



TURNING TIDE Oceanfront property in Arizona? No, but with more than 550 miles of shoreline when full, Lake Mead is the nation's largest man-made lake. Photograph by Randy Prentice
■ To order a print of this photograph, see page 1.



OFF-ROAD VEHICLES ARE
destroying FRAGILE
VEGETATION IN IRONWOOD
FOREST NATIONAL
MONUMENT. LAKE MEAD
COULD DRY UP BY 2021.
AND FOSSIL CREEK, A SHINING
EXAMPLE OF ENVIRONMENTAL
RESTORATION, IS NOW
BEING *trashed* BY THE
DELUGE OF PEOPLE DRAWN
TO ITS SPARKLING WATER.
THAT'S NOT ALL. TURNS OUT,
MANY OF ARIZONA'S
MOST BEAUTIFUL PLACES
ARE IN *jeopardy* OF
LOSING THEIR ALLURE.

By
Keridwen Cornelius

Endangered Arizona



EDITOR'S NOTE: *Our mission at Arizona Highways is to promote travel in Arizona. Considering the state's cultural diversity, Old West history and spectacular landscapes, it's an easy sell. Especially when it comes to the great outdoors. Among other things, Arizona ranks third nationally in terms of biodiversity — California and Texas are first and second, primarily because of their coastlines, something Arizona doesn't have.*

As you've seen in this magazine over the last 83 years, Arizona's landscapes vary from tundra in the north to tropical "sky islands" in the south. In between, endangered native fish splash in the rivers, rare Sonoran pronghorns dash at 60 mph across the borderlands, and elusive jaguars prowl the savannas.

The biodiversity is unique, to be sure, and it's one of the main reasons people from around the world visit the state. As in California and Texas, however, some of Arizona's most beautiful places are being threatened. The reasons vary, and in many cases, the threats aren't visible to the naked eye. In others, it's more apparent.

Either way, it's not our place to judge the causes and effects. However, it is our mission to promote travel in the state, and when some of our favorite places are in jeopardy of losing their allure, we think it's our responsibility to let you know about it. What follows, in no particular order, are some of those places. As you'll see, we've illustrated this story with photographs that show off the beauty of the various places. Nobody wants to see the ugly side — that's why we did this story in the first place.

OAK FLAT CAMPGROUND

To the Apache, Yavapai, Hopi and O'odham people, Oak Flat Campground near Superior is a spiritually significant part of their ancestral lands. To rock climbers and boulderers, it's a scenic challenge and the former venue of the largest climbing competition in the world. To the National Audubon Society, it's among the top three birding sites in Arizona.

Enter a foreign-owned mining company that wants to swap property it owns across Arizona for the 760-acre Oak Flat, despite the fact that in 1955 President Eisenhower specifically deemed it off-limits to mining. The company would tap the rich copper vein presumably beneath the land, devastating the area and potentially withering the riparian habitat of nearby Devils Canyon.

Nevertheless, many people find the deal tempting. The mining company has proposed creating another state-of-the-art rock-climbing park, an avian habitat, and an area where Apaches could collect traditional foods like oak acorns. Plus, some of the land it would exchange is well worth conserving. The land swap presents the state with a *Sophie's Choice*-like decision: Which swath of land will be destroyed and which will be preserved?

DEVILS ADVOCATE A popular rappelling spot, Devils Canyon (left) lies downstream from the rock-climbing and bird-watching mecca of Oak Flat Campground. Photograph by Robert McDonald

■ To order a print of this photograph, see page 1.

SEND IN THE CLOUDS Blushing monsoon clouds billow over the Verde River, Arizona's only federally designated Wild and Scenic River. Photograph by George Stocking

SAN PEDRO RIVER

Trace your finger along a map of the San Pedro and Verde rivers, and you'll follow the same lush, vertical corridor that sustains millions of migrating animals. You'll also notice that the rivers skirt some of the most populous cities in Arizona — putting both waterways in danger of drying up because of unsustainable groundwater pumping.

The San Pedro River area boasts one of the highest diversities of land mammals in the world. It's home to 180 kinds of butterflies, 87 varieties of mammals and 68 species of reptiles and amphibians. Every year this migratory flyway is aflap with 4 million visiting birds, in addition to its bevy of permanent nesters.

Meanwhile, the surrounding population annually taps billions of gallons of groundwater from the river — more than can be replenished by rain. Experts project a 4.2 billion-gallon annual deficit by 2020. Currently, only four of the river's 13 native fish species remain. A look at the parched, treeless lower Gila, Salt and Santa Cruz rivers offers a possible glimpse of the San Pedro's future.

Coincidentally, the Gila River was recently named one of the 10 most threatened rivers in the U.S. by American Rivers, a nonprofit organization dedicated to the protection and restoration of rivers in North America.

VERDE RIVER

The Verde River has been designated a Wild and Scenic River — the state's only river with such a designation — and it's one of the last places in Arizona where native fish, river otters and beavers thrive. Its riverside habitat teems with bobcats, mountain lions, mule deer, bald eagles and rare songbirds.



However, Prescott, Prescott Valley and Chino Valley plan to tap 13 million gallons of water daily from the Big Chino aquifer, the main source of upper Verde spring flow. With new developments mushrooming across Yavapai County, that figure could quadruple in 20 years, according to the [Center for Biological Diversity](#).

"It might last a few decades, but at some point, the water supply will diminish and the [Verde and San Pedro] rivers will be gone," says Patrick Graham, state director of The Nature Conservancy in Arizona. A coalition of groups is working hard to save these

Department of Homeland Security is installing about 40 miles of vehicle barriers, and has proposed 80- to 100-foot-high surveillance towers nearby.

Next door at Organ Pipe Cactus National Monument, the landscape is enduring similar problems. The 30 miles of closely spaced metal posts in place since 2006 to deter vehicles "have curtailed smuggling activity by 95 to 98 percent," says superintendent Lee Baiza. But there's been strong resistance to pedestrian fencing, which severs animal migration corridors and requires denuding swaths of desert for infrastructure.

In May, 5.2 miles of thick mesh pedestrian fencing were erected in Organ Pipe, although Baiza says that because the construction is adjacent to an urban area, the effects on wildlife will be minimized. He also stresses that "there are still a lot of things worth seeing in the monument," including the distinctive organ pipe cactuses, which don't exist naturally anywhere else in the country.

THE GRAND CANYON & KAIBAB NATIONAL FOREST

In the last five years, mining companies have filed 2,215 new claims within 10 miles of Grand Canyon National Park. Approximately 2,100 of those are in the Tusayan District of the Kaibab National Forest, which is home to some of the state's most scenic trails and campsites.

Uranium mining in particular may have left a dark legacy in Arizona, including skyrocketing cancer rates, respiratory problems and birth defects on the Navajo Nation. Uranium and its byproducts — which pollute water, ground and air — are so toxic that even dust generated by uranium-laden trucks renders areas dangerously radioactive, according to Dave Gowdey, the program director for the Grand Canyon Trust.

Mining activity could usher industrial development, traffic, noise and air pollution as close as 1.5 miles to the Canyon. Even though safety precautions would be taken, uranium could slowly leach through the porous sandstone into the South Rim aquifer that feeds the Colorado River. On the North Rim, radioactive toxins could flow through sinkholes and fissures into the river. If that happens, Gowdey says, "it means increased levels of uranium in the Colorado River and increased risk for all downstream users — that's 30 million people."

According to a recent editorial in *The Arizona Republic*, which argued against the authorization of uranium mining near the Canyon, "Governor Janet Napolitano asked Interior Secretary Dirk Kempthorne to make an emergency withdrawal of the area from

sanctuaries of diversity, while still balancing the population's water demands.

"Both rivers are at a crossroads right now," Graham says. "People have good intentions to resolve these issues, but few have an awareness of the enormity of the problem."

CABEZA PRIETA NATIONAL WILDLIFE REFUGE & ORGAN PIPE CACTUS NATIONAL MONUMENT

"Cabeza Prieta's wilderness character has been compromised to the point that if it were being considered for wilderness status today, it wouldn't pass," says Roger DiRosa, who until recently managed Cabeza Prieta National Wildlife Refuge. This starkly beautiful frontier bristling with nearly 700 species of plants and animals — including the endangered Sonoran pronghorn — suffers from its location on the Arizona-Mexico border.

Approximately 1,200 miles of illegal roads and trails crisscross Cabeza Prieta. "At one point we estimated that at any given time there might be 35 abandoned vehicles on the refuge," DiRosa says. Recently, foot and vehicle traffic has slowed, but drug smuggling has ratcheted up, and now the U.S. Border Patrol wants to increase the infrastructure for construction and patrolling. The

UP IN ARMS At Cabeza Prieta National Wildlife Refuge (above), saguaros greet the morning, just as they have for thousands of years. Photograph by Randy Prentice

GRAND SCHEME OF THINGS The Seventh Wonder of the World needs no introduction. The view from Mather Point (right) ripples over Wotans Throne and Vishnu Temple. Photograph by Les David Manevitz

■ To order a print of this photograph, see page 1.





STAIRWAY TO HEAVEN Mineral deposits in Fossil Creek form staircaselike travertine terraces and pools — essential habitat for Arizona's rare native fish.

Photograph by Nick Berezenko

■ To order a print of this photograph, see page 1.

Fossil Creek began flowing again at a perennial rate of 410 gallons per second.

"It's really rebounded as an important habitat," says Michelle Harrington, rivers conservation manager for the Center for Biological Diversity. Agencies have reintroduced native fish, including the threatened loach minnow and spikedace, which have found essential habitat in the creek's newly forming travertine pools. Shoreside, native vegetation is sprouting, providing shelter and food for landlubbing critters.

Ironically, this inspiring restoration story has attracted a deluge of unmanaged visitation. "People have been taking extreme liberties with the area," Harrington says. "You see a whole lot of trash, human excrement, tissue paper, and everything from plastic bottles to coolers, tires and deflated rafts." Campers are breaking tree branches and trampling vegetation to forge trails.

Conservation groups are pressing the Forest Service to increase its presence, designate camping areas in less fragile zones, and provide trash receptacles and restrooms where there currently are none. Legislation has also been introduced to designate Fossil Creek a federal Wild and Scenic River. "We have hopes that [the bill] will get through this year," Harrington says.

AGUA FRIA NATIONAL MONUMENT & IRONWOOD FOREST NATIONAL MONUMENT

Though separated by more than 150 miles, Agua Fria National Monument and Ironwood Forest National Monument share character-

istics. They're both rich in rock art, archaeological sites and rare species. They're both just 8 years old, currently lacking management plans, located close to a city (Phoenix and Tucson, respectively), and presided over by a single park ranger.

They're not alone. In fact, several state-run and nonprofit groups oppose the claims, but they're trumped by the 1872 Mining Law, which gives precedence to mining above every other land use.

FOSSIL CREEK

Dammed if you do, damned if you don't. For nearly 100 years, Fossil Creek was dammed and tapped by two power plants that dried up 14 of its 14.5 miles. In a bold environmental move, APS, the power company, shut down the plants in 2005, and eventually

mining," ... and the "Arizona Game and Fish Commission, fearing the impact on wildlife and habitat, wrote a letter to Arizona's congressional delegation urging permanent withdrawal of these federal lands from mineral activities."

"These are not national parks, so there are no visitor centers and not a lot of information on how to recreate and be a good steward of the land," says Scott Jones, board secretary of both Friends of Agua Fria National Monument and Friends of Ironwood Forest. So scores of illegal off-road vehicles cut and bruise fragile vegetation. Pothunters pilfer pottery shards. Shooters haul in broken washing machines and computers to use for target practice, or take aim at the desert itself.

"So many saguaros and petroglyphs have been shot up," Jones

says. Plus, encroaching development is dwindling open spaces and blocking wildlife corridors. However, “friends groups” are stepping up to help — volunteers clear out trash, monitor resources and cultural sites, and try to educate the public about protecting these scenic wildlands.

LAKE MEAD

The news shocked even the scientists conducting the study: If water use is not curbed and climate continues to follow predicted patterns, Lake Mead has a 50 percent chance of drying up by 2021.

“We were stunned at the magnitude of the problem and how fast it was coming at us,” said one of the researchers, Tim Barnett of the Scripps Institution of Oceanography. “Make no mistake, this water problem is not a scientific abstraction, but rather one that will impact each and every one of us who live in the Southwest.”

The scientists found that population-driven water use, evaporation and global warming are causing a net deficit of more than 325 billion gallons of water every year from the Colorado River system, which includes Lake Mead and Lake Powell. That’s the equivalent of losing 56 Olympic-sized swimming pools every hour.

Although climate models are contentious, the results jibe with other studies, one of which — published in the journal *Science* — forecast that the Southwest will revert to Dust Bowl conditions by midcentury.

TUMACACORI HIGHLANDS

Getting land designated as protected wilderness is a race against time. Without preservation status, all it takes are a few off-road vehicles barreling through a landscape to prevent its being protected in the future. A race against time is under way at the 84,000-acre Tumacacori Highlands, the state’s largest unprotected roadless Forest Service area.

Tucson’s expansion and the urbanization of the Santa Cruz River valley are nibbling away at this unique habitat of crinkled mountains, rolling savannas and subtropical species. It’s home to black bears, peregrine falcons, endangered Chiricahua leopard frogs, Mexican vine snakes and the elusive American jaguar.

Several organizations are pressing Congress for wilderness status, which would provide another level of protection against new road construction and trail abuse.

BLUE RANGE PRIMITIVE AREA

It’s the last remaining Primitive Area in the United States — 173,762 acres of quiet forests, dewy meadows, jagged

mountains and a single dirt road. The area was considered an ideal place in which to reintroduce Mexican gray wolves, then teetering on extinction and no longer living in the wild.

“It’s the last great biological treasure in Arizona that could house a free-roaming wolf population,” says Don Hoffman, who managed the area for 25 years. In the last decade, 99 wolves were released into the Blue Range, but after illegal poaching, plus shooting or permanent removal by the government, only 52 remain.

Years ago, a federal review recommended that the Primitive Area be expanded, upgraded to official Wilderness status, and enveloped by a buffer zone. But that didn’t happen, so roads and off-road vehicle zones are whittling away its edges, and a proposed gravel pit could be built within the Primitive Area.

Under the 1964 Wilderness Act, the Forest Service is obligated to protect both the Primitive Area and its surrounding lands from anything that would prevent future Wilderness designation, Hoffman explains. It remains to be seen whether such protection can defend this diamond in the rough. **AH**

Keridwen Cornelius is a graduate of the Walter Cronkite School of Journalism at Arizona State University, and a regular contributor to Arizona Highways. She also writes for National Geographic Traveler.

