Endangered earth

Winter 2004/2005

Let the River Run

Years of Center negotiations restore full flows to Fossil Creek

This spring, the Center will celebrate a remarkable victory: a partnership with an Arizona power company to decommission two hydroelectric power plants and restore full flows to Fossil Creek—a once lush riparian refuge for native fish and wildlife.

Photo by Robin Silver

Fossil Creek

One hundred years ago, artesian springs fed Fossil Creek at the astounding rate of more than 300 gallons per second. But for nearly a century, the Childs-Irving complex has diverted 95 percent of that water into a suspended flume that carries it to the power plants—leaving the 14-mile reach of the stream itself a dying trickle and devastating the surrounding habitat.

The Childs and Irving plants, located northwest of the town of Strawberry in central Arizona, helped fuel the growth of Phoenix in the 1920's. But by the 1990's, the antiquated plants supplied only a fraction of one percent of the power produced by their operators, Arizona Public Service Company (APS)—and a similarly tiny share of the company's profits.

In 1997, arguing that the plants' miniscule power production in no way justified destruction of riparian habitat in the desert Southwest, the Center began mounting public pressure against the renewal of APS' permit to operate the complex. The Center also notified the Federal Energy Regulatory Commission, the permit-granting authority, of its intent to sue over violations of several environmental laws.

In an unusual move, APS averted a protracted legal battle by signing a 1999 agreement with the Center, several other conservation groups, and the Yavapai-Apache Nation to voluntarily decommission the dam and work to restore Fossil Creek to its former glory. A rare partnership was born.

Let the River Run *continued on back page...*

Inside this Issue

In the weeks since we all reeled from the news of November's election results, adversaries of the Endangered Species Act in Washington, D.C. have vowed to make the law—and its protections for rare and vulnerable wildlife—a priority target in 2005.

So with a second-term Bush administration stacking the deck against the survival of endangered plants and animals, where do we look for hope?

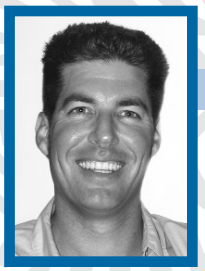
In this issue of *Endangered Earth*, we celebrate the New Year with some extraordinarily good news from a quiet stretch of perennial stream near the town of Strawberry, Arizona.

This spring, two power plants that have drained Fossil Creek for nearly a century will shut their doors for good, returning full flows to one of the most promising sites for native fish restoration in the Southwest **(cover story)**.

The rebirth of this once vibrant desert oasis is the result of eight years of persistent Center campaigning. It reminds us that enough committed people working together on the ground can achieve unlikely victories.

And the same unwavering resolve at work to restore a small local oasis is still hard at work protecting entire ecosystems **(page 2)** and winning important national battles to defend the Endangered Species Act **(page 6)**. Indeed, we have reason to hope.

From all of us at the Center, Happy New Year.



ADVOCACY SPOTLIGHT

David Hogan, *Urban Wildlands Program Coordinator*

Long road to desert protection

Will the Sonoran Desert Conservation Plan keep imperiled wildlife and plants out of sprawl's way in Southern Arizona's Pima County?

Tucson-area environmentalists celebrated a significant victory in the spring of 1998 when the Pima County Board of Supervisors approved the group's conceptual "Sonoran Desert Protection Plan."

Approval of the plan, conceived as a means to protect sensitive desert habitat and species from sprawling subdivisions and shopping malls, marked a unique first: a local government's adoption of a proactive land-use plan grounded in the principles of conservation biology.

Almost seven years later, the plan has evolved into a much more conservative attempt to balance habitat conservation with accelerating urban development. The Center for Biological Diversity has dedicated years to working with County officials, environmental partners, and others to ensure the strongest possible regional plan to preserve dwindling wildlife and natural lands.

A plan takes shape

The roots of Pima County conservation planning trace back to the listing of the cactus ferruginous pygmy owl as a federally endangered species in 1997—a result of Center advocacy.

Developers soon began to bemoan delays in development permitting. At the same time, environmentalists became alarmed at piecemeal analysis of the impact of development on the owl, and lack of concern for broader Sonoran Desert conservation in the face of metastasizing sprawl.

Center staff and other environmentalists soon saw the need for a more formal coalition and a plan for regional ecosystem and species conservation. With the Center as a founding member, the Coalition for Sonoran Desert Protection was born. (See sidebar.)

Despite its endorsement by the County Board of Supervisors, County staff opposed environmentalists' Sonoran Desert Protection Plan. Instead, they preferred preparation of a "habitat conservation plan," or "HCP." HCPs gained popularity with local governments in the early 1990's because they provide exemptions from the Endangered Species Act despite their apparent "conservation" emphasis.

By adopting an HCP, local governments like Pima County assume authority to permit the killing or harm of an endangered species as a quid pro quo for conservation activities—for example, conserving habitat at one location in exchange for permission to destroy habitat at another.

County Supervisors gave a green light to that vision in late 1998 with adoption of the Sonoran Desert Conservation Plan. The County's HCP, dubbed the "Multiple Species Conservation Plan" (or "multiple species plan"), is just one element of the larger Sonoran Desert Conservation Plan.

An early strength of the plan was the County's creation of a Scientific Technical Advisory Team to identify and map concentrations of imperiled species and sensitive habitat in Pima County. Analysis by the science team produced the Conservation Lands System map, a template for a county-wide reserve system, including "Biological Core," "Important Riparian Areas," "Multiple Use Areas," and "Recovery Management Areas."

But the Conservation Lands System map by itself was powerless to direct new urban growth away from sensitive land, and approval of the multiple species plan was years away. So environmentalists were pleased when County Supervisors took another step in marrying conservation biology and land use planning, adopting the map's land protection guidelines as part of a state-mandated Comprehensive Plan Update. As a result, only a modest percentage of any area identified by the map is available for development today.

Meanwhile, Center staff and many Coalition members were appointed to a steering committee to oversee crafting of the multiple species plan. With more than 80 members, the committee was too large to reach agreement on controversial plan details. But the

Photo by Erik Enderson

The Tucson shovel-nosed snake is uniquely adapted to literally swim through sandy soils using its spade-shaped snout. A Center campaign to establish federal protection of the species should limit development in Pima, Pinal, and Maricopa counties, and support Pima County and Marana conservation plans.

Coalition, Center, and others succeeded in crafting several important positions ultimately adopted by the steering committee, while also derailing several bad positions submitted by developers, ranchers, miners, and others.

Environmentalists achieved another major milestone when Pima County voters approved an open space bond in 2004. But land acquisition funding is just one element of a multiple species plan. Center staff and other environmentalists convinced the steering committee to endorse other crucial plan elements, including other funding sources such as impact fees, stronger conservation regulations for developers, and protective management of conserved land and species.

Photo by Robin Silver

Measuring in at seven inches, the tiny cactus ferruginous pygmy owl made a big splash when the Center succeeded in securing its listing as an endangered species in 1997, causing new limits on urban development and spawning the Sonoran Desert Conservation Plan.

But many steering committee members recognized that their recommendations were not detailed enough to guide the County toward a strong multiple species plan. The Center and other Coalition members stepped in to fill this gap when they drafted *Community Vision for the Sonoran Desert Conservation Plan and Multiple Species Conservation Plan*, containing extensive background and 32 detailed recommendations for a sound plan (available by following the "special reports" link at www.sonorandesert.org). That document has been widely distributed to government officials and other plan participants, and serves as the basis for Center and Coalition advocacy.

Photo by Lorena Babcock Moore

The diminutive yet noble Pima pineapple cactus is known only from the Santa Cruz and Altar valleys south of Tucson. Habitat protection alone cannot save this endangered species. A plan with strong management guidelines and development regulations will be required to ensure conservation of the cactus, pygmy owl, shovel-nosed snake and Pima County's other rarest species.

More work ahead

In early 2004, County officials distributed the long-awaited draft multiple species plan. But environmentalists were disappointed with the draft's omission of many of the crucial elements they had earlier persuaded the steering committee to endorse.

Significantly, the draft plan also failed to project losses of habitat and imperiled wildlife to future development—thereby hindering the ability to plan for necessary, corresponding conservation activity over the life of the plan. Officials have promised greater detail in future drafts, though it's unclear when those drafts will be released.

The Center and other environmentalists are generally pleased with the County's embrace of ecosystem conservation. A habitat conservation plan is a less-than-ideal vehicle for ecosystem conservation, but the County deserves credit for its proactive conservation agenda, incorporation of conservation biology principles into the planning process, and support of the open space bond.

Unfortunately, preparation of the Multiple Species Conservation Plan drags on while important lands and endangered species are lost to urban development. The Center will continue its close work with government and environmental partners to secure a plan that will protect serene Sonoran Desert landscapes, and the wealth of life they support, on the edge of Tucson's concrete jungle. ■

The Center and the Coalition

What's the relationship between the Center for Biological Diversity and the Coalition for Sonoran Desert Protection?

The Center has always had a close relationship with the Coalition, beginning with the Center's founding membership and service on the Coalition's board since its inception in 1998.

In a series of monthly breakfast meetings that year, Center staff and other environmentalists hatched the idea of a more formal coalition to advance our desert conservation goals. Today, dozens of groups are members of the Coalition for Sonoran Desert Protection, led by a seven-member board and staff Carolyn Campbell and Susan Shobe.

The Center is dedicated to working closely with the Coalition to advocate for the strongest possible regional conservation plan. Center contributions have included financial support, drafting technical documents, meeting with government officials, and participating in strategic retreats—in addition to helping shape the Coalition's ambitious vision to protect the unparalleled beauty and diversity of the Sonoran Desert.

PROGRAM NEWS...

Petition seeks special protection for southwestern bald eagle

The Center, Maricopa Audubon Society, and Arizona Audubon Council petitioned the U.S. Fish and Wildlife Service in October to recognize the southwestern desert nesting bald eagle as a distinct population segment, list the population as endangered, and designate critical habitat for the population. The petition counters Bush administration efforts to remove protection for the eagle nationwide.

Photo courtesy of USFWS

Bald eagle

The petition asserts that the southwestern population of bald eagles has uniquely adapted to desert survival. Smaller than their counterparts outside the region, southwestern eagles are unlikely to interbreed with other populations. Because other eagles lack the adaptations of the southwestern population, they may not be able to recolonize the region should that population go extinct.

Only about 60 pairs of bald eagles survive in the Southwest. The eagles currently face a multitude of threats, including declining riparian habitat and native fish, cattle grazing, harassment by aircraft, and lowered reproductive success, among others. In addition, the Verde and Salt Rivers in Central Arizona, where most of the eagles live, are threatened by rapid urban development. A new population viability analysis by the Center predicts that the southwestern population of eagles is at high risk of extinction in as few as 57 years.

Nationally, the bald eagle was downlisted from "endangered" to "threatened" in 1995, and is currently proposed for removal from the federal endangered species list. If the southwestern population does not survive, the region may never see the bald eagle again.

Settlement may mean habitat for *el tigre* in U.S.

As a result of a legal settlement obtained by the Center and Defenders of Wildlife in September, the U.S. Fish and Wildlife Service agreed to re-evaluate its refusal to designate critical habitat for the jaguar in the U.S. and make a decision by July 2006.

The settlement stems from a Center lawsuit to obtain not just critical habitat but also a recovery plan for the jaguar, the world's third largest cat and *el tigre* of southwestern lore. The jaguar was listed as an endangered species in the U.S. in 1997 as a result of a previous Center lawsuit, but the federal government has not yet formed a recovery team, identified recovery criteria, nor protected its habitat.

Meanwhile, two or possibly three jaguars have been caught on camera in southern Arizona, one of them the same animal (identifiable by its unique pattern of rosettes) photographed in the same region three years ago.

Jaguar

Although jaguars are typically thought of as rainforest creatures, historically they also lived in the United States and have been recorded in the southern tier of states from California through Louisiana in a wide variety of habitat. Like wolves, jaguars were exterminated by the federal government and the livestock industry.

Jaguars appearing close to the border today are thought to be males who have dispersed from the closest known breeding population approximately 135 miles south of the U.S.-Mexico border.

The Center is working with the Jaguar Conservation Team, an interagency group, to identify and protect jaguar habitat. The team and the Arizona Department of Game and Fish have determined that a wide swath of Arizona including much of the Sky Islands and Mogollon Plateau region is suitable for jaguars. A similar investigation is underway for New Mexico.

To host a slide presentation about the American jaguar, please email michaelr@biological-diversity.org.

Center convenes condor summit

In October, the Center's San Francisco office convened a one-day "action summit" to discuss the threat of lead poisoning to the California condor.

About 30 condor activists, biologists and environmentalists attended the summit, hosted by the Center and Natural Resources Defense Council.

Presentations were given by Noel Snyder, Ph.D., an eminent avian biologist and former head of the California condor recovery program, Steven Beissinger, Ph.D., an expert on endangered species population dynamics and recovery, and Michael Fry, Ph.D., a specialist in wildlife toxicology and author of a comprehensive study on the lead threat to condors. Mati Waiya, a Chumash spiritual leader and founder of the Wishtoyo Foundation and Ventura Waterkeepers, also discussed the Chumash cultural perspective on condor recovery. Finally, participants discussed action plans to protect and recover the condor.

California condors have experienced a remarkable recovery, thanks to tireless efforts by biologists like Dr. Snyder and a successful captive breeding program managed by the U.S. Fish and Wildlife Service.

However, condors are being released back to an environment that remains extremely toxic to them, as they are at high risk of encountering lead fragments in carrion shot by hunters. Lead continues to be the primary mortality factor for released condors, and the primary source of exposure is lead ammunition.

Photo courtesy of USFWS

California condor

The Center is spearheading a broad effort to eliminate

lead from condor habitat and from our surrounding environment, starting with elimination of lead ammunition. Our "Get the Lead Out" campaign aims to influence political bodies that control the condors' fate. More information and an opportunity to join the Center's effort can be found on our website (www.biologicaldiversity.org) and at http://actionnetwork.org/campaign/condor.

Protected lands sought for San Bernardino wildflowers

The Center and California Native Plant Society filed a lawsuit in September to compel the Bush administration to designate critical habitat for six rare wildflowers found in the mountains of southern California.

The plants are threatened with habitat loss and destruction from off-road vehicles, livestock grazing and trampling, urban sprawl, mining, non-native invasive weeds, and other factors. All six are listed under the federal Endangered Species Act as threatened or endangered.

Three of the threatened wildlflowers—southern mountain wild buckwheat, Big Bear Valley sandwort, and ash-gray Indian paintbrush—live only on pebble plains habitat between 6,000 – 7,500 feet elevation in the San Bernardino Mountains, and are found nowhere else on Earth.

San Bernardino bluegrass and California dandelion live in meadow areas of the San Bernardino Mountains, with the dandelion also found in seven meadow

Photo by Michael Charters

Big Bear Valley sandwort

areas in San Diego County. Hidden Lake bluecurls live only near a single vernal pool in the San Jacinto Mountains.

Citizens have called upon the Bush administration to protect and restore habitat for rare species in the current revision of management plans for the National Forests where the plants live. Ignoring the public, the Forest Service's draft plan proposes drastic increases in off-road vehicles and other activities that would harm the plants.

Securing critical habitat for these plants would give them the protections necessary for their survival, by restricting destructive activities in the areas where they grow.

Actions aim to protect albatross

In an effort to head off the extinction of the black-footed albatross, the Center filed a petition with the U.S. Fish and Wildlife Service in September to list the species under the Endangered Species Act. Along with a coalition of conservationists and native Hawaiians, the Center also challenged the recent re-opening of the Hawaii-based longline fishery for swordfish.

The black-footed albatross nests almost exclusively in the northwestern Hawaiian Islands and is important to the native culture. The bird spends much of its long life on the wing, scooping flying fish eggs, squid and fish from the ocean surface.

The albatross also mates for life, and produces only one egg per year—both traits that make the death of reproductive-age birds highly damaging to the population. Scientists estimate that only about 60,000 nesting pairs of black-footed albatross survive today, and that unless actions are taken to reduce the current level of human-caused mortality, the species will likely go extinct in the coming decades.

It is estimated that as many as 14,000 black-footed albatross are killed by longline fishing each year, as well as more than three million sharks and 40,000 sea turtles. Albatross and other sea birds

Photo by Bradford Keitt

Black-footed albatross

dive at baited hooks as they are deployed, and are hooked and dragged underwater where they drown.

The Center's suit argues that the National Marine Fisheries Service's decision to reopen the Hawaii swordfishery violates the Migratory Bird Treaty Act, the Endangered Species Act, and the National Environmental Policy Act. The case is similar to one that forced the federal government last March to ban commercial longline fishing for swordfish from a large area of the Pacific Ocean off the California Coast.

Center moves to protect world's most endangered whale

After years of delay and false promises from the Bush administration, the Center has filed suit against the National Marine Fisheries Service (NMFS) to protect the critical habitat of the North Pacific right whale, the world's most imperiled whale.

The North Pacific right whale is so rare that in the 1980s, a sighting of a single individual was deemed worthy of publication in scientific journals.

However, in 1996 scientists began to see a congregation of right whales annually in the Bering Sea, and this year scientists have found more right whales in the area than were found in the previous five years combined.

NMFS has stated that protecting the areas where the whale lives is "a necessary component of any effort to conserve and recover this species." However, NMFS has nonetheless refused to protect the critical habitat that is needed to prevent the whale's extinction.

If the right whale goes extinct, the United States will be the first industrialized nation to allow a large whale to meet that fate. The Center intends to hold NMFS accountable for this failure, and is requesting that the court order NMFS to protect the right whale's habitat under the Endangered Species Act.

PROGRAM NEWS...

Center steps in to halt prairie dog poison plan

In September, the Center and a coalition of six other conservation and animal rights groups filed a lawsuit against the U.S. Forest Service, U.S. Fish and Wildlife Service, and U.S. Animal and Plant Health Inspection Service to stop a plan to poison and shoot prairie dogs on federal land in South Dakota's Conata Basin.

The plan violates federal environmental laws, including the National Environmental Policy Act and the National Forest Management Act. It also jeopardizes the already endangered black-footed ferret.

Ferrets were reintroduced to the Conata Basin in the mid-1990s and depend on prairie dogs for 90 percent of their diet. The Basin is the only public land area in the Great Plains with large enough prairie dog colonies to sustain a viable ferret population.

Photo courtesy of USFWS

Prairie dog

Poisoning had been banned since 2000 when the federal government declared that the prairie dog deserved protection as a threatened species. But the U.S. Fish and Wildlife Service removed Endangered Species Act protections from the prairie dog in August 2004, citing that the species was more abundant than originally thought and fluctuations in colonies were a localized issue that did not affect the survival of the species range-wide.

Pesticides campaign targets EPA's lax regulations

In coalition with seven other conservation and fishing groups, the Center filed suit in September challenging a recent Bush administration decision to allow the Environmental Protection Agency (EPA) to determine whether a pesticide harms endangered species without consulting with federal wildlife agencies.

A new rule promoted by the pesticide industry allows EPA to evade its legal obligation to first consult with federal wildlife agency scientists before registering new pesticides or allowing continued use of pesticides that may harm plants and animals protected by the Endangered Species Act. The new rule makes it easier for agribusiness and other industries to use highly toxic pesticides, weakens protection for endangered species, and endangers the health of farm workers and the public.

Harmful pesticides are pervasive in fish and wildlife habitat nationwide, threatening the survival and recovery of numerous imperiled species. For example, pesticides are linked to declines of numerous western amphibians and threaten Pacific salmon, sea turtles and bald eagles.

In July the Center published *Silent Spring Revisited: Pesticide Use and Endangered Species*, a report identifying over 375 listed species that may be adversely affected by pesticides and highlighting case studies of EPA failure to regulate pesticides harmful to endangered species in accordance with scientific findings.

The Center also has pending litigation against EPA for failing to consult on pesticides that may affect the red-legged frog in California and the Barton Springs salamander in Texas. ■

Photo by Dan C. Holland

California red-legged frog

Early attacks on Endangered Species Act soundly defeated

We ended the year facing a second term for the Bush administration and a host of new attacks on the Endangered Species Act. But we also celebrated success in our fight to defeat several attempts to gut the Act in 2004.

Last summer, the U.S. House Resources Committee passed two anti-Endangered Species Act bills. HR 2933, the Critical Habitat Reform Act, would have greatly undermined habitat protection. HR 1662, the Endangered Species Data Quality Act, would have drastically increased the level of political interference in scientific decisions about endangered species protection. However, these bills did not ultimately come up for a vote before the full House, and did not become law.

Also, in late November, development and industry interests proposed two anti-Endangered Species Act bills to be included as riders on the omnibus appropriations bill—the giant budget bill combining nine of the departmental spending bills that Congress must pass each year. One of the riders would have undermined the goal of recovery in endangered species protection; the other would have exempted new pesticides from the terms of the Endangered Species Act. Fortunately, the Center and other members of the conservation community learned of these riders in time to raise the alarm, and they did not get attached to the omnibus bill.

Unfortunately, many of these bills are likely to be reintroduced early in the next session, along with other bills and executive rule changes by the administration that seek to weaken or dismantle the Act. In fact, powerful development interests in Congress, such as Rep. Richard Pombo (R-CA), chairman of the U.S. House Resources Committee, have vowed publicly that a major attack on the Endangered Species Act is one of their highest priorities in the coming legislative year.

But with the resolve that helped win these early battles, the Center will pull out all the stops in the coming year to oppose measures to weaken the Endangered Species Act, and to ensure a strong legacy for America's most imperiled plants and animals.

17-year-old strives to save squirrel

Olivia Rhoades is dedicating her senior year in high school to a project of lasting significance: saving a gravely threatened ground squirrel.

Interested in the Center's work to challenge corporate and government abuses of environmental laws, and intrigued by the sharp population collapse and narrow range of the northern Idaho ground squirrel, Olivia began an internship researching the squirrel in September 2004.

The squirrel lives only in two counties in western Idaho—one of the smallest ranges of any North American mammal. Studies show that individual populations have rapidly declined from more than 270 to 10 squirrels and estimate that only about 500 squirrels currently remain, down from 5000 in 1985.

Scientists attribute the plunge in squirrel populations to habitat loss and reduced food supply. Invasive grasses containing fewer nutrients than native grasses are encroaching on meadows where the squirrels live. Livestock grazing is likely the primary factor contributing to the loss of native grasses, since livestock not only eat native grasses, but also drain moisture from meadows through erosion and introduce non-native species.

Unfortunately, while the Forest Service has planned logging and burning projects under the pretext of saving the squirrel, it has refused to remove livestock from the few meadows where squirrels remain.

Working out of the Center's Tucson office with Southwest Lands Advocate Erik Ryberg, Olivia has compiled current research on the squirrels, written comments on a Forest Service logging project slated for the squirrels' habitat, and plans to work to persuade the Forest Service to permanently remove livestock from meadows where the squirrels still survive.

Before joining the Center, 17-year-old Olivia previously researched overfishing and human impact on caves, and last summer volunteered with an environmental education project in central Mexico. After she graduates this year, Olivia hopes to study environmental sciences of developing countries at the University of California, Berkeley. ■

Center intern Olivia Rhoades

"Working at the Center gives me the unique privilege of learning about the importance of natural diversity, and doing guided research about an endangered animal with the help of professional mentors."

Fall events owe success to Center supporters

Thanks to the generosity of Center members and business supporters, we ended the year with three successful fundraisers—and had a great time meeting some of the folks who sustain our work.

On October 29th, more than 100 Center members, friends and family gathered at Tucson's historic Hotel Congress for our 15th Anniversary Celebration, enjoying dinner and a concert by environmental folksinger Dana Lyons. Dana's witty and heartfelt music set a warm mood for the evening, which raised nearly $8,000.

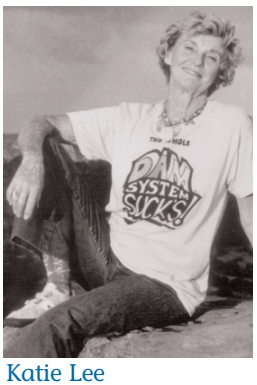


Photo by M. L. Lincoln

Katie Lee

On November 17th, spirited folksinger and Colorado River champion Katie Lee performed her slideshow, "Love Songs to Glen Canyon" for more than 100 Center supporters in Tucson—raising more than $1,000 and inspiring the audience and Center staff alike.

Finally, the Center's Eighth Annual Phone-a-Thon this fall raised more than $64,000 in pledges for Center programs. Our deepest thanks go out to all the members who supported our campaigns in 2004, as well as Dana Lyons, Katie Lee, and the following Tucson businesses and individuals for contributing to the success of our end-of-year events:

Jason Aberbach • aire design • Anjali • ALL-TEL • Antigone Books • Aqua Vita • B-line • Michael Berman • Bookman's • Coyote Wore Sideburns • Desert Institute of the Healing Arts • Food Conspiracy Co-op • Green Fire Bookshop • Hotel Congress • Inglis Florists • Insty-Prints on Oracle • KXCI Community Radio • Magpie's Pizza • Nature's Art Florists • Native Seeds/SEARCH • Parties Plus • Providence Institute • Reader's Oasis • Time Market • Tucson Jazz Society • Arthur Vint • Ted Warmbrand • Wild Oats on Speedway

Endangered earth

Endangered Earth is the quarterly newsletter of the Center for Biological Diversity, a 501(c)3 nonprofit organization dedicated to protecting endangered species and wild places through science, advocacy, education and environmental law. Contributions are tax-deductible.

Editor
Julie Miller,
Publications and Outreach Director

Contributors
Carrie Bui, Michelle Harrington, Meredith Hartwell, David Hogan, Adam Keats, Jeff Miller, Julie Miller, Brian Nowicki, Daniel Patterson, Brent Plater, Olivia Rhoades, Michael Robinson, Erik Ryberg, Jennifer Shepherd

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On occasion, we trade our mailing list with organizations that share our mission. If you would prefer that your name not be exchanged, please contact us.

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P.O. Box 710, Tucson AZ 85702-0710

Let the River Run *continued from front page*

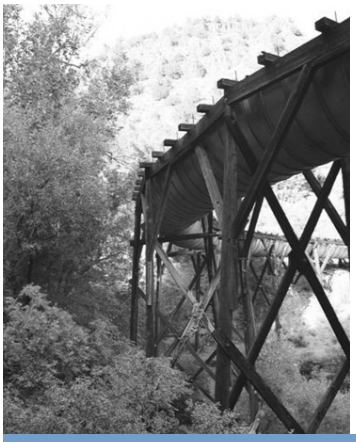
In the fall of 2004, the Commission finally approved the deal. Work to restore the stream soon kicked off, including an impressive airlift operation to remove hundreds of native fish into holding tanks so the river could be treated with a chemical to kill non-native fish—as well as re-release of the native fish to great fanfare in November.

By the project's completion in 2009, APS plans to spend nearly $13 million to remove the massive infrastructure that supports the plants, including miles of steel flume and the diversion dam that interrupts natural flows just a quarter mile downstream of Fossil Springs. The company has also agreed to pay for revegetation efforts along the river banks, where sycamores, cottonwoods, and alders once provided habitat for the endangered Southwestern willow flycatcher and other wildlife.

The return of full flows to the river is expected to rebuild Fossil Creek's unique travertine streambed—a natural system of small dams, pools and waterfalls formed by calcium-rich mineral deposits from Fossil Springs.

New deposits of travertine rock will restore lush habitat urgently needed to recover numerous imperiled animals, including the razorback sucker, Colorado pikeminnow, loach minnow, spikedace, headwater and roundtail chubs, and bald eagle.

The return of full flows to Fossil Creek, originally slated to take place by January 1, 2005, has been delayed a few months to further the restoration process. The Center is organizing a celebration at Fossil Creek in March to welcome the return of this desert river. To learn more about participating in this once-in-a-lifetime event, or about shuttles to the event site from Tucson, Phoenix, or Flagstaff, contact the Center's Rivers Program Director, Michelle Harrington, at (602) 628-9909.



Photos courtesy of Arizona Public Service

Above left: Arizona Public Service's closure of its Childs-Irving hydroelectric power complex along Fossil Creek will include the company's removal of massive infrastructure from the site, including more than 600 tons of wood, 1,400 tons of steel, and 1,300 cubic yards of concrete from an antiquated flume system that currently stretches across the landscape to the two power plants, diverting 95 percent of the stream's natural flows. **Above right:** Flume construction in the early 1900's.