

WORLD•WATCH

VISION FOR A SUSTAINABLE WORLD

CONSERVATION BIOLOGY IN THE U.S.-MEXICAN BORDER REGION

BY RICK VAN SCHOIK

Excerpted from the November/December 2004 WORLD WATCH magazine

© 2004 Worldwatch Institute



www.worldwatch.org

Jim Clark/USFWS



The Mexican Wolf (*Canis lupus baileyi*) is an endangered species; this one is at the Sevilleta National Wildlife Refuge in New Mexico.

CONSERVATION BIOLOGY IN THE

BY RICK VAN SCHOIK

The U.S.-Mexican border region has the highest rate of species endangerment in the United States. Some 31 percent of the species listed as endangered by the U.S. Department of Interior are found in the region. On the Mexican side of the border, 85 species of plants and animals are endangered. Not surprisingly, the threats to these species are exacerbated by the fact that the ecosystems in this region are split by a political boundary that greatly complicates conservation efforts.

The area along the U.S.-Mexican border has seen extraordinary population growth, and the resulting residential and industrial sprawl along the border can evoke a doomsday vision for the entire strip from the Pacific to the Gulf of Mexico. Already, habitat loss is estimated at 2.5 hectares (more than 6 acres) per day within Tijuana alone.

Last summer a coalition of U.S. and Mexican conservation biologists and other experts (the Southwest Consortium for Environmental Research and Policy)

Photo courtesy NASA, image # ISS009-E-9839, <http://eol.jsc.nasa.gov/>



Mouth of the Colorado River and the Altar Desert, taken by the Space Station crew (compare with the 1827 map of the same area on page 5).



"Operation Gatekeeper" is the code name of a massive U.S. government effort to stop clandestine immigration between Tijuana and San Diego.

U.S.-MEXICAN BORDER REGION

Photo courtesy NASA, image # STS038-86-15, <http://eol.jsc.nasa.gov/>



Mouth of the Rio Grande at Brownsville/Matamoros. The ship channel is clear while the meandering river is lost among swamps and tidal flats.

met to discuss possible ways of responding to this mounting border crisis. Well aware that the most important principle of biodiversity conservation is the need to protect the largest possible intact landscapes, we focused on identifying ways in which protections could be established that, in effect, crossed the border—regardless where the fences or guards might stand—to encompass whole ecosystems.

Establishing effective cross-border policies is not easy. While nations can readily agree to conserve migrating species in their territories, as when Mexico signed on to the United States' Migratory Bird Treaty Act to protect migrating birds half a century ago, protecting adjacent prime natural areas proves much more difficult. Designed to stop humans from freely crossing, borders also stop other species. Since 9/11, the U.S.-Mexican border has been further bolstered by both the Department of Homeland Security (DHS, which was formerly divided into the customs, border patrol, and immigration agencies) and the still somewhat-secret Joint Task Force Six (JTF-6, a multi-service command charged with providing counter-drug-trafficking support).

CORBIS



A shantytown along the border at Tijuana shows the stark contrast in land use on the two sides of the fence.

These agencies' efforts and physical infrastructure have done significant damage to wildlife habitats. Their use of sensor fields, roads, and triple fences up to 50 meters deep create erosion and dust. The physical presence of vehicular patrols, all-night artificial lighting, noise, dragging of screens to clear a slate that makes footprints visible, and the clearing of brush also degrade sensitive habitat as homeland security forces seek view and access points. Along the San Diego segment, a proposal to install triple fencing now pits the federal government's ambitions to secure borders against the state and local jurisdiction over environmental issues. "The project would cut a 150-foot swath across a habitat that is home to some of the state's rarest plants and at least three endangered wildlife species," writes California environmental journalist Terry Rodgers.

While borders make environmental protection more difficult in many respects, they can also provide unique opportunities for conservation—provided that the neighboring nations are amenable to cooperation. One such form of cooperation is through the designation of parks along borders as "peace parks." During the past year, Israel and Jordan's agreement to build an environmental studies center over their common border illustrated the ability of environmental concerns to serve as a sign that the link between biodiversity and security can be turned around so that it is not seen as an impediment or cost of security but as augmenting security.

Conservation attitudes are hugely complicated by poverty and asymmetry at this border. "The [Mexican] green world is ravaged by people whose only path from starvation lies in slashing and burning the jungle to plant



a patch of corn,” observed *New York Times* reporter Tim Weiner in 2002. Even in the relatively affluent border region of Mexico, the economic asymmetry between the two countries is so sharp—and land-use so different—that the border is starkly visible to people flying over in airliners.

In our 2004 conference, we made a number of recommendations for helping to stabilize and protect the U.S.-Mexican border environment, including the following (all very briefly summarized here):

- *Build on local success.* We have seen a number of places where individual officials and their agencies are effectively practicing conservation across the U.S.-Mexican border despite all the barriers of governmental constraints or physical infrastructure.

- *Integrate biodiversity considerations into other efforts* such as water transfers or infrastructure projects. Each side can also learn from the success and failures of the other. For example, the United States can learn how to make land productive with less water, just as Mexico can learn how to reforest lost habitat.

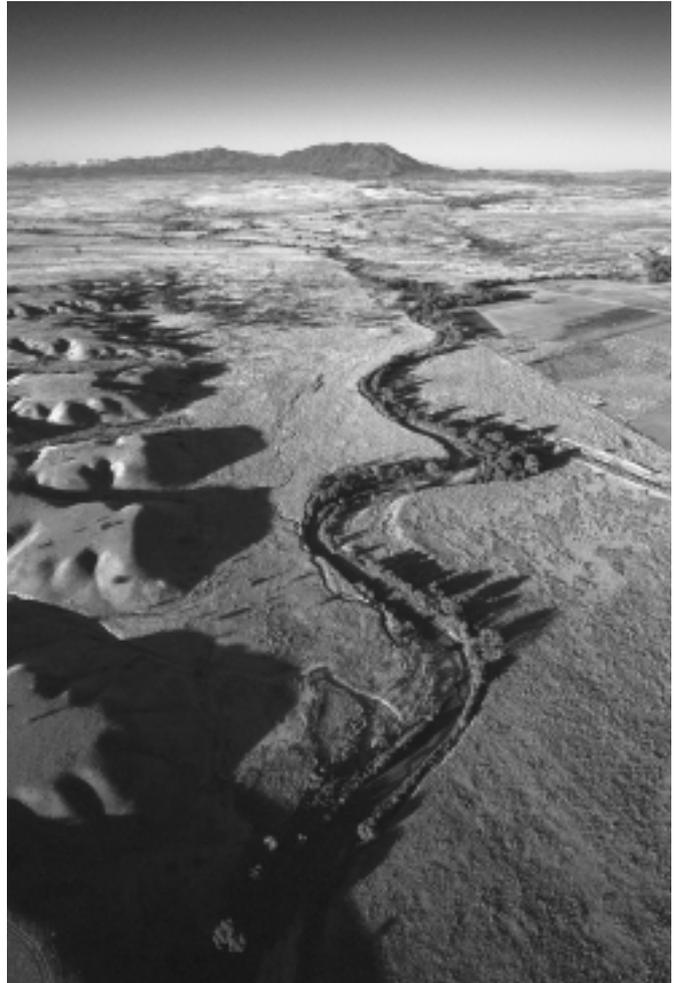
- *Excite and engage the public.* Making conservation projects, such as the “river walk,” the “nature trail,” or the “greenway,” into recreational household words helps produce a motivated and engaged public.

- *Preserve and protect.* It is not enough just to buy land—once owned it must be properly managed, and that takes money and political will. Joint or shared funding of projects offers some solutions. In practice, the United States could help Mexico provide more water from the Río Conchos by paying part of the cost of removing the salt cedar plug from the lower Río Conchos, providing immediate benefits for important downstream protected areas.

- *Achieve a sustainable rural economic development alternative.* A successful industry can be developed around the themes of cultural, agricultural, natural, and tribal tourism, which by definition and practice must be conducted so that the carrying capacity of the destination is not exceeded either by residents or tourists.

- *Dedicate sufficient and sustained water for nature.* Rivers must no longer be seen only as water supplies, but must be valued for their own sake. Both the United States and Mexico should pass legislation recognizing international rivers, dedicating water to them, and allowing the purchase of water to maintain their flows all the way to their mouths. The legislation should include consideration of drought and flood years, as well as long-term global climate change predictions.

- *Plan at watershed scales.* A bi-national watershed assessment for the entire Rio Grande/Río Bravo, from Colorado to the Gulf of Mexico, should be undertaken to determine how much water is needed to sustain life. Several successful small watershed pilot projects exist along the border, and they can be replicated for



The San Pedro River, which flows north across the border from Sonora into Arizona, provides cottonwood habitat for about 350 species of birds.

development in other areas of the border region. Existing organizations on both sides of the border should work together to develop long-term, holistic visions for their watersheds.

- *Cross the border!* Although land use planning is different in both countries, it is critical to enhancing and restoring long-term health and ecosystems. Stakeholders must recognize the United States’ need for border security and the need to find ways to maintain landscape connectivity, such as using remote video surveillance systems rather than physical barriers.

- *Revitalize the role of conservation in existing border institutions.* The U.S. Department of Homeland Security should consider non-invasive techniques—including seismic sensors, remote video surveillance systems, and laser crossing detectors—to monitor remote sites for security-related concerns.

Rick Van Schoik *teaches international environmental security, science, and policy at San Diego State University, California.*