

WILDEARTH

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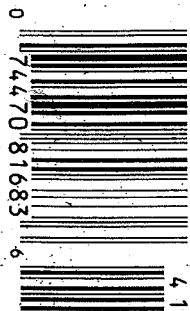


PERCEIVING the Diversity of Life

essays by

*David Abram, Stephanie Kaza,
Connie Barlow, Christopher Manes*

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Around the Campfire

READERS OF *WILD EARTH* have seen much talk about science-based Nature reserve design in these pages. There has been plenty of theorizing, but, so far, little on-the-ground doing. For a couple of years, I've been dancing with the puzzle of how to actually produce a science-based reserve design that will rewild a landscape and protect the diversity of life that inhabits it. Hard questions keep coming in:

- Can a science-based reserve design be done on the limited funding available to The Wildlands Project and its cooperating groups?
- Can a science-based reserve design be completed in a reasonable period of time (one or two years) so that it can be used for current conservation issues?
- How can citizen conservationists be brought into reserve design so that they have a feeling of ownership and so that there is a grassroots constituency to help implement the proposed reserve network?
- Can such a reserve design pass scientific peer review?
- How the heck do we ever implement a science-based reserve design?

Michael Soulé has suggested that to meet these needs, a reserve design should be specific in its stated objectives. This way the amount of data that needs to be gathered and analyzed is not overwhelming. And with clear objectives, peer reviewers have standards to use in measuring how well the reserve design meets them. With all this in mind, a number of us involved in the Sky Island/Greater Gila Project in the southwestern United States and northern Mexico have drafted a proposed plan of action that uses science-based reserve design with traditional Wilderness Area advocacy. Our approach may help other reserve design projects. On the other hand, it may need to be modified to meet the test of conservation biology. This rewilding approach does not replace a more comprehensive conservation strategy that has goals of protecting all native species and representing all native ecosystems. Indeed, we propose that this Sky Island/Greater Gila reserve design be tested to see how well it meets the goals of ecosystem representation and protecting all native plants and animals.

Our approach will follow the core area, buffer zone, connecting corridor model developed by Reed Noss and much discussed in these pages. For federal lands, core areas will be proposed for Wilderness Act protection as new Wilderness Areas or as additions to existing Wilderness Areas.

Briefly, our region is the area in southwestern New Mexico, southeastern Arizona, northwestern Chihuahua, and northeastern Sonora where the Rocky Mountains and Sierra Madrean forests overlap (Nearctic and Neotropics). It ranges from the Gila and Apache National Forests south through the Coronado National Forest into the Rio Bavispe country of northern Mexico.



About *Wild Earth* and The Wildlands Project

Wild Earth (POB 455, Richmond, VT 05477; 802-434-4077) is a quarterly journal melding conservation biology and wildlands activism. Our efforts to strengthen the conservation movement involve the following:

- We serve as the publishing wing of The Wildlands Project.
- We provide a forum for the many effective but little-known regional wilderness groups and coalitions in North America, and serve as a networking tool for wilderness activists.
- We make the teachings of conservation biology accessible to non-scientists, that activists may employ them in defense of biodiversity.
- We expose threats to habitat and wildlife.
- We facilitate discussion on ways to end and reverse the human population explosion.
- We defend wilderness both as *concept* and as *place*.

Wild Earth and The Wildlands Project are closely allied but independent non-profit organizations dedicated to the restoration and protection of wilderness and biodiversity. We share a vision of an ecologically healthy North America—with adequate habitat for all native species, containing vibrant human and natural communities.

The Wildlands Project (1955 W Grant Rd., Suite 148A, Tucson, AZ 85745; 520-884-0875) is the organization guiding the design of a continental wilderness recovery strategy. Through advocacy, education, scientific consultation, and cooperation with many regional groups, The Wildlands Project is drafting a blueprint for an interconnected, continental-scale system of protected wildlands linked by habitat corridors.



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We propose that the mission of the Sky Islands/Greater Gila Reserve Project is to protect habitat and landscape connectivity for representatives of the distinctive and wide-ranging species of the Sky Islands/Greater Gila region. These target species may include: Mexican Wolf, Grizzly Bear, Black Bear, Jaguar, Ocelot, Jaguarundi, Mountain Lion, Desert Bighorn Sheep, Mexican Spotted Owl, Northern Goshawk, tropical and Sierra Madrean birds, native fish species—higher elevation (Gila and Apache Trout) and lower elevation (Loach Minnow, etc.). By "distinctive," we mean endemics (like Mexican Wolf) and tropical and Sierra Madrean fauna not found farther north in the United States.

We will consult with large carnivore specialists, ornithologists, landscape ecologists, and other biologists to identify from the above list a select group of target species that will best serve for designing a reserve system. We hope that protection of habitat for these species will protect most native ecosystems and the habitat for the majority of other species in the region. George Schaller, the foremost field biologist and wildlife conservationist in the world, says that he has focused on large animals in his work because, "A large animal needs a large area. If you protect that area, you're also protecting thousands of other plants and animals." Similarly, the Sky Islands/Greater Gila Project will focus largely on a few large or wide-ranging species. We can test the theory of umbrella species with this reserve system and find out which species are not covered by it.

Among the specific tasks to design a Sky Islands/Greater Gila Ecological Reserve System are the following:

- 1) We will better define the region to more accurately draw a coherent Sky Islands/Greater Gila Ecoregion. Earlier, we had included much of the Chihuahuan Desert to the east because of the possibility for Mexican Wolf release in White Sands Missile Range. Now that release is proposed by the U.S. Fish & Wildlife Service only for the Apache-Gila NFs, we are pulling back our boundaries to west of the Rio Grande. Our western boundary is the Sonoran Desert and White Mountain Apache Reservation. We include the Gila and Apache National Forests to the north because they are the northern limits of the Colared Peccary, Coatimundi, Mexican Wolf, and Red-faced Warbler. Careful boundary selection creates an ecologically more defensible region and makes the task of reserve design easier. (We still need to decide how far south into the Sierra Madre our region will go—perhaps as far south as the Black Bear ranges or to the headwaters of the Rio Bavispe.)
- 2) We will consult with biologists to identify a small group of target species that can act as umbrellas for the majority of species and their ecosystems in the region. (Note: some of the following parts of the action plan will be changed if different target species are selected.)
- 3) We'll begin with a base map showing existing Wilderness Areas, BLM Wilderness Study Areas, National Forest RARE II (roadless) areas, and conservation groups' previous Wilderness Area proposals.
- 4) Then, we'll map important riparian areas (existing habitat for native fish, intact or semi-intact riparian vegetation, existing habitat for riparian dependent birds). We will consult with ornithologists to see if certain bird species can function as surrogates for the rest of the tropical and Sierra Madrean species. We'll also map riparian areas important for restoration and for linkage of disjunct fish populations.
- 5) We'll identify important Jaguar habitat. Carnivore biologists Brian Miller and John Terborgh tell me that, in this region, canyon bottoms characterized by Arizona Sycamore are the Jaguar's primary habitat. We will inventory these canyons as roadless or roaded (including jeep trails). Our reserves will propose to close dirt roads in these canyons where reasonable and include the canyons and surrounding areas in expanded Wilderness Area proposals in the

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Chiricahuas, Peloncillos, Santa Ritas, Pajaritos, and other mountain ranges. We will also map all Jaguar sightings and reports of sign for the last 25 years.

- 6) We'll identify important habitat for the Mexican Wolf (based on availability of deer and other prey) and corridors between potential core wolf areas (Apache and Gila NFs south into the Coronado NF and farther south into the Sierra Madre). The U.S. Fish & Wildlife Service proposes to reintroduce the Mexican Wolf into the Apache and Gila NFs this year.
- 7) In the high country, we will map old-growth forests, and Mexican Spotted Owl and Northern Goshawk habitat and incorporate these areas as much as possible in expanded Wilderness Area proposals, Wilderness Recovery Areas, and corridors. We'll use these data to argue for Wilderness designation of RARE II areas in the Apache and Gila NFs.
- 8) We will map precise boundaries of private ranches owned by those friendly to large carnivores, and property owned by The Nature Conservancy and National Audubon Society. We will also map protected state, county, and local government areas.
- 9) We will map existing Bighorn range and identify potential reintroduction or expansion areas, and existing or needed corridors.
- 10) We will map Mountain Lion occupied habitats and existing corridors between habitats.
- 11) We will map current ranges of special species such as prairie dogs and River Otter.
- 12) We'll consult with experts on what habitat types Ocelots and Jaguarundis would prefer in the region. We'll map such ecosystems and areas where the border cats have been reported or are suspected.
- 13) We'll encourage research on existing native border cat populations, occupied habitats, travel routes, and nearest population centers in northern Mexico.

Much of this information is already collected and available. Some of it will not be precise; we will use the best available information to design a reserve system.

We are also concerned with implementation of the reserve system proposal. Implementation is not separate and delayed, but is an ongoing process. Nor is implementation accomplished in a single piece of legislation, but includes many pieces—legislative, administrative, and cooperative agreements. Of course, not all implementation steps will be taken by The Wildlands Project or the Sky Island Alliance; a variety of groups will take the lead on different steps. Among the many steps to implementation are the following:

- 1) Congressional designation of the Blue Range-San Francisco and Baldy Bill Wilderness Areas (Apache and Gila NFs).
- 2) Congressional designation of additional Wilderness Areas on the Gila, Apache, and Coronado NFs (RARE II areas expanded to include crucial habitat).

- 3) Congressional designation of BLM Wilderness Areas in New Mexico.
- 4) Development of legislative or administrative protection standards for corridors and buffer zones on federal lands.
- 5) Forest Plan revisions for the Gila, Apache, and Coronado NFs that incorporate the proposal.
- 6) Coordination with New Mexico and Arizona state land offices to protect state lands included in reserves.
- 7) Successful reintroduction of the Mexican Wolf.
- 8) Eventual reintroduction of the Grizzly Bear.
- 9) Reintroduction of the River Otter.
- 10) Endangered Species Act listing for native border cats and drafting of recovery plans.
- 11) Riparian and stream restoration initiatives.
- 12) Reintroduction of the Black-footed Ferret and protection of prairie dog colonies.
- 13) Cooperation with conservationist ranchers on marketing organic, predator-friendly beef.
- 14) Cooperation with friendly land owners on management plans compatible with reserves.
- 15) Permanent retirement of key federal grazing allotments and acquisition of base properties.
- 16) Bringing other important grazing allotments under ecological management in cooperation with progressive ranchers.

Working with other conservation groups in the area, we'll identify additional implementation steps. Because it is highly unlikely that a Nature Reserve System cutting across agencies, property owners, states, and countries could ever be implemented in one fell swoop, it's important to outline steps like these that can be implemented piecemeal over several years.

Much remains to be planned for the Mexican portion of the region. The Wildlands Project has hired a staff ecologist for Mexico, Rurik List, who will pull together Mexican scientists and conservationists.

What we are doing in the Sky Islands/Greater Gila region may not be the only or even the best approach for other regions, but it is a practical beginning for getting reserve designs done. Let me again acknowledge that it is not a complete conservation strategy for the region, but it is a major part of one. Our reserve design can later be analyzed to see how well other conservation goals, such as representation of all ecosystems or plant communities, are accomplished by it and what gaps remain.

Happy Trails,
—Dave Foreman
Kaiparowits Plateau



