Lessons from the Borderlands

Charles Curtin '86

It is a warm evening in late May. I am traveling west on Interstate 10 near Lordsburg, New Mexico. As the sun sets over the Chiricahua and Peloncillo ranges stretching blue and purple into the distance, I reflect on the first time I saw this scene on a similar May evening 20 years ago during a Marlboro College field course. My conservation and research interests keep me returning to this harsh, yet beautiful landscape. Its unique ecology and culture make the region a natural laboratory for understanding not just the function of desert ecosystems, but also the role people play both in degrading and now renewing this fragile land. The success of ranchers in the borderlands in preserving their land and culture has become a model for integrating science and community-based conservation. Their successes have come to represent an example for other rural communities of how choosing collaboration over conflict, and action over reaction are key ingredients for creating a more sustainable future.

Looking south from Sentinel Peak on New Mexico's Gray Ranch. The Malpai borderlands is perhaps the most diverse ecosystem on the continent, where the Sierra Madre meets the Rockies, the Chihuahua and Sonoran deserts come together, and Great Plains and Great Basin grasslands meet.

Fourth- and fifth-generation borderlands ranchers reached out to conservationists and scientists to create the Malpai Borderlands Group that links community action with science to maintain and restore the roughly million-acre ecosystem.

Integrating science and community-based conservation

In the early 1990s, a group of ranchers and friends began meeting on the porch of a remote ranch house in southeast Arizona to discuss their concerns over the future of ranching. They had come to realize that their way of life and the landscape they cherished were doomed without radical change and that the confrontational approach to resource management that had typified their relationship with federal agencies and environmental organizations was leading to failure. The traditional approach of "circling the wagons" had outlived its usefulness; the cycle of conflict it created led to a slow but steady attrition of their culture, land and livelihoods. And so instead they tried reaching out—to the agencies, academics, conservationists and researchers whom they had often considered adversaries—to create the Malpai Borderlands Group (MBG).

The MBG has, over the last decade, turned on its head many of the truisms of ranching—that conservationists are wrong, fire is bad and that endangered species are always a threat. Their effort has also changed the perspective of many in the conservation community by demonstrating that ranchers can be effective land stewards, that cattle and conservation are not intrinsically in conflict, and that endangered species conservation can often be assisted by the efforts of local people.

The MBG, unlike many community-based organizations, represents a collaborative effort among diverse individuals and organizations committed to conserving landscapes of a roughly million-acre ecosystem in southern Arizona and New Mexico borderlands (an area about the size of Rhode Island). Yet in contrast to many ranching organizations, this one was organized around a foundation of peer-reviewed science.

During the time that the MBG was beginning to develop a foundation of science that would experimentally test its understanding of the landscape and give its restoration and conservation efforts credibility, I founded the Arid Lands Project, a nonprofit research institute designed to

examine the large-scale effects of environmental change. In 1997, the Arid Lands Project and the MBG formed a collaborative relationship that has proved remarkably effective in developing sustainable large-scale science. Through the interaction of local and science-based knowledge, a joint vision of the structure and function of the borderlands ecosystem emerged that has guided research programs ever since.

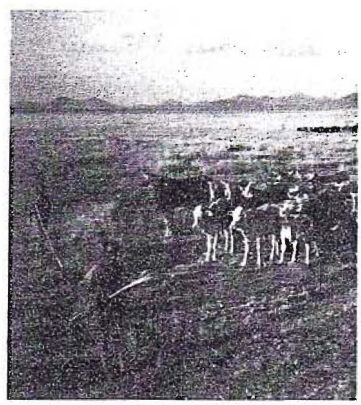
Accomplishments of the Malpai Borderlands Group include the active conservation of a number of endangered and special-interest species, ranging from Chiricuahua leopard frogs to prairie dogs, the introduction of fire as an integral part of the borderlands ecosystem, (the 47,000-acre Baker Two burn is the largest prescribed fire ever successfully completed in the United States) and the re-establishment of conservation easements, now protecting more than 400,000 acres.

An example of the effectiveness of this nontraditional approach to management was the McKinney Flats Project. Located on the 502-square-mile Gray Ranch in southwestern New Mexico, McKinney Flats is a 9,000-acre pasture that had not been grazed or burned for nearly a decade. Over the past seven years, the Malpai Borderlands Group and Arid Lands Project have developed what is arguably the largest replicated experiment on the continent, where the interaction of core elements, including cattle grazing, fire, climate and prairie dogs are examined. This work demonstrates that cutting-edge science needs to happen not only in the ivory towers of academia and federally funded laboratories, but can also occur in the private sector through creative partnerships between diverse individuals and organizations.

This large-scale approach to conservation and science is already challenging conventional wisdom on the management of rangelands. For example, for a century prairie dogs and ranching have been fundamentally at odds. Ranchers, frequently under the guidance of government trappers and scientists, have considered prairie dogs a major competitor for forage and their holes a hazard to livestock. On the other hand, many in the environmental and ecological communities consider prairie dogs to be a keystone species essential for the preservation of grasslands.

Based on observations by MBG ranchers and through research in Texas, we began to suspect that prairie dog reintroduction might actually represent a win-win opportunity for both the conservation and ranching communities. Six years of research now indicate that cattle and prairie dogs can actually have something of a symbiotic relationship. Prairie dogs remove woody shrubs that plague many desert grasslands, and by repeatedly harvesting grass, they remove the older fibrous stalks, thus promoting new growth that creates richer forage for cattle and native grazers such as antelope. Cattle and native grazers in turn are drawn to the prairie dog towns, and forage not only in the towns but also in adjoining areas. This grazing on and around the prairie dog towns reduces the vegetative cover for predators, thereby increasing prairie dog survival. Ironically, our studies indicate that the benefits of the reintroduction of prairie dogs can be as tangible for ranching as for conservation, and that, at a landscape-scale cattle can actually increase the diversity of grasslands. Fire, once considered a threat to arid grasslands, has been documented to be an important factor in sustaining these ecosystems.

One of our key research perspectives is that understanding ecological systems in order to achieve effective conservation means getting the scale right. This means not just working at large



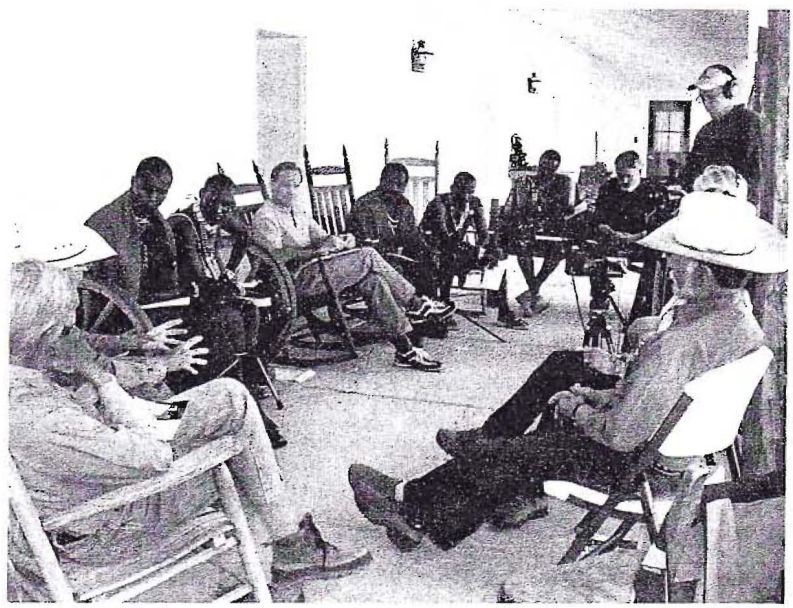
Climatically the borderlands of Mexico and the United States are remarkably similar to the Kenya/Tanzania borderlands a half a world away. Pastoral cultures from both continents have had much to teach each other about preserving their culture and landscape.

ecological scales to expand the experimental facets of ecological research, but also including social and economic factors. Without non-traditional partnerships between the research and ranching communities, such landscape-level experiments would not be possible.

Learning from cross-cultural exchange

Half a world away, a group of Maasai from Il'Ngwesi in central Kenya are similarly grappling with the need to sustain their land and livelihoods in the face of pressure to subdivide their group lands. Much of East Africa's rangelands are still open commons used by cattle herders and wildlife, much as they has been for millennia. Government and international aid efforts are, however, aimed at introducing Western-style commercial ranching requiring land subdivision and permanent settlements. Sedentarization—keeping cattle on the same area of land until it is overgrazed—and land fragmentation lead to loss of diversity and productivity. There is extensive evidence that the maintenance of grassland diversity and productivity rests on the mobility of herding cultures moving cattle across large landscapes, coupled with interactions with wildlife.

In contrast, rangelands in North America have been degraded by more than a century of relatively static ranching in which dynamic processes such as fire and grazing have been heavily regulated or curtailed. In recent years, in areas across the West, ranchers inspired by such progressive colleagues as the Malpai Borderlands Group have begun to see the necessity of reincorporating processes such as fire and more dynamic grazing practices into their land management. Thus, as East Africa moves toward repeating many of the mistakes made in North America, American ranchers and researchers are realizing that to preserve open landscapes they must move back toward a model more similar to that now under threat in Africa. At the same time, due to increases in human populations and supplemental water systems on both continents,



On the second of two workshops between Maasai and borderlands ranchers both communities gather on the porch of the bunkhouse on the Gray Ranch in southwestern New Mexico.

the potential to overgraze the landscape, or degrade it through human population pressures, is greater than ever. The African experience of over 5,000 years of grazing arid grasslands, and the American experience of dealing with the constraints of producing commodities in a post-industrial economy, mean these very different groups have much they can teach each other.

Both the Malpai Group and Il'Ngwesi Maasai sent proposals to the Liz Claiborne/Art Ortenberg Foundation in New York to support their community-based conservation efforts. Sitting on the Foundation's board was Kenyan conservationist David Western. Raised in East Africa, Dr. Western had worked with the Maasai in the region of Amboseli since the 1960s.

Western and his colleagues were struck by the similarities in the problems faced by these seemingly disparate groups and the potential benefits of having them interact. From this recognition was born the Maasai/Malpai project. A collaborative partnership between the Arid Lands Project and David Western's African Conservation Centre has led to a series of intensive workshops on both continents between pastoralists from the different cultures. In the fall of 2002, a group of North American conservationists, ranchers and researchers visited Kenya to see firsthand the effects of land subdivision, and the efforts of the Maasai to preserve their culture and land. In the spring of 2004, a group of Maasai from Kenya and Tanzania's southern Rift Valley came to the Arizona/New Mexico borderlands to see the results of a century of fragmentation, and how community-based conservation and science could be integrated to preserve open lands.

We found that, despite a seemingly huge cultural gap between these groups, there is abundant common ground, and both groups have learned a considerable amount from each other's experience. From a conservation perspective, the experience of 30 years of community-based conservation in Africa had much to teach North Americans about local governance, whereas the U.S. ranchers' experience linking science and community-based conservation demonstrates how collaboration with communities can expand the scale and scope of science, providing locally-based conservation efforts credibility to attain their overall goals.

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The lessons learned in East Africa and the American Southwest reflect a shift in approach to conservation originating in the developing world and increasingly recognized in industrialized nations. In addition to conserving the "rarest of the rare and the best of the rest," as has typified much of conservation for over a century, working landscapes with intact communities and cultures are forming an increasingly large part of conservation strategies. Rather than removing indigenous or rural people from the land, human action is increasingly recognized as an integral piece of the function of most ecological systems. Rural cultures ranging from Maasai to American ranchers have a role to play in sustaining ecological systems. Sustaining natural systems often, therefore, rests with sustaining human cultures and economies, for often a landscape's richest resource is its people. While people represent much of the problem, they can also form a part of the solution. Groups as disparate as the Maasai and the ranchers of the Malpai Borderlands Group are demonstrating that in the face of economic and environmental change the will to conserve must rest not with environmental organizations or governments, but with local people reaching out to create new alliances to preserve their landscape, community and culture.

Charles Curtin earned his bachelor's degree in environmental science from Marlboro in 1986, going on to earn an M.S. and Ph.D. in zoology from the University of Wisconsin-Madison. Since the 1990s he has worked with ranchers in the Mexico-U.S. borderlands and with indigenous pastoral peoples in the southern Rift Valley of East Africa to develop collaborative conservation projects.