

## **3.2 Consolidating Protected Areas as Part of a Strategy for Landscape and Species Conservation: Lessons from Bolivia**

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### **Introduction**

For many years, conservation efforts have rightly concentrated on the establishment of protected areas and the consolidation of sufficiently robust management capacity to allow them to fulfill their conservation mission. Despite some shortcomings, which have been widely discussed in the conservation literature (e.g., Terborgh 1999), protected areas provide spaces for protecting wildlife, and the habitats and ecosystems on which they depend, that would not otherwise survive today. Even “paper parks,” where basic management functions may be most notable for their absence, provide opportunities to invoke legal and political arguments to defend biological diversity from threats posed by hydrocarbons, mining, logging, colonization, and large-scale infrastructure. If an area has been judged to contain national patrimony worthy of protecting on behalf of an entire population, there is at least a basic expectation that a government must explain why it is in the national interest for that patrimony to be damaged or sacrificed to activities that will provide tangible benefits to only a portion of the population that seldom resides in the area to be affected.

If it can be demonstrated that an area is fulfilling its role of protecting biodiversity on behalf of the population, and that there are benefits to society as a result, this argument becomes stronger. Ideally, reasonably well-managed protected areas should be able to play a leading role in their own defense against the kinds of external threats noted above. Thus, we have tried to fortify the management of protected areas, to lay the groundwork for why they are worth defending and to strengthen their ability to defend themselves. However, as our understanding of both the overall level of effort and the specific actions that must be taken to successfully conserve biological diversity has grown, the inadequacies of focusing on protected area creation and management have also become apparent. To improve the effectiveness of our conservation efforts, we need to place the creation and management of protected areas within a broader geographical and sociopolitical context.

The pressures for change have been both biological and social. Methodologies for selecting landscape species and the definition of conservation landscapes based on these species’ spatial and habitat requirements (Coppolillo et al. 2004; Sanderson et al. 2002), reconsiderations of our understanding of minimum viable population size and the areas required to sustain such populations (Reed et al. 2003; Brook et al. 2006; Traill et al. 2007), and the linking of conservation landscapes to form corridors (Hilty et al. 2006) have driven home the understanding that conventional protected areas, no matter how well managed, are not adequate for achieving biodiversity population goals (e.g., Painter et al. 2006). Strategies that call for the conservation of viable populations across a species’ range also force us to consider multiple approaches for achieving con-

conservation goals on lands characterized by diverse tenure arrangements defining rights of ownership, access, and use (e.g., Ray et al. 2005).

Improved understanding of the social processes that shape conservation has resulted in mixed incentives to reconsider our focus. We have learned that strong partnerships with local people who share some of our conservation interests are an essential ingredient of conservation success, creating options for local stewardship, building local conservation constituencies, and expanding options for sustainable financing of conservation initiatives (Noss and Castillo 2007; Redford and Painter 2006). We have also learned that we pursue conservation objectives without building partnerships at our peril, and that while there are many actors in the landscapes where we work who identify key aspects of their quality of life as being linked to conservation, those actors are not going to subordinate their agendas to ours, nor allow conservationists to determine their access to land and other natural resources (Arambiza and Painter 2006). Finally, as we begin to think about how to conserve critical habitats outside of protected areas, we are confronted with lands that fall under different and sometimes conflicting jurisdictions, diverse tenure arrangements, and a variety of land use designations (Salinas 2007).

Thus, as we move from creating and managing protected areas to constructing conservation landscapes, or attempting to conserve species across defined ranges, our concerns about the management issues confronting protected areas need to be assessed from a different perspective. Clearly, it is preferable that protected areas be well managed rather than poorly managed. However, the Wildlife Conservation Society's (WCS) experience in the two major landscapes that form the bulk of its Bolivia Program—the Kaa-Iya del Gran Chaco Landscape in Santa Cruz and the Greater Madidi Landscape in northern La Paz—suggests that a protected area's relationship with other jurisdictions in the landscape, and the capacity of key actors to process information and use the resulting conclusions to plan actions and assess progress, may have more of an effect on conservation success than how well protected areas are faring in conventional management assessments.

## **Lessons from Bolivia**

Two magnificent Bolivian landscapes are long-term conservation sites in the Wildlife Conservation Society's Latin America and Caribbean Program. WCS has been working in the Kaa-Iya del Gran Chaco Landscape since 1991 and in the Greater Madidi Landscape since 1999. The core of each landscape is a national protected area: Kaa-Iya del Gran Chaco National Park and Natural Area of Integrated Management (KINP) and Madidi National Park and Natural Area of Integrated Management (MNP), both created by Presidential Supreme Decree in September 1995.

Based on our experience in these two Bolivian landscapes, the following five conditions should be met in order to have a reasonable expectation that a protected area will be able to fulfill basic functions and ensure effective long-term conservation:

1. Formal definition of conservation purpose, legal authority, and management mandate;
2. Resolution of land conflicts and a clear definition of land tenure;
3. An integrated management plan, including specific management plans for each area and resource to be utilized and for connectivity with areas of influence;
4. Formal incorporation into the development plans of relevant jurisdictions; and
5. A long-term financial plan.

Most schemes for tracking and assessing the consolidation of protected areas generally underestimate the importance of the institutional and political issues underpinning this list of critical factors, while assigning too much weight to the infrastructure of protected area management. This encourages the declaration of some protected areas consolidated when, in fact, they may be in critical need of external support, and also may lead to underestimating the resiliency of areas that have modest resources but a strong institutional and legal base that confers political legitimacy.

### ***Formal Definition of Conservation Purpose***

The formal definition of a protected area may take several forms, including a supreme decree or law, a municipal ordinance, or a formal decision by an indigenous organization to define land use rules in the different areas of its territory. Normally, the definition includes a statement about the kind of protection extended (e.g., strict preservation versus sustainable production under defined conditions). In many cases this is the first, and arguably the easiest, step taken. However, many protected areas do not progress far beyond the “paper park” stage.

### ***Land Tenure Definition***

Without a clear definition of land rights, an area created by supreme decree or even law is subject to having its boundaries disputed and the authority of the entity responsible for its management questioned. A land title defines the exact limits of the protected area and ratifies its designated purpose by identifying legitimate rights over the area and establishing agreements so that formally recognized owners can also be joint stewards (together with the national government) of the physical integrity and conservation of the area. Land titling is also a prerequisite for establishing private reserves within larger private properties. More extensive indigenous territorial lands (TCOs, or *Tierras Comunitaria de Origen*, in Bolivia) are also proceeding in this direction, particularly the Tacana and Leco TCOs neighboring MNP and the Isoso and Santa Teresita TCOs which neighbor KINP. *Capitanía de Alto y Bajo Isoso* (CABI), the indigenous organization that proposed the creation of KINP and co-manages the area under an agreement with the Bolivian government, has proposed that the Kaa-Iya protected area be titled to CABI in order to secure management of the area based on its conservation purpose, in the event that the national government is unable to meet its commitments or national priorities for conservation change.

### ***Management Plan***

A management plan defines the geographic spaces in which prioritized interventions will be carried out to fulfill a protected area's conservation purpose. It provides the management entity with technical support to determine that a particular area is suitable for certain types of activities (e.g., regulated tourism) but not others (e.g., grazing livestock), and defines the specific parameters within which the impacts of interventions like roads and gas pipelines need to be assessed. Zoning is a key element of the management planning process involving local actors and integrates environmental and socio-economic criteria.

Unfortunately, management plans are often produced as technical documents for meeting legal or donor requirements but are then shelved rather than implemented. This was not the case with the Kaa-Iya management plan which was developed from 1997-2000. The region initially decreed as a core protected area with three integrated management areas later came to include six categories of protection/use based on environmental and socio-economic priorities. Similarly, the Madidi zoning process included a proposal to improve the protection of pristine montane forests by categorizing them as national parks. It also proposed changes to some areas from strict national park to an integrated management category in order to respect the rights and socio-economic needs of local communities. Finally, regions within the integrated management category were zoned into areas allowing different degrees of intervention, such as agriculture, timber and non-timber forest extraction, tourism, and strict protected areas.

### ***Formal Incorporation into the Development Plans of Relevant Jurisdictions***

The authority and responsibility of municipalities, prefectures, and other entities that may exercise jurisdiction over parts of a protected area is often ambiguous. As a result, these other planning and development actors frequently ignore the presence of a protected area when they develop land use plans and make decisions about resource allocation. This may leave the protected area a vulnerable pawn in jurisdictional disputes. It also means that development investments are frequently at cross-purposes with the objectives of the protected area.

The first three steps outlined above pave the way for ensuring that the development plans of these different jurisdictions reflect the existence and mission of the protected area, so that even if the protected area does not rank high among their priorities, their development investments tend to reinforce rather than undermine it. Inclusion of relevant territorial actors in protected area management committees provides one mechanism for advancing this step, but direct alliances promoted by the protected area to address shared concerns and define shared objectives can be more effective in generating resources and commitment to conservation. CABI and the KINP have developed alliances with ranchers' associations, hydrocarbon exploration and transport companies, municipalities, and the departmental government. Technical and financial support for formal municipal planning initiatives and TCO management plans has also ensured that these are consistent with the national park management plan. MNP has developed alliances with the indigenous territories found in and around it on the

basis of responding to shared threats, largely from illegal logging and colonization attempts. Furthermore, the indigenous organizations have received support from conservation organizations because of their proximity to the protected area. The tourism potential of the area has also served as a way to engage municipal authorities and local stakeholders.

### **Long-term Financial Plan**

Protected areas must assume responsibility for their own financial futures as an integral part of planning for the implementation of their missions. State funding is always vulnerable to changes in short-term political priorities, and many donors are fickle, with funding cycles that rarely extend beyond five years and some functioning with time horizons of 1-3 years. Protected areas must develop their own revenue streams, via user fees, corporate sponsorship, and other means, to increase the diversity of their funding sources and the stability of overall funding levels. They should also have specific contingency plans for carrying out essential tasks at minimum levels in the event of revenue shortfalls.

Both KINP and MNP have generated additional resources through trust funds, while KINP has also negotiated in-kind and financial support from hydrocarbon exploration and transport companies on the basis of shared long-term strategic objectives in favor of regional conservation. Madidi has a dedicated trust fund managed by *Fundacion para el Desarrollo del Sistema Nacional de Areas Protegidas* (FUNDESNA); the first contribution came via a species-naming opportunity for a recently discovered primate (Wallace et al. 2006).

### **Relevance beyond Bolivia**

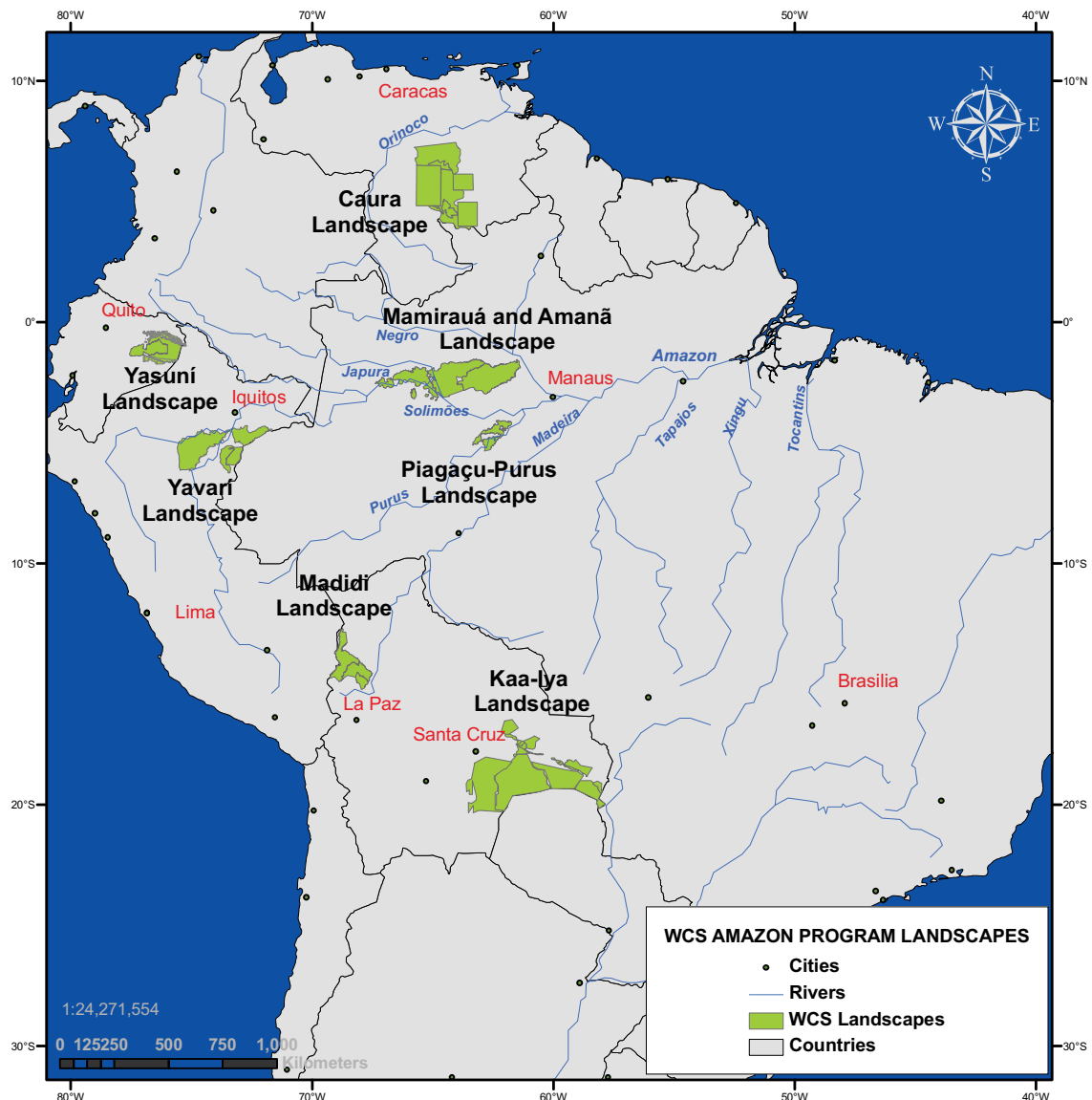
We have shared our experiences in Bolivia with the coordinators of the remaining conservation landscapes composing WCS's Amazon Program (Table 1, Figure 1). While the relative weight they may assign to the above five factors varies, and some landscapes may derive slightly different lists based on local conditions and priorities, consensus exists that how the areas we want to protect fit within a broader landscape—characterized by different land units and managed by different actors with varying land management rights and responsibilities—is the key issue underlying long-term conservation success. Based on this perspective, we assessed the other landscapes in the Amazon Program in terms of the five conditions defined as important to the long-term success of Bolivia's protected areas. The results of this exercise are summarized in Table 2.

The seven landscapes in the WCS Amazon Program are at different stages in meeting all five conditions. At one end of the continuum is Caura, which is beginning to delineate the core area that should be placed under protection and to devise a strategy for defining its conservation status and purpose. There is no management plan, and no consideration of a protected area as such in the development plans of any of the relevant jurisdictions. In the absence of these, we have not yet begun working on a long-term financial plan. In the case of the Chaco, on the other hand, the core protected area, KINP, has been created, a management plan is in place, a long-term financial plan is in development, and important areas have been titled. At the same time, additional key areas are in the process of being brought under protection as part of the titling of the

**Table 1:** WCS Amazon Landscape Conservation Program.

Landscape	Country	Key Habitats	Landscape Size (km <sup>2</sup> )	WCS Presence Initiated
Mamirauá and Amanã SDRs	Brazil	Terra firme forest, flooded forest	36,000	1986
Gran Chaco Landscape	Bolivia	Dry forest, palm swamps, flooded forest	73,000	1987
Greater Madidi Landscape	Bolivia	Terra firme forest, flooded forest, dry forest, palm savanna, paramo, puna cloud forest	110,000	1999
Greater Yasuní Landscape	Ecuador	Terra firme forest, flooded forest	20,000	1996
Caura River Watershed	Venezuela	Moist forest, flooded forest, tepuis	45,000	1985
Greater Yavarí Miri Landscape (Loreto)	Peru	Terra firme forest, flooded forest	31,000	1984
Purus SDR (initiating)	Brazil	Terra firme forest, flooded forest	15,000	2001
<b>TOTAL</b>			<b>330,000</b>	

**Figure 1:** WCS Amazon Program landscapes.



**Table 2:** Relationship of protected areas to larger landscapes in WCS Amazon Program.

Conservation Landscape	Definition of Conservation Status	Land Title	Management Plan	Incorporated into Development Plans of Relevant Jurisdictions	Long-term Financial Plan
<b>Caura</b>	State land under different management categories including 1 national park, 3 national monuments, a protective zone, and a forest reserve. None are under active management.	No	No	No	No
<b>Yasuní</b>	<ul style="list-style-type: none"> <li>• YNP created via Ministerial Decree.</li> <li>• YBR created via Ecuadorian government request to UNESCO.</li> <li>• Potential for expansion of protection via municipal protected areas.</li> <li>• Waorani Ethnic Reserve created via Presidential decree.</li> <li>• Kichwa community lands titled under Ministry of Environment.</li> <li>• Tagaeri-Taromenane Intangible Area declared by Presidential decree.</li> </ul>	<ul style="list-style-type: none"> <li>• YNP no.</li> <li>• YBR no.</li> <li>• Waorani Ethnic Reserve yes.</li> <li>• Kichwa community lands in YNP yes.</li> <li>• Oil concessions within YNP and Waorani Ethnic Reserve yes, as concessions.</li> </ul>	<ul style="list-style-type: none"> <li>• YNP has a management plan that was never implemented and has now expired.</li> <li>• YBR no.</li> <li>• Waorani Ethnic Reserve has a management plan, unimplemented and unpublished.</li> <li>• Kichwa community lands in YNP yes.</li> <li>• Oil concessions in YNP and Waorani Ethnic Reserve yes.</li> </ul>	No. There is preliminary collaboration with municipal government of Orellana.	No
<b>Yavarí Miri</b>	<ul style="list-style-type: none"> <li>• ACRCTT defined as a regional communal reserve. Elevation to national status in progress.</li> <li>• RNPS is national reserve</li> <li>• Proposal to create reserved zone in Yavarí under discussion by regional and national authorities.</li> </ul>	No	<ul style="list-style-type: none"> <li>• ACRCTT has for specific topics (e.g., wildlife management, aguaje palm management, control and vigilance by management committee). Overall plan in preparation.</li> <li>• RNPS yes.</li> <li>• Yavarí no.</li> </ul>	No	No
<b>Mamirauá/ Amanã</b>	Yes, as SDRs under jurisdiction of State of Amazonas.	No	Mamirauá yes. Amanã no.	Yes, at state government level.	Yes.
<b>Piaçau Purus</b>	Yes, as SDR under jurisdiction of State of Amazonas.	No	No	Yes, at state government level.	No

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Conservation Landscape	Definition of Conservation Status	Land Title	Management Plan	Incorporated into Development Plans of Relevant Jurisdictions	Long-term Financial Plan
<b>Chaco</b>	<ul style="list-style-type: none"> <li>• Yes. KINP exists via Supreme Decree.</li> <li>• Isoceño TCO recognized as a claim by INRA.</li> <li>• Work underway to expand areas under protection in neighboring TCOs and municipalities.</li> </ul>	<ul style="list-style-type: none"> <li>• KINP no, but planned.</li> <li>• Isoceño TCO in progress.</li> </ul>	<ul style="list-style-type: none"> <li>• KINP yes.</li> <li>• Zoning proposal and draft management plan completed for Isoceño TCO pending completion of titling process.</li> <li>• One municipality has completed PMOT.</li> </ul>	Partially.	Elements exist, but not a complete plan.
<b>Madidi</b>	<ul style="list-style-type: none"> <li>• Yes, all three national protected areas exist via Supreme Decrees.</li> <li>• TCO claims recognized by INRA.</li> <li>• Work underway to expand areas under protection in neighboring TCOs and municipalities.</li> </ul>	<ul style="list-style-type: none"> <li>• National protected areas incomplete.</li> <li>• Tacana I yes.</li> <li>• Other TCOs in process.</li> </ul>	<ul style="list-style-type: none"> <li>• National protected areas Pilon yes, Madidi in review, Apolobamba in process.</li> <li>• Tacana I TCO yes.</li> <li>• Other TCOs in process.</li> <li>• Apolo PMOT completed.</li> <li>• Ixiamas Municipal Reserve in process</li> <li>• Ixiamas, San Buenaventura, Guany PMOTs in process, Pelechuco pending.</li> </ul>	Partially. So far in the cases of the Tacana TCO and the Apolo Municipal Land Management Plan.	No. Initial steps in progress.

Acronyms used: ACROTT—Área de Conservación Regional Tamshiyacu Tahuayo (Tamshiyacu Tahuayo Regional Communal Conservation Area), Peru; INRA—Instituto Nacional de Reforma Agraria (National Agrarian Reform Institute), Bolivia; KINP—Kaa-Iya del Gran Chaco National Park, Bolivia; MNP—Madidi National Park, Bolivia; PMOT—Plan Municipal de Ordenamiento Territorial (Municipal Land Use Plan), Bolivia; RNPS—Reserva Nacional Pacaya Samiria (Pacaya Samiria National Reserve), Peru; SDR—Sustainable Development Reserve, Brazil; TCO—Tierra Comunitaria de Origen (term used in Bolivia to refer to indigenous territories); YBR—Yasuni Biological Reserve, Ecuador; YNP—Yasuni National Park, Ecuador.



Isoceño indigenous territory and other lands adjacent to the park. Some preliminary work has been done to integrate the park into the development plans of relevant jurisdictions.

## Conclusions

While the factors discussed above include elements of internal management, they primarily relate to the insertion of a protected area into the multiple jurisdictions that occur between the local (usually municipal) and national levels, and the construction of a conservation constituency that can be mobilized on behalf of issues related to biodiversity conservation and the sustainable use of renewable resources. Most efforts to measure the consolidation of protected areas take the formal definition of conservation purpose as a point of departure and include management plans as an indicator, but do not adequately consider issues of relations with municipal and departmental authorities or the resolution of land and land use conflicts.

Our experience is that in the face of a land invasion or other organized action that challenges a protected area's physical integrity, legitimacy, and perhaps its legality, the degree of consolidation of the internal management structures are not decisive factors. At the same time, to the extent that the five institutional conditions are met, protected areas can function relatively well even with sub-optimal resource endowments, and their options for improving conditions by means of their own initiative, without depending on governments and donors, are considerably expanded. Thus, these five factors are critical as we assess the quality of protection afforded by existing protected areas in our landscapes and set priorities for bringing additional areas under protection.

In other words, as our conservation objectives are increasingly expressed in terms of preserving landscapes that are large enough, wild enough, and diverse enough in habitat types to serve as strongholds for landscape species or conserve priority species across a defined range, issues of management give way to issues of governance as keys to long-term conservation success. While this does not mean that management is not important, it does mean that it has become increasingly easier to win the battle to consolidate the management of a protected area, while losing the war to achieve critical conservation objectives.

This shift in focus brings a combination of opportunities and challenges. We are in a better position to effectively identify, assess, and address issues that play a decisive role in conservation success. By considering critical governance issues as we define conceptual models and monitoring frameworks, our efforts to conserve landscapes and species will improve as we plan and implement actions at scales appropriate to our conservation objectives, and our conservation tools will become more powerful and cost-effective.

The major challenge is to maintain focus, because while governance issues are critical to conservation success, addressing them effectively takes us into areas where agendas other than conservation are active, and where we need to assess carefully the extent to which the interests of the actors with whom we must work coincide with ours. Thus, while contributing to good governance in land use and land management may advance our conservation objectives, specific decisions about how we should become involved are more complicated.

This added level of complexity underscores the importance of building effective partnerships. First, we seek to construct a conservation constituency that can mobilize itself in defense of interests that coincide with our conservation objectives. We do this by strengthening actors with whom we share key interests and working with them to construct shared agendas that can be better advanced by working together. Over time, we seek to help build a core institutional base of local support for conservation that has the political strength, technical capacity, and financial stability to form an effective partnership. This constituency can then hold authorities accountable to ensure that the creation of protected areas is followed up with the actions required to enable them to fulfill their missions; support land titling for protected areas as part of region-wide processes of land use planning that will increase security and encourage investment; insist on local involvement in creating and revising management plans; promote the positive roles that protected areas can play in development strategies; and become actively involved in generating financial support.

Second, we need to develop partnerships with organizations that seek to improve education and health care and promote the economic development of the people we work with in our field programs. This can be a complex process because it involves defining areas of common ground with those whose goals are different than our own and whose activities may sometimes work at cross-purposes with our programs. While we may seek out partners whose interests overlap substantially with ours, shared interests alone are not sufficient for effective partnerships. Strong partnerships arise out of the experience of carrying out activities together, overcoming disagreements in a way that contributes to building mutual trust, and developing a shared vision that includes elements that may be a higher priority for some than for others.

Thus, it is crucial to place our objectives in the context of the aspirations and priorities of people's desire to improve the quality of their lives and to demonstrate how what we do contributes to a better quality of life for many people. Building partnerships with organizations whose missions and visions are different from our own provides a way to define more easily the areas where we will play a clear leadership role and the areas where we will support the efforts of our partners. In so doing we can continue to focus on our own priorities while contributing in meaningful ways to our partners' efforts.