:

Send us your poetry, your words of wisdom, your art!

We want to keep this newsletter filled with inspirational, informative material, and we'd like your help! Do you write poetry? Draw, sketch, paint, or photograph? Like to address regional conservation issues? Review books or websites? Anything that relates to the Sky Islands region is fair game! You can respond to items in our recent newsletter, comment on your experiences as a volunteer or conference-goer, etc. Also, let us know if you'd like to be a regular contributor, e.g. with a column each issue. The deadline for our next newsletter is November 10, 2003. Material submitted after that date may be saved for subsequent issues. Please email submissions to [newsletter@skyislandalliance.org](mailto:newsletter@skyislandalliance.org), or mail them to Sky Island Alliance attn: Gita, P.O. Box 41165, Tucson, AZ 85717. Resolution of digital images should be at least 300 dpi if possible, but we can work with some lower resolution images. **Miss our restaurant reviews? Thank's because no one sent us any! C'mon, folks, you know there are some great eats out there. Give your favorite small town restaurant a boost by letting us promote it!**

## What were they thinking?

You ever get that feeling? You know the one I'm talking about, the one that makes you scratch your head in puzzlement and tear out your hair. Well, I've been struck by that feeling a lot lately—so much so that I'm becoming a sorehead. What with gutting environmental laws and regulations in order to save the environment and cutting down all the trees to save the forest, I'm afraid if Bush gets re-elected, I'll be bald by 2008!

One of the dumbest ideas that I've heard in a long time is this roadless area powerline proposal being advanced by Tucson Electric Power (TEP). If approved it would run for 30 miles through the heart of the Tumacacori Highlands, which, at almost 85,000 acres, is the largest unprotected roadless area in Arizona. The Highlands consist of the Tumacacori, Atascosa, and Pajarito Mountains, as well as Sycamore Canyon (a proposed and eligible Wild and Scenic River). Prior to the reintroduction of the Mexican gray wolf, the Arizona Game and Fish Department conducted a study of four potential release areas, one of which contained the Tumacacori Highlands region. This area was found to have the best prey base for the wolf, and overall the area was rated a close second for reintroduction, behind the Blue Range Primitive area. This is also the area where a jaguar was photographed recently. Sky Island Alliance and others have long proposed the Tumacacori Highlands for formal, legislative protection under the Wilderness Act. TEP's proposal threatens this

protective designation and the long-term health of this special area.

Recently, in the *Arizona Daily Star*, a spokesperson from TEP stated this powerline would have no negative impact on the environment and the issue is simply one of aesthetics. Several things bother me about this nonsensical statement. One, they fail to recognize the disruption to wildlife, as well as habitat fragmentation caused by road construction. Federally listed species that would be impacted by this powerline include the jaguar, Chiricahua leopard frog, lesser long-nosed bat, Mexican gray wolf, Mexican spotted owl, cactus ferruginous pygmy-owl, Gila topminnow, Pima pineapple cactus, Sonora chub, and the southwestern willow flycatcher, as well as another **74 special status species**.

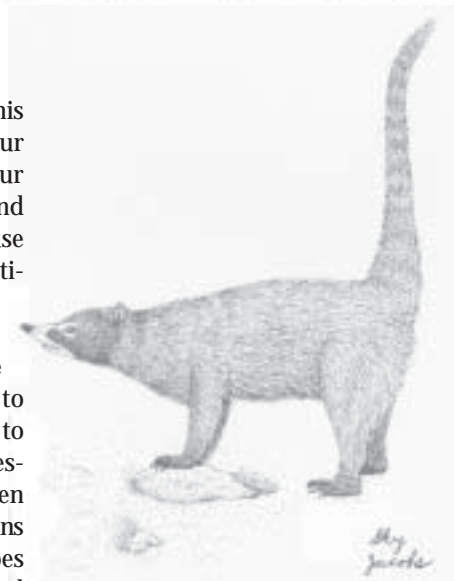
My other problem with TEP's statement is their failure to recognize the importance of aesthetics. People such as you and I, visit our public lands for many reasons and one of the most important of these is the opportunity to get away from the craziness of everyday life in the city. I am reminded of the writer Greta Ehrlich's, "*The Solace of Open Spaces*," and the importance of having places to "get away" to. We have a preponderance of areas in the Sky Islands where we can look at powerlines, roads, cars, houses and all the trappings of "civilization," but we have very few places that serve as a refuge when we just need to get away. The Tumacacori Highlands is one of these rapidly disappearing places and must be preserved as such.

We need your help in stopping this powerline. If we are going to retain our rights to clean air and water, protect our public lands, defend imperiled species, and retain our ability to participate in land use decisions, it will be because of private citizens such as you. Those of us that care about healthy landscapes must make our voices heard. We are asking you to take the time today to write two letters, one to the Department of Energy and the other to the Forest Service. Many people underestimate the effectiveness of this, but when land management agencies and/or politicians receive letters (and lots of them), it does initiate change. On page 4, you will find "Monumental Threat to Sky Island Wildlands." This article contains information on how to comment as well as talking points to mention in your letters; please feel free to plagiarize. We continue to successfully fight Bush's plans to eliminate your right to participate in land use decisions—please take a few minutes today and exercise that right.



We hope you enjoyed this and previous editions of *Restoring Connections*. Not only does it celebrate this region through art, photography, poetry, food and book reviews, recipes, etc., but also contains timely news on issues affecting those who care about our Sky Islands. We assume a considerable expense producing this newsletter and need your help to defray the costs.

If you are currently one of the many



dues paying members of Sky Island Alliance, THANK YOU. Your support allows us to do the important work needed to save special places. You can stop reading now, go to page 4, and begin writing your letters.

If you **do not** financially support SIA, please start today. Unfortunately, we can no longer continue to underwrite the cost of this newsletter. If you enjoy our newsletter, believe in the work we do, and believe that healthy landscapes in the Sky Islands are important for our future, please become a member. If you believe in these things and cannot afford a subscription at this time, write or call us (520/624/7080) to let us know, and we will leave you on our mailing list. Otherwise, this may be your last issue. Subscription info is on page 15. You can also pay by credit card on our website, [www.skyislandalliance.org](http://www.skyislandalliance.org).

—David Hodges

## Editorial

## On Wilderness Protection

One of the most frustrating aspects of conservation work is the sense that we're always putting out brush fires, always fighting defensive battles, always hustling to make sure this awful scheme or that destructive plan does not come to pass. Wouldn't it be nice if we could work for something big instead of against an endless line of smaller bad things? After winning a battle, wouldn't it be nice if we could rest assured that we wouldn't have to turn around and fight the same battle again one, ten, or fifty years down the road?

Congress passed the Wilderness Act in 1964 precisely for this reason, to permanently protect wild areas through the ups and downs of political cycles. Formal wilderness protection remains one of the most powerful tools in the conservation toolbox. Wilderness areas must be designated by an act of Congress. Once congress has spoken on behalf of such places, their protection remains solid.

Back in the 1970s, public land managers were directed by Congress to inventory all the National Forest roadless areas in an analysis called "RARE II" (roadless area review and evaluation). The Tumacacori Highlands were one of 20 such areas iden-

tified on the Coronado National Forest. Seven received formal wilderness protection; the rest were left hanging. Sky Island Alliance began re-inventorying these remaining unprotected roadless areas in 1998, starting with the Tumacacori Highlands, to promote and plan for wilderness designation for these neglected places.

There are many misconceptions about what wilderness designation actually does and does not do.

### Wilderness protection from Congress:

- Prohibits entry of motorized vehicles; ensures that backcountry users have a place to go where they will not be bombarded with the motors and wheels and generators;
- Does allow motorized rescues in emergency situations;
- Prohibits building of permanent structures (e.g., dams, powerlines, mines, buildings);
- Enables hunters who are willing to hike or horse-pack to find game that is not killed or scared off by hunters on ATV's and trucks;
- Provides refuges for many animals and plants that need large wild areas to survive, or are easily harmed by human activities;
- Makes it possible for more people to enjoy an area without damaging what they

came to enjoy. A single ATV rider who stays on roads might cause the same damage to soils, plants, and animals as 20 people on foot; a single ATV rider off roads causes more damage than hundreds of people on foot;

- Makes it possible for more people to enjoy an area without disturbing each other. Hikers, birdwatchers, and horseback riders can use the same area without disturbing one another; enter one ATV or other motorized user, and the experience is changed for everyone else.

### Wilderness designation DOES NOT:

- Affect cattle grazing leases on public land. It does not kick cattle off the land, nor does it lock in current grazing levels; grazing leases are negotiated in an entirely separate process.
- Lock people out of the land; in fact, most wilderness boundaries are designed to leave in place current access points, "cherry-stemming" around existing roads and campgrounds. Anyone who wants to walk or pack in from these access point is welcome;
- Bring throngs of people flocking to see a place just because now it's labeled on the map as Wilderness Area. Remote areas tend to stay remote. Wilderness areas with heavy visitation would likely have even more visi-

tors—with a lot more impacts—if they did not have wilderness protections.



Appreciation of wilderness is not a partisan political position. Wilderness designations are supported by a large, diverse majority of Americans regardless of their political affiliations. The original Wilderness Act was passed by Richard Nixon's administration, passed the House of Representatives by a vote of 370 to 0, and has been championed by Republicans and Democrats alike since then.

Friends of the Tumacacori Highlands—a coalition of landowners, conservation organizations, and other concerned individuals—is spearheading the citizen-driven effort to designate wilderness here. Working together, we *can* succeed in giving this amazing place the proactive, permanent protection it deserves.

For more information on this campaign and how you can help, check out [www.tumacacoriwild.org](http://www.tumacacoriwild.org) or email [info@tumacacoriwild.org](mailto:info@tumacacoriwild.org).

—Gita Bodner, editor

# Monumental Threat to Sky Island Wildlands:

by Matt Skroch, SIA Field Program Director

**O**n August 27, 2003, the Department of Energy released Tucson Electric Power's (TEP) proposal to build a 140-foot tall powerline through one of Arizona's most spectacular landscapes. TEP's preferred route would run 30 miles through the heart of the Tumacacori, Atascosa, and Pajarito Mountains. Referred to as the Tumacacori Highlands, this assemblage of mountains contains the largest unprotected roadless area in southern Arizona.

The powerline—a towering series of 12 transmission wires and over 400 support structures—would continue into Mexico to a proposed power plant at Santa Ana, Sonora. Energy would then be bought and sold between the United States and Mexico, with a small amount of power reserved as back-up electricity for Santa Cruz County.

**The Trojan Horse:** In 1999, Santa Cruz County experienced several hours of blackouts. The Arizona Corporation Commission (ACC) responded by issuing a mandate that a secondary source of power be delivered to the county, to provide a back-up source of power to minimize future blackouts or brownouts, and to provide long-term primary power to supply increasing needs. The local power company began plans to construct a 115 Kilovolt (kV) powerline down Santa Cruz Valley to comply with this mandate. This line would ensure sufficient power for decades to come.

TEP saw opportunity. With deregulation trends providing power companies with more flexibility and leniency on power transfer, rates, and production, Mexico was seen as the mother lode for both power markets and production. TEP and its parent company Unisource saw dollar signs, and the ACC mandate provided the perfect excuse to go there. By 2000, TEP had formalized plans to build a powerline to Santa Cruz County to meet the ACC mandate of providing additional electricity. But they didn't stop there. Instead of proposing a reasonably sized line through existing right of ways, TEP proposed running a much larger powerline through the Coronado National Forest with the capacity to power over 1,000,000 homes. Today only 40,000 people live in the whole county.

Now, instead of the original plan to provide County residents with back-up and long-term power, TEP's main goal is to integrate the Mexican states of Sonora and Sinaloa into the US energy grid. Only a small fraction of this line's power would ever be used in Santa Cruz County. Who pays for the powerline? Santa Cruz County residents. Rates increased over 20 percent in 2003. TEP gets rich transferring power to and from Mexico while ratepayers of one of AZ's poorest counties foot the bill. Santa Cruz County is only an excuse, a justification for TEP's profit scheme, and Santa Cruz County's interests get thrown out the window.

**The Environmental Impacts:** TEP could not have picked a worse route to put their new powerline. The Tumacacori Highlands are an amazing landscape loved by birders, hikers, botanists, hunters, families, and others. TEP's preferred "Western Route" runs

30 miles through the mountains and cuts through the center of the largest remaining unprotected roadless area in southern Arizona (and one of the largest in the Southwest). Their proposed "Crossover Route" is equally bad. Impacts include:

- The powerline would slice through the middle of a proposed Wilderness Area identified by volunteers and citizens since 1998.

- 20 miles of new roads would be bulldozed through rolling hills of oak savanna; though TEP proposes to close many of these road miles, such closures are often unsuccessful.

- 191 towers on the Coronado National Forest (each 140 ft. high) would reduce more than 18,000 acres of wildlands from a Forest Service scenic rating of "High or Very High" to "Moderate or Low."

- The route would cross habitat for 10 federally listed Endangered or Threatened species and 74 special status species including jaguar, Mexican spotted owls, Southwestern willow flycatchers, lesser long-nosed bats, and Chiricahua Leopard frog.

- 200 acres on the Coronado National Forest would be disturbed permanently.

- The route comes within ½ mile of the existing Pajarito Wilderness Area and Gooding Research Natural Area, and a stretch of Sycamore Canyon eligible for Wild and Scenic River status.

- Powerline corridors are notorious for channeling spread of invasive weeds, disrupting wildlife movement, and providing access to illegal off-road drivers and smugglers

- Subjective changes wrought by this project are perhaps just as relevant. No longer would visitors appreciate the unfettered views from Ruby Road or the quiet haven of upper Peck Canyon. Apache Pass—a high point between Bartolo Mountain and the larger Tumacacori spine - would forever be marred by roads and towers. Birders would look at hawks atop monopoles instead of oak trees, and hunters would scan for deer between buzzing transmission lines. A sacred, respected, beautiful landscape would be severely degraded.

**Who supports this proposal?** Citizens and politicians are rallying against the proposed route today. Residents of Santa Cruz County and southern Pima County recognize the lack of purpose and need for such a huge powerline. The Santa Cruz County Board of Supervisors asked only for a 115 kV line; the Nogales City Council and Mayor are actively fighting the proposal, Congressional Representative Raul Grijalva won't support it, and land managers see it as a huge burden. County citizen's electrical rates are going through the roof. The Tohono O'odham Nation, Gila River Indian Com-

munity, Salt River Indian Community, and Pasqua Yaqui Tribe have all registered objections to this large powerline, with especially strong cultural objections to Western and Crossover routes. Where's the real benefit? We still haven't found it. The only folks who now support this current proposal are the politicians of Sahuarita, where the powerline would originate, and the Arizona Corporation Commission, which approved the Western Route before reviewing any biological or cultural analyses.

**Alternatives and What You Can Do:** There are better ways to solve Santa Cruz County's power needs. The most obvious option is to run a smaller powerline down existing utility corridors. This would better suit local needs and have less impact on visual, economic, environmental, and property concerns in the county. A smaller powerline is cheaper, easier to build, shorter, less noticeable, and less dangerous. Existing utility corridors are already impacted, offer much easier access for maintenance needs, and would reduce construction costs. Plans have also been floated to build a small, clean burning natural gas power plant in Nogales. Locally generated power provides more reliability, more jobs, and more efficiency than long powerlines—plus less dependence on energy production elsewhere.

Readers have two immediate opportunities to influence key decision makers. The Department of Energy (DOE) is soliciting comments on this proposal. The Forest Service would have to amend their Land and Resource Management Plan to allow this project, and is simultaneously accepting comments on aspects that affect National Forest land. This double-headed process may seem redundant, but DOE and Forest Service decisions work independently. DOE's task is to determine whether a Presidential Permit is appropriate—which would give TEP permission to build this specific line through the US into Mexico. The Forest Service's task is to determine whether putting the powerline in the Tumacacori Mountains is appropriate, and whether the powerlines impacts would be too great to justify granting a special use permit and forest plan amendment. If DOE and Forest Service decisions are at odds with each other, TEP's proposal would not be able to proceed. **Please take the time to write both the DOE and the Forest Service by October 14th.** Talking points for each are shown below. The citizen-produced website [www.stophwesternroute.blogspot.com](http://www.stophwesternroute.blogspot.com) also provides more information about parts of the proposal, and more arguments against the western and crossover routes.

## Make Your Voice Heard: write by October 14th

Write to the **Department of Energy:** Address letters to: Dr. Jerry Pell, Office of Fossil Energy, US Department of Energy, Washington, D.C. 20585. State that your comments refer to the "Tucson Electric Power Sahuarita-Nogales Transmission line DEIS."

- The preferred Western Route is the longest, most expensive, and most environmentally damaging of all alternatives considered. The Crossover route is almost as damaging.

- The western and crossover routes slice through a citizen's proposed Wilderness Area and would forever scar the outstanding natural characteristics of the area.

- There is no "need" stated for a 345 kV line by either the applicant (TEP) or agencies; because most of the energy transmitted on the line would not benefit Santa Cruz County, why is the 345 kV, and not a smaller line, needed?

- A smaller, less obtrusive 115 kV powerline was not considered for any route. Why not? A 115 kV line is cheaper, can more easily be run along existing utility corridors and buried near homes, and would serve the long-term needs of Santa Cruz County.

- I do not support the proposed routes because they do not serve Santa Cruz County's interests, as originally intended under ACC order 62011. They are an unnecessary economic, environmental, and cultural burden on Southern Arizona. Please consider withdrawing this Draft Environmental Impact Statement and issuing a new assessment that properly analyzes real solutions to power needs in Santa Cruz County and includes a smaller powerline and/or locally run power plant.

Write to the **Coronado National Forest:** Address letters to: Sue Kozacek, Acting Forest Supervisor, Coronado National Forest, 300 W. Congress, Tucson, AZ 85701. State that your comments refer to the "Tucson Electric Power Sahuarita-Nogales Transmission line DEIS and needed Forest Plan Amendments."

- The Tumacacori and Atascosa Mountains are an exceptional area for primitive recreation. This powerline is incompatible with the natural characteristics there.

- I enjoy bird watching, hiking, biking, canyoneering, hunting, picnicking, etc. in the area affected by the powerline and would be negatively affected by the construction of the powerline in the Western or Crossover Routes.

- TEP proposes to build over 20 new miles of road for the Preferred Route. Road density in the Tumacacori EMA is already above acceptable limits as set forth in the current Forest Plan. More road building, even with associated closures (often unsuccessful) would violate the Forest Plan.

- I urge you to deny any special use permits for the Western and Crossover Routes because these plans are not compatible with the current uses of the affected area.

- A Forest Plan Amendment would only decrease the already dwindling supply of remote recreational experiences in the region and would impact many sensitive wildlife and plant species that are an important aspect of our southern Arizona natural heritage.

## TEP plans massive powerline through cherished roadless area

### A profound loss

by Ellen Kurtz, Arivaca Junction, AZ

**M**y husband and I feel so lucky to have had the good fortune to live here at the base of the Tumacacoris for nearly 30 years. We feel a deep kinship to the land and feel that it now more than ever needs a protector. Land is not just a commodity, something to be leveled and built upon or crossed by wires. The land has a very real life quality to it, and to simply rush in with development of any kind without thought for the ramifications is foolhardy and irresponsible.

The quiet remoteness where we hike or ride our horses, where we can enjoy the truly awesome beauty of the mountains, coming upon a hidden waterhole, deciphering the tracks around it—all of this is a blessing to us. But that all could change.

Now that the draft EIS for Tucson Electric Power's proposed transmission line has been published and distributed by DOE we can see in black and white the environmental impact risks that all of us who know and love this area were aware of even before the formal documentation was done. Many environmental questions are still not answered and there are many other equally important questions about the effect upon the historic, cultural, aesthetic and personal life which require serious consideration.

Regardless of which route is taken by

these 345kV transmission lines there will be huge impacts. Those unfortunate enough to live on the route will see their homes devalued or condemned. Even if the owners were to receive "fair market value" they would be uprooted from their chosen homes where they have not only invested their money and hard work but also their hearts. Those people living west of Green Valley and east of the Sierrita Mountains near the community of McGee Ranch would be the most affected and vulnerable because all proposed routes go across their property. There are already a number of powerlines occupying the utility corridor in this area. Though the existing lines are not of as high voltage the cumulative effect could have a definite impact on health, physical and mental, as well as on the general aesthetics of

the area. More and more studies are documenting the negative effects of electro-magnetic fields (EMF's) on the whole environment.

The "self-weathering" poles that are proposed for this route are ugly. There is an example of one (a small one) along I-19 at the El Tiro Road overpass. It looks like nothing so much as a massive old recycled piece of rusting iron. Depending upon the route selected, there will be from 373 to 431 of these 140 foot high poles marching south across the land compromising the beauty of wide open space that lies between the Sierritas to the north, crossing the Arivaca Road and then continuing south with a backdrop of the beautiful cliffs of the Tumacacoris and Atascosas in the Coronado National Forest.

The new information (draft EIS) shows four miles of these poles placed right on the scenic Ruby Road in the forest, crossing Sycamore Canyon. Sycamore is not only one of the unique biological areas of the world but a place where one can recharge mentally and spiritually and have fun—all at the same time!

The entire area from Sahuarita south to the Mexican border is regarded as culturally sensitive by the Tohono O'odham Nation, because it contains many significant cultural sites including traditional cultural places, archaeological sites, sacred sites, religious sites, plant collection areas for basket materials and medicine and burial sites. (From a letter sent by the Tohono O'odham Nation to the Arizona Corporation Commission dated 12/12/2001.) Other Native American groups including the Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, the Hopi Tribe, the Mescalero Apache Tribe and the Pascua Yaqui tribe concur.

This beautiful land would be forever intruded upon by the gigantic poles and lines with their crackling transmission noises which increase as the lines age. The feelings of remoteness and tranquility of the untrampled out of doors would be gone. Forever.

To me, it would be a profound loss of one of the most beautiful, soul recharging areas in Arizona—if not the world.

### Our bottom line

by Marshall Magruder, Amado, AZ

**O**ur own Tumacacori Mountains, west of the Santa Cruz Valley, have remained remote and relatively peaceful for eons. Tucson Electric Power's proposed 345 kV double-circuited line along and through these mountains could change this tranquility. It would be, perhaps, a good time to review events leading up to this juncture.

In 1999, the Arizona Corporation Commission (ACC) Arizona's branch of government responsible for siting transmission lines, determined that Nogales, Arizona and parts of the Santa Cruz Valley served by Citizens Utilities needed a second source of electric power to improve reliability. Either a smaller line—a redundant, 115KV 60-foot on telephone poles (H-frame)—or a small, back-up power station, would suffice.

Beginning in December of 1998, the Public Service Company (PNM) of New Mexico presented a series of proposals for high-voltage, transmission lines to run between the Palo Verde Nuclear Generation Station and Santa Ana, Mexico, sixty miles south of the border. Trading electric power across a US border, requires a "Presidential Permit" from the Department of Energy (DOE). An Environmental Impact Statement (EIS) is required by the DOE if significant damage to the environment, may result from a project. Public hearings, considering the twelve proposed routes, were held by PNM in locations that would be affected. PNM met with extreme opposi-

tion at most meetings.

Tucson Electric Power then decided they too would like to be in on this possible, financial opportunity. They likely considered as a "local" utility with political connections, there would be little or no opposition. TEP applied for a Presidential Permit in August of 2001 and, later, applied for the required state permit. TEP's "preferred route" enters the Tumacacori section of the Coronado National Forest to the north heading south to Bear Canyon, skirting Sycamore Canyon, past Peña Blanca Lake to the natural gas line easement and south to the border.

Several of the routes proposed, involve penetration of isolated and wild areas. New roads would be required to carry the, on-average, 145-foot tall towers and to install the twelve conducting wires for the double circuit, 345 kV (500 Watts of energy) lines.

The smaller 115kV line would probably cost ratepayers (those who pay for these "improvements") between \$20 and \$25 million, while the huge 345 kV line would cost ratepayers over \$85 million. Since the lattice and monopole towers required for the

345 kV line are so large and ugly, keeping them away from public view is a major "public relations" ploy. These utilities seem to think out-of-sight is the solution to everything. The last jaguar sighting in the US was in the affected area less than two years ago. Many other endangered species live in this area. Most certainly, people prefer to visit their National Forests and not see power lines.

Why are the electric utility companies so persistent? Both TEP and PNM see the "renting" of space on their electricity highways as a way to make huge profits.

The Santa Cruz County Board of Supervisors approved and recommended the smaller 115 kV line. Another group is seeking to build a new generation plant fired by natural gas which avoids new power lines in the Coronado National Forest. Finally, there are no known customers in Mexico, nor will there be until a very-unlikely amendment to the Mexican Constitution is passed by the Mexican Congress. According to the Mexican Constitution as it is, purchasing power from a foreign and private utility is illegal.

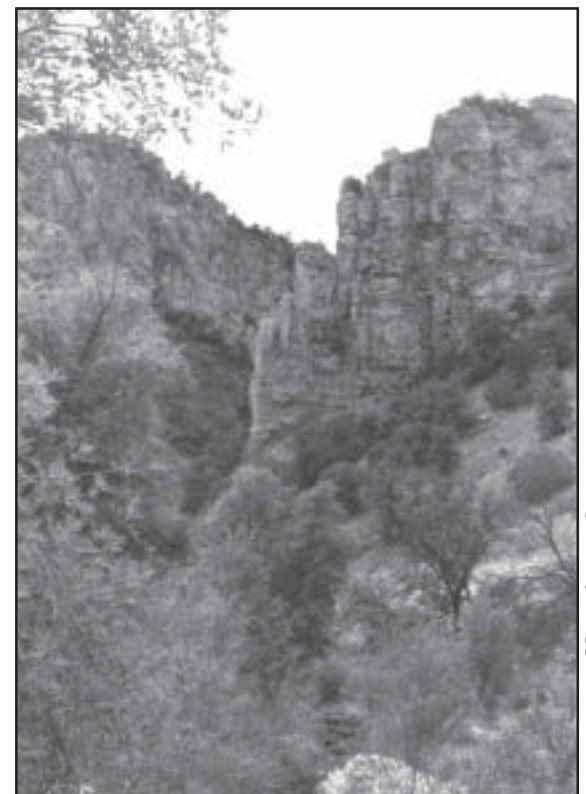


photo by Maggie Milnovich

Why should Santa Cruz County ratepayers pay \$85 million for a backup 345 kV TEP powerline when a \$50 million local power station or \$18-21 million for a second 115 kV (backup) line are far cheaper with less environmental impacts? This is our real "bottom line."



## Arivaca Cienega: a True Desert Oasis

by Sally Gall, assistant manager, Buenos Aires National Wildlife Refuge

The Arivaca Cienega became part of the Buenos Aires National Wildlife Refuge in 1989, providing protection for this very unique, highly threatened wetland habitat in southern Arizona. The protection of this land is an effort to preserve the existing surface water stream to enhance the habitat for the benefit of fish, wildlife, and recreational use.

The Arivaca Cienega is found near the small community of Arivaca, AZ, in the semi-desert grasslands about 11 miles north of the Mexican border. The name Arivaca comes from the Pima words *ari bac*, or "small springs," referring to the seven springs that feed the Cienega and Arivaca Creek. Cienegas provide key hydrologic functions such as water storage, ground water recharge, sediment deposition, stream meandering and organic nutrient uptake. The Arivaca Cienega ("a hundred waters") contains a perennial stream and is a delightful mix of seasonally wet marshland and meadow, large cottonwoods, and hackberry and mesquite groves.

The overflow from the Cienega forms Arivaca Creek and flows down into the Altar Valley. The Refuge has also acquired land along Arivaca Creek and now protects a large part of the stream, which is lined with magnificent 100-foot-tall cottonwood trees. The addition of Arivaca Creek and the Cienega to the Refuge helps save our precious riparian, or wetland, habitats for the benefit of plants, animals, and people.

Surface water flow is one of the key elements sustaining Arivaca riparian and cienega habitats. These habitats are critical to many wildlife and fish species in southern Arizona.

The Cienega is often used by migrating



Arivaca Cienega is one of the few places in AZ to view the black-bellied whistling duck.

photo by Mary Scott

neotropical birds, migrating dove species, waterfowl, shorebirds, raptors, and resident birds such as quail. More than 300 bird species have been documented on the Refuge. Yearly bird surveys conducted by Refuge personnel document trends in the avian population and indicate that the riparian and cienega habitats provide needed cover, water and food for almost all avian species found in the area. The ponded water found in

the cienega provides year-round open water necessary for waterfowl. Loss of such habitat

would result in declines in populations for those avian spe-



Photographed at Arivaca Cienega (left to right): blue-throated hummingbird, ash-throated flycatcher, and gray hawk



cies that occupy the high foliage density of these vegetation types.

Other wildlife species are highly de-

pendent on this area for water and cover. The riparian corridors provide cover and access to other upland habitat for many mammal species such as deer, javelinas, mountain lions, coatimundi and rabbits. Other animals such as bats, rodents and amphibians often reside in these habitats. Nearly 75 percent of the wildlife in Arizona depend on either wetland or riparian habitat during their lives.

Arivaca Cienega is open to the public year-round for hiking and bird watching. Refuge personnel maintain the trails by mowing and branch trimming to keep the one-and-a-half mile trail/boardwalk accessible. Tables and restrooms, due to arrive

in November 2003, will make the trailhead a nice place to picnic before or after a hike.

Arivaca Cienega Bird Walks are led by Audubon Society members every Saturday morning, November through April. Meet at the trailhead at 8 a.m., one quarter mile east of Arivaca. No reservations are needed, and the event is free of charge.

A viewing deck with spotting scopes is found along the trail for viewers to watch the various water birds in the nearby pond. Currently, cattails have in-

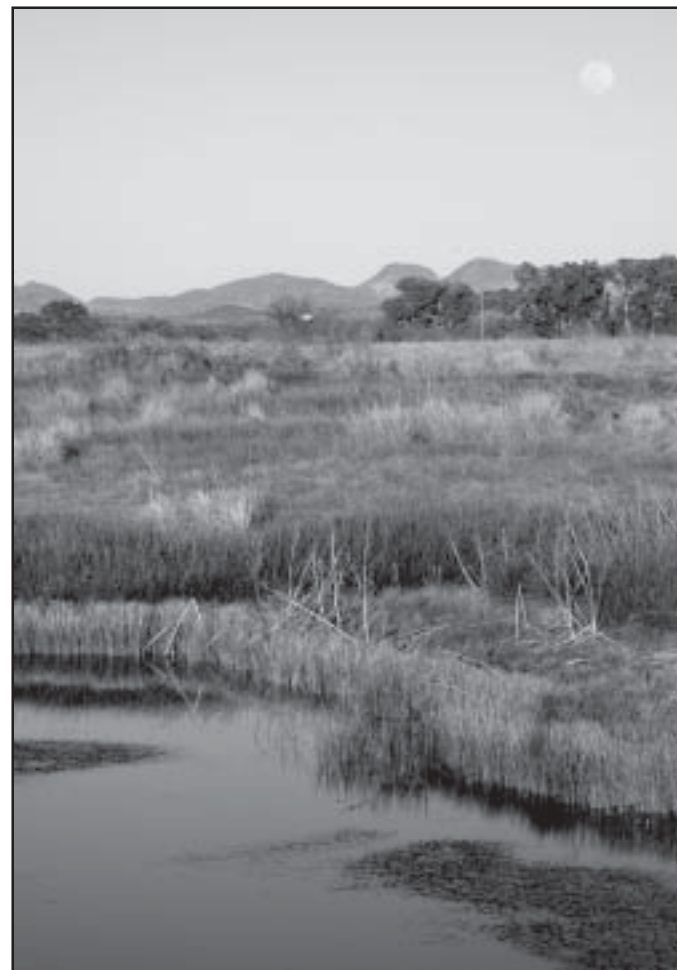


photo by Mary Scott

Lush, thriving wetlands attract more than 300 bird species.

vaded the area and have choked out the pond so viewing the water is difficult. Refuge fire personnel conduct prescribed burns every few years to reduce the cattails and minimize the threat of fire to nearby homes. Controlling the cattails has become a difficult task, however, as fire seems to stimulate growth. Refuge managers are currently working on ways to reduce the cattail invasion to allow for more open water for bird watching and wildlife.

For more information on the Cienega or the Buenos Aires National Wildlife Refuge, please call (520) 823-4251 x116, or visit [www.fws.gov](http://www.fws.gov).

## Sky Island Science

### Tarahumara Frogs Return

by Trevor Hare, SIA Conservation Biologist

The Tarahumara frog (*Rana tarahumarae*) once ranged from the Sierra Madre Occidental in Mexico into the Santa Rita and Atascosa-Pajarito Mountains of southernmost Arizona.

The last Tarahumara frog in Arizona was spotted in 1983 in the Santa Rita Mountains. The populations in the Atascosa-Pajarito Mountains disappeared in the mid 1970s. Disease (chytrid fungi, *Batrachochytrium dendrobatidis*), climate change (flooding, severe drought, colder winter), introduced predators (bullfrogs, non-native fish), and pollution (acid rain, heavy metal poisoning) are all potential causes of the extirpation in the US and continuing impacts in Mexico.

The Tarahumara frog is a medium sized drab green-brown frog (2.5 to 4.5 inches from nose to rear) with small, dark spots on its body

and dark crossbars on its legs. Because it lives in the water, its hind feet are extensively webbed. Both males and females call—a low grunt that lasts about half a second. The frogs' habitat is composed of high-gradient streams and deep plunge pools in pine-oak woodland, thorn scrub, and tropical deciduous forest. Tarahumara frogs eat a wide variety of prey, including fish, juvenile mud turtles, snakes, and beetles and other insects. In turn, Tarahumara frogs are probably eaten by ring-tails, birds, snakes (especially garter snakes), other frogs, rosy salamanders, fish, water bugs and other invertebrates.



photo by Suzanne

In 1992 the Tarahumara Frog Conservation

Team was formed to promote the recovery of the frog. Members include representatives from research institutions, state and federal wildlife management and land management agencies, and interested members of the public. A conservation program for the Tarahumara frog has been developed by the Conservation Team that calls for the reintroduction of the frog back into at least two of its historic localities in Arizona. The team has identified Big Casa Blanca Canyon in the Santa Rita Mountains and Sycamore Canyon in the

Pajarito Mountains as the two best prospective reintroduction sites.

Reintroductions are authorized by the Arizona Game and Fish Department in their 1987 Procedures for Nongame Wildlife and Endangered Species Reestablishment Projects. The Conservation Team and the Department are currently working their way through this process and will be seeking approval from the Game and Fish Commission to reintroduce the frog in 2003. To facilitate the reintroduction Tarahumara frog, eggs were collected at the closest known population to historic localities in Arizona in the Sierra la Madera, Sonora, in May 2000, and were transferred to the Fish and Wildlife Service for rearing. Additional collections and reintroductions will be needed to establish viable populations.

Compiled from AZ Game and Fish Department and US Fish and Wildlife Service reports, with special thanks to Stephen Hale.

## Canyon Perspective

By Maggie Milinovitch, Arivaca AZ

This is the place of my heart where I come to heal, to celebrate, to appreciate. Sycamore Canyon is more than the sum of its rocks, water, wildlife and flora. It fills the empty places in my soul: a by-product of "civilized" living. A day of listening to the cascading call of the Canyon Wren reverberating off the red rock canyon walls, lazing under a willow tree chomping on carrot sticks while considering a delicate wildflower is about all I need to get me back in tune with the rest of the planet, for a while.

I have come to this quiet garden in the desert for the past 30 years. Echoes of past visits and the promise of its enduring beauty greet me as I round each bend in the meandering stream. Reassuringly the canyon never changes yet is never the same. Also, no matter how often I return, I have a different perspective with which to appreciate it and new eyes to see what I missed before.

The lower canyon begins just off the serpentine, dirt, one lane Ruby Road and runs to the international boundary with Mexico. While all around may be dangerous territory, Sycamore is always a safe, protected place. No mule trains with illegal cargos venture this way. The tumble of rocks and water-filled pools carved of solid stone block their way to northern destinations. It is a designated wildlife and plant research area; there are no roads, no hunters, no motor homes, no ATVs, and no ghetto blasters. Alone, I feel safe - at home.

Sycamore runs, in its own way, north to south so that even on the hottest summer day there is shade to be found within its steep rock walls. Or, at high noon, cool respite can be had under the many large, water-loving trees along its year-round stream. The east-west track of the sun sends slanted light into the canyon; at one time the light defines the pock-marked rock faces, then moves to hide them in shadow-unlike the open desert where the glare of the sun surrounds and illuminates every object from dawn til dusk.

A short hike into the old parking area and I spot the huge oak tree where years ago, when my children were very young, we often pitched our huge old canvas tent. The homestead of Hank and Yank Bartlett sits

nearby. With each visit a little less is left of the melting adobe walls from a time when the West was young and Apaches were fierce. The rains that wash the canyon clean also wash out a bit of history.

Today insects rule the canyon. Butterflies in a bright parade wobble on the light breeze. Bright orange dragonflies with transparent wings hover over the water showing their aerodynamic prowess despite being engaged in double-decked co-mingling. I watch for a convention of ladybugs; a few years back I came upon thousands of them meeting on the shady side of a large boulder. I scooped up a handful to join in their party and was welcomed by their using my body as a playground. In my hair, under my shirt and over my face they skittered until they bored of me and flew back to the congregation.

Coming to the first nature-provided swimming pool echoes a time when, as the kids grew older, we ventured further into the canyon. The pools are home to tiny fishes that nibbled on our skin if we stood too long in one place. Their hungry probing sent shivering sensations up our spines and we had contests to see who could stand still the longest without giggling.

Many side canyons flow into the main. Some are so narrow, steep and clogged with scrub they defy exploration. Others made of solid rock reward mountain goat climbing skills with waterfalls

## Echoes of past visits and the promise of its enduring beauty greet me as I round each bend

and clear pools for swimming. The refreshingly cool water can, even in the summer heat, feel chilly in the lower levels of these undisturbed, temperature-stratified pools.

Passing by one of the larger side canyons, I recall a hot summer day with my sons. We had been scrambling over the water-strewn boulders of this side canyon and I let the kids go on ahead. (My children were noisy and I wanted some peace.) I sat quietly by a small pool in the shade of a twisted, stunted oak tree. In that shade grew velvet textured, bright green moss clinging to stones moistened by the seep water trickling over them. I could still hear the kids, but barely. Relaxing, contemplating nature's application of various shades of green, I caught movement out of the corner of my eye. I froze. A band of coati had come with their young for a sip of water. I must have blended into the surroundings like a homely girl at the prom, because they didn't notice me just a few feet away. I couldn't call to my children to share the experience

nor could I reach for my camera; I didn't want to disturb the band. Instead, concentrating all my powers on observation and conservation of movement, I sat and rejoiced in the moment.

This time my visit is with a heavier heart. Sycamore Canyon, a large part of my life and my history, with my hopes for its future untroubled by the advances of "civilization," are now threatened.

Tucson Electric Power wants to put a monstrous, power transmitting abomination very close to this canyon. But Sycamore is not the only area in jeopardy. Peck Canyon, the Atascosa Mountains, along with miles and miles of wild areas are being considered for pathways to corporate riches. Please join me in putting a stop to this madness.

*-This story is reprinted from the September 2003 issue of The Connection.*



sketch by Paul Mirocha

### Note from Maggie:

I've talked to no one who wants this line or for that matter, any powerline running through our National Forest lands. Especially through lands so far unmarred by visual pollution other than a twisting dirt road. No one impacted by the line will benefit. To my knowledge the only beneficiaries will be the power company's stockholders.

The stated cause is to provide reliable power to Nogales and to get the area on the national power grid.

The August power black-outs in the east tend to suggest that the all-powerful grid system is not the answer to

reliable power. The only people in the east that had power were the people not on a power grid.

A powerline that no one wants, that will not serve the people impacted by its ugliness, more land trashed, for what? The usual. Money chasing more money, yet again threatening our wildlands.

It is very important for everyone who cares about preserving this area to get active. The DEIS is available at most area libraries. There is a local website with current information about what is happening at [www.StopTheWesternRoute.blogspot.com](http://www.StopTheWesternRoute.blogspot.com)

The Department of Energy is holding

hearings on Thursday, September 25 from 3 to 5pm and another from 7 to 9pm at the Santa Rita Springs Rec Center, 911 W. Via Fuerte and on Friday from 1 to 3pm and 5 to 7pm in Nogales at the Santa Cruz County Courthouse on Congress Drive.

**Write letters to DOE and to the Forest Service by October 14.** See page four for addresses and talking points. If after you have all the information you need, you do not feel comfortable composing a comment to send in response, please feel free to contact *The Connection* office and an English major (or a reasonable facsimile thereof) will be made available to help you.

Maggie Milinovitch is the editor of *The Connection*, a monthly newspaper serving communities of Arivaca, Amado, Rio Rico, Tubac, Tumacacori, and surrounding areas. To keep up on local news, you can subscribe to *The Connection* for \$14 per year by writing to P.O. Box 338, Arivaca AZ 85601 or emailing [SoAzVox@aol.com](mailto:SoAzVox@aol.com).

So what's up with the similarity in names between Sky Island Alliance's quarterly newsletter and this excellent local monthly? Pure accident; there's no connection.

## After the fires

by Bob VanDeven

**I**t's the middle of June and somewhere near the top of the Santa Catalina Mountains a tiny flame crackles to life amid a crowd of lanky young conifers and heaps of dry duff. Conditions are perfect, or terrible. Thermometers in the valley register 102 degrees and humidity is down in the teens. Five years of drought and a stiff breeze out of the southwest usher the new fire across the forest floor and eventually into the crowns; by the time firefighters arrive on foot and begin scuffing lines around the blaze it's too late. They retreat in less than an hour.

A Lockheed P2V drops a load of retardant on the flames and returns two more times to do the same before the day is through, but the fire shrugs it off. This one has been waiting for decades, a lamp on the horizon just barely visible through the clutter of dead wood and dog-hair thickets. Progression maps published by the Forest Service tell the story best. On day 1 the burn barely covers Marshall Peak, by day two it has quintupled in size and then, day three, it rushes north into the little town of Summerhaven, rummaging through the flammable and the fireproof, consuming what it can with the organic lust of a creature that has stalked the woods for half a billion years. It comes up hard against the northern boundary of last year's Bullock Fire, then begins a slow curl to the west and south, wrapping around its own aftermath day after day, week after week until its flaming pseudopods begin to descend the rocky slopes above Tucson. At night people gather at the end of Sabino Canyon Road and watch the show from lawn chairs. When the blaze is finally brought under control a month later it has come nearly full circle, reduced to snuffling through the lovegrass and hardy succulents at the southern boundary of the Bullock fire. There really is not much left to burn.

Today the streets of Summerhaven seem wider for lack of cabins, and the pines of four months ago are sluicing down the canyons like so much dishwater. When we look at the way Americans have dealt with wildland fire over the past 50 years or so a regrettable pattern emerges. Prior to a blaze we plan, we theorize, sometimes we cut trees or start prescribed burns, other times we just resign ourselves to hope. Then comes the inevitable—a spark off an exhaust pipe, a bolt of lightning—and suddenly there's a fire threatening to sweep away a cabin, maybe even a town, but almost always a thicket of rationalizations and mistakes. Next comes the

cleanup. But the Aspen fire took out more than just trees and cottages, it left a smoldering gap in the collective psyche of all those who treasure the Catalinas. There were things we loved up there, things we left behind. We've come to the fourth stage in the pattern and we're dealing with more than the tangible products of combustion, we're dealing with uncertainty and loss and the kind of blame that seems to come spinning back like a boomerang no matter who we aim it at. It will be decades before the gap grows over, and in the meantime a single question echoes across that once-forested space: "What now?" At least part of the answer lies next door.

All but overlooked in the news, the Helen's 2 fire started barely 20 miles away in the Rincon unit of Saguaro National Park on the same day as the Aspen Fire. It burned through the same plant communities—ponderosa, mixed conifer, oak savannah—and with similar intensity. "We had trees torching out," said Kathy Schon, Fire Ecologist for the National Park Service, "Some days we weren't able to control it the way we would have liked." Yet for all their ferocity both fires exhibited something of a mosaic pattern, touching approximately half of the acreage within their reach with what the agencies consider low severity. Look much further, though, and the resemblance begins to fade. The Helen's 2 fire was sparked by lightning while the Aspen fire was human-caused, not that origins are really important; ignition is ignition and if it's one thing we've learned after a string of record-breaking fires it's that forests will burn, period. The Helen's 2 fire did not get nearly as much attention as her sibling next door although at one time there were nearly 700 firefighters trying to keep her in check. But the most dramatic difference between the two blazes is this: even with fewer personnel on the ground and fewer choppers in the air the Helen's 2 fire only reached 3,500 acres, barely four

percent of the size of the Aspen fire. The reasons for this are complex, but one can't help thinking that two fires so closely allied by geography and timing yet so different in magnitude might have something to teach us, both about what we've done wrong and what we've done right.

Some have argued that natural conditions favored the Aspen fire while at the same time working against the Helen's 2. The wind from the southwest pushed the Aspen fire through Summerhaven and up the thickly forested slopes of Radio Ridge but herded the Helen's 2 toward rocky terrain. Pines in the Catalinas were infested with bark beetles and many were standing dead and dry when the fire began but the Rincon Mountains, owing to the trademark isolation that makes the Sky Islands unique, do not yet have a bark beetle problem. But

these claims are not enough to explain the disparity between the two fires, and they miss the one extant condition that truly helped keep the Helen's 2 fire in check, namely the existence of past burns.

A glance at a fire history map of the Rincons is instructive: Old blazes, both prescribed and natural, surround the Helen's 2 like amoebas, essentially hemming it in on the west, south, and southeast sides. When the Helen's 2 fire reached the edges of these historic burns it had no choice but to drop from the crowns to the forest floor where grasses and brush had begun to grow. Like an old yellow lab it simply poked around the bushes, basically harmless. The Park Service has a long history of letting fires burn where possible and using prescribed fire when necessary. In fact, much of the acreage taken by the



**Then comes the inevitable—a spark off an exhaust pipe, a bolt of lightning—and suddenly there's a fire ...**





Helen's 2 would have eventually been burned by the Park Service. In an email interview Chuck Scott, Fire Management Officer for Saguaro National Park, states, "This particular area has been on my radar screen for a number of years in regards to a prescribed fire. We had intended to burn it in a series of burns starting slowly. The Helens Fire simply advanced the reintroduction of fire a little sooner. We had more intense fire than had initially been desired, but I think for the most part the fire accomplished some good things for the resource." These good things include recycling nitrogen and other nutrients, creating a diverse patchwork of open ground and surviving canopy, and significantly reducing the burden of fuel and young trees that, if left unchecked, would have fed even greater conflagrations in the future. This last point is fleshed out particularly well by Park Service statistics gathered from previous fires. For example, fall fires decreased the density of pole-sized trees (those with a diameter of 2.5 to 15 cm) by about 50 percent on experimental plots while the density of overstory trees (those with a diameter greater than 15 cm) remained nearly the same, decreasing by only about 12 percent.

Some of the bad things to come out of Helen's 2 included severe damage to patches of mixed conifer which were inhabited by Mexican spotted owls and peregrine falcons. Prior to the Helen's 2 fire the Park Service

had wanted to treat these areas with a combination of thinning and prescribed burning, but federal law prohibits this type of disturbance to spotted owl habitat. Now in an unfortunate twist of fate the very habitat protected under the law has been all but destroyed, in truth because of the exclusion of fire.

Lest one think that fighting fire with fire is an easy prescription for forest health we ought to consider the differences between Saguaro National Park, where burning has served the ecosystem well, and places like the Catalinas, which have indeed suffered from the lack of flame. To begin, the risk to private property and the continuous presence of human beings in the Catalinas makes it hard to simply let fires burn and slows the planning and implementation of prescribed fire. In a recent interview Bill Hart, Fuels Specialist with the Santa Catalina Ranger district, pointed to the meticulous and site-specific planning that must be done by the Forest Service. "The Park Service has almost no interior prep to do, it's mostly line prep, whereas we (the Forest Service) have a tremendous amount of work to do on the ground before a prescribed burn can be completed." So while it's no secret that fire suppression in the Catalinas contributed to the severity and extent of the Aspen Fire, balancing the equation was and will remain problematic. That said, it should be noted that the Forest Service continues to take an especially fervent approach to fighting fire, extinguishing over

99 percent of all blazes, some of which might better be managed than snuffed as a matter of course.

The same evidence that argues for the benefits of fire and a wider return of this primeval force to public lands speaks strongly in favor of protection for those communities on the wildland/urban interface. Fires are inevitable and the only question is what they will burn. Think of it this way—if a defensible space had been cleared around every structure in the Catalinas, if yards had been raked free of duff and debris, if no one had piled their firewood next to their propane tank, if no building had been lost, would we have mourned the way we did? "We can't fireproof the mountains," asserts Kathy Schon. Indeed, there is good data showing that ponderosa pine forests historically withstood low to moderate intensity fires every two to 10 years.

Yet for all the necessary advantages of fire its presence (or absence) still amounts to management decisions. "We need landscape-scale projects," says Schon. Bill Hart agrees, but there is conflict over how much humans will be required to do and how much fire can do on its own. Park Service data seems to suggest that burning, even in dense forests with heavy fuel loads, will leave enough of the big trees and follow a mosaic pattern allowing recovery and an eventual return to lower intensity burns. But the ultra-high fuel loads on many national forests call to question the wisdom of such a let-burn policy, at least in some situations. Still, for all the differences between various chunks of public land, the Rincons stand as an impressive example of fire and forests coexisting the way they should. Over time, a landscape that endures multiple fires can build resistance to the kind of conflagrations that have swept across Arizona and much of the west. Where necessary, we can treat areas to prevent crown fires and we can see fire restored to our public lands for their benefit. Someday we may look at flames on the horizon with wonder and gratitude rather than fear. For anyone who doubts these assertions, a return to the Catalinas offers a kernel of hope.

The Aspen vista point is near the end of the Catalina Highway, perched between the aftermath of two devastating years. To the east, ranks of standing matchsticks crowd the steep slopes that descend to the San Pedro River. The Bullock fire burned hot here, playing the topography and leaping from tree to tree, pre-drying the thick forest upslope

as it moved. To the west, the Aspen fire came charging through after consuming more than 300 homes and businesses. Looking for hope here seems like a fool's errand but in the fall of 2001 humans were at work in the forest to the northeast, thinning young trees and cutting low branches, protecting 170 acres just below the Mt. Lemmon Fire station. It's down there still, a tiny raft of green floating on a sea of ash. The Bullock Fire burned right up to this treated area and then dropped out of the crowns when it reached the edge. In a similar fashion the Aspen fire was unable to consume those 170 acres as it had so many others. What we value we can save. It will take time, much capital, intelligent decisions, and the participation of those who live and play in the woods, not just those who manage them.

Like fires themselves, personal responses to fire are visceral, untamable, and leave behind smoldering patches even once their main flames have been quenched. Understanding public reaction to fire issues is critical to fire management. Yet our collective experiences and personal responses to fire cannot be boiled down to a simple formula.

We would like to provide a venue for exploring these personal expressions by publishing here a collection of reactions and responses to the fires that have recently affected us so deeply. Please share with us your poems, sketches, photographs, essays, comments, and other thoughts.

You can mail your responses to p.o. box 41165, Tucson AZ 85717 or email them to us at [newsletter@skyislandalliance.org](mailto:newsletter@skyislandalliance.org).

## Fabulous Fireflies

by Joe Cicero

**F**ireflies, in Arizona?? Most residents would glare in disbelief if told that fireflies actually occur in our state. They may be reminded of fond experiences back east where the night sky is filled with flashing insects, but have neither seen nor heard of such displays here in the west. Fact is, there are twenty or so different species confirmed in Arizona, and they can be sorted into three behavioral groups.

The first group consists of three species, perhaps more, that fly and flash at night in fiercely competitive mating protocols like their eastern counterparts. The second group consists of six or so species that fly during the day and either have no lights, or, when lights are present, they are faint like those radium-painted notches on the wristwatches we used to wear. These lights have no known function. The third group consists of nocturnal species whose females are brightly luminous but cannot fly. Their males have faint lights too, and don't use them for mating signals. Instead, they have huge, dragonfly-like eyes for spotting the female glow as they fly through the night sky in search of a mate.



Flightless, larva-like "glow worm" female attracting big-eyed male

Sky Island Alliance's conservation efforts targeted this southwest section of the Huachuca Mountains during June of this year. In one trip to Scotia Canyon, just east of Parker Canyon Lake, we were blessed to see representatives of all three of these firefly groups. The canyon is richly decked with

a full gradient from ponderosa/chihuahua pine-silverleaf oak woodland, through the pinyon-oak belt and on down to the mesquite flat. Early residents of Sunnyside installed several large ponds to retain spring water in the upper region of the canyon, and these are slowly leaked to the creek below them. This perennial water supports a lush streamside flora with lots of snails, on which larvae of the aerial flashing firefly *Bicellonycha w. wickershamorum* feeds.

*Bicellonycha* is a genus of about 30 species throughout central and southern Mexico. This one species somehow made it up to the Sky Islands, and back in 1982, I named it after the Wickershams, then residents of Huachuca City, who let me study the mating behavior in their backyard. *B. wickershamorum* per-

forms a "flash-answer" routine where males advertise by flashing once every 5 or so seconds as they fly. Females wait in the grass until a male flies overhead and performs to her liking. She blinks back at the male who captures her attention, and he then bolts down to her as fast as he can,



Big-eyed male that flies in search of females on the ground.

hopefully before any collateral males see the exchange and try to interlope. This basic flash-answer protocol is highly modifiable depending on the terrain and ambient light intensity the males have to work in. They scale the height and speed of their search path to optimize their chances of finding a female. They vary the intensity of their lights, the time of evening they emerge, and the duration of their search, all of which depend on ecological, ergonomic and genetic factors we barely comprehend. Our second most common member of this group, *Photinus knulli*, deserves mention, but has not yet been reported in Scotia Canyon. It is the only known lekking firefly in the New World. Gathering together in congregations (leks), males synchronize their flashes as part of an extremely complex mate-location strategy. A huge population occurred at Pena Blanca Canyon of the Pajarito Mountains that somehow got wiped out many years ago, and is just now coming back. An occasional male can be seen at Sycamore Canyon, 20 miles west of Pena Blanca, and these probably represent strays from a larger, undiscovered population with an epicenter deeper in the range. The species has also recently been reported in the Tucson Mountains and at the West Branch of

the Santa Cruz River. There's a night-flying/flashing click beetle too, that is known from some of the Huachuca Mountain canyons, as well as those of the Pajaritos.

The second group can be seen anytime during the day flitting about on vegetation and flying through the air in slow, straight-line paths. Entomologists theorize that their ancestors flew and flashed at night like those of the first group, but intense competition

moved the whole mate-acquisition prerequisite out of the night and into the day, and from luminescent signal recognition to pheromone recognition. Sycamore Canyon holds 3 of these species, all of which can be seen on any same day during the early summer.

The third group is my favorite. They perform a "glow-find" mating protocol, where the male flies through the night in search of a spark in the grass. In the first group, males take most of the risk during sex-location. But in this group, females expose themselves by glowing as a beacon for any males that may be overhead. Females are flightless because they quit metamorphosis earlier than their males; earlier, in fact, than the onset of wing growth. This condition is called *neoteny*. Many of these species occur in the Pajarito-Atascosa-Tumacacori Mountain Ranges also but they are very, very hard to find because of the sedentary habit of the female.

Luminescent insects are a fertile ground for discovery. Distributions are poorly recorded for even common species. A lot of behaviors are completely unstudied. A new genus just turned up in California's southeastern desert, and Sonora is profuse with species, almost all of which are undescribed. So much left to discover!

## Building Alliances

### Arizona Conservation Alliance Summit

by Lyn Wilson, Arizona League of Conservation Voters, and Acasia Berry, Sky Island Alliance

**R**epresentatives from 55 Arizona conservation groups converged on the San Carlos Apache Reservation in August to map out a common strategy for the upcoming year. The Arizona League of Conservation Voters (AZLCV) brought together groups working on a wide range of environmental issues facing Arizona residents, bonding the conservation community of the state into a unified powerful voice. People working on state land reform shared tables with those working to improve indoor air quality. Those doing on-the-ground restoration met with folks keeping tabs on the state legislature.

Focusing on action, working groups met on topics of air quality, energy, growth management, environmental justice and border issues, funding, and wildlife habitat and resource protection. Each group identified priorities the larger Arizona conservation community could accomplish and developed a plan to do just that. We expect to see lots of great work coming from this gathering!

Presentations were inspiring. San Carlos Apache Tribal Councilman Wendsler Nosie gave a moving welcome address that noted the auspiciousness of the conservation groups' convening at the Apache reservation. Longtime political activist and grassroots organizer Debbie Lopez and AZLCV Executive Director Stephanie Sklar spoke of the large over-

lap in candidates chosen by pro-conservation voters and by Latino voters. We were all moved to strengthen our ties and consolidate our collective voting powers. US Representative Raul Grijalva received a standing ovation as he lent hope for something good to come out of D.C.

This was the second Conservation Alliance Summit called by AZCLV. Individually conservation groups have been making huge strides in guaranteeing the future health of our state. Thank you to the League for having the vision and determination to bring us all together! Jointly we can make a difference in the upcoming elections and conservation in Arizona.

Sky Island Alliance is pleased to be a part of the Arizona Conservation Alliance. This year's participants left the Summit energized by the potential for achieving conservation

success through continued collaboration. By working together, we can build and strengthen the conservation community in Arizona and become more effective at protecting our land, air, water, and quality of life. It is our goal to create a culture of trust and cooperation between the diverse organizations, citizens, and interest groups that care about Arizona's future. With the help and dedication of the many members of the Arizona Conservation Alliance, it seems we are on the road to achieving that goal.

~Acasia

As part of the environmental justice and border issues session, it was exciting to work with progressive and dedicated people who really "get it." These issues, particularly border policy and talk of constructing additional walls, affect not just the human beings along our borders but the wildlife that use those

continued on next page

# Getting from Here to There

by Janice Pryzbyl

**N**ext time you travel the Interstate-19 corridor between Tubac and Tucson let your eyes trace an “as the raven flies” route from the Tumacacori Mountains on the west to the Santa Rita range on the eastern edge of your view. It’s approximately a 15-mile straight line from the proposed Tumacacori Wilderness to the existing Mt. Wrightson Wilderness in the core of the Santa Rita’s.

Now lower your eyes and imagine that same route on the ground. Pretend you are a young male mountain lion. You just spent your youth with “mom” and “sis,” primarily in the Pajarito Wilderness, with occasional hunting excursions into the surrounding mountain ranges, perhaps the Atascosas. But now “mom” is not too keen on your hanging around anymore, so it’s time to strike out on your own, establish your own home base, and maybe even find a mate. But where to go? There’s definitely strong signs of another male around “mom’s” home. It may be your dad, but *he* definitely does not want to compete with you for food or mates. Best to say “adios” and head out.

Moving north, you pad along the familiar canyons and ridges of the Atascosa Mountains. With “mom” you often encountered the scent and even watched groups of humans hiking, hunting, and sightseeing. “Mom” taught you to be cautious and leery of these two-legged critters, so you stay clear.

One morning, you settle down on a rock ledge overlooking a small canyon. Soon you hear some noisy critters headed up canyon. You look down and see three of those upright creatures. They seem to be excited and are pointing to where you just walked. They follow the tracks you made in the dusty canyon bottom until the tracks disappear amidst a scattering of rocks. What are they doing now? They yak and point and poke at your tracks. You wish they’d go away so you could nap. You especially hope they don’t look up and catch you in your hiding spot. Sounds from their activity drone on and you doze. When you wake up, all that is left is their stale smell. You get up, stretch, and sniff the air, catching a fresh scent as they retreat back down the canyon. Sniff. Crazy humans! You turn and slink off in the other direction.

You wander further north and explore the Tumacacori Mountains. Hmm. “Mom” taught you to hunt deer and javelina. There’s

plenty here, and water too. Maybe this can be your new home. But, uh-oh, what’s that? Under an oak tree, you spy a scraped-up pile of leaves. You cautiously sniff. Eeoww. That’s “dad’s” scent! And what’s that over there? A pile of scat, and it’s fresh too. You must still be in “dad’s” territory; he’s obviously left his calling card. Better high-tail it outta here or he’ll kick your butt.

With renewed haste, you scramble up Sardina Peak. At the top, with the setting sun warming your back, you check out the view and your options. Across the valley floor, a large mountain range glows red in the evening light. The Santa Rita’s are beautiful with the sun highlighting the sheer cliffs of Elephant Head. Just the place for a young mountain lion to call home. But how do you get from here to there? You look south, from where you just came, and notice drainages flowing out of the Tumacacori’s. Negro, Rock Corral, Tinaja, and other canyons all look easily navigable down to the valley floor. You really don’t want to backtrack, so you look northward at Chivas, Toros, and Sopori Washes. Down on the valley floor there is a thin ribbon of bright green cottonwood trees. A river flows through it, offering a respite for resting and refueling on the journey. A drainage on the other side of the river leads to a large canyon—Cottonwood—providing access to your new dwellings. Seems easy enough. The coolness of the night entices you to start the journey down the mountain and across the valley below.

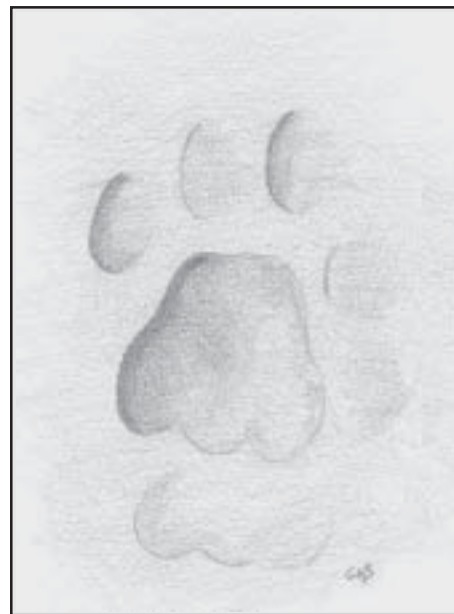
How easy will the journey be? Back in your vehicle, with your human eyes you can see that the landscape is more than a combination of geology and vegetation. As he edges closer to the valley the mountain lion will encounter more and more obstacles to his passage. He already scooted over one major dirt road—Ruby Road. Skirted campsites and cattle tanks. Down in the valley it will be an obstacle course of utility rights of

corridors as well.

Our breakout group chose to treat environmental justice issues and border issues as separate components with equal weight, though these obviously overlap. In reviewing the general goals set forth in the first Summit, we found we had made little progress in the last year, and decided this year we would set action goals and assign tasks to group members with deadlines to insure that the goals were met. Border policy is a vast issue and goes far beyond access to humans and wildlife. To engage the conservation community in the border issues, however, we agreed that our role should be to focus on issues dealing with wildlife corri-

dors and habitat. Jenny Neely volunteered to research groups working on border wildlife issues from Texas to California, and to discover what each is actually doing.

On the environmental justice front, our group also acknowledged that too often persons impacted by environmental justice issues resent the larger, more well known conservation groups because these groups “come in and tell them what they need to do” to fix their problems. As one member of our group pointed out, “You people have all the money, and we are the ones working in our communities to stop the injustice to our families.” It was a sobering moment.



ways, ranch buildings, fences, stores, ranchettes, golf courses, paved roads, with all the subsequent occupants including suburbanites, barking dogs, stray cats, and motorized vehicles from ATVs to semi-trucks. Attempting to get safely and unnoticed to the other side, the lion will try his darndest to avoid any contact. Maybe he’ll keep to the drainages. But what about the four lane high-speed highway your vehicle glides over at 75 mph? What are the lion’s chances of successfully crossing all four lanes? Or are there big culverts and high bridges he can pass through or under?

These are the questions our Wildlife Monitoring Program attempts to address. We mobilize volunteers to collect data in areas we identified as possible wildlife corridors that are at-risk from expanding development. One of these regions is the stretch of land between the Tumacacoris and the Santa Ritas. Ten trained “grassroots naturalists” are now collecting data on wildlife presence along their “adopted” transects in drainages and canyons on both sides of Interstate-19.

Maybe it was volunteers Janay Brun, Dyna Chin, and Wade Goyetche who disturbed our mountain lion’s nap. What were those crazy humans doing, anyway? They were documenting the lion’s tracks by photographing, measuring, taking GPS readings for location, and determining direction of travel. They most certainly wondered where the mountain lion went. Our volunteers also

document the territorial markings left by mountain lions and bobcats. With swipes of their hind feet, male mountain lions mound dirt, pine needles, or other organic litter and then spray the mound with urine. Just like the calling card left by the lion’s “dad.” Bobcats also mark by scraping, however these are notably smaller than mountain lion scrapes. Scat—fecal matter—deposited by mountain lions is also collected as evidence.

In addition to the three volunteers mentioned above, Nick Bleser and Birdie Stabel, Laurel Clarke, Carolyn McCallister, Judith Musick, and Bill and Ellen Kurtz also venture out every six weeks. Most of the project’s volunteers work and live in the immediate area—four are Tubac residents and two live near Sopori Wash. Four volunteers come down from Tucson and other outlying areas. Not only do the volunteers search for signs left by mountain lion and bobcat, but also by black bear, coati, and jaguar.

Sky Island Alliance is collaborating with Arizona Department of Transportation to investigate wildlife movement under I-19. Soon, a series of remote cameras will be installed in culverts and under bridges. (See sidebar to *WildNews!* in last summer’s *Restoring Connections*.) The information gathered from these remote cameras will supplement the track data collected by our volunteers. Supported by these data, Sky Island Alliance is in dialogue with numerous stakeholders and officials about preventing obstruction to wildlife movement through major drainages in the Santa Cruz River Valley.

Now when you travel the I-19 corridor between Tubac and Tucson, gaze at the landscape and reflect on the work Sky Island Alliance does to protect our mountain islands and desert seas—especially our current efforts for wilderness designation in the Tumacacori Highlands. Contemplate the profusion of wildlife living in the large protected core areas—the mountain islands. Speculate about the corridors through the desert seas that enable wildlife movement between those cores. And consider joining Sky Island Alliance’s awesome volunteers and supporters whose tireless efforts ensure that mountain lions, jaguars, and other critters can continue to live in the Sky Islands and travel the desert seas.



Some of this problem is clearly due to lack of understanding about who is doing what in this expansive network of grassroots activists. To tackle this problem, we agreed to design a survey that would go out to all Summit participants asking them to identify people in their urban, rural, and tribal communities that are already working on these border problems. Our intent is to identify projects all across Arizona where people are struggling to protect their communities, and get to know who they are and what they need. We will help develop a tool box for these groups and individuals to use to further help themselves, and where pos-

sible, offer assistance which may mean simply helping to open a door for them. Currently, Joel Foster is hard at work on the tool box, and I have the first draft of the survey ready. For those who were at the Summit, you should receive it within the next three weeks. If you weren’t there, I enthusiastically encourage each of you to sign up for the 2004 Summit and become an active participant in crafting the next Arizona Conservation Alliance Agenda. You won’t be sorry!

~Lyn



## Road Rattlings

by Trevor Hare, SIA Conservation Biologist

**W**olves and bears, leopard frogs and Apache trout, Gila monsters and Sonoran whipsnakes, tree frogs and rattlesnakes, trogons and gray hawks; these are a few of my favorite things. These are also what we have encountered out there doing road and wilderness surveys this summer.



elegant trogon, by Sky Jacobs

We, of course, have also seen way too many roads, way too many degraded riparian areas, and way too many campsites. Some of those camps were definitely Mexican Nationals' waypoints on their trip north looking for a better life. We also stumbled across a camp in the Burro Mountains that was full of the trash from Oriental and Middle Eastern food products, European cigarettes, and bus tickets from Los Angeles. The worst we have seen though was caused by that scourge of all wildlands—the Yahoo. On the Apache Forest overlooking the Black River, we found a camp that looked like it was attacked by a Boy Scout troop gone insane. Trash everywhere, toilet paper and beer cans, egg shells and banana peels, and the worst was the trees around the campsite. They had been attacked with abandon. Some had been hacked down, and others were barely standing. The attack on the trees must have happened over the

course of a couple days as more than 20 trees had been damaged. It was a sad sight, which I had hoped to never see in this day and age.

We are the friends and protectors of these wonderful wild places, we do not and can not understand what these people were thinking, but once again I have to lament the fact that I wasn't there in time to stop the destruction. But back out we will go, and while I hope I never have to witness something like this, I secretly harbor a wish I would. What would I do in that case? Calmly explain that what they are doing is wrong and illegal? Yell at them and put myself between them and the object of their bent destruction? Or would I follow them home, pee on their flower garden? Chop down their landscaping? Bust out their windows? Maybe all of the above!

Enough with the ranting and raving, it's time to get back out there! We had wonderful trips into Aravaipa Canyon Wilderness, the Burro Mountains in New Mexico, and into the Blue Range and Black River area since my last column. We were in the Chiricahua Mountains over Labor Day weekend to look at the boundary of the existing wilderness and to document some

roads just north of it. This fall we will of course continue to visit some of the most beautiful areas in the Sky Island region. The Tumacacori Mountains will be the setting in September to kick off the Sky Island Alliance push for Wilderness in the area and to finish off the road surveys. In the beginning of October we will return to one of our favorite places, the southern Peloncillo Mountains, to do road, riparian area, and biological surveys to support our push for permanent protection for the area. In the middle of October the Burro Mountains will be the scene of another joint trip with the New Mexico Wilderness Alliance and the Upper Gila Watershed Alliance, where we always have way too much fun! We also hope to have two or three road closure weekends this fall, so stay tuned!

In the new year we will visit Aravaipa Canyon, Turtle Mountain, the Dos Cabeza Mountains, the Santa Rita Mountains, the Huachuca Mountains and the San Rafael Valley, the Blue Primitive Range, the Peloncillo Mountains, the western Pajarito Mountains and the Canelo Hills. So stay tuned, stay fit, stay informed, stay active, and stay happy!

## The Tumacacori Highlands continued from back cover

greater Tumacacori Highlands region highest of all areas studied in terms of available wild prey, but decided that conditions surrounding this wild core area were too uncertain to merit bringing wolves back here yet. The abundance of deer and javelina continues to attract other predators, from stealthy mountain lions and the occasional jaguar to the numerous human hunters who stalk this area each fall.

Plant diversity in these mountains is at least as noteworthy. The chiltepin (*Capsicum annuum* var. *glabriusculum*), wild ancestor of most chiles we now cultivate, reaches unusually high densities here. The Forest Service has dedicated a special Zoological and Botanical Area to protect the chiltepin, and to honor the wild plant's contribution to our crop diversity and culinary traditions. And much is left unknown. Botanists remark that this part of Santa Cruz County is *the* place to go if you have fantasies of discovering plant species unknown to science; three new species have been found near here in the last decade!

The roadless area's only major hiking trail runs from the southern boundary near Ruby Road up Atascosa Peak, passing a fire lookout once manned by champion-of-the-wild Ed Abbey himself. Because of the large size of this unit, opportunities to escape the sights and sounds of civilization abound. Scramble up any of the numerous peaks, look west, and your sweat and scratches will

be rewarded by unobstructed natural views for hundreds of miles. But look east, and you may glimpse beyond a far ridge the sprawling valley settlements whose continued expansions make clear the need to defend remaining wild places.



View to the west toward Baboquivari from the Tumacacoris

Human history in this area bears all the hallmarks of borderland Wild West. Archaeological remains suggest human presence since at least A.D. 850. When the Spanish missions arrived in the late 1600's, the area was peppered with O'odham villages. Spanish missionary and military installations

at Arivaca, Guevavi (near present-day Nogales), Sopori, Tubac, and Tumacacori became sites of cyclical clashes between these relative newcomers and the long-time indigenous residents. In 1751, O'odham bands succeeded in driving the Spaniards

United States.

The Gadsden Purchase of 1854 moved the US-Mexican border from just south of Phoenix down to its present location, which divides our northern block of the Tumacacori Highlands from their geologically contiguous sisters to the south. Although many of us take the current border placement for granted and treat it as though it were an immutable continental division, this area is perhaps as dynamic as ever. Activities peculiar to borders throughout the world—flurries of commerce, smuggling of people and goods, patrolling of armed forces, bitter international rhetoric, and the blending of families with their languages and culinary and cultural traditions—achieve classical dimensions here.

Under wilderness designation, access into the mountains is preserved but their interior is protected from injury by forces more scarring than feet and horses. So much human damage is done unwittingly, as tires crush and gouge without their driver breaking a sweat, or as animals we'd not think of killing intentionally are smashed under speeding hulks of steel. Wilderness designation also protects a landscape from profit-mongering commercial schemes like the powerline featured in this issue, just as it protects against accidental injury.

—Editors note: For a great overview of the history of the Arivaca area, read Mary Noon Kasulais' 2002 paper in *The Smoke Signal*, published by the Tucson Corral of the Westerners.

photo by Trevor Hare

el norte

the creature stirred in spring sniffing the air, catching a hint of something familiar come over a long distance. the creature, young and without obligations, moved north through desert washes and over mountain passes, moving swift and sure, pads soft on the baked Earth, finding water by smell, by genetic memory; traveling mostly at night, when its dappled hide was almost invisible in the light of the moon; avoiding people. heading to el norte. swimming across a river, capturing small meals here and there; for miles and miles and miles the creature strode, heading for a place ancestors called home. mountains. a sacred peak. prey. and water. the young animal brought down a deer and fed, and slept, awaking to the sound of hounds; gliding swiftly up the slopes of harsh desert mountains, hiding, until, one day, it was gone. there was a jaguar in the Baboquivaris a few years ago. seen. photographed. and now it is gone. no one knows, or no one tells. but the jaguar is gone.

— Albert Vetere Lannon



Tumacacori Mtns. Santa Cruz Co.  
~~XXXXXX~~ Canyon  
 T ~~XXXX~~ R ~~XXXX~~ E Sect ~~XXXX/XXXX~~  
 29 Jan 02

1200 hrs -  
 Partly Cloudy  
 Ground Damp! Rained last Nite  
 T.S. 22.5°C

We know he was here!  
 You can feel his presence  
 I think the deer and Javelina  
 know also very few tracks,  
 no thrashing bushes or  
 falling rocks above us.  
 The only sound is a raptor  
 steep to climb into.  
 In a flat section of  
 the cyn after climbing  
 down dozens of bedrock  
 falls we see a path leading  
 up to an oak grove. In  
 the mud, a couple weeks old  
 we find tracks, large, very  
 large prints, at least 4" across.

Tumacacori Mtns.  
~~XXXXXX~~ Canyon  
 T ~~XXXX~~ S R ~~XXXX~~ E Sect ~~XXXX/XXXX~~  
 29 Jan 02

1300 hrs -  
 A chill settles over the  
 little valley and my spine,  
 as I realize I'm looking  
 at the tracks of the  
 Jaguar! A Jaguar here  
 in the US! We sit down  
 and contemplate this;  
 furtively looking into  
 the oaks and upper ridges  
 We know he is up there,  
 looking at us!  
 wondering if he took one  
 of us if the other would  
 flee!

## Michael Logan Chronicles Destruction of the Santa Cruz River

by Dennis Pepe, owner of Green Fire Bookshop, Tucson, AZ

At one time or another I'm sure we've all tried to imagine how Tucson looked in the past with the multitude of changes throughout its history. Sure, we can kind of picture the early settlements down by the base of Sentinel Peak ("A" Mountain), and we can try to imagine the Santa Cruz as a flowing stream with possible beaver dams and lush banks lined with towering cottonwood and sycamore trees, but with the absence of a photographic history, our imaginations are left to their own devices. In *The Lessening Stream: An Environmental History of the Santa Cruz River*, Michael Logan gives our imaginations a major boost in understanding the history of the Santa Cruz River and its many changes throughout the years.

In the hierarchy of rivers, the Santa Cruz does not place very high, especially when compared to its neighbor, the once mighty Colorado. For perhaps a half-million years the Santa Cruz meandered 205 miles from its headwaters in the Canelo Hills of southern Arizona to its terminus at the Gila River just south of Phoenix. Its route takes it south across the international border with Mexico until it elbows north again, crossing the border near Nogales, Arizona, and running along the eastern flank of the Tumacacori Mountains before passing through Tucson and continuing north to the Gila River. In the late 1800s the Santa Cruz River Valley attracted many settlers with its prospects for good grazing and fertile soil along its banks. Even with the threat of violent Apache raids, the allure of the river was too much for the homesteaders to pass up. There is no exact date of when the Santa Cruz actually lost its above surface flow. Through a combination of natural change to the watershed and human influence on the river, the above surface flow just gradually disappeared into the sand.

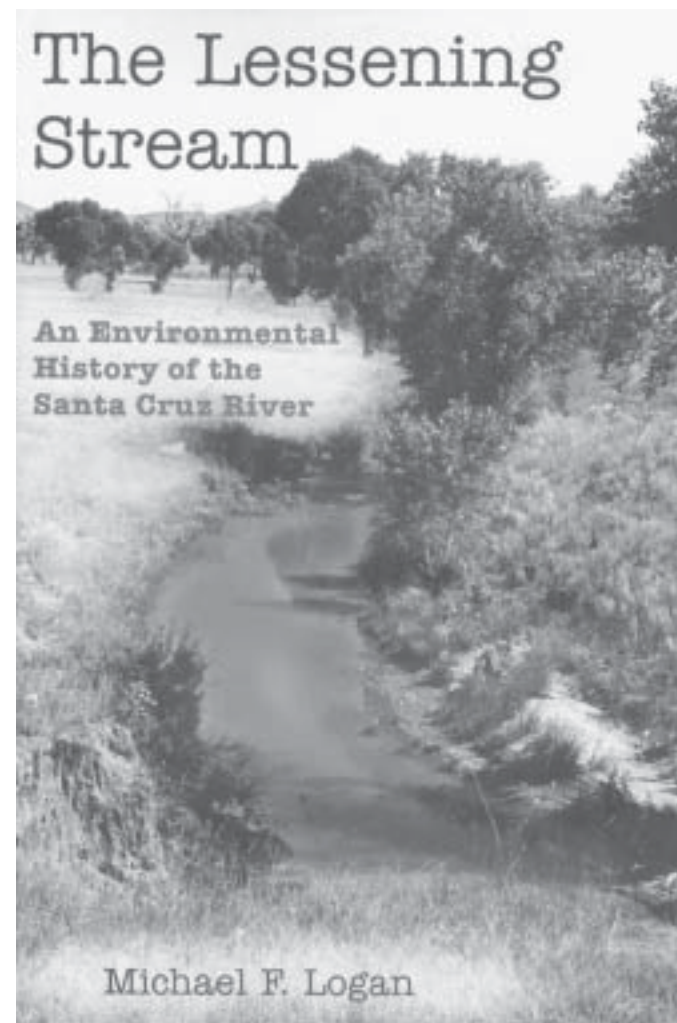
In this environmental history of the river, Logan takes an analytical approach in his writing and relies on scholars, scientists, and engineers from a wide variety of fields for their insights on the river's history.

While the book does give a good overview of the basic geologic and hydrologic processes that helped form the Santa Cruz, its main focus is on the changing human use of the river. For thousands of years the Santa Cruz nourished an agricultural lifestyle along its banks. Native American farmers, Spanish missionaries, and Anglo settlers all diverted water away from the river into their sundried fields. Then the Industrial Revolution was born and with it came the technology to tap the river's underground flow. Still today we pump water from even greater depths, water that has existed in the river's aquifer for more than 10,000 years. The trees are long since gone, and newcomers to Tucson know the Santa Cruz River now as merely a dry dusty bed, which fills only after heavy rains and has the potential to transform itself into a rampaging flood.

The Santa Cruz River has been, and will forever be, a river of change. Geologic evolution will continue to occur along its banks and in its watershed, but the changes caused by humans living along the river are even more obvious and especially hazardous. We've pumped away the river's surface flow. We've damaged the watershed by overgrazing the surrounding hillsides and its banks. Unfortunately, we are only now beginning to understand the ways in which we have damaged this ancient river. Michael Logan does an excellent job in his exhaustive research on this ever-changing river of the Southwest. As small as the Santa Cruz River is, it plays a large role in our understanding of the high profile water issues of the west. If you are interested in the history of the Santa Cruz River, or even the history of southern Arizona as a whole, this book is a must read. If you are interested in water policy issues and a historical overview of what's happening to one small river running through the Southwest, this book is for you.

The Santa Cruz still flows. Barring ma-

major geologic change in the region, the river will continue on. Sure, it may look sad now with its dry dusty bed and polluted, sporadic running water, but it will survive. Just as the Colorado will one day run free again, the Santa Cruz will continue on. *The Lessening Stream: An Environmental History of the Santa Cruz River* reminds us that because water has been, and will remain, a major focus of human activity in the desert, we desperately need a more complete understanding of its place in our lives.



## Sky Island Alliance co-sponsors four-day conference; calls for papers

### Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas

May 11-15, 2004 at the Doubletree Hotel in Tucson, Arizona

Call for papers:  
Abstracts due November 15, 2003

Sky Island Alliance is co-sponsoring a major conference on biodiversity and management of our Sky Island region. Mark your callendars, and send in abstracts for papers!

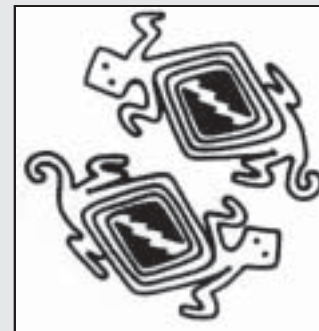
In 1994, the landmark conference "Biodiversity and Management of the Madrean Archipelago" was the first major gathering to focus on the unique features and needs of our region. This conference raised a huge amount of interest in the Sky Island Region (formally referred to as the Madrean Archipelago), bringing together land managers, aca-

demical scientists, naturalists, and members of the general public to increase appreciation and understanding of the region. A lot has happened in the last 10 years, and it's time to meet again! [Connecting Mountain Islands and Desert Seas is two conferences in one; it includes the 5<sup>th</sup> Conference on Research and Resource Management in Southwestern Deserts.]

At this event, 15-minute talks will fill four concurrent sessions on four of the five conference days. Two separate poster sessions will take place on two days of the conference. Short abstracts for talks and posters will appear in the conference program. Feature-length papers for both talks and posters are due at the time of the conference, and will be published following

the conference and distributed to attendees. The USDA Forest Service Rocky Mountain Research Station (Southwest Borderlands Ecosystem Research Project) is making a major contribution to this conference by both funding and publishing the proceedings.

Our all-star lineup of features, speakers, and topics includes Julio Betancourt speaking on climate change; Leonard DeBano and Peter Ffolliott, Madrean Archipelago 1994-2004; David Goodrich, San Pedro River watershed; Diana Hadley, comparative land use history; Ann Lynch, insects as agents of change in the Sky Islands; Paul Martin, biogeography and deep history; Gary Nabhan, cultural and natural history;



and Tom Swetnam, fire history and climate cycles.

For more information on the conference, including conference program (as it develops), instructions to authors on abstracts and paper submissions, costs, scholarships, and accommodations, go to [www.skyislandalliance.org](http://www.skyislandalliance.org) and click on Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas.

**Fiesta de las Islas—Celebrating the Sky Islands**

Saturday, November 22, 3:00 p.m.-late...

Celebrating the music, dancing, food and drink from the Sky Islands ecoregion!

Location: *The Wilson Courtyard*, (outdoors) 405 N. Wilson. On the corner of 7th St. and Wilson Ave. 2 blocks west of Tucson Blvd.

A benefit for the *Sky Island Alliance*. Admission: \$10 for entry, Sonoran cuisine and a trial membership with the Sky Island Alliance, \$5 for SIA members. Children under 12 FREE. Many thanks and we'll see you soon! *Sky Island Alliance* - Protecting our mountain islands and desert seas. Thank you for your support! For more information, 520-624-7080, [www.skyislandalliance.org](http://www.skyislandalliance.org) or [events@skyislandalliance.org](mailto:events@skyislandalliance.org)

**Track large mammals in the Peloncillo corridor!**

SIA to hold next **Wildlife Monitoring Workshop** at The Nature Conservancy's Litchy Center in Gila, NM, **November 7- 9** and **December 6- 7, 2003**.

Sky Island Alliance is seeking dedicated "grassroots naturalists" who can commit to an exciting conservation program on a long-term basis and monitor transects in our new project area—the Peloncillo Mountains. Volunteers will adopt transects located near Stein Pass or Antelope Pass.

Wildlife Monitoring Program volunteers monitor the presence of large mammals, such as mountain lion, black bear, jaguar, and Mexican gray wolf between the mountain ranges of the Sky Island region. Volunteers collect data by conducting "track surveys" where they search for and document signs left by wildlife. Volunteers must follow strict guidelines and adhere to a six-week survey interval to ensure the scientific viability of our data. Collected data strengthen Sky Island Alliance's efforts to advocate for protection of important wildlife corridors.

During the training workshop, regional wildlife experts join SIA staff to teach tracking techniques and wildlife sign recognition—such as the difference between canine and feline tracks. Workshop participants learn where to look for sign and about the ecology and behavior of local mammal species. Classroom instruction is supplemented with field trips.

To qualify for the program you must attend *all* five days of the training workshop. Once a transect is assigned, volunteers must commit to a full day of transect monitoring every six weeks. Volunteers form permanent teams of three to four volunteers. To accommodate team members' busy lives, the every six-week survey schedule is cushioned by a two-week window.

If you are interested in our Fall 2003 New Mexico workshop, please contact **Janice Przybyl, Wildlife Monitoring Program Coordinator**, at [janice@skyislandalliance.org](mailto:janice@skyislandalliance.org) or (520) 624-7080 x203.

*Wish List*

- Comfortable office chairs in good condition
- Table-top paper cutter
- Office supplies: copier paper, postage stamps, etc.

Thanks, Tim, for the computer monitor! It's great!

**Become a SIA Program Fund Donor**

**S**tories in recent newsletter issues have featured projects in our Rewilding Program: road inventory and restoration, wilderness work, wildlife monitoring, and ecosystem defense.

All the necessary road closures, tracking workshops, and wilderness advocacy gets done only with extra funding, so please consider a special donation to one of the following funds:

- Roads & Restoration,
- Wildlife Monitoring (Tracking),
- Missing Link,
- Wilderness, and

- Mexico—the Chihuahua Research Station in Janos, and the Jaguar Program in Sonora.

Please make your check out to Sky Island Alliance, with a note in the Memo line about which fund you'd like to support. We'll make sure your money goes to the programs that mean the most to you, and we'll send you reports!

**SIA Fall 2003 Field Schedule**

Please contact the Sky Island Alliance office at 520.624.7080 or [trevor@skyislandalliance.org](mailto:trevor@skyislandalliance.org) if you are interested in attending any of the following events.

**October 03 – 06. Roads, Riparian Areas, and Biological Surveys.**

**Peloncillo Mountains and San Bernardino Valley.** The Peloncillos are the only Sky Island mountain range that stretches from Mexico to the Gila River! We will be doing a variety of work both in the mountains and down in the valley. 4.0 hours from Tucson.

**October 17 –20. Joint New Mexico Wilderness Alliance and Sky Island Alliance Trip to the Burro Mountains.** Help us finish the roads surveys of the Burro's, a gorgeous mountain range just south and west of Silver City. 3.0 hours from Tucson.

**October 25. Volunteer and Supporter Appreciation Day. On the Tanque Verde Wash!** Join the Sky Island Alliance staff and board as we cook, brew, and sing for our supporters! Food, drinks, live entertainment will be provided. Camping on-site is available. Eastern edge of Tucson.

**November 07 – 09. Road Closure and Restoration Project .** Get your hands dirty and play a direct role in improving the ecological health of your public lands! Contact Matt at [matt@skyislandalliance.org](mailto:matt@skyislandalliance.org) for more info.

**November 22. Fiesta de Las Islas benefit.** Join Sky Island Alliance as we celebrate the "Islands" and raise money for our outstanding programs. Food, live bands, drink, fun, and frivolity! At the Wilson House in Tucson. Watch our website for details!

**December 05 – 07. Turtle Mountain Roads Inventory.** Join the Sky Island Alliance in one of the most gorgeous areas of central Arizona. Birds galore! Flowing Water! Great Wilderness potential! Threatened by mining and ORV use. We will be looking at the wild northern boundary. 3.0 hours from Tucson.

Sky Island Alliance invites you to:

*Winter in the Desert*

A benefit gathering to celebrate good friends and wild places!

**December 13<sup>th</sup>, 2003, 2 pm**

In the Old YMCA courtyard, north entrance

You are cordially invited to an afternoon holiday reception, art show and silent auction. We will be serving wine and hor d'ourves. Meet Bob VanDeven, and see the Sky Islands through his eyes. He has donated a special selection of his works for a silent auction to benefit the Sky Island Alliance. This will be VanDeven's premier show in Tucson. We will host local musicians for your entertainment.

Thank you for your support,

David Hodges, Executive Director

**Join Us  
Sky Island Alliance**

**I**f 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 \$25, 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.

Your Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ E-Mail \_\_\_\_\_

**Sky Island Alliance**

P.O. 41165  
Tucson, AZ 85717

**Thank you!**



photo by Bob VanDeven

## Sky Islands Wilderness

### The Tumacacori Highlands

The Tumacacori Highlands are celebrated for their spectacular lichen-drenched cliffs, undulating hills of grass and Madrean oaks, and sharp-cut canyon streams. The mix of subtropical and northern plants and animals that typifies all our Madrean SkyIslands is skewed here toward the tropical. Ball moss—a relative of pineapples—hangs from treebranches climbed by coatamundi and ringtail cats. Just two years ago, remote cameras snapped the fleeting form of a jaguar in an isolated part of this region. Indeed, these mountains host more than 50 sensitive species—one of the highest concentrations of rare and imperiled plants and animals in the Southwest, including several species that exist nowhere else in the US.

The Tumacacori Highlands—a complex of small ranges known as Tumacacori, Atascosa, and Pajarito Mountains—sit on the western edge of the Sky Island bioregion. The mountains are northern extensions of a continuous chain of mid-elevation uplands that connect to other Sky Island ranges in Mexico, making them a natural movement corridor for wildlife. It is also the largest unprotected National Forest roadless are in Arizona. Wilderness designation will defend the area against both current and future threats, protecting its rich natural history and allowing the communities of southeast Arizona to appreciate this landscape in its truly wild character for generations to come.

Rising from 3,500 to 6,400 feet in elevation, its grassy hills are shadowed by towering cliffs and cut by canyons that hide astonishing flashes of waterside greenery. Rolling hills pour runoff back into internal drainages, leaving hidden pools and springs amidst the parched-looking cliffs. Surely water in such a place is as ephem-

eral as a mirage, yet these streams harbor native fishes. The range's endangered Sonora chub is found nowhere else in the United States. What rain makes it past the fish's plunge pools soon washes east into the Santa Cruz River, or south into Mexico. This southern range barely reaches high enough for pines, but steep drainages pull down higher, colder air than the daytime heat portends.

The Tumacacori Highlands borrow many of their fascinating species from the subtropics to the south. Yellow-billed cuckoos, elegant trogons, Mexican vine snakes, Sonora chubs, and gray hawks may be sighted on any given day. Animals with broader distributions in the US also find this area particularly valuable. The Ghost Ranch lineage of Mexican wolves, one of three lineages used to establish today's lobo population, was sired by a male wolf caught in the Tumacacoris in 1959. More recently, AZ Game and Fish's assessment for Mexican grey wolf reintroduction ranked the

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Friends of the Tumacacori Highlands, an ad-hoc coalition of landowners, conservation organizations, and other concerned individuals is spearheading the effort to permanently protect this area under wilderness designation. For more information, check out [www.tumacacoriwild.org](http://www.tumacacoriwild.org) or email [info@tumacacoriwild.org](mailto:info@tumacacoriwild.org).

