

The Parks in Peril Site Consolidation Scorecard

*Lessons from Protected Areas in Latin American and
the Caribbean*

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Preface

“Do not go where the path may lead. Go instead where there is no path and leave a trail.”

Ralph Waldo Emerson

Just over a decade ago at the United Nations Conference on Environment and Development in Rio de Janeiro, the world made a collective declaration in the name of sustainable development – one recognizing that the pace of human development was exceeding the natural carrying capacity of our planet’s natural heritage. That same year, the IV World Congress on National Parks and Protected Areas was convened in Caracas, Venezuela seeking to engage new constellations of enlightened environmental and development NGOs, governments, visionary companies and creative thinkers to respond to the growing needs associated with protected area management. At the time, almost 9,000 protected areas had been established, covering more than eight million square kilometers – more than 5% of the planet’s surface area and roughly the size of Brazil. Many of these “paper parks” emerged as a consistent source of conflict between development and conservation – the natural tension between local survival and global preservation.

Caracas helped catalyze thinking around four interdependent themes:

- **Sustainable Development:** The contribution of protected areas to strategies for sustainable development;
- **Public Support:** The importance of building public support for protected areas;
- **Management Effectiveness And Sustainability:** Increasing the effectiveness of protected area management in times of uncertain economic conditions;
- **Finance:** The development of broader strategies for international financial support for protected area management.

Begun in 1990, the Parks in Peril Program (PiP) was inspired and enhanced by these themes. An innovative and collaborative effort between 28 local partner organizations, government ministries responsible for protected areas, and the Nature Conservancy with support from United States Agency for International Development, PiP strengthened the conservation capacity and management effectiveness of 37 “paper parks” in 15 countries in Latin America and the Caribbean – by 2002 converting 11.4 million hectares (roughly four times the size of Belgium) of globally and regionally significant habitat into fully-functioning protected areas.

More than a decade since its inception, PiP is recognized as one of the most ambitious and catalytic hemispheric conservation efforts ever undertaken and continues to hone its efforts around the following major themes:

- **In Situ Capacity And Infrastructure:** Build an on-site logistic capacity to manage parks in the hemisphere's most imperiled ecosystems;
- **Strategy And Long-Term Management:** Build the analytic and strategic capacity necessary for long-term management of these areas;
- **Long-Term Financial Sustainability:** Create long-term financial mechanisms to sustain the local management of these areas;
- **Sustainable Livelihoods:** Integrate PiP protected areas into the economic lives of local society;
- **Leverage:** Use the PiP site-based activities to influence conservation in other sites in the region's most imperiled ecosystems.

As the V World Parks Congress in Durban focuses on the current and future “Benefits Beyond Boundaries,” the harvesting and dissemination of numerous lessons learned from over a decade of experience implementing PiP’s *site consolidation methodology* offers a unique opportunity – an opportunity to contribute to the articulation of a long-term collective vision for protected areas into the 21st Century. To achieve a tangible global policy agenda and detailed guidance on establishing and managing protected areas will require a strategic approach towards identifying critical issues and tools to address them, highlighting innovative case studies and best practices, and recommending tangible actions for the Durban Accord.

This document represents a synthesis of issues, tools, case studies, and best practices emerging from the PiP Program. It focuses on the application of the Site Consolidation Scorecard, recommending best practices for its use, complementary tools, and resulting approaches to improve the process of improving management capacity at conservation areas. The authors hope that it serves to provide “benefits beyond boundaries” not only for on-the-ground biodiversity conservation efforts but also the V World Parks Congress global agenda.

-- Robert de Jongh,
Director, Parks in Peril 2000 Program
Director, Central America Division
The Nature Conservancy
July, 2003

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We extend our full appreciation to the local communities, civil society groups, partner organizations, government agencies, and The Nature Conservancy (TNC) staff that have contributed to the evolution of the Parks in Peril Program (PiP) over the last 13 years. Through a process of continual learning at the 37 sites in 15 Latin American and Caribbean countries where PiP has worked, these people have advanced the thinking on how better to build capacity for biodiversity conservation, striving to convert “parks in peril” to “parks in perpetuity.”

Many individuals and organizations contributed to this project. The following individuals provided input for the conceptual development of this project: Paulina Arroyo, Constance Campbell, Rafael Calderon, Stephen Cox, Randy Curtis, Richard Devine, Andrea Erickson, Jenny Ericson, Paul Hardy, Joseph Keenan, Cristina Lasch, Andreas Lehnhoff, Karen Luz, Brad Northrup, Jeffrey Parrish, Joe Quiroz, Carter Roberts, and Philippe Taieb.

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Although development of the Site Consolidation Scorecard resulted from the contributions, testing, creativity, and patience of many staff from TNC and partner organizations, Jerome Touval and Joseph Keenan are credited with composing *Measuring Success: The Parks in Peril Site Consolidation Scorecard Manual*. Monica Ostria is credited with the foresight to encourage Jerry and Joe to collaborate on the *Manual*. This tool has been vital in introducing the Consolidation Scorecard to managers throughout the Latin America and Caribbean region. Since the *Manual* describes the concept and indicators of site consolidation most succinctly, we have incorporated in this document large portions of their text describing the Consolidation Scorecard, editing it only for better fit in this context.

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Acronyms and Abbreviations

AFE- COHDEFOR	Honduran Forest Service (Honduras)
ANCON	Asociación Nacional para la Conservación de la Naturaleza (Panama)
ARCA	Alianza Regional para Políticas de Conservación en América Latina y el Caribe
ASK	Amigos de Sian Ka'an (Mexico)
CAP	Conservation Area Planning, previously known as Site Conservation Planning
CBTC	Talamanca-Caribbean Biological Corridor Commission (Costa Rica)
CCAD	Central American Commission on Environment and Development (CCAD)
CONANP	National Commission of Natural Protected Areas (Mexico)
COTESU	Swiss Technical Cooperation
CSU	Colorado State University
DesdelChaco	Fundación para el Desarrollo Sustentable del Chaco Sud Americano (Paraguay)
EEC	European Economic Community
FAN	Fundación Amigos de la Naturaleza (Bolivia)
FAD	Fish Aggregating Devices
FMB	Fundación Moises Bertoni (Paraguay)
FPSN	Fundación Pro-Sierra Nevada de Santa Marta (Colombia)
FUNDEA	Fundación Mexicana para la Educación Ambiental (Mexico)
GEA	Grupo Ecologista Antares (Mexico)
GEF	Global Environmental Facility
GIS	Geographic information systems
GO	Government organization
IBAMA	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Brazil)
IDB	Inter-American Development Bank
IHNE	Natural History and Ecology Institute/ Instituto de Historia Natural y Ecología (Mexico)
IHT	Honduran Tourism Institute (Honduras)
IMADES	Instituto del Medio Ambiente y el Desarrollo Sustentable de Sonora (Mexico)
INRENA	Instituto Nacional de Recursos Naturales (Peru)
IRG	International Resource Group, Ltd.
ISA	Institutional Self-Assessment
IUCN	World Conservation Union
LAC	Latin America and the Caribbean Region
MOPAWI	Agency for the Development of the Mosquitia (Honduras)
MOS	Measures of Success

NGO	Non-governmental organization
NIPARAJA	Sociedad de Historia Natural Niparajá (Mexico)
PiP	Parks in Peril Program
PPY	Pronatura Península de Yucatán (Mexico)
PROARCA/ CAPAS	Central American Protected Areas System Component of the Central American Environmental Program
PROFEPA	Procuraduría Federal de Protección al Ambiente (Mexico)
PROMETA	Protección del Medio Ambiente Tariquia (Bolivia)
REA	Rapid Ecological Assessment
SANPES	System of Natural Protected Areas in the State of Sonora (Mexico)
SCP	Site Conservation Planning, now known as Conservation Area Planning
SEMARNAP	Secretaría del Medio Ambiente, Recursos Naturales y Pesca (Bolivia)
SERNA	Natural Resources and Environment Secretary (Honduras)
SPVS	Sociedade de Pesquisa em Vida Selvagem (Brazil)
SSGA	Small Scale Grant Assistance, Japanese Government
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WB	World Bank

The Parks in Peril Program

In 1990, the Parks in Peril (PiP) Program began as an emergency effort to safeguard the most imperiled natural ecosystems, ecological communities and species in the Latin American and Caribbean region. Since its inception, this public-private partnership has sought to ensure an institutional presence in protected areas that provides sustainable, on-site management. Between 1990 and 2002, PiP fostered capable management in 37 protected areas in 15 countries, covering 11.4 million hectares of diverse ecosystems, such as cloud forests, coral reefs, tropical forests, savannas, and páramo (Table 1). With U.S. Agency for International Development (USAID) funding administered by The Nature Conservancy (TNC), PiP worked through 30 non-governmental partner organizations to shepherd a collaborative effort with government agencies and stakeholders to manage the areas into the future.

From its inception, Parks in Peril has promoted a simple philosophy—that long-term conservation of regionally-important protected areas will result only if we build local capacity to manage those areas and conserve the biological diversity that they contain. PiP has focused on strengthening non-governmental and governmental organizations (NGOs and GOs) in the countries where these protected areas are located, fostering the local support necessary to protect them. We view this as a process of consolidating all the resources necessary to support conservation of the area now and into the future – financial resources, technical resources, human resources, adequate infrastructure, a supportive local constituency, political support, ecological information. A consolidated site is one that has the tools, infrastructure, local constituency, financing, and staff to deal with current threats and management challenges, as well as the capacity to respond to threats that arise in the future. We developed the Parks in Peril Site Consolidation Scorecard to manage this process of “site consolidation”—the Scorecard is a tool that helps set priorities for site conservation capacity, measures progress, and assists adaptive management.

The purpose of this document is twofold:

- To present an overview of the PiP Site Consolidation Scorecard and recommendations for its application as a tool for measuring conservation capacity of protected areas; and
- To present an analysis of the site consolidation process at 37 “parks in peril” in Latin America and the Caribbean from 1990 to 2002 and to make recommendations for improving conservation effectiveness.

While neither comprehensive nor all inclusive, this document provides a general reference for anyone interested in building conservation capacity for protected area management around the world. This includes, but is not limited to:

- Donors and funding agencies
- International environmental non-profit organizations

- Government protected area management agencies
- Project managers and other project team members
- Local stakeholders
- Educators teaching about protected area management
- University students and recent graduates.

Major Components of the Document

Part I: Overview of Parks in Peril Program

This section introduces the goals and evolution of the Parks in Peril program, a Cooperative Agreement among USAID, TNC, and NGO and GO partner institutions throughout the Latin American and Caribbean region. As TNC, USAID, and their conservation partners implemented and adapted activities over time, the four original goals of the PiP Program were revised to five:

- Build an on-site logistic capacity to manage parks in the hemisphere's most imperiled ecosystems.
- Build the analytic and strategic capacity necessary for long-term management of these areas.
- Create long-term financial mechanisms to sustain the local management of these areas.
- Integrate PiP protected areas into the economic lives of local society.
- Use the PiP site-based activities to influence conservation in other sites in the region's most imperiled ecosystems.

Since the beginning of the PiP Program, USAID has committed US\$41.3 million to the program (including US\$7.8 million from USAID's in-country Mission), and TNC and local government and non-governmental organizations committed an official match of US\$18.3 million. In addition to official PiP Program contributions, Parks in Peril, and the activity and capacity that it has created, has attracted substantial bi- and multilateral investments indirectly for conservation of PiP sites (approximately US\$357 million).

Nine case studies (summarized here and presented in their entirety in accompanying documents) substantiate and illustrate lessons learned and recommendations regarding the application of the Site Consolidation Scorecard and the site consolidation process through the Parks in Peril Program.

Part II: Site Consolidation Scorecard

This section addresses a number of issues related to the application of the Site Consolidation Scorecard. The Nature Conservancy and its partner organizations developed the *Parks in Peril Site Consolidation Scorecard* in 1996 to measure the program's success over time and across the portfolio of sites, to set targets for accomplishment, and to provide input for future funding decisions. The Scorecard covers 16 indicators organized according to four general categories:

1. **Basic on-site protection activities**—physical infrastructure, on-site personnel, training, land tenure issues, threats analysis, official declaration of protected area status;
2. **Long-term management capacity**—reserve zoning and buffer zone management, site-based long-term management plan, conservation science needs assessment, monitoring plan development and implementation;
3. **Long-term financing for basic site management**—NGO self-sufficiency plan, site long-term financial plan; and
4. **Supportive local constituency for the site**—broad-based management committee/technical advisory committee, community involvement in compatible resource use, development of policy agenda, environmental education programs.

PiP employed the Site Consolidation Scorecard so that over the life of PiP's investment in a site, managers could set goals that, if met, would create a sustainable conservation presence to conserve and protect the site into the foreseeable future. PiP's intensive investment in this site would be limited to this period; after this period, smaller investments by TNC or USAID might be necessary to generate specific products to aid management, but supplementing the development of basic management capacity would not be necessary. By 2002, all 37 sites in the program had experienced tremendous improvement in management capacity. Thirty-three of them had met the goals that USAID and TNC set for the program, but only five (Noel Kempff, Mbaracayu, Podocarpus, Panama Canal Watershed, and Sierra de las Minas) had met the higher goal of a score of 4 or 5 on all indicators of the Scorecard.

Since in 1997, the Site Consolidation Scorecard has been applied 247 times over seven years and across 37 Parks in Peril sites throughout Latin America and the Caribbean region. In some cases, the Scorecard has proven sufficiently effective as a conservation tool to inspire local, national or regional Scorecard adaptations or "spin-offs." As a tool for measuring conservation capacity, the Site Consolidation Scorecard integrates with existing conservation planning and monitoring frameworks, most notably the World Conservation Union's (IUCN) *Framework for Assessing the Management of Protected Areas* and TNC's *Conservation by Design*. Other tools have complemented and contributed to PiP site consolidation efforts, including TNC's 5-S Framework for Site Conservation (*Conservation Area Planning*, formerly *Site Conservation Planning*), various tools for analyzing threats, TNC's manual for long-term financial planning for parks and protected areas, and TNC's Institutional Self-Assessment tool.

Part III: Process of Site Consolidation

This section contains an analysis of the site consolidation process at the 37 Latin American and Caribbean protected areas included in the Parks in Peril Program between 1990 and 2002. This discussion highlights significant results obtained throughout PiP, factors supporting or hindering the site consolidation process, and lessons learned for each program component. The analysis is organized according to the overall goals of the PiP Program.

The section entitled “Overarching Lessons about the Site Consolidation Process” provides a synthesis of achievements and lessons learned across sites. These lessons are further synthesized in the “Summary of Recommendations” section below.

Summary of Recommendations

In reviewing the lessons learned, accomplishments and challenges faced by the 37 sites of the Parks in Peril Program, a number of key recommendations have emerged. These recommendations reflect experiences with the Site Consolidation Scorecard as a tool for measuring conservation capacity as well as the process of consolidating sites within the Parks in Peril Program.

Site Consolidation Scorecard

Why Use the Scorecard?

- The Site Consolidation Scorecard and similar local, national, and regional Scorecard adaptations should be used by managers of protected areas and project portfolios to promote adaptive management, improve planning, encourage accountability for performance, raise awareness for systematic assessment of conservation capacity over time, and attract future funding and technical resources.

How Should the Scorecard Be Used?

- Use of the Site Consolidation Scorecard and similar Scorecard adaptations for measuring conservation capacity should be tied to a program with specific funding sources that can effectively sustain its use at sites over time.
- The Site Consolidation Scorecard and similar Scorecard adaptations for measuring conservation capacity should be used in conjunction with complementary tools to guide capacity development to address local conservation priorities. For example, complementing site consolidation with Conservation Area Planning helps build the capacity to plan effectively, to prioritize and measure conservation impacts, and to project outcomes for reducing threats and improving biodiversity health. TNC’s manual

for long-term financial planning for parks and protected areas, and TNC's Institutional Self-Assessment tool, help marshal needed resources for project implementation and focus capacity building efforts strategically.

- Apply the Site Consolidation Scorecard using a participatory process with protected area managers and, where appropriate, key stakeholders at the site. This facilitates communication and negotiation of management decisions. The scorecard methodology is most useful if applied as a self-assessment tool and used by site managers for setting goals and measuring progress. It is less useful if used by independent evaluators as measurement tools, alone.
- Define early on what changes at the site constitute each benchmark on the Scorecard. For example, define at the *outset* the changes in infrastructure that will qualify for each of the five levels – “what buildings and equipment are needed and where in order to qualify for a level of “4” on indicator for infrastructure?”. This reduces subjectivity and assists development of site activities by making goals more explicit.
- Accompany the Site Consolidation Scorecard with guidance and technical assistance for its application, which maximizes its effectiveness and improves quality control and consistency across sites.

How Should the Scorecard be Improved?

- In future iterations of the Site Consolidation Scorecard, a number of aspects should be revised, by: adding new indicators (e.g., for measuring leadership); clarifying confusing terminology (e.g., environmental education vs. outreach); expanding benchmarks to cover implementation beyond “emergency intervention” planning (e.g., community involvement vs. community ownership and decision making for compatible natural resource use projects and practices); and aligning indicators according to priorities for achieving conservation impact (i.e., reducing threats and improving biodiversity health).

Process of Site Consolidation

- **Couple site consolidation with a multi-year source of funding in order to provide an initial impulse of improved conservation capacity and to change the mindset of protected area managers from a short-term horizon to a five- to ten-year horizon..** PiP and programs of the same multi-site, multi-strategy, multi-partner nature provide effective, reliable, complementary funding, political support, and technical assistance for partners over a number of years, thus advancing basic protection activities, long-term management and financing, and the nurturing of a supportive site constituency. Paper parks need to move forward on a number of fronts simultaneously, and this type of program supports broader conservation development than multiple, individual projects. The impacts of the program are noted in differences between sites with and without PiP support in the same protected area systems.

- **PiP and similar programs should continue to leverage lessons learned during implementation and provide mechanisms for communication and cross-fertilization amongst sites and experiences:** Conferences, publications, coalitions, networks, and exchanges offer opportunities to promote adaptive management by harvesting and applying lessons learned from a variety of experiences.
- **Long-term financing for partners, sites, and protected area systems should continue to be a priority, given that lack of long-term financing is a limiting factor for advancing conservation efforts and sustaining impacts over time.**
- **Diversifying partners and engaging not only NGOs but also local governments, scientific institutions, academic institutions, private sector interests, and other stakeholders in protected area management should be a continuing focus of programs such as PiP.**
- **Additional tools and methodologies, such as Conservation Area Planning, Financial Planning, business planning for sustainable use projects, and Institutional Self-Assessments should be further developed and disseminated to achieve system-level impacts.** Effective conservation of protected areas depends on the full range of thematic areas identified in the Site Consolidation framework. The methodology identifies the areas where improvement is necessary, but the individual tools and technical assistance make progress possible.

Objectives and Methodology of this Analysis

The document is divided into three main sections:

Part I: Overview of Parks in Peril Program

- **Overview of PiP goals:** What were the goals of the PiP Program? What did PiP hope to achieve to advance protected areas from being “parks in peril” to “consolidated sites”?

Part II: Site Consolidation Scorecard

- **Tool development:** Why was the Site Consolidation Scorecard developed? What was the perceived need?
- **Tool description:** What are the principal objectives, contents and guidelines for applying the Site Consolidation Scorecard?
- **Tool application:** Where was the Scorecard applied? Over what time period was it applied? What methodology has been used to apply the Scorecard? Who has participated in the process? Why?

- **Complementary conservation tools:** What other tools or methodologies were employed to complement the use of the Site Consolidation Scorecard in order to receive better results?
- **Lessons learned about the Scorecard:** What were the benefits and drawbacks of using the Scorecard over time? What factors support or hinder the use of the Scorecard over time? Could it be improved? If so, how? How can lessons learned in this process be leveraged to other sites or protected area systems?

Part III: Process of Site Consolidation

- **Significant results obtained through PiP:** What were the most significant results obtained through PiP implementation and the “site consolidation” process? Were there any unforeseen results? If so, what were they? What trends or hot points emerge from an analysis of PiP results? How does site consolidation at PiP sites compare to sites in the same protected area systems that did not receive PiP funding?
- **Factors affecting PiP implementation and the site consolidation process:** What factors supported or hindered site consolidation over time? What factors supported or undermined long-term, sustainable conservation impacts? What factors contributed to leveraging results and impacts of PiP to other sites and systems?
- **PiP funding:** Was the PiP funding used effectively (with respect to partnerships/relationships, tools, technical support, local policies), or could similar results have been achieved with less funding or in less time? How? How is PiP funding different from other sources of funding received at protected areas?
- **Lessons learned about the site consolidation process:** What lessons learned and recommendations, emerging from the PiP experience, are relevant for practitioners trying to improve protected area management at their sites?

The process designed to address these key issues included a number of activities. We reviewed key documents, such as annual work plans and evaluations for the 37 PiP sites, the Site Consolidation Scorecard Manual, and other products produced by the PiP Program, in order to provide a general overview of Scorecard application and the process of site consolidation. Interviews were conducted with key TNC and partner organization staff members involved in PiP design, planning, implementation, and monitoring to gather insights from a variety of perspectives. Nine case studies were prepared by on-the-ground conservation practitioners at PiP sites to generate, substantiate, and illustrate lessons learned and recommendations. This document was then prepared based on an analysis of the desk research, interviews and case studies. Finally, the document was vetted and validated with a panel of reviewers involved in the PiP Program.

Part I: Overview of Parks in Peril Program

1.1. Background

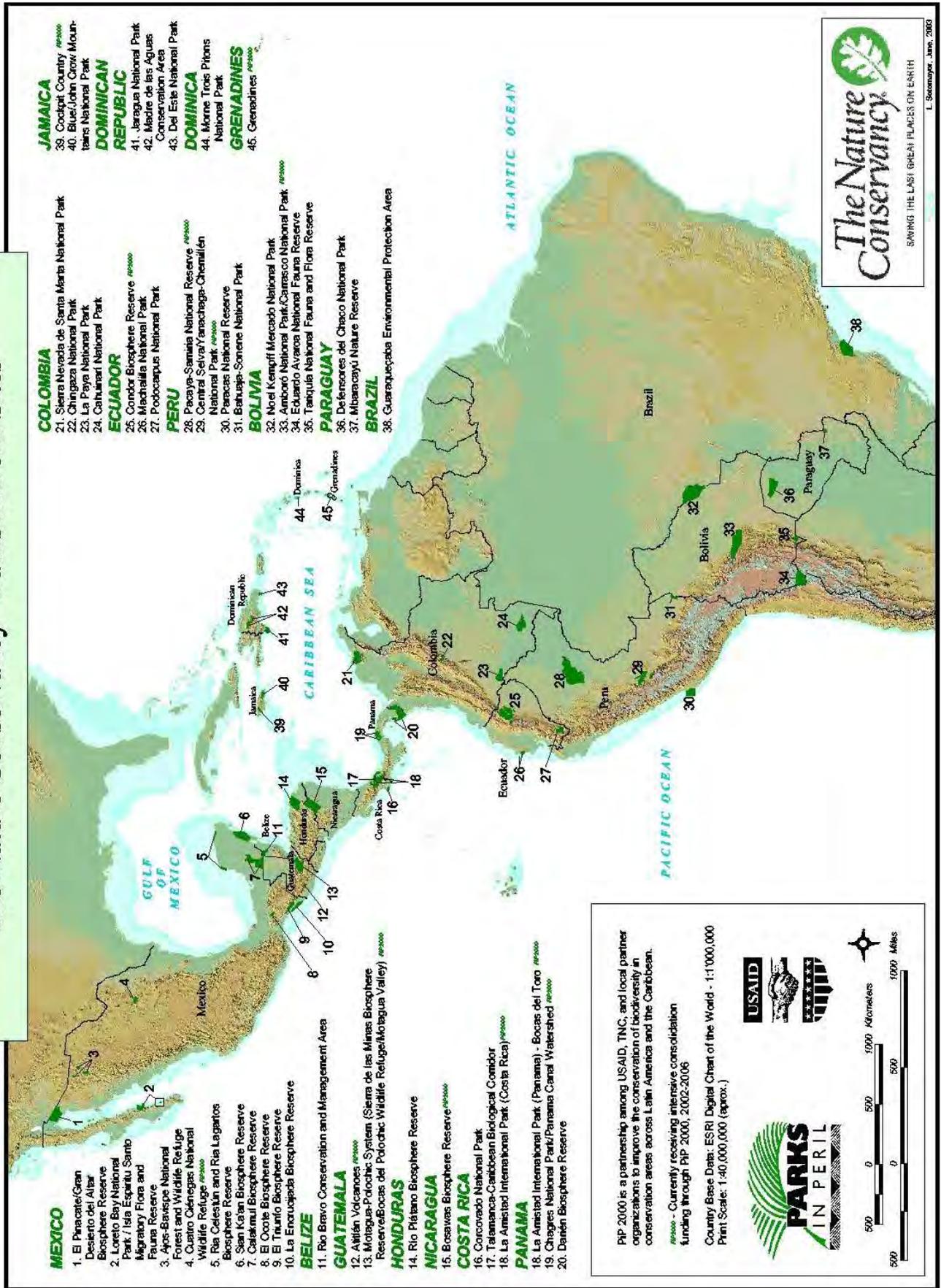
Now well known for its success in transforming “paper parks” into fully functional protected areas, the Parks in Peril (PiP) Program began in 1990 as an emergency effort to safeguard the most imperiled natural ecosystems, ecological communities and species in the Latin American and Caribbean region. The program built on the basic premise that to conserve biodiversity resources in protected areas, it would be necessary to build the conservation capacity of *local* institutions charged with managing those areas. Through an intensive investment of funding and technical assistance over a finite number of years, this public-private partnership would ensure that targeted protected areas had an institutional presence to provide sustainable, on-site management. Once this capacity was in place, intensive investment by the Parks in Peril Program would no longer be necessary. Sufficient capacity would be present to allow site managers to focus on the day-to-day and year-to-year realities of managing a site.

Between 1990 and 2002 (the period covered by this analysis), PiP fostered capable management in 37 protected areas in 15 countries, covering 11.4 million hectares of diverse ecosystems, such as cloud forests, coral reefs, tropical forests, savannas, and páramo (see Table 1 and Figure 1). With USAID funding administered by TNC, PiP worked through 30 non-governmental partner organizations to shepherd a collaborative effort with government agencies and stakeholders to manage the areas into the future.

As TNC, USAID and their conservation partners implemented and adapted activities over time, the four original goals of the PiP Program were revised to five:

- 1. Build an on-site logistic capacity to manage parks in the hemisphere's most imperiled ecosystems.** This is the fundamental component of the program and includes basic protection, infrastructure construction and maintenance, training, resolution of land tenure issues, analysis of priority threats, and accurate and legal declaration of protected areas and their boundaries.
- 2. Build the analytic and strategic capacity necessary for long-term management of these areas.** Organizing existing scientific and socio-economic information, identifying needs and sources for additional critical information, and using this information to manage the site are all vital to the long-term conservation of the site. This component includes developing zoning plans, threats-based management plans, science needs assessments, and ecological monitoring.

The Nature Conservancy - Parks in Peril Sites



PNP 2000 is a partnership among USAID, TNC, and local partner organizations to improve the conservation of biodiversity in conservation areas across Latin America and the Caribbean.

funding through PNP 2000, 2002-2006

Country Base Data: ESRI Digital Chart of the World - 1:1,000,000
Print Scale: 1:40,000,000 (approx.)

3. Create long-term financial mechanisms to sustain the local management of these areas. This component promotes the development of long-term financial plans for protected areas and provides technical assistance in the development of NGO self-sufficiency strategies.

4. Integrate PiP protected areas into the economic lives of local society. Community outreach activities such as environmental education, creation and empowerment of local Management Committees that represent the interests of nearby communities, assisting conservation organizations in the promotion of local, national, and international policies that advance conservation, and sustainable resource-use pilot projects are included in this component.

5. Use the PiP site-based activities to influence conservation in other sites in the region's most imperiled ecosystems. This included the “Balancing Themes” component of the Parks in Peril program that sought to leverage the experiences gained through PiP in the areas of conservation science, community-based conservation, conservation finance and policy, and institutional strengthening (including NGO self-sufficiency and ecotourism). This component emphasized technical assistance to local organizations in the development of creative solutions to conservation problems, providing funding to implement those solutions, developing and testing tools (such as publications and methodologies) to assist partners, providing training, and producing publications to assist the wider conservation community.

In 1996, PiP began to work with USAID, TNC, and partner staff on the development of a tool to measure its progress in building management capacity at sites. The *Parks in Peril Site Consolidation Scorecard* (explained more fully in Section II) was the result. It became the guiding methodology of the Parks in Peril Program, used for setting goals and measuring success. Use of the Scorecard also enabled site managers to schedule PiP investment over time and forecast an end-point in PiP intensive investment in the site. Anticipating this date, managers could plan to foster a level of management capacity sufficient to support the site over the next few years.

Table 1. Parks in Peril Sites with Information on Year Initiated into PiP, Partner Organizations, Ecoregions Present, and Hectares Covered

Country	Protected Area	Years of Intensive PiP Activity	Partner	Ecoregions Present	Hectares
Belize	Rio Bravo Conservation and Management Area	1993-1996	Programme for Belize	Belizean Pine Forests, Belizean Swamp Forests, Peten Moist Forests, Yucatan Moist Forests	105,221
Bolivia	Amboró National Park	1991-1994	Fundación Amigos de la Naturaleza (FAN)	Beni Savannas, Bolivian Yungas, Southwestern Amazonian Moist Forests	619,749
Bolivia	Noel Kempff Mercado National Park	1991-1994	Fundación Amigos de la Naturaleza (FAN)	Beni Swamp and Gallery Forests, Bolivian Lowland Dry Forests, Cerrado, Rondonia/Mato Grosso Moist Forests	1,522,830
Bolivia	Tariquí Fauna and Flora Reserve	1995-1999	Protección del Medio Ambiente Tariquí (PROMETA)	Andean Yungas, Central Andean Puna	246,767
Bolivia	Eduardo Avaroa National Andean Fauna Reserve	1999-2002	Tropico	Central Andean Puna	161,878
Brazil	Guaraqueçaba Environmental Protection Area	1998-2002	SPVS	Brazilian Araucaria Forests, Brazilian Coastal Atlantic Forests, Mangroves	313,234
Colombia	La Paya National Natural Park	1992-1996	Fundación Natura	Napo Moist Forests	421,829
Colombia	Chingaza National Natural Park	1992-2000	Fundación Natura	Cordillera Oriental Montane Forests, Northern Andean Páramo	70,346
Colombia	Cahuinari National Natural Park	1992-2000	Fundación Natura	Japura/Negro Moist Forests	574,767
Colombia	Sierra Nevada de Santa Marta National Natural Park	1992-1998	Fundación Pro-Sierra Nevada de Sta. Marta (FPSN)	Guajira/Barranquilla Xeric Scrub, Santa Marta Montane Forests, Santa Sinu Valley Dry Forests	382,845
Costa Rica	Corcovado National Park	1991-1994	Neotropico	Isthmian-Pacific Moist Forests, Mangroves	41,771
Costa Rica	Talamanca-Caribbean Biological Corridor	1995-2000	Talamanca-Caribbean Biological Corridor Commission (CBTC)	Central American Atlantic Moist Forests, Mangroves	36,485
Dominica	Morne Trois Pitons National Park	1992-1996	Dominica Conservation Association	Windward Islands Moist Forests	6,877

Country	Protected Area	Years of Intensive PiP Activity	Partner	Ecoregions Present	Hectares
Dominican Republic	Jaragua National Park	1991-1995	Pronatura	Hispaniolan Dry Forests, Mangroves	137,344
Dominican Republic	Del Este National Park	1993-1999	Ecoparque	Hispaniolan Moist Forests, Mangroves	41,983
Dominican Republic	Madre de las Aguas Conservation Area	1996-2001	Fundación Moscoso Puello	Hispaniolan Moist Forests, Hispaniolan Pine Forests	149,705
Ecuador	Machalilla National Park	1992-1997	Fundación Natura	Ecuadorian Dry Forests	54,982
Ecuador	Podocarpus National Park	1992-1998	Fundación Natura	Eastern Cordillera Real Montane Forests	146,221
Guatemala	Sierra de las Minas Biosphere Reserve/Bocas del Polochic Wildlife Refuge	1991-2000	Defensores de la Naturaleza	Central American Atlantic Moist Forests, Central American Pine-Oak Forests, Motagua Valley Thornscrub	257,119
Honduras	Río Plátano Biosphere Reserve	1998-2002	Mopawi	Central American Atlantic Moist Forests, Mangroves, Miskito Pine Forests	814,670
Jamaica	Blue and John Crow Mountains National Park	1998-2002	Jamaica Conservation and Development Trust	Jamaican Moist Forests	79,634
Mexico	El Triunfo Biosphere Reserve	1991-1997	Instituto de Historia Natural y Ecología (IHNE)	Central American Pine-Oak Forests, Chiapas Depression Dry Forests, Sierra Madre Moist Forests	119,129
Mexico	Ría Celestún & Ría Lagartos Biosphere Reserves	1991-1997	Pronatura Península de Yucatán (PPY)	Mangroves, Yucatan Dry Forests	141,624
Mexico	El Ocote Biosphere Reserve	1992-1998	Instituto de Historia Natural y Ecología (IHNE)	Chiapas Depression Dry Forests, Peten Moist Forests	101,247
Mexico	La Encrucijada Biosphere Reserve	1992-2000	Instituto de Historia Natural y Ecología (IHNE)	Central American Pacific Dry Forests, Mangroves	144,809
Mexico	Sian Ka'an Biosphere Reserve	1992-1998	Amigos de Sian Ka'an (ASK)	Mangroves, Quintana Roo Wetlands, Yucatan Moist Forests	651,928
Mexico	Calakmul Biosphere Reserve	1993-2001	Pronatura Península de Yucatán (PPY)	Peten Moist Forests, Yucatan Moist Forests	722,892

Country	Protected Area	Years of Intensive PiP Activity	Partner	Ecoregions Present	Hectares
Mexico	El Pinacate/Gran Desierto del Altar Biosphere Reserve	1994-1999	Instituto del Medio Ambiente y el Desarrollo Sustentable de Sonora (IMADES)	Sonoran Xeric Scrub	794,234
Mexico	Sea of Cortéz	1998-2002	GEA, Niparáj, and IMADES	Cortesian Marine Bioregion	216,392
Mexico	Ajos-Bavispe National Forest & Wildlife Refuge	1998-2002	IMADES	Sierra Madre Occidental Pine-Oak Forests	184,770
Panama	Darién Biosphere Reserve	1991-1997	Asociación Nacional para la Conservación de la Naturaleza (ANCON)	Central American Atlantic Moist Forests, Choco/Darien Moist Forests, Eastern Panamanian Montane Forests	635,423
Panama	Panama Canal Watershed	1993-1995	Asociación Nacional para la Conservación de la Naturaleza (ANCON)	Central American Atlantic Moist Forests, Central Panamanian Montane Forests	151,043
Paraguay	Mbaracayú Nature Reserve	1992-1994	Fundación Moises Bertoni (FMB)	Brazilian Interior Atlantic Forests	64,380
Paraguay	Defensores del Chaco National Park	1998-2002	DesdelChaco	Chaco Savannas	779,684
Peru	Bahuaja-Sonene National Park	1991-1999	Pro Naturaleza	Southwestern Amazonian Moist Forests, Western Amazonian Flooded Grasslands	222,582
Peru	Paracas National Reserve	1999-2002	Pro Naturaleza	Peruvian-Chilean Sechura Desert, Humboldtian Marine Ecoregion	135,573
Peru	Yanachaga-Chemillén National Park	1992-1996	Pro Naturaleza	Peruvian Yungas, Ucayali Moist Forests	121,951

Some Highlights of Parks in Peril Program Achievements from 1990 to 2002

- Parks in Peril improved the capacity of local partner organizations to conserve biodiversity and manage site protection efforts in 15 countries. Thirty-seven “paper parks” were transformed into functioning protected areas covering over 11.4 million hectares of globally and regionally significant habitat (see Table 1). Twenty of these sites now have the infrastructure in place to provide sufficient protection – including the presence of trained staff and support infrastructure on-site, capability for long-term management, ability to identify and secure financial resources, and a local constituency and policies that support site conservation.
- Parks in Peril leveraged US\$359 million, through direct activities or indirectly through the capacity those activities have created, raised by TNC and PiP partners to support conservation throughout Latin America and the Caribbean regions. TNC and partners have developed a diversity of well-known and innovative sources of funding, including GEF grants, the Enterprise for the Americas Initiative, annual budgets of local and national governments, local communities and municipalities, bilateral donors, private donors, use fees, corporations, carbon offset projects, multilateral development banks, and private foundations, and utilizing a diversity of mechanisms, including debt-for-nature swaps, conservation easements, creation of national environmental funds, and local enterprises.
- During program implementation, the size of the established protected areas in the PiP Program increased by more than 1.4 million hectares to a total of 11.4 million hectares. These expansions have succeeded in protecting critical habitat necessary to maintain important populations of plants and animals at: Sian Ka’an Biosphere Reserve, La Encrucijada Biosphere Reserve, El Ocote Biosphere Reserve, and El Triunfo /La Sepultura Biosphere Reserve in Mexico; Sierra de las Minas/Bocas del Polochic Biosphere Reserve in Guatemala; Mbaracayu Nature Reserve in Paraguay; Amoro and Noel Kempff National Parks and Tariquia Fauna and Flora Reserve in Bolivia; and Rio Bravo Conservation and Management Area in Belize.
- Twenty-eight NGO partners strengthened their technical, analytic and strategic capacity for long-term protection at PiP sites and other protected areas throughout Latin America. Capabilities improved in aspects of site conservation, starting with the basics of on-site presence and protection, but including strengthening boards of directors, developing community constituencies, strategic planning, ecological monitoring, financial self-sufficiency, financial accounting for major grants, geographical information systems (GIS) analysis, and other important aspects of a successful, long-term site conservation effort. Countless other NGOs and GOs have been trained and strengthened through collaborative planning exercises and targeted training provided by TNC or PiP partners.
- National and local policies that undermine site conservation have been identified at PiP sites, where we made significant progress to change policies in favor of conservation. Policy achievements include: government approval of user-fee systems to support site conservation at Morne Trois Piton National Park in Dominica, Blue and John Crow Mountains National Park in Jamaica, Eduardo Avaroa National Park in Bolivia, and Podocarpus National Park in Ecuador; elimination of mining activities in Darien National Park in Panama; and creation of fishing seasons to preserve marine and aquatic species at Sierra de las Minas in Guatemala as well as at PiP’s Dominican Republic sites.
- Successful partner experiences through the PiP program led to the development of a number of cutting-edge tools and methodologies to guide, focus, and support site conservation. These include: *Rumbo al Exito*, the first Spanish-language manual for effective NGO boards of directors; the PiP *Site Consolidation Scorecard* for adaptive management of conservation programs, now adapted to USAID’s PROARCA/CAPAS program in Central America; a case study from Quito, Ecuador, that provides guidance for using water-use fees to protect watersheds containing conservation sites; the *Site Conservation Planning Manual*, providing a step-by-step guide to threats-based site management; a *Study of Indirect Cost Recovery Rates* in Latin America and the Caribbean that helps NGOs recoup actual operating expenses incurred during project management; a *Guide Training Manual*, a comprehensive tool integrating the conservation management and business development dimensions of ecotourism into the Site Conservation Planning and *Conservation By Design* Framework; and a fine-grained vegetative classification of Caribbean islands that enables conservation priority-setting throughout the region.
- PiP improved conservation throughout national systems of protected areas, including sites where PiP has no presence, by leveraging PiP tools and methodologies to the system level. Successes include: adoption of the PiP Site Consolidation Scorecard by the national protected areas system of Ecuador and Bolivia, as well as the parks of Chiapas, Mexico; use of TNC’s site financial planning methodology by the Instituto Nacional de Recursos Naturales of Peru for all the country’s federal protected areas; and the Government of Bolivia’s use of PiP’s work with park user fees as a model for all its protected areas.
- The Parks in Peril website, www.parksinperil.org, was inaugurated to provide a description of the program, summaries of PiP activities at sites, and access to important PiP publications.

1.2. PiP Program Funding History

The history of funding for the PiP Program is characterized by an expansion of commitments over time, on behalf of USAID, TNC, and a diversity of conservation partners. In September 1990, the Latin American and Caribbean Bureau of USAID (USAID/LAC) and TNC entered into an initial cooperative agreement of US\$2.8 million for the PiP Program.

By 1995, TNC proposed not only to consolidate current site-based activities for long-term management in 28 protected areas throughout the Latin American and Caribbean region, using the Site Consolidation Scorecard to measure progress, but also to leverage lessons learned through PiP implementation into a broader audience of sites and conservation organizations. In 1998, the PiP Program began phasing in nine more sites through a new cooperative agreement with USAID/LAC for a total estimated cost of US\$36.8 million. As compared to the original 28 sites, these “new” sites received a higher level of funding per year over a shorter amount of time.

Since the beginning of the PiP Program, USAID has committed US\$41.3 million to the program (US\$7.8 million from Mission buy-ins), and TNC and local government and non-governmental organizations committed an official match of US\$18.3 million.¹ Table 2 summarizes the funding history of the PiP Program.

Table 2. Funding History of the Parks in Peril Program, 1991-2000 (in US\$)

Fiscal Year ²	Obligated USAID/LAC (USD)	Obligated USAID/Mission ³ (USD)	Total USAID Funds Obligated (USD)	TNC & Local (NGO and GO) Proposed Match	Total Project Funds
1991	1,978,526	0	1,978,526	800,000	2,228,526
1992	3,000,000	528,000	3,528,000	861,000	4,389,000
1993	3,000,000	528,000	3,558,000	1,200,000	4,758,000
1994	4,892,658	566,000	4,892,658	2,560,000	7,452,658
1995	4,000,000	600,000	4,600,000	1,472,084	6,072,084
1996	3,000,000	850,000	3,850,000	1,199,882	5,049,882
1997	3,567,138	1,000,000	4,567,138	1,548,121	6,115,259
1998	4,000,000	1,095,000	5,095,000	1,651,042	6,746,042
1999	3,500,000	1,283,000	4,845,000	2,990,164	7,773,164
2000	3,041,721	1,305,000	4,346,721	4,065,485	12,758,927
Total	33,980,043	7,755,000	41,261,043	18,347,778	63,343,542

¹ The total amounts of funding available to sites is difficult to quantify, considering that they simultaneously benefited from other sources of funding which were outside the PiP agreements.

² USAID Fiscal Year obligation provides funding for PiP activities in the following Fiscal Year (October-September).

³ This includes US\$1.6 million in matching funds from USAID/Mexico from fiscal year 1992 to 1994.

1.3. Leveraging Funding for Latin America and the Caribbean

USAID investments through the PiP Program have substantially leveraged other investments in the Latin American and Caribbean region, including TNC, NGO, and GO match (see Table 2 above). In addition to PiP Program contributions, substantial bi- and multilateral investments have been attracted towards conservation of PiP sites (approximately US\$357 million⁴). For example, the Japanese government (SSGA) has invested in equipment for many PiP sites. Likewise, PiP sites have been the focus of Global Environmental Facility (GEF) investments in strengthening local capacity for long-term protected area conservation. Two of the first GEF Mid-Size Projects were awarded to partners for work at PiP sites, and TNC has been asked by partners in 14 countries to help them (in addition to activities implemented with USAID-PiP funds or PiP match) with the preparation of other Mid-Size and Full-Size Projects totaling over US\$50 million. Other bilateral and multilateral investors at PiP sites include the German Technical Corporation (GTZ), European Economic Community (EEC), Spanish Technical Cooperation, Swiss Technical Cooperation (COTESU), Inter-American Development Bank (IDB), and the United Nations Development Program (UNDP).

Investors include U.S.-based utility companies that are investing US\$30 million in carbon sequestration projects in three PiP sites: Rio Bravo Conservation and Management Area, Belize; Noel Kempff Mercado National Park, Bolivia; and Guaraqueçaba Environmental Protection Area, Brazil. Other private companies and corporations have contributed US\$1 million to conservation at PiP sites. Drawing on financial planning sponsored by PiP, and with TNC assistance, PiP partners have participated in the establishment of new mechanisms for long-term sustainable funding. These include park trust funds and national environmental funds in eight countries using capital from debt swaps (Enterprise for the Americas Initiative), other creditors, and GEF grants. Bolivia is using the PiP-funded pilot project at Eduardo Avaroa National Andean Fauna Reserve in Bolivia as a model for a national system for using park entrance fees to fund park management. TNC and partners were able to put together US\$3.5 million from Homeland, Fundea, and the Walton Family Foundation for the purchase of Isla Espiritu Santo in the Sea of Cortez from private owners, gaining the ability to convert that PiP site to an official Mexican protected area, whose conservation will be supported by a US\$2 million endowment from the Packard Foundation.

USAID in-country missions (Belize, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala (USAID/GCAP), Jamaica, Mexico, Panama, Paraguay and Peru) have also played a critical role in the development of the PiP Program by participating directly in project development and review. Many Missions have provided match (a total of US\$7.8

⁴ Matching funds include approximately US\$50 million from private sources, US\$2 million from municipal, state, or regional government entities, US\$252 million from international banks (IDB, WB, GEF, etc.), US\$16 million from foreign governments, and US\$35 million from host country governments, themselves.

million since 1990) through the PiP program (Bolivia, Brazil, Colombia, Jamaica, Mexico, and Paraguay) or through parallel funding (Dominican Republic, Honduras, and Peru).

1.4. Case Studies

To substantiate and illustrate lessons learned and recommendations about the progress made towards site consolidation at “parks in peril” in Latin America and the Caribbean, nine case studies were developed by TNC staff and partners working in PiP sites.

The case studies were selected because they collectively met the following criteria:

- **Geographic balance:** These sites demonstrate experiences across the PiP geographic spectrum, from the Caribbean to Mexico, Central America and South America.
- **Ecoregional representativity:** These sites cover a range of ecoregions from Sonoran Xeric Scrub in El Pinacate and Gran Desierto del Altar Biosphere Reserve to Central Andean Puna in Tariquia National Fauna and Flora Reserve.
- **Diversity of partner type:** These sites include programs managed by a diversity of partner types from parastatal institutions in Mexico to non-governmental organizations in Honduras.
- **Diversity of management categories:** These sites also cover a range of protected area management categories from Guaraqueçaba Environmental Protection Area in Brazil to Madre de las Aguas Conservation Region in the Dominican Republic to the Rio Platano Biosphere Reserve and World Heritage Site in Honduras.

A summary of each case study is presented below:

- **Madre de las Aguas Conservation Region, Dominican Republic:** Representing the highest mountain region of the Caribbean, Madre de las Aguas consists of five protected areas (Armando Bermudez National Park, Juan B. Perez Rancier National Park, Jose del Carmen Ramirez National Park, Nalga de Maco National Park and Ebano Verde Scientific Reserve). During the implementation of the PiP Program, advances were made across all Site Consolidation Scorecard indicators, including new scientific discoveries during an Integrated Ecological Evaluation (Peña 2003).
- **El Pinacate and Gran Desierto del Altar Biosphere Reserve, Mexico:** A dry site with an extremely hot climate and rich with volcanic formations and sand dunes, El Pinacate and Gran Desierto del Altar has a population density of less than 0.02 inhabitants/km². Newly declared in 1993, the PiP Program allowed this site to avoid becoming a “paper park” by providing it with resources and tools to establish solid conservation capacity (Morales 2003).

- **El Triunfo Biosphere Reserve, Mexico:** Despite political and institutional instability as well as armed conflicts in the Chiapas region through the 1990's, the state government agency Natural History and Ecology Institute (IHNE) successfully implemented the PiP Program at El Triunfo Biosphere Reserve. Work in El Triunfo has led to a number of conservation innovations, including legal recognition of all private and *ejido* lands at the site, a watershed conservation easement, and the leveraging of tools, such as Conservation Area Planning and the Site Consolidation Scorecard, to non-PiP sites in the region (Torres and Hernandez 2003b).
- **Chiapas Scorecard adaptations, Mexico:** The Site Consolidation Scorecard boasts three different adaptations in the Chiapas region of Mexico. In El Ocote Biosphere Reserve, the Scorecard remains in use in follow-up to PiP intervention, as a monitoring tool for protected area management. In Montes Azules Biosphere Reserve, the Scorecard has been adopted and adapted for measuring progress in community-based conservation. Finally, in response to the creation of Chiapas, Tabasco and Campeche's Region X of the new federal protected areas agency, National Commission of Natural Protected Areas (CONANP), efforts are underway to develop a Balanced Scorecard (BCS) system for systematically building, monitoring and evaluating the region's conservation capacity (Torres and Hernandez 2003b).
- **Sierra de las Minas Biosphere Reserve/Bocas del Polochic Wildlife Refuge, Guatemala:** As relatively new reserves, declared in 1990 and 1996 respectively, Sierra de las Minas and Bocas del Polochic have been co-managed by the Foundation for the Defense of Nature (Fundación Defensores de la Naturaleza). Receiving funding and technical assistance through the PiP Program for 10 years and 4 years, respectively, these sites demonstrate the benefits of receiving reliable funding over a more extensive period of time. Notable advances include aspects of long-term management planning and financial planning (Herrera 2003a).
- **Rio Platano Biosphere Reserve, Honduras:** Written from the perspective of a partner organization, this case study provides a thorough description of the accomplishments achieved and challenges faced by MOPAWI during the participatory application of the Site Consolidation Scorecard and implementation of the PiP Program from 1998 to 2002. At this site, PiP efforts complemented MOPAWI's ongoing management activities with local indigenous communities, as well as sponsoring larger planning and scientific research conducted in collaboration with the Honduran Forest Service (AFE-COHDEFOR) and national universities (Padilla et al. 2003).
- **PROARCA Scorecard adaptation, Central America:** In 1997, shortly after the creation of the Site Consolidation Scorecard, the Central American Protected Areas System Component of the Central American Environmental Program (PROARCA/CAPAS), funded by USAID and administered by TNC and the International Resource Group Ltd. (IRG), began to develop a tool for measuring the effectiveness of protected area management. This tool was originally inspired by the PiP

Site Consolidation Scorecard, but included adaptations, such as weighted indicators, the definition of an optimum scenario, and 43 indicators within 17 management factors and grouped into five fields: social, administrative, natural and cultural resources, political/legal, and economic/financial. This tool was applied and adapted in a number of Central American countries. Guatemala's experience with adapting and institutionalizing the PROARCA management effectiveness tool is presented in this case study (Herrera 2003b).

- **Tariquia National Fauna and Flora Reserve, Bolivia:** The experience in Tariquia National Fauna and Flora Reserve demonstrates the transformation of a “paper park” into a functional park, through implementation of the PiP Program. It also shows how civil society can take the initiative for managing a protected area, build capacity, and later transfer management responsibility to the corresponding federal agency (Arnold 2003).
- **Guaraqueçaba Environmental Protection Area, Brazil:** As part of a larger environmental protection area—which is not a strict protected area but rather a region where natural resource use and development is regulated—Guaraqueçaba faced a number of unique challenges in implementing the PiP Program. The partner organization, SPVS, collaborated with IBAMA, the Federal Environmental Agency to achieve results from 1998 to 2002 (Arroyo 2003).

For one additional adaptation of the scorecard, no case study is available. However, the tool itself is available on the CD ROM, “Managing Conservation Areas: Tools for Setting Priorities, Measuring Success, and Building Local Conservation Capacity,” or at www.parksinperil.org:

- **Bolivian Scorecard adaptation, Bolivia:** In Bolivia, an adaptation of the PiP Site Consolidation Scorecard has been developed to provide a tool for monitoring and evaluating management of the National Protected Area System. This tool is being used by a Global Environmental Facility (GEF) program to monitor progress over time of 19 Bolivian protected areas across 17 indicators each with quantitative sub-indicators, covering the following topics: infrastructure and equipment; long-term management; efficiency of financial resource management; and social participation.

Key PiP Resources: Parks in Peril Sourcebook

The Parks in Peril Sourcebook (Redford and Ostria 1995) provides a 1995 snapshot of the situation in the original 28 PiP sites in 12 Latin American and Caribbean countries. Each site overview, accompanied by a map, includes a description of the partner organization, physical setting, climate, biological significance, land tenure and adjacent land use, threats, management, and community involvement.

A complete copy of the Parks in Peril Sourcebook is available at www.parksinperil.org as well as on the CD-Rom entitled “Managing Conservation Areas: Tools for Setting Priorities, Measuring Success and Building Local Conservation Capacity.”

Key PiP Resources: *Parks in Peril: People, Politics, and Protected Areas*

In 1998, the book *Parks in Peril: People, Politics, and Protected Areas* (Brandon et al. 1998) presented a broad analysis of current trends in park management and the implications for biodiversity conservation. Using the experience of the PiP Program by TNC and its partner organizations in Latin America and the Caribbean, the book examines the context of current park management and challenges many commonly held views from social, political, and ecological perspectives. The book argues that:

- Biodiversity conservation is inherently political
- Sustainable use has limitations as a primary tool for biodiversity conservation
- Effective park protection requires understanding the social context at varying scales of analysis
- Actions to protect parks need a level of conceptual rigor that has been absent from programs built around slogans and stereotypes

To highlight the interaction of ecosystems, local peoples, and policy in park management and to describe the context of field-based conservation from the perspective of those actually implementing the programs, the book presents nine case studies:

- Mexico: Ría Celestún and Ría Lagartos Special Biosphere Reserves
- Guatemala: Sierra de las Minas Biosphere Reserve
- Costa Rica: Corcovado National Park
- Dominican Republic: Del Este National Park
- Belize: Rio Bravo Conservation and Management Area
- Ecuador: Machalilla National Park
- Ecuador: Podocarpus National Park
- Bolivia: Amboró National Park
- Peru: Yanachaga-Chemillen National Park

The book builds from the case studies and specific park-level concerns to a synthesis of findings from the sites. The editors draw on the case studies to challenge popular conceptions about parks and describe future directions that can ensure long-term biodiversity conservation.

Throughout, contributors argue that protected areas are extremely important for the protection of biodiversity, yet such areas cannot be expected to serve as the sole means of biodiversity conservation. Requiring them to carry the entire burden of conservation is a recipe for ecological and social disaster.

To purchase a copy of the *Parks in Peril* book, contact Island Press at www.islandpress.org or call 001-800-828-1302.

Full citation: Brandon K, KH Redford, and SE Sanderson, eds. 1998. *Parks in Peril: People, Politics and Protected Areas*. The Nature Conservancy. Washington, D.C.: Island Press. 519 pp.

Part II: Site Consolidation Scorecard

2.1. The Concept of Site Consolidation

Parks in Peril has promoted a simple philosophy—that long-term conservation of regionally-important protected areas will result only if we build local capacity to manage those areas and conserve the biological diversity that they contain. PiP has focused on strengthening non-governmental and governmental organizations (NGOs and GOs) in the countries where these protected areas are located and fostering the local support necessary to protect them. We view this as a process of *consolidating* all the resources necessary to support conservation of the area now and into the future—financial resources, technical resources, human resources, adequate infrastructure, a supportive local constituency, political support, ecological information—and we call the process *site consolidation*.

During the implementation of the PiP Program, it became evident that a system would need to be developed to measure the program’s success over time and across the portfolio of sites as well as to provide input for future funding decisions. A measurement system would accomplish two objectives:

- **Define what makes a protected area “functional”:** The measurement system would set multi-year, life-of-project objectives for PiP support at a specific site, thereby keeping site-based conservation programs on course year after year, despite inevitable personnel changes.
- **Indicate how long emergency assistance would be needed:** The measurement system would enable TNC and USAID to recognize when the objectives of the PiP Program had been met at a particular site—that is, when sufficient progress had been achieved or, to the contrary, when insufficient progress had been made or was likely to be made.

The *PiP Site Consolidation Scorecard* was developed to address these objectives, translating the concept of site consolidation into a meaningful framework for setting conservation goals over time and measuring progress towards achieving those goals.

SITE CONSOLIDATION DEFINED

A consolidated site is one that has the tools, infrastructure, and staff to deal with current threats and management challenges, as well as the capacity to respond to threats that arise in the future.

The four general standards of site consolidation are:

- 1. Basic on-site protection activities;**
- 2. Long-term management capacity;**
- 3. Long-term financing for basic site management; and**
- 4. A supportive local constituency for the site.**

—from *Measuring Success: The Parks in Peril Site Consolidation Scorecard Manual* (TNC and USAID 1999)

Parks in Peril adopted the goal of consolidating targeted sites—installing the tools, infrastructure, and staff to deal with current threats and management challenges, as well as the capacity to respond to threats that arise in the future. Although these sites would be expected to continue to rely on external sources of funding and periodic influxes of technical assistance, they would no longer require the intensive investment necessary to create a capable conservation presence.

2.2. Evolution of the Site Consolidation Scorecard

Based on conservation experiences in Latin America and the Caribbean from 1990-1997, 16 criteria were developed within the four standard categories of site consolidation in order to permit a more accurate measurement of protected area functionality. These 16 criteria became known as the framework of the “Site Consolidation Scorecard” (See Table 3).

After testing at all PiP sites (including sites that were no longer receiving PiP funding), the criteria were revised and *Measuring Success: The Parks in Peril Site Consolidation Scorecard Manual* (TNC and USAID 1999) was developed to formalize the tool and increase its accessibility. PiP annual work plan and evaluation formats were also revised to reflect the structure of the Site Consolidation Scorecard, thus establishing the Scorecard as the organizational framework of the program. Setting or revising program targets and priorities at the beginning of each year, and measuring progress and reviewing priorities at the end of each year became the central process of the program. In addition, the Site Consolidation Scorecard indicators were linked to the strategic indicators and objectives that USAID and TNC established for evaluating PiP’s progress against USAID’s development agenda. The result was a Scorecard that was useful for all levels of project management, from the implementers in the field to portfolio managers in Washington, D.C.

Table 3. Site Consolidation Scorecard Criteria and Definition of Adequate Benchmark Levels

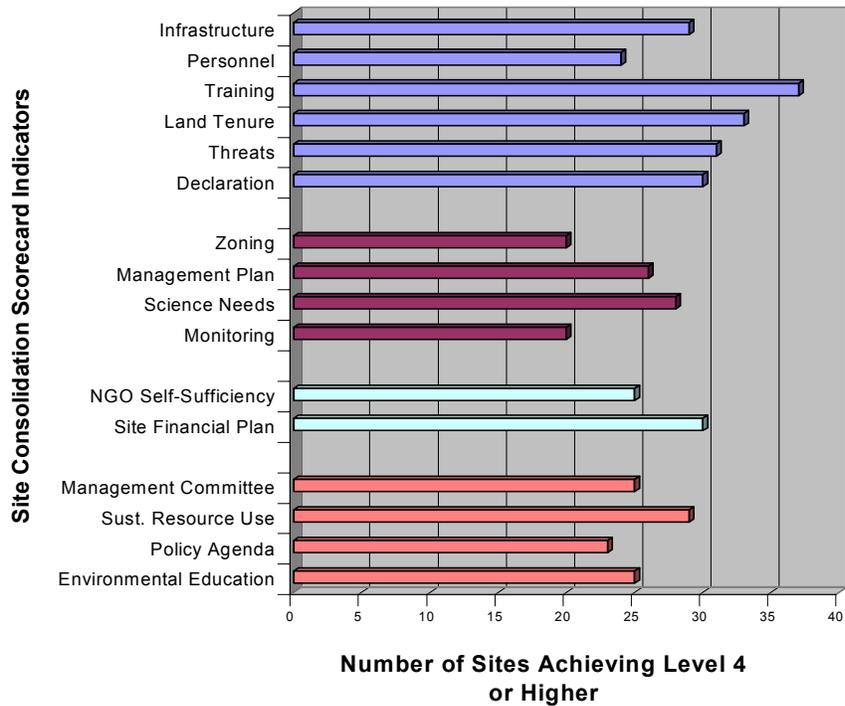
Category	Indicator	Definition of Benchmark 4 Signifying “Adequate” Progress for this Indicator
A. Basic on-site protection activities	1. Physical infrastructure	Most physical infrastructure (as defined by PiP partner, may include ranger stations, radio systems, vehicles, boundary demarcation, educational and management-related signs, road and trail systems, etc.) for basic reserve management in place.
	2. On-site personnel	Number of on-site personnel adequate to perform basic management activities.
	3. Training	Training needs identified, some basic courses provided.
	4. Land tenure issues	Some land tenure information available and being used by site manager.
	5. Threats analysis	Threats identified and ranked; specific strategies drafted to address priority threats.
	6. Official declaration of protected area status	Proposal for official declaration with reserve boundaries correctly demarcated submitted to proper authorities, no declaration yet obtained.
B. Long-term management capacity	1. Reserve zoning and buffer zone management	Reserve zones defined; land-use patterns mostly conform to standards established for zones.
	2. Site-based long-term management plan	Long-term management plan that takes into account off-site threats completed, guiding reserve management.
	3. Conservation science needs assessment	Conservation targets and science/information needs identified, ranked, and distributed; contact made with science/research organizations to address these needs.
	4. Monitoring plan development and implementation	Monitoring plan completed; accurate, threat-related monitoring variables being monitored.
C. Long-term financing for basic site management	1. NGO self-sufficiency plan	NGO has completed plan for operational self-sufficiency and has begun implementation and monitoring of results.
	2. Site long-term financial plan	Long-term financial plan completed; recurrent and/or sustainable sources and mechanisms to cover basic reserve management costs are being implemented.
D. Supportive local constituency for the site	1. Broad-based management committee/technical advisory committee	Advisory committee includes key stakeholders, occasionally participates in reserve management decisions.
	2. Community involvement in compatible resource use	Well-documented pilot projects for compatible resource use involve community organizations (or other key stakeholders).
	3. Development of policy agenda at regional/national/local levels	Plan for conservation policies that promote park security has been completed; policies being actively pursued at some levels.
	4. Environmental education programs	Environmental education programs well-established but formal assessment of impact not completed.

2.3. How the Scorecard Works

The Site Consolidation Scorecard is a self-assessment tool, measuring changes in a site’s consolidation status over time. An initial “snapshot” assessment of conditions at the site prior to PiP implementation provides the baseline against which future progress is measured. Annual follow-up self-assessments are then conducted.

Given that the PiP Program is rarely the only source of funding at a particular site, the Scorecard reflects not only *PiP* advances, but rather all conservation activities at a site. It serves as a self-assessment tool for the site, identifying actions still required for the site to become functional. As such, the Scorecard does not measure organizational performance *per se*, but the broader, local capacity for supporting conservation at the site.

**Number of Parks in Peril Sites Reaching Level 4 by
2002, per Scorecard Indicator**



Each of the 16 Scorecard indicators is divided into five benchmarks. The Scorecard has been structured so that each of the five benchmarks reflects a similar level of progress across all indicators, as follows:

5=	Excellent (proper management of the protected area ensured)
4=	Adequate (protected area is functional)
3=	Progress made (protected area becoming functional, but is not yet)
2=	Work begun (little actual progress towards making the protected area functional)
1=	No work has been done (protected area completely non-functional)

By definition, a site that has achieved “4’s” in all 16 indicators is considered “consolidated” as a functional protected area. However, the specific circumstances of individual sites varied, requiring that TNC and partner organizations determine the level of achievement for each indicator that best represents consolidation at a given site—or that represents the priorities for investment during the time that PiP funding is available. Ideally, these goals would be established at the beginning of PiP implementation at a site, when baseline conditions were determined. In practice, site managers need to adjust target scores through time in a process of adaptive management as local conditions and their understanding of their

situations change. In many cases in PiP’s experience, the period of intensive PiP funding has come to an end before a site has achieved “4’s” in all 16 indicators. Figure 2 shows the number of sites that achieved a level 4 or higher for each of the 16 indicators of the Scorecard by 2002; more detailed information is presented in Annex 2. As site managers anticipate this conclusion of PiP activities, they must address the compromise between what is desirable and what is possible. This often means settling for less improvement on some indicators while pressing for progress on the indicators that rely most on intensive funding and that will have the most impact on sustainable management of the site.

2.4. How the Scorecard is Used

The Scorecard is designed to function as a project management tool for TNC, USAID and partners, to track progress at a specific PiP site and progress across the entire suite of PiP sites—or the PiP portfolio—over time.

At individual sites, the Scorecard is designed to aid site and project managers in measuring advances towards multi-year goals. Equally important, it identifies indicators that are not advancing as planned, where additional infusion of human, technical and/or financial resources might be required.

At the portfolio level, the Scorecard is designed as a general and flexible program monitoring instrument to track progress at a diverse suite of sites, enabling TNC, USAID and conservation partners to focus technical and financial assistance strategically in order to achieve site consolidation objectives.

While the Scorecard is designed to measure a site’s progress towards consolidation, it is not designed to measure direct conservation impact or a site’s success in reducing threats and conserving biodiversity. Instead, it measures *processes* that lead to the consolidation of a protected area and the *capacity* of a given site. When properly developed and implemented, a site-specific *monitoring plan*, included as one of the 16 indicators, will provide an ongoing measure of conservation impact through changes in threat and biodiversity health indicators.

Example of participatory use of the Site Consolidation Scorecard (Padilla et al. 2003)

In the Río Plátano Biosphere Reserve in Honduras, the Site Consolidation Scorecard was applied with varying degrees of participation from 1997 to 2002. In 1997, the baseline scores and end-of-project goals were calculated by two representatives of MOPAWI, the partner organization, and two representatives of TNC. In retrospective, MOPAWI admits that this first use of the tool did not include an in-depth, quantitative reflection on the results and activities needed to reach the end-of-project goals or the optimal situation.

From 1998 to 2000, the Scorecard was applied annually during half-day working meetings. These meetings included an introductory review of the site consolidation concept, the Scorecard methodology,

and the history of scores at the reserve. Participation included a variety of stakeholders associated with the reserve, such as members of the Honduran Forest Service (AFE-COHDEFOR), the Natural Resources and Environment Secretary (SERNA), the Honduran Tourism Institute (IHT), and the Environmental Officer of USAID/Honduras. This forum of stakeholders directly and indirectly associated with the reserve inspired information exchange and discussion about adaptive management, where care was taken to be as objective as possible and strategies were prioritized for future improvement towards consolidation. At times, it was necessary to diffuse misunderstandings, given that some players interpreted low indicator scores as a negative evaluation of their institutional effectiveness.

In 2001 and 2002, the participation in Scorecard annual meetings was reduced, due to the Honduran Forest Service's adoption of a similar but different tool promoted by the Central American Protected Area Systems Component of the Central American Environmental Program (PROARCA/CAPAS) (see Herrera 2003b).

Despite set-backs in Scorecard application over the years, MOPAWI notes that participatory tool application produces a collective learning experience, enhancing stakeholder willingness to engage in management activities, and generating synergies for coordination and complementary activities.

2.5. Overview of Sites with Scorecard Application

The Site Consolidation Scorecard has been applied 247 times over seven years and across 37 PiP sites throughout Latin America and the Caribbean region, as outlined in Table 4 . We divide these sites into three groups based on the timing of application of the Scorecard:

- Managers used the Scorecard for the entire duration of PiP support to the site only at nine sites: Rio Plátano Biosphere Reserve in Honduras, Guaraqueçaba Environmental Protection Area in Brazil, Paracas National Reserve in Peru, Eduardo Avaroa National Andean Fauna Reserve in Bolivia, Blue and John Crow Mountains National Park in Jamaica, Ajos-Bavispe National Forest and Wildlife Refuge in Mexico, Sea of Cortez in Mexico, Madre de las Aguas Conservation Area in the Dominican Republic, and Defensores del Chaco National Park in Paraguay, all of which began PiP activities after development of the scorecard. Nearly all of these sites received an intensive investment of at least US \$600,000 over a period of four or five years. These sites set life-of-project targets using the scorecard and revisited current status and targets each year of PiP implementation.
- PiP also applied the Scorecard at a number of sites whose period of intensive PiP funding ended before the Scorecard was available. These sites are Rio Bravo Conservation and Management Area in Belize, Amboró National Park in Bolivia, Noel Kempff Mercado National Park in Bolivia, La Paya National Natural Park in Colombia, Corcovado National Park in Costa Rica, Morne Trois Pitons National Park in Dominica, Jaragua National Park in the Dominican Republic, Darién Biosphere Reserve and Panama Canal Watershed in Panama, Mbaracayú Nature Reserve in Paraguay, and Yanachaga-Chemillén National Park in Peru. At these sites, the Scorecard measured progress over the years without being used for setting targets for PiP funding.

- At the rest of the sites, use of the Scorecard began after PiP had been supporting the site for a number of years, and annual PiP funding levels were much less than at the nine sites identified above. These sites did not use the Scorecard for setting life of project goals at program onset (before 1996) and they had less funding available to focus on targets established by the Scorecard. However, the lower level of funding was applied over a greater number of years.

In some areas, the Scorecard has proven sufficiently effective as a conservation tool to inspire local, national or regional Scorecard adaptations or spin-offs. Examples of Scorecard spin-offs include:

- **Chiapas, Mexico:** As mentioned previously, the Site Consolidation Scorecard boasts three different adaptations in the Chiapas region of Mexico. It is used in El Ocote Biosphere Reserve as a monitoring tool for protected area management, in Montes Azules Biosphere Reserve for measuring progress in community-based conservation, and throughout Chiapas, Tabasco and Campeche's Region X of the federal protected areas agency, National Commission of Natural Protected Areas (CONANP) for systematically building, monitoring and evaluating the region's conservation capacity (Torres and Hernandez 2003b).
- **Central America:** Following a workshop in 1997, the Central American Protected Areas System of the Central American Environmental Program (PROARCA/CAPAS) developed a simple, low cost, quick, and effective tool for monitoring Central American protected areas, conceptually based on the PiP Site Consolidation Scorecard. By 1999, the tool had been field tested in 10 protected areas across six countries (Belize, Guatemala, El Salvador, Honduras, Costa Rica and Panama). Receiving political backing from the Central American Commission on Environment and Development (CCAD), the PROARCA assessment tool was further adopted by Costa Rica and Panama at the national level (Courrau 1999).
- **Bolivia:** A process is underway to develop a Bolivian protected areas management scorecard, which will be applied in all 22 protected areas in the national system and will be tied to a new funding initiative on behalf of the Global Environmental Facility (GEF) (Ostria, pers. comm.)

All of these experiences with Scorecard adaptations are presented in the accompanying case studies.

Table 4. Application of the Site Consolidation Scorecard at PiP Sites over Time

#	Protected Area	Country	Years of PiP Funding	Fiscal Years Scorecard Applied at Each Site ⁵								
				I ⁶	96	97	98	99	00	01	02	
1	Rio Bravo Conservation and Management Area	Belize	1993-96	x	x	x	x	x			x	
2	Amboró National Park	Bolivia	1991-94	x	x	x	x	x			x	
3	Noel Kempff Mercado National Park	Bolivia	1991-94	x	x	x	x	x			x	
4	Tariquía Fauna and Flora Reserve	Bolivia	1995-99	x	x	x	x	x	x	x	x	
5	Eduardo Avaroa National Andean Fauna Reserve	Bolivia	1999-2002	x					x	x	x	x
6	Guaraqueçaba Environmental Protection Area	Brazil	1998-2002	x			x	x	x	x	x	x
7	La Paya National Natural Park	Colombia	1992-96	x	x	x	x	x			x	
8	Chingaza National Natural Park	Colombia	1992-2000	x	x	x	x	x	x	x	x	
9	Cahuinari National Natural Park	Colombia	1992-2000	x	x	x	x	x	x	x	x	
10	Sierra Nevada de Santa Marta National Natural Park	Colombia	1992-98	x	x	x	x	x	x	x	x	
11	Corcovado National Park	Costa Rica	1991-94	x	x	x	x	x			x	
12	Talamanca-Caribbean Biological Corridor	Costa Rica	1995-2000	x	x	x	x	x	x	x	x	
13	Morne Trois Pitons National Park	Dominica	1992-96	x	x	x	x	x			x	
14	Jaragua National Park	Domin. Republic	1991-95	x	x	x	x	x			x	
15	Del Este National Park	Domin. Republic	1993-99	x	x	x	x	x	x	x	x	
16	Madre de las Aguas Conservation Area	Domin. Republic	1996-2001	x			x	x	x	x	x	x
17	Machalilla National Park	Ecuador	1992-97	x	x	x	x	x	x	x	x	
18	Podocarpus National Park	Ecuador	1992-98	x	x	x	x	x	x	x	x	
19	Sierra de las Minas Biosphere Reserve/Bocas del Polochic Wildlife	Guatemala	1991-2000	x	x	x	x	x				

⁵ The PiP Program follows USAID’s fiscal year, October—September.

⁶ The Site Consolidation Scorecard was used to establish an “initial” baseline to reflect the situation at the beginning of PiP implementation. In cases where PiP implementation had initiated prior to the development of the Scorecard, the “initial” baseline data was recreated at a later date.

#	Protected Area	Country	Years of PiP Funding	Fiscal Years Scorecard Applied at Each Site ⁵							
				I ⁶	96	97	98	99	00	01	02
	Refuge										
20	Río Plátano Biosphere Reserve	Honduras	1998-2002	x			x	x	x	x	x
21	Blue and John Crow Mountains National Park	Jamaica	1998-2002	x			x	x	x	x	
22	El Triunfo Biosphere Reserve	Mexico	1991-97	x	x	x	x	x	x	x	x
23	Ría Celestún & Ría Lagartos Biosphere Reserves	Mexico	1991-97	x	x	x	x	x	x	x	
24	El Ocote Biosphere Reserve	Mexico	1992-98	x	x	x	x	x	x	x	
25	La Encrucijada Biosphere Reserve	Mexico	1992-2000	x	x	x	x	x	x	x	
26	Sian Ka'an Biosphere Reserve	Mexico	1992-98	x	x	x	x	x	x	x	
27	Calakmul Biosphere Reserve	Mexico	1993-2001	x	x	x	x	x	x	x	
28	El Pinacate/Gran Desierto del Altar Biosphere Reserve	Mexico	1994-99	x	x	x	x	x	x	x	
29	Sea of Cortéz (Loreto Bay, Isla Espiritu Santo)	Mexico	1998-2002	x			x	x		x	x
30	Ajos-Bavispe National Forest & Wildlife Refuge	Mexico	1999-2002	x				x	x	x	x
31	Darién Biosphere Reserve	Panama	1991-97	x	x	x	x	x			x
32	Panama Canal Watershed	Panama	1993-95	x	x	x	x	x			x
33	Mbaracayú Nature Reserve	Paraguay	1992-94	x	x	x	x	x			x
34	Defensores del Chaco National Park	Paraguay	1998-2002	x			x	x	x	x	x
35	Bahuaja-Sonene National Park	Peru	1991-99	x	x	x	x	x			x
36	Paracas National Reserve	Peru	1999-2002	x				x	x	x	x
37	Yanachaga-Chemillén National Park	Peru	1992-96	x	x	x	x	x			x

2.6. What Comes After Site Consolidation

Site consolidation as defined by the PiP Program is a first, critical step towards achieving the sustainable conservation of a given protected area. By the end of PiP support, the site should have available to it a series of high-quality, strategic tools to guide future management. Among these tools are a training plan for on-site personnel, a land tenure map of the site and surrounding areas, an analysis of the specific threats to biodiversity at the site, a long-term management plan, a threats-related monitoring plan, a long-term financial plan, a science and information needs assessment, and a plan for promoting government policies that support the conservation of the site.

The successful consolidation of a site will provide managers with a proven track record of conservation success through a rigorous, analysis-based planning process, establishing a solid foundation for generating additional support for site-based efforts.

The process of site consolidation was designed to move *parks in peril* closer to their ultimate goal of becoming *parks in perpetuity*. The Site Consolidation Scorecard provides a tool for accomplishing this goal systematically, efficiently and with high likelihood of success.

2.7. How the PiP Scorecard Integrates with Existing Frameworks

The Parks in Peril Site Consolidation Scorecard does not exist in isolation. It is a tool that is used within the context of protected area management to measure conservation capacity. Therefore, it is important to understand how the Site Consolidation Scorecard integrates with existing conservation planning and monitoring frameworks, most notably IUCN's *Framework for Assessing the Management of Protected Areas* and TNC's *Conservation by Design*.

2.7.1. IUCN's Framework for Assessing the Management of Protected Areas

In 2000, the World Conservation Union (IUCN) published *Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas* (Hockings, et al. 2000), which provides a framework and guidelines for evaluating the management effectiveness of protected areas using currently available best practices. This document does not outline a monitoring system *per se*. Rather, the IUCN framework provides guidelines for building context-specific evaluation methodologies for individual protected areas or protected area systems.

Therefore, the question is: how compatible is the PiP Site Consolidation Scorecard with the guidelines for assessing protected area management as outlined in the IUCN framework? Does the Scorecard meet the criteria set out by IUCN as common building blocks for a protected area management monitoring program? Can the Site Consolidation Scorecard be improved based on the principles presented in the IUCN framework? A brief description of the IUCN framework and a discussion of how it compares to the Site Consolidation Scorecard follows.

The World Conservation Union (IUCN) Framework for Assessing the Management of Protected Areas (Hockings et al. 2000)

The IUCN Framework for Assessing the Management of Protected Areas is based on the issues of design, appropriateness, and delivery:

Design issues related to individual sites and protected area systems

- *Context:* Where are we now? Assessment of importance, threats, and policy environment.
- *Planning:* Where do we want to be and how are we going to get there? Assessment of protected area design and planning.

Appropriateness of management systems and process

- *Inputs:* What do we need? Assessment of resources needed to carry out management.
- *Process:* How do we go about it? Assessment of the way in which management is conducted.

Delivery of protected area objectives

- *Outputs:* What did we do and what products or services were produced? Assessment of the implementation of management programs and actions; delivery of products and services.
- *Outcomes:* What did we achieve? Assessment of the outcomes and the extent to which they achieved objectives.

With its focus on measuring conservation capacity issues, the Site Consolidation Scorecard fits the *IUCN Framework for Assessing the Management of Protected Areas* as a site-level assessment system used to gauge context and planning issues, the appropriateness of management inputs and processes, and specific products resulting from the delivery of protected area management objectives. For each of the elements of the IUCN framework, Hockings et al. (2000) also discuss key criteria. For answering the question of “Where are we now?” Hockings et al. (2000) mention that biological and cultural significance of the site, threats, vulnerability, and national context are key criteria for understanding site context. These criteria also form the basis of the Site Consolidation Scorecard. To establish “Where do we want to be?” Hockings et al. (2000) believe that key planning criteria to be covered in any monitoring and evaluation system are: protected area legislation and policy; design of protected area systems; design of reserves; tenure and customary use issues; and management plan. The Site Consolidation Scorecard equally covers these areas of analysis.

With regards to inputs or “What do we need?” Hockings et al. (2000) propose that input evaluation seeks to answer three questions: are sufficient resources being devoted to managing the protected area system/site; how are resources being applied across the various areas of management; and is the project working with the right partners. Once again, all of

these considerations have been taken into account during the PiP Program. In addition, in order to assess management processes and answer the question “How do we go about it?”, Hockings et al. (2000) describe criteria that cover establishing best management practices, setting management standards, and improving management capacity. “What were the results?” can be answered by assessing product and service delivery and achievement of the initial work plan. This input and results criteria are pillars of the PiP Program. However, as explained above, the PiP Scorecard does not cover the final aspect of the IUCN framework—specific conservation outcomes—in that it was not developed to measure changes in biodiversity health or threat reduction. However, outcome monitoring is a focus of Conservation Area Planning, a tool that has been used in conjunction with the Site Consolidation Scorecard.

In sum, comparing the PiP Scorecard with the IUCN guidelines for assessing the management of protected areas demonstrates the general compatibility of the Scorecard tool with the IUCN assessment framework (see IUCN guidelines presented in box text below).

General Advice for Evaluating Management Effectiveness of Protected Areas

(Adapted from Hockings et al. 2000:15-16)

The main objective of protected area evaluation is:

To improve conservation and management effectiveness of protected areas—both for protected area systems and individual protected sites.

The findings of evaluation can be used to help managers improve ongoing management of protected areas through adaptive management; to influence policy to improve protected area systems and management arrangements; and to provide accountability to, and raise awareness of, civil society.

Guidelines

The following general guidelines are suggested as a basis for assessment systems:

- Assessment systems should aim to be participatory at all stages of the process and should seek to involve all relevant organizations and individuals that may have a genuine and demonstrated interest in the management and/or use of a site.
- Assessment should be based upon a well-founded, transparent and comprehensible system. The findings should be readily accessible to all interested parties in a way that is appropriate to their needs.
- The management objectives and the criteria for judging management performance must be clearly defined and understood by the managers and assessors.
- Assessments of management effectiveness should focus on the most important issues—including threats and opportunities—affecting, or potentially affecting, the achievement of management objectives.
- Consideration of a range of factors (context, design, inputs, processes, outputs, and outcomes) can all contribute to an assessment system.

- Performance indicators should relate to social, environmental and management issues, including the relationship between the protected area and its surroundings.
- Limitations of the evaluation should be clearly identified in the assessment report.
- The system should be capable of showing change over time through periodic assessments.
- In reporting on assessment, strengths and weaknesses should be identified and issues should be divided between those that are within and outside the manager's control.
- Assessment should allow prioritization of conservation effort.
- Clear recommendations for improving management performance should be included in all assessments. Management processes should ensure that the findings and recommendations of evaluation feedback into on-going decision making so as to improve management performance.
- The methodology for evaluation should be progressively verified and refined as necessary.
- Assessments should be based on sound and appropriate environmental and social science.
- Assessment is likely to include both quantitative and qualitative information that should be supported by measurement or other evidence.

2.7.2. TNC's Conservation by Design

Just as we must adaptively manage our conservation sites, we must similarly learn from our experiences and evolve our conservation planning methods.

--Designing a Geography of Hope (TNC 2000a:iv)

Conservation by Design: A Framework for Mission Success (2001) establishes TNC's long-term conservation goal and approach for achieving that goal. In order to realize effective on-the-ground action, fundamental steps are employed in TNC's 4-Step Conservation Approach:

- **Setting priorities: Large-scale conservation planning** seeks to select and design portfolios of conservation sites that will conserve the diversity of species, communities, and ecological systems in each ecoregion.
- **Developing strategies: Conservation Area Planning** with its 5-S approach (systems, stresses, sources, strategies, success) is used in priority conservation sites in ecoregional portfolios for the purpose of identifying and prioritizing site-based strategies and actions. For more information on Conservation Area Planning, see the section on Complementary Conservation Tools.

- **Taking conservation action:** In this stage, any number of site-based or multi-site strategies are undertaken to abate threats, improve biodiversity health, and increase conservation capacity at sites or portfolios of sites.
- **Measuring conservation success:** Measures of biodiversity health, threat status, and conservation capacity are used to assess the efficacy of conservation strategies and actions.

The concepts, standards, and procedures for setting priorities and developing strategies within TNC's **4-Step Conservation Approach** are described in two practitioner's handbooks:

- *Designing a Geography of Hope: A Practitioner's Handbook to Ecoregional Conservation Planning*, (TNC 2000a) presents the methodology and guidelines for the conservation planning process at the ecoregional scale, resulting in a portfolio of conservation sites that are intended to conserve the native species, natural communities, and ecological systems of an ecoregion.
- *The Five-S Framework for Site Conservation: A Practitioner's Handbook for Site Conservation Planning and Measuring Conservation Success* (TNC 2000b) sets forth a framework for the site-based conservation process, resulting in conservation strategies and measures of conservation success for the site. The methodology, which is revised frequently and available in several languages, can be found via several TNC web links, the primary being www.conserveonline.org; a number of useful documents are also available on the PiP CD-Rom entitled "Managing Conservation Areas: Tools for Setting Priorities, Measuring Success, and Building Local Conservation Capacity."

In 2002, a working group was assembled to develop a comprehensive set of measures for TNC's work. This group, known as the "Measures and Audit Team," seeks to assure that all of TNC's conservation efforts at both the ecoregional and site scale include:

- Process measures—which assure that concepts, standards, and procedures used throughout implementation adhere to the 4-Step Conservation Approach;
- Impact (or outcomes) measures—which use monitoring programs to measure biodiversity health and abate threats;
- Capacity measures—which measure the quantity and quality of resources, people and infrastructure of TNC and its partners; and
- Independent verification (the Audit)—which provides internal/external validation of process and outcomes, enhances credibility and promotes innovation.

As mentioned in the section on *How to Use the Scorecard*, the PiP Scorecard is designed to measure a site’s progress towards consolidation. The Scorecard generally contributes to the measure of conservation capacity, assessing quantity and quality of resources, people, tools, and infrastructure. It has been used at many PiP sites in conjunction with Conservation Area Planning and TNC’s Measures of Success, which quantify biodiversity impact and threat abatement over time. Although inherent in TNC’s 4-Step Conservation Approach, measuring the direct conservation impact or a site’s success in reducing threats and improving biodiversity health is one aspect beyond the scope of the PiP Site Consolidation Scorecard.

To its merit, the PiP Site Consolidation Scorecard has played a key role in the evolution of thinking regarding capacity measures over the years. A number of lessons learned and recommendations emerging from the PiP experience have led to innovations and adaptations of TNC’s conservation capacity measures above and beyond the PiP Program, as summarized in the Lessons Learned section and the Summary of Recommendations section. One example of leveraging is the Conservation Measures Partnership, a joint venture of conservation organizations, striving to develop common standards for measuring conservation impact and to devise an audit process to measure conservation effectiveness and encourage the adoption of best practices. This group includes members from TNC, African Wildlife Foundation (AWF), Conservation International (CI), Enterprise Works Worldwide, Foundations of Success (FOS), Wildlife Conservation Society (WCS), and World Wildlife Fund (WWF). It explores indicators for measuring conservation capacity, such as those presented in the Site Consolidation Scorecard and the enhanced Conservation Area Planning methodology.

2.8. Supplementary Conservation Tools

While the Site Consolidation Scorecard has proven to be a useful tool for measuring conservation capacity at sites, other tools have also complemented and contributed to conservation efforts in the PiP Program. Key tools include: Threats Analysis, Conservation Area Planning, Financial Planning and Institutional Self-Assessment.⁷

2.8.1. Threats Analysis and Conservation Area Planning

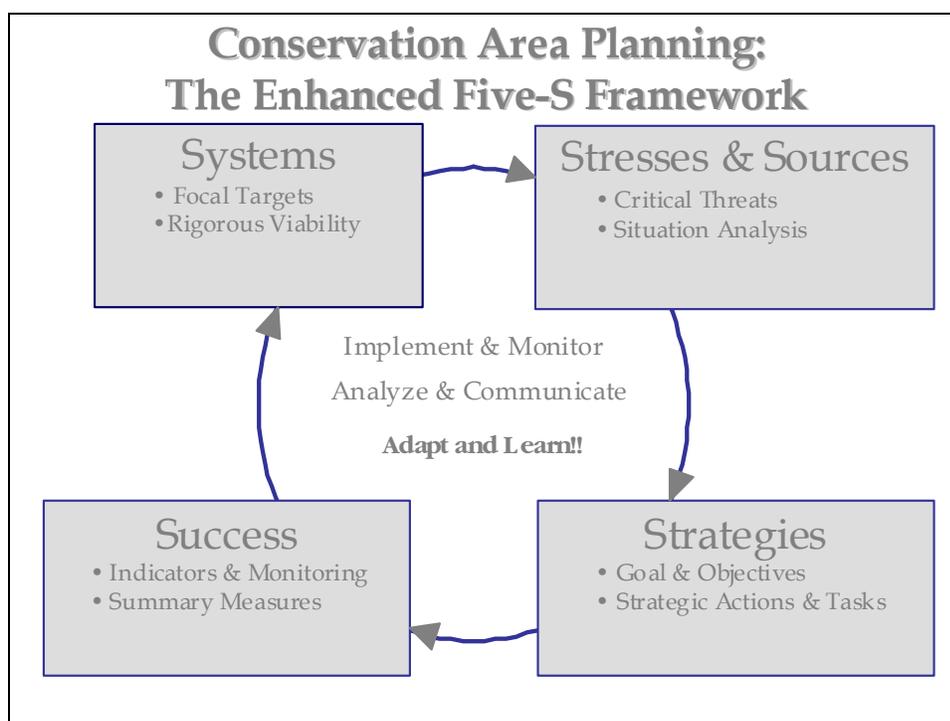
Threats analysis is one indicator of the Site Consolidation Scorecard. The indicator proposes that to manage a site, the threats to conservation at the site must be completely understood, conservation capacity must be strengthened to address those threats, and strategies must be developed accordingly. Although a seemingly obvious principle,

⁷ Many of these tools are available on the Parks in Peril CD, “Managing Conservation Areas: Tools for Setting Priorities, Measuring Success and Building Local Conservation Capacity.”

conservation efforts have proceeded at many protected areas without understanding priority threats to the site. PiP proposed to complete a threats analysis at each site and to link management of the site to the analysis. In 1996, USAID and TNC agreed that a table of conservation targets and threats would become part of the annual evaluation and work plan formats. This step made the threats analysis an explicit part of PiP work plans and focused strategies on building capacity for addressing threats. It also set the stage for the next evolution in the PiP approach: promotion of Conservation Area Planning (CAP; originally Site Conservation Planning, SCP) at sites actively receiving PiP funding.

Also known as the Five-S Framework for Conservation Area Planning, this methodology facilitates the unambiguous identification of conservation targets (*priority systems*), critical threats (composed of *stresses* and *sources* of stresses), development of *strategies*, and measuring the *success* of strategies for protecting conservation targets, abating threats, and improving conservation capacity (see Figure 3). It also provides the baseline and the mechanism for measuring success in improving the status of conservation targets, abating threats, and building conservation capacity.

Figure 3. Conservation Area Planning: The Enhanced Five-S Framework (TNC 2002)



USAID’s support of the PiP Program allowed TNC to make significant advances in Conservation Area Planning (CAP). PiP sponsored a workshop in Cancun that provided the

initial adaptation of the methodology from TNC's United States Program to its Latin American and Caribbean Program, and PiP supported later iterations in this adaptation and application. CAP became instrumental in generating consensus among stakeholders on conservation strategies at sites, and later PiP work plan formats specifically promoted CAP for every active site.

With an enhanced iteration of the CAP methodology emerging in 2002, the "success" component of CAP began to include indicators and benchmarks for measuring conservation capacity, or the quality and quantity of resources available for a project. These measures provide a "leading indicator" of feasibility for long-term conservation success. They also allow practitioners to identify strategies for future capacity building (TNC 2002). TNC's development of these conservation capacity measures has been based on previous experience with the PiP Site Consolidation Scorecard. Complementing specific strategy effectiveness, threat abatement and biodiversity health measures developed at each site, the seven general conservation capacity measures cover three key components: people, internal resources, and external resources (see box text below).

Conservation Capacity Measures in TNC's Enhanced Conservation Area Planning/Measures of Success (TNC and FOS 2003)

People

- *Staff leadership:* the presence of a talented staff member with lead responsibility for conserving the area. A staff member has (1) clearly assigned responsibility, authority, and accountability for conserving the area, (2) experience in implementing conservation strategies, and (3) sufficient time to focus on developing and implementing conservation strategies at the area. (4) If multiple staff leaders are involved, they must also have a shared vision of success and successful collaboration mechanisms in place.
- *Multidisciplinary team:* Project receives support in all functions needed for successful strategy implementation from an experienced, multidisciplinary team-located on site, within the lead institution or in partner organizations.

Internal resources

- *Institutional leadership:* An NGO, government agency, private sector institution, or some combination of institutions is providing leadership for developing and implementing conservation strategies at the project site. There is clear leadership provided by one or a combination of institutions that (1) have established clear responsibility and (2) developed adequate capacity to implement conservation strategies. If multiple institutions are involved they must also have a shared vision of success and successful collaboration mechanisms in place.

- *Funding*: Existence of sufficient operational funding to support the staff and operating costs, as well as program funding to implement and sustain key strategies. Funding may come from both private and public sectors and be available through a variety of mechanisms and sources, such as appropriation of public funds, contributions by donors, endowment, and other sources. Funding to implement key conservation strategies and for core operations has been secured, pledged, or is highly probable for at least two years, and the project has developed likely sources of long-term funding to sustain core costs and key conservation strategies for the next five years.
- *Collaboration with external partners*: Involvement of essential external partners with which conservation strategy will be implemented. Essential external partner organizations are collaborating with the project team in planning and execution. Partner organizations have (1) formal, dedicated staff working on the project, (2) adequate capacity, and (3) effective collaboration mechanisms in place.

External resources

- *Legal framework for conservation*: Existence and enforcement of an appropriate combination of legally protected conservation areas and policy instruments. The legal protection of conservation areas can take many forms, including national, state or local parks or conservation area; ownership by a conservation organization; or a private or community reserve. Conservation ownership can be in fee (where the owner holds all customary rights to the property) or through a partial interest such as conservation easements or through public dedication. Policy instruments will vary but may include zoning, permits, seasonal or take restrictions and no-take fisheries zones, for example. An effective combination of legally or community protected conservation areas and policy instruments have been authorized, implemented, and enforced at the level necessary to protect conservation targets. An established conservation organization, community, or agency holds ownership or effective control of critical areas. Government relations or community support has been committed for development of policy initiatives defined in strategies.
- *Community and constituency support*: The project team effectively engages and gains the support of key constituencies, including those in the local community. The project staff and their program are favorably received and supported by key constituencies, including those in the local community. There are no major obstacles to key strategy implementation due to community resistance.

While monitoring and evaluation of strategy effectiveness, threat abatement, and biodiversity health within Conservation Area Planning focus on collection and analysis of ecological data, the conservation capacity measures focus on the internal and external financial, socio-cultural, political, and organizational context of a project—factors that frequently determine

the success or failure of conservation efforts despite sound scientific foundations. These measures are applicable to a wider range of conservation projects than the Site Consolidation Scorecard measures, which as we have discussed, were developed to set multi-year, life-of-project objectives for PiP support at specific protected areas. Therefore, these enhanced conservation capacity measures might be applicable for situations—such as biological corridor or private land initiatives—where the Site Consolidation Scorecard falls short.

2.8.2. Financial Planning and Institutional Self-Assessment Tools

The daunting target of conservation finance deterred efforts early in PiP implementation. In 1998, with an analysis of Consolidation Scorecard scores and an external evaluation came a wide-spread realization that more, faster progress was necessary to create self-sufficient partners and to secure long-term financing for sites. In later years, PiP revised its site financial planning methodology and had completed site financial plans for 30 sites. All remaining sites at least had financial planning underway, although in some cases a finished plan was only awaiting official approval. PiP also published the *NGO Financial Sustainability Series*, providing a step-by-step guide for partners to develop a sustainable funding base. Two current volumes of this series assist NGOs with financial planning and income generation: *Four Pillars of Financial Sustainability* and *Integrated Strategic and Financial Planning*.

Based largely on experience in PiP, TNC's Institutional Development Program developed the *Institutional Self-Assessment (ISA)* tool to help assess and establish priorities for building strong, self-sufficient institutions. Using the consolidation scorecard as a model, the ISA defines a suite of indicators for assessing an organization's institutional strength. Like the scorecard, each indicator has five benchmarks, and the ISA can be used for establishing targets for institutional development and measuring progress. Under its current phase (2002-2006), PiP is promoting use of the Institutional Self-Assessment tool at all 12 sites where it is funding consolidation activities, and institutional strengthening is receiving a heavy focus in all PiP activities.

Core Costs and NGO Sustainability introduces the concept of recovering indirect costs of project management. Institutions commonly budget only the cost of implementing activities (*direct costs*) without capturing the costs of the organization's management of the activities – financial management, rent, phone support, etc. This can result in an organization being continually strapped for funding. *Core Costs and NGO Sustainability* helps NGO and donor communities understand and quantify these costs, providing a methodology to identify and track indirect cost recovery rates.

Long-term Financial Planning for Parks and Protected Areas provides a “non-financial expert” with a practical guide for the preparation of a long-term financial plan for a

conservation area. Site financial planning requires understanding minimum and optimum funding requirements of a site, and feasible sources of conservation funding. The manual, which includes a CD-ROM with Excel spreadsheets, helps conservation planners come to a reasonable balance between conservation needs and available funding.

2.9. Lessons Learned about the Site Consolidation Scorecard

With the extensive application of the PiP Site Consolidation Scorecard, it is only natural that a number of lessons have begun to emerge. These lessons—some providing positive feedback while others offering constructive criticism—form the basis for the Summary of Recommendations presented at the beginning of this document. These lessons and recommendations will serve to improve use of the current Scorecard and direct development of future iterations and adaptations, ultimately with the goal of improving the effectiveness of protected area management:

The Site Consolidation Scorecard has promoted adaptive management among site managers: In a climate of greater attention to performance and value for money, adaptive management offers the opportunity for protected area managers to learn from their own and others' successes and failures and keep track of consequent changes in management objectives and practices through periodic assessment, in order to facilitate understanding of how and why management is being undertaken in this way (Hockings, et al. 2000). Managers report that the PiP Scorecard has, indeed, proven this to be the case over time and across sites.

The Site Consolidation Scorecard has improved site and portfolio planning: The Scorecard has provided a systematic and transparent approach to planning for conservation capacity in individual PiP sites and across the entire portfolio.

The Site Consolidation Scorecard has raised awareness for systematic assessment: Through the use of an annual monitoring tool, site managers have become more aware of the need for systematic assessment, not only of conservation capacity, but also conservation impact.

The Site Consolidation Scorecard, while being an effective tool for measuring conservation capacity, does not measure conservation impact: Additional tools must be used to measure conservation impact effectively—project outcomes for reducing threats and improving biodiversity health. These measures are beyond the scope of the PiP Site Consolidation Scorecard.

The use of the Site Consolidation Scorecard is most effectively sustained over time when tied to a specific funding source: Tying the Scorecard to a specific funding source provides the needed incentive to continue using the Scorecard over time. A multi-year funding source makes it possible to use the Scorecard to measure specific outcomes

supported by a program, and incorporating the Scorecard as a program requirement accustoms site managers to the process of using measurement tools for long-term, adaptive management. In addition, continuity of funding for basic operations – such as salaries and field expenses – allows managers of the site to focus on an agenda of building conservation capacity without suffering through local budgetary problems that drain available funding and may necessitate staff layoffs. Experience during the PiP Program as well as during the application of local/national/regional Scorecard adaptations shows that without a funding incentive, there is a low likelihood that managers will sustain the use of the Scorecard in subsequent years.

Some practitioners reported that sites with a history of Scorecard use were more attractive to potential donors than those without: The Scorecard allows sites to demonstrate a solid track record of establishing baseline assessments and tracking progress through project implementation, a characteristic that might be attractive to potential donors interested in improving conservation capacity.

When used in a participatory manner, the Site Consolidation Scorecard facilitates communication and synergies with key stakeholders regarding management decisions: As mentioned in the Rio Platano Biosphere Reserve (Honduras) example of participatory application of the Site Consolidation Scorecard from 1997 to 2002, annual Scorecard meetings provide an opportunity for a diversity of stakeholders to discuss systematically and prioritize management decisions and needs. However, to offer an environment for a diversity of individual and institutional perspectives, it is important to have an effective moderator at the meeting. In deciding on the level of participation site managers encourage in the use of the Scorecard, they should consider the desired level of participation by stakeholders in management of the site.

The Site Consolidation Scorecard is most effectively used when accompanied by guidance and technical assistance: It is important to provide guidance and technical assistance to site managers and key stakeholders during tool application. Technical assistance improves quality control and consistency across sites, especially in more participatory settings. It also helps reinforce the concept of using a measurement tool for setting goals, monitoring progress, and using principles of adaptive management—as opposed to filling in a scorecard because it is a requirement of reporting.

The subjectivity sometimes reflected in Scorecard scores could be reduced by developing more explicit, quantitative sub-indicators: Indicators, such as those for infrastructure, zoning and buffer zone management, and sustainable resource use, could be greatly improved by developing sub-indicators that serve to deconstruct complex conglomerations of issues. Managers might consider developing specific, additional or alternative indicators more tailored to the realities of the local situation. Subjectivity is also reduced when site managers rigorously define the qualifications for each level of the indicator early in the process, since the indicators describe only general benchmarks for achievement. For example, a team applying the scorecard should define what level of

infrastructure development is necessary for adequate management, then measure progress against this goal during the life of the project. Definition of this goal will assist planning year after year. The agreed goal should be written down so that it will be available to all site managers through staff changes.

Complementary tools such as threat analysis and Conservation Area Planning (CAP) are essential for prioritizing among Scorecard indicators: An analysis of priority conservation targets and critical threats, such as that provided by Conservation Area Planning, is essential to site managers as they apply the Site Consolidation Scorecard. Only then can the question “how much is enough” be addressed for Scorecard indicators such as infrastructure, personnel, training, management plan, science needs, and sustainable resource use.

Tools to plan and measure conservation impact are especially important to prioritize activities and investments across Scorecard indicators: Not all indicators, and strategies used to enhance indicator scores over time, are created equal and some might be more urgent or more important for achieving overall conservation success at a given site than others. Tools, such as Conservation Area Planning, aid practitioners in this prioritization process.

Financial planning and Institutional Self-Assessment tools complement the Site Consolidation Scorecard by marshalling needed resources and strategically focusing capacity-building efforts: The lack of sound financing and institutional planning daunted PiP in early years. These financial tools provide additional resources, as well as input for prioritizing among activities under the 16 Scorecard indicators. Financial planning and institutional development need to begin early in the site consolidation process.

One aspect of protected area management that is not sufficiently covered in the Scorecard is leadership: Given the importance of local leadership to “make or break” project design, planning, implementation, monitoring, and follow-up at a site, managers expressed a need to include a leadership indicator as a measure of conservation capacity. The most recent iteration of Conservation Area Planning (TNC and FOS 2003) captures this indicator in measures relating to “staff leadership” and “institutional leadership.” Staff leadership measures if “a staff member has (1) clearly assigned responsibility, authority, and accountability for conserving the area, (2) experience in implementing conservation strategies, and (3) sufficient time to focus on developing and implementing conservation strategies at the area. (4) If multiple staff leaders are involved, they must also have a shared vision of success and successful collaboration mechanisms in place.” Institutional leadership measures if “there is clear leadership provided by one or a combination of institutions that (1) have established clear responsibility and (2) developed adequate capacity to implement conservation strategies. If multiple institutions are involved, they must also have a shared vision of success and successful collaboration mechanisms in place.”

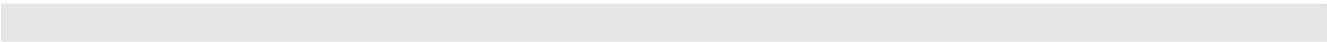
Although the concept of site consolidation was developed to provide emergency assistance to “parks in peril,” today there is a need to adapt the Scorecard to reflect aspects of implementation beyond planning: Many indicators in the Scorecard only reflect advanced stages of planning in benchmark levels three and higher. To continue using the Scorecard as a monitoring tool beyond preliminary protected area planning, the indicator benchmarks need to be expanded beyond basic planning to include more advanced levels of implementation. In 1996, the concept of site consolidation was developed to provide emergency assistance to protected areas in peril. Today, sites with more than 10 years of PiP funding and support show significant advances, as judged against “paper parks.” A number of Scorecard indicators could be expanded to reflect these advances. For example, level 5 for “land tenure issues” speaks of “more complete land tenure information mapped and being used by site managers.” It does not speak of the resolution of land tenure issues. This would be a subsequent step up from the current level 5.

Scorecard administrators need to be sensitive to how the tool is perceived by site managers: In the past, Scorecard scores have sometimes been influenced by the perceptions of the users. For example, if the site managers reflect high scores in a given year, it might be perceived that less funding would be provided to that site in the future. Thus, the manager might tend to underreport scores in order to continue receiving funding. On the other hand, if limited progress is made at a site from one year to the next, the site manager might also perceive that that funding could equally be cut-off, so scores are inflated to make a better impression. Therefore, it is important that the Scorecard administrator remains aware of how the tool is perceived in order to address any misconceptions as they arise.

The Scorecard indicator for community involvement in compatible resource use needs to be revised to better reflect the level of support of local constituencies for priority conservation strategies: To enhance conservation capacity in a protected area, it is not enough to establish pilot projects for compatible resource use involving community organizations. Effective conservation depends on the transition from incompatible uses to the adoption of best practices for compatible use within a broad base of resource users. This requires acquiring new knowledge and changing attitudes and behaviors; involvement is only the first step in the process.

The environmental education Scorecard indicator has proven to be problematic, due to lack of clarity regarding terminology and need: The environmental education indicator has been broadly interpreted as formal environmental education in the schools, focused on reaching a young audience. Some users suggest that this indicator be revised to target communication and outreach strategies with key stakeholders and resource users, to encourage strategies to enhance knowledge, attitudes and behavior in favor of the environment, and to escape misconceptions about the term “environmental education.” Concepts and measures based on the rapidly emerging field of social marketing may prove effective in this arena.

The Site Consolidation Scorecard has been successfully leveraged to protected areas and systems beyond the original PiP sites: Because it has provided an attractive tool for systematically planning and implementing conservation efforts, USAID, TNC, and partner organizations have leveraged the Site Consolidation Scorecard and the “PiP approach” to other sites. For example, staff transferred from PiP sites in Chiapas to Montes Azules Biosphere Reserve, a non-PiP site, have led a Scorecard adaptation for community-based conservation. The Central American Environmental Program (PROARCA/CAPAS) adaptation of the PiP Scorecard has also led to the application of the PROARCA tool in 10 protected areas across six countries, and official adoption by the Costa Rican and Panamanian protected area systems.



3.1. Introduction

This section provides an analysis of the site consolidation process at the 37 Latin American and Caribbean protected areas included in the Parks in Peril Program. The analysis is organized according to the structure of the Site Consolidation Scorecard (Table 3), which also corresponds to the overall goals of the PiP Program. Each section corresponds to one of the four categories of the Scorecard—basic on-site protection activities, long-term management capacity, long-term financing for basic site management, and supportive local constituency. Within each section, the corresponding indicators are discussed. This discussion highlights significant results obtained throughout PiP, factors supporting or hindering the site consolidation process, and lessons learned for each of the indicators.

Finally, the section entitled “Overarching Lessons about Progress towards Site Consolidation” provides a synthesis of achievements and lessons learned across categories. These lessons are further synthesized in the “Summary of Recommendations” section at the beginning of this document.

3.2. Basic On-site Protection Activities

“What is protection? It’s not just about boots and Jeeps.”

--Monica Ostria, TNC’s Country Program Director for Bolivia (personal communication, April 2003).

Basic on-site protection activities consist of building logistic capacity to manage protected areas, with special reference to imperiled ecosystems. This has been the fundamental component of PiP over time, including physical infrastructure construction and maintenance, contracting and training of on-site personnel, resolution of land tenure issues, analysis of priority threats, and accurate and legal declaration of protected areas and their boundaries.

3.2.1. Physical Infrastructure

As defined in the *Site Consolidation Scorecard Manual*, physical infrastructure refers to on-site improvements (including ranger stations, radio systems, vehicles, boundary demarcation and management-related signs, road and trail systems, etc.) necessary for effective management of a protected area. During the PiP Program, managers determined the specific infrastructure needs of sites, in light of the overall requirements for basic management.

By 2002, PiP had established an on-site presence at globally significant protected areas throughout the region. Partners at 29 of PiP's 37 sites succeeded in providing the necessary infrastructure for site management. In all, 34 sites reached a level of "adequate" on this indicator of the Consolidation Scorecard; however, for some of the sites which have continued to use the Scorecard after PiP investment, infrastructure scores have shown declines over time, due to lack of maintenance.

A number of lessons have emerged from PiP's experience with physical infrastructure:

- Infrastructure is considered one of the "basic needs" of a site, which once in place raises awareness about the existence of the protected area with local stakeholders and supports management activities.
- It is not enough to provide funding for infrastructure construction; maintenance of buildings and equipment must also be contemplated within budgets and site financial planning in order to sustain the positive contributions of infrastructure over time.
- In order to maximize the infrastructure's contribution to site management, infrastructure needs for a site should be determined based on prioritization of conservation targets and critical threats resulting from a threats analysis, TNC's Conservation Area Planning, or a similar methodology. Design, construction, and maintenance of infrastructure involves a significant devotion of resources, and it is important to ensure that construction responds to site management priorities.
- In order to avoid conflicts upon termination of a project at a site, legal ownership of infrastructure provided should be established, documented and communicated to all key stakeholders before construction begins or purchases are made.

3.2.2. On-site Personnel

The on-site presence of reserve staff is generally essential to the effective management of a protected area. Within the PiP Program, site managers determined what constituted adequate on-site staffing levels, including to what extent off-site staff, such as technical staff based in a distant capital city office, were considered "on-site personnel." As stated in the *Site Consolidation Scorecard Manual*, this indicator included both governmental employees and non-governmental staff with authority to carry out management actions. Often staff levels necessary to carry out planned protection activities were stated in management planning documents.

By 2002, 24 PiP sites had achieved an adequate level of staffing to carry out critical protection functions, including patrols, community outreach, ecological monitoring, and strategic planning. Over the life of the PiP Program, 33 sites qualified for "consolidation" of on-site personnel, but several declined after PiP investment. The activities of on-site personnel were facilitated by PiP providing vehicles, radios, uniforms, and other equipment, which were included under the "infrastructure" category. PiP also encouraged participatory approaches (such as agreements with local communities to provide volunteer guides),

improved relations with other government agencies to supply legally-mandated patrolling, provided inter-agency training, and facilitated agreement to transfer authority for enforcement to local stakeholders or NGO staff. For example, at the Sea of Cortez in Mexico, a PROFEPA inspector was designated lead responsibility to the Loreto Bay National Park staff to carry out park patrols, inspection activities and communication with park users. This has helped to reduce illegal fishing within the reserve.

A number of lessons have emerged from PiP's experience with on-site personnel:

- At some sites, the PiP Program has demonstrated the importance of on-site personnel, leading to the sustainability of personnel levels at sites with government funding. For example, PiP sponsorship of staff in Noel Kempff Mercado National Park in Bolivia early on raised awareness within the government about the critical role this staff plays on-site. Today, Noel Kempff has 20-30 on-site staff on the government payroll (Ostria 2003, pers. comm).
- When addressing staffing needs, managers of conservation activities need to consider the staying power of staff from collaborating institutions with whom they work, anticipating individual staff changes or sweeping government changes that result from elections (Morales 2003).
- As with physical infrastructure, priorities for on-site personnel should be tied to an analysis of priority conservation targets and critical threat abatement strategies in order to maximize conservation impact and an efficient use of human resources.

3.2.3. Training

The *presence* of on-site personnel is necessary but not sufficient in and of itself; staff should have the skills and knowledge necessary to carry out their management tasks effectively. While most sites provide staff training, the premise of this indicator within the PiP framework is that training must be systematically organized, based on a needs assessment. A systematic training program also responds to new staff's needs and to evolving needs of existing staff. At a consolidated site, the specific training needs of on-site personnel have been identified, and some training to fulfill these needs has been provided. While individual training courses may be provided for on-site personnel from time to time as training opportunities arise, the focus of this indicator is to provide training courses and programs to ensure that those needs are met.

By 2002, all 37 PiP sites reported training programs in place to maintain and update staff conservation capacity.

Lessons emerging from PiP's experience with training include:

- Training is most effective when accompanied with measures and systems to gauge its quality and to provide follow-up over time.

- South-south and north-south exchanges are effective means of training and motivating protected area personnel and managers. Courses, such as Colorado State University's one-month "Management of Wildlands and Protected Areas" summer training program for Latin American conservation practitioners, offer the opportunity to strengthen skills and knowledge, while sharing lessons learned across a wide variety of sites.
- There is a great temptation to neglect proper consideration of training needs, sending staff to training events because the training events have become available or deciding which staff to send for training event as a prerequisite as opposed to linking individual and organizational training needs with appropriate opportunities. Staff training should respond to the suite of skills necessary for management of the protected area. A training plan compels site managers to seek out or create the necessary training events.

3.2.4. Land Tenure Issues

Good land tenure information is critical to effective protected area management. Brandon (1998:381) in *Parks in Peril: People, Politics, and Protected Areas* describes the expansive concept of land tenure:

“Tenure is the form of rights or title under which property is held and that determines how an individual or group may use, share, sell, lease, inherit, or otherwise control property and resources. Tenure is most commonly used to describe land, but the systems of rights and rules that make up tenure also apply to natural resources such as water, trees, and wildlife. Tenure regimes and customary practices vary dramatically among countries and different groups of users. Understanding what is traditional, what is legal, and what are actual uses for both land and resources is necessary; all have an impact on biodiversity conservation.”

The Site Consolidation Scorecard for this indicator reflects two land tenure issues: availability of land tenure information, and use of this information for management decisions. Reliable land tenure information is often difficult to obtain, and site managers need to determine which tenure information is critical to management efforts. At a minimum, a map should be developed to distinguish between different types of private, public and communal landholdings both within and adjacent to the reserve. It is also helpful to maintain records of other tenure-related data, such as resource-use concessions, title histories, and contact names for large privately or communally held lands. Gender issues are often critical in understanding tenure within both traditional and legal systems (e.g. the importance of female headed households in local communities). Ideally, land tenure information should be based on the most recent official sources, verified on the ground, and presented in an accessible way (i.e., a map).

A protected area's tenure conflicts need not be resolved for it to qualify as "consolidated" under the site consolidation concept. However, at a minimum, site managers should have basic information available to enable them to monitor land tenure issues and make informed management decisions.

By 2002, PiP had completed land tenure analyses at 33 of its 37 sites, where this information is now being used for site management.

Examples of land tenure analysis

At El Triunfo Biosphere Reserve in Mexico, partner Instituto de Historia Natural established a database of reserve conflicts (including agrarian disputes, illegal activities, and development and public works projects). The database has been updated continuously, providing El Triunfo staff with a powerful tool for dealing with agrarian conflict, one of the greatest threats to conservation in the reserve. Using this information, the Government of Mexico has been able to avoid moving *campesinos* into the reserve.

INRENA registered the holdings located within the Paracas National Reserve in Peru, including the human settlements in the areas of Laguna Grande, Lagunillas and Atenas. Based on these and other studies, site managers prepared a proposal to improve the management of human settlements within the reserve. The proposal sought to enable the planning and regulation of human occupation and resource users' activities in accordance with the reserve's conservation objectives.

A number of lessons have emerged from PiP's experience with land tenure:

- The history of site design and national policy are critical factors in determining the complexity of land tenure issues at a site. As Brandon (1998:376) notes, "Few factors are more important in determining how a park is managed, to what end, with what threats and social conflicts than the process of how it was established, where, and who was involved." For example, in sites such as Amboro National Park in Bolivia and Rias Lagartos and Celestun Biosphere Reserves in Mexico, where parks were established through legislation with little regard to the local context, conflicts have endured regarding boundaries, zoning, and uses. In contrast, where local consultation was combined with technical information, such as in the densely populated and socially complex Sierra de las Minas Biosphere Reserve in Guatemala, the zoning system is at least well understood, if not entirely accepted.
- Unresolved tenure issues add to the social and political complexity of protected area management, affecting advances in other site consolidation indicators, such as reserve zoning and buffer zone management and development of a site-based long-term management plan. For example, in the Rio Platano Biosphere Reserve in Honduras, unresolved indigenous land tenure issues make participation in protected area planning difficult, since there is limited incentive for using the resource base sustainably. On the other hand, the resolution of land tenure issues in El Triunfo Biosphere Reserve in

Mexico has greatly facilitated collaboration with local communities in favor of conservation. (Brandon 1998, Padilla et al. 2003, Torres and Hernandez 2003a). Understanding land ownership at a site constitutes a critical foundation for the entire conservation program.

3.2.5. Threats Analysis

A systematic threat analysis—one that identifies threats to a site’s conservation, pinpoints their origins, and proposes strategies for overcoming them—is an essential management tool for conservation of a protected area. A threats analysis establishes priorities for management activity and helps direct limited resources to actions of greater conservation impact. For a site to be considered consolidated within the PiP framework, the threats to its conservation must have been identified and prioritized, and management strategies developed and implemented to address specific, priority conservation threats.

As of 2002, threats analyses had been completed at 31 of the 37 sites. Of these, ten sites reported that the threats analysis was guiding design and implementation of mitigation strategies. All remaining sites have threats analysis underway.

Examples of threats analysis

At Bocas del Polochic Wildlife Refuge in Guatemala, a Conservation Area Planning workshop helped refine the existing threats analysis, generating a deeper analysis and consensus among participants. Participants also identified information gaps and needs to update information, particularly in the sub-watershed of Cahabon. PiP’s earlier support to Defensores de la Naturaleza’s GIS capacities (hardware, software, data layers and aerial photos, and training/ technical support) proved to be key to managing the information.

At Rio Platano Biosphere Reserve in Honduras, conservation strategies and actions to abate threats affecting the reserve’s sustainable management and protection were generated based on a number of sources: the scientific information generated by the Rapid Ecological Assessment (REA), results from the community threat analysis workshop, and results from the Conservation Area Planning process.

Threats analysis at Sian Ka’an Biosphere Reserve in Mexico has identified upscale tourist development on the Yucatan Peninsula, a priority, a pervasive threat that affects many coastal sites. Partner Amigos de Sian Ka’an completed Ecological Zoning Plans in order to regulate tourist development on the coast, work that may serve as a model for other sites in the region.

Lessons learned emerging from PiP’s experience with threats analysis:

- Conservation Area Planning is an effective tool for carrying out threats analysis. Thirty-three of the 37 PiP sites had completed Conservation Area Planning by 2002. In most of these sites, CAP has contributed to official site management plans. In situations where government guidelines prevent including a prioritization of threats and threat-abatement

strategies in management plans, it is important that a threats analysis be available to managers when annual operating plans are developed.

- Many protected areas are currently vulnerable to large-scale threats that have their origins in national policies. As Brandon (1998:404) notes, “The policy context can take many forms, such as weak government institutions, conflicting government policies, and changes in laws regarding tenure; and it is the area where park management agencies feel they have the least control.” In many cases, lack of a commitment to enforce existing environmental regulations is a *de facto* policy that must be addressed.
- Infrastructure development in or near protected areas is another commonly identified threat at PiP sites. Infrastructure and access improvement near protected areas leads to potential problems from logging, colonization, and resource use inside protected areas (Brandon 1998:404).
- Managers at sites with marine resources need to confront management of marine resources in addition to terrestrial resources, obtaining whatever information is necessary to ensure their proper management.

3.2.6. Official Declaration of Protected Area Status

As outlined in the Site Consolidation Scorecard Manual, an official decree is a fundamental part of long-term security at an official protected area. Many older decrees suffer from inaccuracies and lack of precision that undermine their ability to protect an area. What constitutes the “correct” boundaries of a protected area is often a matter of interpretation. Some decrees demarcate polygons that do not close or that do not accurately reflect the geographic area needing protection. At consolidated sites, site managers and support groups will have done everything in their power to obtain a strong, accurate, legally binding decree.

As of 2002, PiP had helped partners create, clarify, and improve site decrees at 30 sites, leaving only five PiP sites (two sites are not intended to be supported by decrees) where the process was underway. Site decrees clarify boundaries, add biologically significant lands, and specify ownership and responsibility.

Through PiP support, partners have succeeded in modifying site decrees for expanding protected area boundaries, increasing the size of established Latin American and Caribbean protected areas by more nearly 1.5 million hectares to a total of 11.4 million hectares in the 37 PiP sites. These expansions have succeeded in protecting critical habitat necessary to maintain important populations of plants and animals (Table 5).

Table 5. PiP Sites Expanded to Protect Critical Habitat

SITE NAME	COUNTRY	HECTARES EXPANDED
Rio Bravo Conservation and Management Area	Belize	19,200
Tariquia Flora and Fauna Reserve	Bolivia	6,500
Noel Kempff National Park	Bolivia	890,000 (approx.)
La Paya National Park	Colombia	2,500
Sierra de las Minas Biosphere Reserve/Bocas del Polochic Wildlife Refuge	Guatemala	21,000
El Ocote Biosphere Reserve	Mexico	53,100
Sian Ka'an Biosphere Reserve ("Los Arrecifes")	Mexico	34,700
La Encrucijada Biosphere Reserve	Mexico	142,000
El Triunfo/La Sepultura Biosphere Reserve	Mexico	167,000
Ría Celestun Biosphere Reserve	Mexico	22,200
Mbaracayu Nature Reserve	Paraguay	6,500
Pampas del Heath National Sanctuary	Peru	101,000
Total		1,465,700

The lessons learned from PiP's experiences with official declaration of protected area status include:

- Many older decrees do not adequately protect ecologically significant areas, but rather areas with "scenic" or "recreational" value. Some protected area boundaries and management categories need to be revisited to better reflect their management and ecological objectives. For all areas protected by an official decree, examine the stipulations of the decree for consistency with the realities of biology and ownership on the ground.
- As our understanding of factors affecting conservation at a site evolves, conservation practitioners have changed their perspectives on what constitutes a "protected area." Much threatened biodiversity, or the ecological resources and processes necessary to sustain biodiversity, occurs outside the limits of officially decreed areas protected by government agencies. Increasingly, conservation organizations focus on "non-traditional" conservation areas, such as private lands, indigenous reserves, and communally-held properties—where this indicator adds confusion. The Site Consolidation framework can support a rigorous approach to conservation at any site. In any area worthy of conservation, managers should pursue the appropriate level of legal title or official recognition and ensure that official decrees reflect biological realities.
- This indicator was designed to apply primarily to protected areas within a public framework. Several PiP sites (as in the Talamanca example, below) are exploring and applying additional legal framework options for some sort of conservation status even for privately or communally owned sites, both within and adjacent to public protected areas. Tools employed might add protection status to existing sites, or provide a legal

framework for protecting non-public lands (e.g. land easements or transfer of development rights). A possible improvement to the scorecard might be to broaden this indicator, perhaps from “official declaration” to “legal protection status”.

Examples of where official decrees do not apply

The Talamanca Biological Corridor in Costa Rica is a matrix of private land, indigenous reserves, and official protected areas. PiP’s work there included management planning for government reserves, but focused on developing and supporting a legal system to encourage better management by private land owners. This PiP site did not use the indicator for “official declaration”.

Rio Bravo Conservation and Management Area in Belize is owned entirely by the Parks in Peril partner organization, Programme for Belize. As an official decree was not applicable at this site, this indicator was never used there.

3.3. Long-term Management Capacity

Long-term management consists of building the analytic and strategic capacity necessary for extended management of protected areas. Organizing existing scientific and socio-economic information, identifying needs and sources for additional critical information, and using this information to manage the site are all vital to the long-term conservation of the site. This component includes developing zoning plans, threats-based management plans, science needs assessments, and ecological monitoring.

3.3.1. Reserve Zoning and Buffer Zone Management

While the management category of a protected area largely determines the different types and intensities of resource use allowed, many protected areas are further divided into zones. Zoning is a key park management tool; it allows for different kinds of uses in different areas, although those uses are not necessarily consumptive. For example, protected areas based on the UNESCO biosphere reserve concept are customarily divided into off-limits “core” zones and multiple-use “buffer” zones. Since the livelihoods of people living in buffer zones are affected by the boundaries and restrictions of these different zones, a participatory process is often needed to facilitate the development of resource use standards governing each zone and generally conforming to land use. Within the PiP framework, a consolidated site has clearly defined zones that have emerged from a participatory process with local stakeholders.

By 2002, twenty of the 37 sites in the PiP Program had completed ecological zoning plans. Another 10 sites had developed working drafts of zoning plans, and all other sites had at least begun the process of developing zoning plans.

Examples of zoning plans

At the onset of the PiP program at La Encrucijada Biosphere Reserve in Mexico, the reserve had no zoning plan. PiP support helped acquire basic imagery and information, which enabled the reserve to carry out workshops with researchers to establish reserve limits correctly, carry out a characterization and analysis of the area's natural units, and to determine zoning areas and regulation criteria. The site's zoning plan, which identified management strategies for the buffer zone, was included in the five-year management plan. Based on environmental legislation and the reserve decree, the zoning was applied through administrative rules established in the plan. In addition to the official zoning plan, community zoning plans were completed in key communities to help the reserve and other organizations promote compatible land-use practices that reflect community zoning recommendations.

At La Paya Nature Park in Colombia, indigenous communities participated in an ecological zoning plan for 85% of the Caucajá River area. The zoning has cut off or caused the abandonment of 2,000 hectares of coca crops, returned these lands to indigenous communities, and established a local agreement regarding the boundaries of three indigenous reservations within the park.

Partners in the Dominican Republic, using harvest data they had collected under PiP, worked with the Department of Fisheries and succeeded in obtaining the president's signature on a law that established ecological protection zones and a fishing season for conch nursery grounds in Del Este National Park and Jaragua National Park.

The lessons learned from PiP's experiences with reserve and buffer zone management include:

- How boundaries are defined when protected areas are established and what geographic features they include are key factors in determining the success of subsequent reserve and buffer zone management activities. For example, protected areas with roads through them, or with fragmented designs, or with significant gaps in vegetation offer greater challenges to zoning than those without these features (Brandon 1998:378).
- Few protected areas have met ideal reserve design principles. Rather, their location, design and zoning tend to reflect what was possible at given sites. For example, coastal waters and marine life adjacent to terrestrial protected areas are often under heavy pressure yet are only recently beginning to benefit from legal protection.
- Enforcement of zoning depends on regulations set out in the management plan as well as available human resources for patrolling and carrying out enforcement activities. Development of a zoning plan is one step; ensuring conformity of land-use patterns constitutes a necessary property of adequate management.
- Participatory processes for designing zoning and management plans can greatly facilitate future management of the site by creating stakeholder buy-in from the outset. However, these processes need to be skillfully managed; a participatory process gone awry, where stakeholder expectations are not met, can cause rifts between protected area managers and local stakeholder groups, undermining long-term management.

3.3.2. Site-based Long-term Management Plan

A management plan is an explicit strategy for conserving a particular protected area into the future. Many types of management plans exist, and oftentimes resource management agencies have an official management plan format. In many cases, a management plan will include as separate components several of the aspects covered in the Site Consolidation Scorecard, such as a financial plan, a threats analysis, a monitoring plan, etc. The challenge of management planning is to ensure that the developed plan serves as an effective management tool to guide the actions of not only the park management authority, but also other stakeholder groups. To be considered consolidated within the PiP framework, a site should have a management plan that describes and justifies a protection strategy extending at least five years into the future.

Under the initiative and promotion of PiP partners, management plans based on conservation targets and priority threats had been completed and approved at 26 of the 37 PiP sites by 2002. At another seven sites, management plans were in the final stages of preparation or approval. Partners struggled with daunting obstacles in the process, not the least of which was gaining the trust and participation of local stakeholders, and overcoming government bureaucracies.

The lessons learned from PiP's experiences with site-based long-term management plans include:

- For management plans, as with threats analyses, TNC's Conservation Area Planning methodology is a useful tool for defining and prioritizing key strategies and components of a long-term management plan.
- A management plan needs to lay out *feasible* goals and activities. It should help managers prioritize goals and activities according to the financial and logistical realities of the site. A management plan that includes a "wish list" of all desirable activities at a site, without setting priorities among them, can paralyze site management with the impossibility of the job.
- In some sites, management plan processes are more restricted, due to government mandates. For example, in Mexico, protected area authorities are mandated to develop a management plan as soon as a protected area is declared. Site managers must strive to include a rigorous analysis of priority biodiversity and critical threats as the cornerstone of any management plan, and the management plan must be a "living document" that is revisited frequently and used to prioritize conservation strategies.
- Official approval of a management plan might take months or years after the plan's final draft. In many cases, the process of developing the management plan, and the collaborative relationships that result, are more important than the document itself. A commitment to continue those processes, implement the plan's strategies, and revisit the plan frequently is what supports effective conservation.

3.3.3. Science and information needs assessment

Management of protected areas should be based on the best scientific information available. At times, however, sufficient information is not available. Since the possibilities for conducting scientific research in the biologically diverse protected areas of Latin America and the Caribbean are virtually limitless, science and research needs must be prioritized so that research focuses on what reserve managers genuinely need to know. A first need at all sites is the identification of a site's conservation "targets," or vulnerable species and natural communities. At a consolidated site, both conservation targets and the science and information needs required for effective management have been systematically identified, and contacts have been initiated with appropriate organizations capable of addressing those needs.

Twenty-eight PiP sites completed science and information needs assessments and have contacted appropriate local research organizations requesting help to collect unavailable information that is critical for managing the site. At two sites, collaborative research was underway among local partners to support the conservation effort.

A number of lessons learned have emerged from PiP's experiences with science and information needs assessment:

- Using a tool such as TNC's Conservation Area Planning greatly facilitates the process of prioritizing science needs to address critical threats and maintain or improve the health of the site's biodiversity.
- Determining science needs might require outside technical assistance, given that science expertise might not be available among personnel dedicated to site management.
- There are opportunities for strategic partnering with universities and scientific institutions to shore up science advancements at sites. Cultivating long-term relationships with these partners can contribute to biophysical monitoring at the site and adaptive management in future years.
- The planning and implementation of scientific investigations with universities and scientific institutions should be coordinated with site personnel. This helps prevent duplication of effort and assures that science is feeding management decisions.
- The Rapid Ecological Assessment (REA) methodology provides comprehensive and reliable information about biodiversity resources, where time and financial resources are limited. A PiP publication, *Nature in Focus: Rapid Ecological Assessment* (Sayre et al. 2000) guides conservation practitioners through the process of an initial survey of scientific information about a conservation area, employing a combination of remote sensing imagery, reconnaissance over-flights, field data collection, and spatial information visualization. It also provides researchers with the essential tools and techniques they need to conduct an REA, and offers valuable advice about the planning and implementation aspects. Another approach is the Rapid Assessment Program (RAP) of Conservation International. An interdisciplinary RAP team visits a site for a three- to

four-week biodiversity inventory. The team collects data on species diversity, degree of species endemism, special habitat types, threatened species, degree of habitat degradation, and the presence of introduced species (for more information on RAP, see www.conserveonline.org).

3.3.4. Monitoring Plan Development and Implementation

Effective monitoring tracks the impact that threats have on biodiversity “targets” and thus enables site managers to measure the effectiveness of management actions. Different types of monitoring can be carried out at a protected area. Monitoring can focus on conservation targets (populations of vulnerable species and natural communities, for example). For the purposes of achieving consolidation, monitoring should focus on those threats to priority conservation targets that have been identified and ranked in the threats analysis process. Monitoring should track major threats as directly as possible, choosing variables and monitoring techniques that are within the means of site managers or support groups to track continually and at a relatively low cost. Once variables are identified, initial data-collection is required to establish a baseline against which future data can be compared. To be considered consolidated, a site should be monitoring the principal threats to its conservation targets.

By 2002, ecological monitoring plans had been completed at 20 sites; nearly all sites had begun some type of monitoring activity.

Examples of monitoring at PiP sites

At Guaraqueçaba Environmental Protection Area in Brazil, consistent information for monitoring priority threats was available through the *Sociedade de Pesquisa em Vida Selvagem e Educação Ambiental's* geographic information systems (GIS) laboratory to reinforce regulatory strategies and judicial action. Satellite images of 1990, 1997 and 1999 were used to produce a temporal analysis showing recent deforestation, and this was made available to government inspectors. The main threats monitored so far are illegal second homes, deforestation, pebble mining, buffalo ranching, rice cultivation and other land-use activities, which assist government inspectors in enforcement in the area.

At Sian Ka'an Biosphere Reserve in Mexico, monitoring took place in critical ecosystems. Each year, coral reef monitoring was carried out at the same site. The partner performed annual aerial monitoring of wetlands bird species as a measure of wetland health and has monitored crocodile populations for 13 years. Bat populations are monitored as a measure of the level of forest perturbation.

In Machalilla National Park in Ecuador, local populations participated actively in the sea turtle monitoring program, without which management of nesting beaches would be impossible. The results of monitoring of sea bird nesting success on Isla de la Plata, located within the park, provided the foundation for efforts to develop an ecotourism management plan.

The lessons learned from PiP's experiences with monitoring plan development and implementation include:

- Managers at many sites are conducting monitoring activities. It is very important that such activities be guided by a monitoring plan that sets monitoring *priorities*. Much effort can be wasted on monitoring that does not provide critical information for site management.
- Conducting an analysis of priority conservation targets and critical threats prior to developing a monitoring plan is crucial to focus monitoring resources and efforts on indicators sensitive to changes in conservation threats, biodiversity health, and conservation capacity. This drives the monitoring plan to be more strategic and not just a "laundry list" of everything measurable at a site. As mentioned previously, one useful tool for carrying out threats analyses and focusing monitoring indicators is TNC's Conservation Area Planning methodology.

3.4. Long-term Financing for Basic Site Management

Long-term financing for basic site management consists of creating financial mechanisms to sustain management of the local protected area. This component promotes the development of long-term financial plans for protected areas and provides technical assistance in the development of NGO self-sufficiency strategies. Given that funding is one of the most critical factors for achieving effective protected area management, this component of the PiP Program is of special importance. While many advances have been made, there is still significant room for improvement in creating sustainable financial mechanisms for protected areas.

3.4.1. NGO Self-Sufficiency Plan

One of the underlying principles of the PiP Program is that effective protected area conservation is based on cooperation between the public and private sectors. Non-governmental organizations play an important role in implementing conservation activities at sites. For that reason, one of the goals of PiP is to help local non-governmental organizations attain a degree of financial self-sufficiency that will allow them to continue functioning indefinitely as advocates for reserve protection, be it as site manager, as partner to the responsible government agency, or in some other capacity. A consolidated site will have the support of a local NGO that has developed, begun to implement and is monitoring a strategy for attaining its own financial self-sufficiency.

Examples of self-sufficiency strategies for non-governmental organizations

Partner Programme for Belize, as part of its self-sufficiency plan, marketed the first sustainable “green” timber to be certified in both the United States and United Kingdom by the *Smartwood* and *Woodmark* certification labels, meeting stringent standards in terms of environmental impact. Abercrombie and Kent, the world’s largest and most successful upscale ecotourism company, also committed to assisting Programme for Belize in the final component of its strategic tourism plan. Additionally, Programme for Belize reported that it had recurring financial resources to cover basic operations.

At Chingaza National Natural Park in Colombia, Fundación Natura’s financial strategy included diversified strategies. The organization formed a business arm, Empresa Natura, offering consulting services for commercialization of non-timber products and ecological products, other environmental consulting services, publications, and an ecotourism program (which, given the security situation the prevailing in Colombia, was not actively pursued). Fundación Natura continued its “Adopt-a-Hectare” program and began a corporate campaign to invite prominent corporations to become conservation members of the foundation. Natura also entered into an agreement with a Colombian bank to return a percentage of revenue on credit card purchases to Natura for unrestricted funding.

At Podocarpus National Park in Ecuador, Fundación Arcoiris developed a financial strategy based on ecotourism, membership, commercialization of community agricultural products, and an “ecological” store in Loja. The goal was to cover the indirect costs of the foundation and contribute to the creation of a trust fund.

By 2002, partners at 25 of 37 PiP sites had completed self-sufficiency plans and begun implementation; another 12 sites had a plan near completion.

Lessons learned emerging from the PiP experience with NGO self-sufficiency plans include:

- To facilitate the development of NGO self-sufficiency plans, the NGO must first have a strategic development or institutional plan outlining the goals, objectives and activities to be supported by a self-sufficiency plan. Indeed, omission of indicators focusing on more aspects of organizational strength is one weakness of the Scorecard. Where NGOs are involved in conservation, institutional strength should be considered and included among priority activities.
- While NGO self-sufficiency is a crucial, complementary tool, the site and its conservation needs must remain the focus in order to assure ultimate success of the conservation program.
- To further advance financial planning, partners and sites need to think “out of the box”—not only about real-world constraints on funding availability, but also about real funding needs and how to search for creative solutions for securing long-term financing.
- As many as 90% of new businesses fail. As an organization begins to focus in on the likeliest funding opportunities, and if these include business development, consultation from a capable business advisor is vital to establishing the best options.

3.4.2. Long-term Financial Plan for the Site

The *Site Consolidation Scorecard Manual* includes a long-term financial plan as an indispensable component of a successful long-term conservation strategy. The plan should identify a diverse funding base to pay for basic reserve management activities. Each site's access to sustainable and/or recurrent sources will be different. For some sites, no viable options for sustainable or recurrent funding may be apparent. These sites should be analyzed to see if they are, in fact, viable protected areas. The financial planning process should identify a site's best available options and should outline a strategy for pursuing them. Sources could include host-country budget allocations, entrance fees or visitor donations, user fees, concessions, capitalized endowments, multiple and multi-year sources of foreign funding, and many more. Generally, bringing these sources on-line will require months or even years of preparatory work by site managers and support groups. To be considered consolidated within the PiP framework, a site should have begun to implement measures to achieve recurrent and/or sustainable sources of financing.

By 2002, partners at 30 of 37 PiP sites had completed long-term financial plans for site management, and the remaining 7 had at least begun the process. At three of these sites – Rio Bravo Conservation Area in Belize, and Amoro National Park and Noel Kempff Mercado National Park in Bolivia – recurrent sources of funding were in place to sufficiently cover all operational costs.

PiP's site financial planning methodology, originally developed in 1995 and revised in 1999, has been widely adapted by partners and other organizations for site financial planning. This publication includes a manual and an interactive compact disk to assist site managers with financial planning. The *Instituto Nacional de Recursos Naturales* of Peru is using the methodology for *all* the country's federal protected areas.

Finance mechanisms that complement long-term site financial planning

At La Encrucijada Biosphere Reserve in Mexico, the reserve administration helped create an NGO called ECOCOSTA, chartered to conduct fundraising activities and administer funds on behalf of the reserve. Through ECOCOSTA the reserve will have access to donors and service providers who are not able or willing to work directly with government agencies.

Parks in Peril helped create and capitalize the El Triunfo Trust Fund with US\$2,000,000, with US\$1 million from the Packard Foundation and US\$1 million from the Gonzalo Rios Foundation.

Site managers at Blue and John Crow Mountains National Park in Jamaica set up a user fee system for Holywell and Portland Gap (popular tourist destinations). Using volunteers to sell tickets at Holywell was replaced by a system of short-term employment for local community members.

As part of the financial strategy for Chingaza National Park in Colombia, PiP supported *A Case Study for the Application of a Methodology for the Valuation and Protection of Water Resources: Chingaza*

National Park. The study recommends a standard methodology for calculating protection costs needed for guaranteeing constant water flows in the Chingaza system.

TNC and Bolivian partner Fundación Amigos de la Naturaleza began the first forestry sector Climate Action Project in South America, protecting Noel Kempff National Park and providing carbon offsets for three companies from the U.S. The U.S. companies and TNC committed US\$19.6 million to finance the first 10 years of the 30-year project, with a US\$1.5 million endowment included. PiP partners established Climate Action projects for Rio Bravo Conservation Management and Protection Area in Belize and Guaraqueçaba Environmental Protection Area in Brazil. Channeling a total of US\$11 million into forest conservation, management, and enhancement, these projects will provide site financing over the long-term through sale of sustainably-managed lumber.

In Peru, partner Pro Naturaleza and INRENA completed a four-year, US\$800,000 project agreement with the Dutch for the Yanachaga National Park, the San Matias National Forest, and Yanesha Communal Reserve. The project provides financing for site management.

Protected area conservation funds in Ecuador, Peru, Bolivia, Colombia, and Mexico were established with assistance from the GEF or World Bank totaling US\$55.9 million.

Lessons learned through PiP with regards to long-term financial plans for sites include:

- To develop an effective site *financial* plan, the site first needs a *management* plan, outlining the goals, objectives, activities and resource needs of the site. While the management plan is crucial, it is equally important that the information outlined therein be feasible and not just a “wish list.”
- While PiP has made significant advances in helping partner organizations to develop site financial plans, implementation of those plans is still limited. A financial plan has two fundamental parts: an analysis of the cost of managing a site, and the identification of sources of funding to support that cost. Understand the difficulty of fundraising to meet costs, and begin fundraising early.
- Consider prospective financial mechanisms carefully to assure that they are not negatively affected by the national policy agenda, in terms of taxation, audits, and disincentives. Obtain professional counsel for prospective business ventures.
- Sites still tend to depend on international sources of funding and financial mechanisms, rather than national or local solutions. To increase national support, key policy makers and government officials should be involved in efforts to increase government support for planning and implementing long-term financial mechanisms. On the local level, just as successful, long-term management of a site depends on management by *local* governments and organizations, site managers should attempt to develop local support to finance management. Successful conservation depends on developing a supportive local constituency, including local governments, businesses, civil groups, and municipalities. These entities can provide critical political support; translating that support into financing for the site increases local buy-in for conservation and reinforces long-term management.

- There is the need to continue focusing attention on developing and diversifying creative solutions to the problem of long-term conservation funding. A key limiting factor for site management is lack of sufficient operational funding to support staff and operating costs, as well as program funding to implement and sustain key conservation strategies. Therefore, conservation organizations need to continue developing mechanisms and sources of funding, such as appropriation of public funds, contributions by donors, user fees, concessions, and endowments.

3.5. Supportive Local Constituency

Building a supportive local constituency integrates protected areas into the lives of local society as well as that of people living far beyond a site. Community outreach activities such as environmental education, creation and empowerment of local Management Committees that represent the interests of nearby communities, assisting conservation organizations in the promotion of local, national, and international policies that advance conservation, and sustainable resource-use pilot projects are included in this component.

3.5.1. Broad-based Management Committee/Technical Advisory Committee

A management or technical advisory committee allows reserve-area stakeholders, including but not necessarily limited to local communities, to participate in the reserve management process. The presence of such a committee indicates openness on the part of site managers to incorporate and address the concerns of these stakeholders. Many types of management and advisory committees exist, ranging from support committees (“Friends of the Park”) to formal representative councils designed to ensure broad participation. The authority invested in these committees varies widely as well; some are strictly advisory, whereas others have decision-making authority on many issues affecting reserve security and management. Generally, a committee’s involvement in reserve management is a gradual—and at times conflictive—process, due to the heterogeneity within stakeholder groups and communities including gender and generational issues. However, the benefits to long-term support of the site are worth the effort. Site managers and local laws will usually determine the exact role of the committee at a given site. To be considered consolidated within the PiP framework, a site should have formed a management or advisory committee, made up of key stakeholders, that participates in reserve management decisions.

As of 2002, twenty-five of the 37 PiP sites had established management committees that support a participatory management process for the site. All sites where such committees are part of the conservation strategy had at least begun the process of winning stakeholder confidence to participate in site management.

Examples of management committees with stakeholder participation

The Management Committee at Tariquia Flora and Fauna Reserve in Bolivia includes representatives from sub-prefectures, municipalities, and community leaders. The Committee holds quarterly meetings with participation of at least two-thirds of all representatives. At Río Plátano Biosphere Reserve in Honduras, “orientation committees” have been formed and were being strengthened to participate in site management in six municipalities of the reserve, including Juan Francisco Bulnes, Brus Laguna, Ahuas, Wampusirpi, Culmí, and Sico.

At Ria Lagartos Biosphere Reserve in Mexico, the Technical Advisory Committee (TAC) serves as an effective forum for local stakeholders to discuss and resolve issues. Committee members meet regularly to participate in management decisions. The TAC helps stakeholders address critical issues by establishing connections with additional alliances such as research institutions, various government agencies, and resource user groups. In Mexico this TAC is considered a model, and various protected areas have learned from its structure and operation to build effective committees.

Partner Jamaica Conservation and Development Trust, the Jamaica Forestry Department, and the Natural Resources Conservation Agency signed a co-management agreement, providing the foundation for defining the individual responsibilities of these three institutions in managing Blue and John Crow Mountain National Park. The agreement formalizes a previously confused working relationship among these institutions that in the past has led to lack of coordination and at times duplication of effort.

PiP partners succeeded in incorporating indigenous communities into the management structure of several PiP sites, including Bahuaja-Sonene National Park in Peru, Mbaracayu Nature Reserve in Paraguay, and Cahuinari National Nature Park in Colombia.

Building women and youth capacity and strengthening their role in community-park relations was achieved through ecotourism committees in Machalilla National Park in Ecuador and Río Plátano Biosphere Reserve in Honduras. Podocarpus National Park in Ecuador also provides a good example of gender-equitable community participation in park relations.

Lessons learned from PiP’s experience with technical advisory committees include:

- Technical advisory committees are more effective if they are legally mandated.
- National decentralization policies are one mechanism that supports local participation in protected area management. In countries such as Bolivia, national decentralization policies have facilitated the participation of local civil society groups and municipalities in protected area management.
- While the existence of technical advisory committees is important, it is equally important to seek ways of measuring their effectiveness. As with the new conservation capacity measures in the enhanced Conservation Area Planning/Measures of Success Excel Workbook developed by TNC, these committees should be measured not only based on their existence, but also on whether they have established clear responsibility, developed adequate capacity

to implement conservation and management strategies, have a shared vision of success and collaboration mechanisms in place.

- Conflict is pervasive among some groups and to some degree at all sites. It is important to note that not all of the conflict is park related, although parks have served as the “lightning rod” for clashes between hostile groups in some cases. Opportunities exist to define conflicts and improve conflict mediation activities and mechanisms at most sites (Brandon 1998:403). Getting people and groups together to agree on management issues is not easy; be sure to manage conflicts early, looking for assistance with mediation and conflict resolution where necessary.

3.5.2. Community Involvement in Compatible Resource Use

In those protected areas where communities are located either within the site boundaries or immediately adjacent to the site, biodiversity conservation depends on these communities’ using the site’s biological resources in a manner that is compatible with the biodiversity conservation goals of the protected area. A local constituency for a site can be built when community organizations are encouraged to develop programs that promote the compatible use of resources the site has to offer, and upon which these communities depend for their livelihoods. At consolidated sites within the PiP framework, the reserve area’s principal community groups (or other key stakeholders) are involved in pilot projects for the compatible use of local resources, and these pilot projects are being documented in such a way that they can be replicated elsewhere.

Partners at 29 sites have established and documented compatible resource-use pilot projects in local communities, one of the most difficult goals of the PiP program given the inherent challenges in designing and implementing mutually beneficial conservation and development activities. The remaining 8 sites have these projects underway. By comparing these experiences, TNC and partners have been able to suggest patterns of a process that leads to success, including conducting a diagnostic of community needs and desires, paying attention to gender issues and other social dynamics, training extension staff, carrying out feasibility studies for income-generating projects, and implementing participatory monitoring of the compatible-use project.

Examples of community involvement in compatible natural resource use

At Del Este National Park in the Dominican Republic, PiP introduced Fish Aggregating Devices (FADs) to fishermen of Boca de Yuma during 2000-2001. FADs are moored floats in deep water, under which pelagic fish congregate and can be taken by fishermen. The project reduced pressure on the target fish populations near the coast, especially those demersal species within Catuano Channel. The technique impressed participants because they can take large numbers of fish without engaging in destructive or slower fishing techniques on coral reefs.

At Podocarpus National Park in Ecuador, the San Pedro de Vilcabamba Honey Production Project became so successful that producers voluntarily assessed a tax on honey production to support

conservation. Funds supported community-based conservation work in park buffer zones through the purchase of field materials, field trip expenses, and patrols. Also within this project, several community women and adolescents played key roles in leadership, thus strengthening the gender and inter-generational stability of the honey project.

At Calakmul Biosphere Reserve in Mexico, the program for Women in Development included eight communities. As many as 124 women at any one time have practiced technologies promoted by the program, including backyard vegetable plots, organic waste management and composting, living fence posts, energy-use alternatives, diet and nutritional improvement for the family, water catchment, and barnyard animal management and use.

At Tariquia Fauna and Flora Reserve in Bolivia, PROMETA expanded and replicated the beekeeping project in the canton of Tariquia to the Chiquiaca and Salinas communities. These two communities received training to install beehives and produce honey to increase their income.

Lessons learned in the realm of community involvement in compatible resource use include:

- It is important to understand that compatible resource use is a long-term process. While PiP provides a start, the program needs to be considered within a long-term planning process. Avoid paternalistic practices of providing ‘seed’ or ‘pilot’ money for an economic initiative without having full community awareness of the risks involved and without having a solid market analysis and business plan (see below also).
- To build the strongest support for conservation, compatible resource projects need to be linked to conservation. For example, honey from bees raised on the edge of a protected area rather than in agricultural fields that use chemical fertilizers and pesticides might draw a greater price in the organic market. Shade coffee grown under a structured canopy of trees provides nesting sites for birds and income for farmers. Both these examples provide local residents with a financial incentive for conservation.
- PiP has funded a number of different types of community activities, not always linked to conservation. For example, some productive projects have helped communities begin raising farmyard animals, ostensibly to provide a source of protein that does not involve hunting threatened animal populations in the forest. These types of activities do not necessarily support conservation – if the social structure traditionally puts women in the role of keeping the yard, and men in the role of hunting, then men may continue to harvest from wild animal populations. If a project promotes goat keeping, it may result in participating households supplementing their goat stocks by turning them loose to scour the protected areas for forage. However, projects may serve other goals, such as building stronger relationships between conservation organizations and local communities. Understand the role that different activities play in conservation strategies at a site and take control of conservation outcomes.
- Some compatible use activities involve selling products in local, national, or international markets. Before committing scarce resources to implementing market-based projects, obtain business advice and perform a thorough market analysis. Involve community members in the entire process, and be sure they understand this as a business venture subject to market issues. Even if a project is not *financially* successful, strengthening

communities to think strategically about business solutions and to take command of community development issues for themselves also strengthens them as conservation partners.

- Compatible resource use is tied to land tenure issues. The site's history, traditional resource use patterns, and land tenure issues will greatly impact the success of compatible resource use initiatives. People tend to be more vested in initiatives where they perceive a direct benefit, and a long-term benefit to local people of compatible resource use is more likely where land tenure issues have been clarified.
- Gender and age issues are critical to the success of compatible resource use projects. The success or failure of such projects often hinges on available labor, participant interest and capacity. Conducting gender-sensitive participatory diagnostics or need assessments can help determine how best to define and design natural resource use initiatives.
- A community's concept of control or "ownership" of a resource is an important key to achieving success in compatible resource use projects. Control or "ownership" can be fostered by enhancing community and stakeholder decision making power, management capacity, and access to credit.
- Implementation of compatible resource use projects has not traditionally been one of TNC's strengths, making partnership with community development organizations that can provide expertise important. Conservation practitioners without substantial experience in this realm should a) recognize the complexity of designing and implementing these types of projects, and b) consider partnering with other organizations that can provide this expertise rather than trying to develop it within their own organizations.
- Conservation Area Planning can support decisions about how much resource-use practices need to change (based on a threats analysis), and where it is more critical to start working with local practitioners to achieve conservation results in a more streamlined way. By focusing compatible resource use efforts in critical areas, with key practitioners, we can design indicators at the appropriate scale to better measure conservation success.

3.5.3. Policy Agenda Development at Regional/National/Local Levels

Protected areas can support the conservation of biological diversity insofar as local, regional, national, and international policies that promote biodiversity conservation allow these sites to function effectively and to thrive. For that reason, one of the objectives of the PiP Program is to work with NGO and government partners to ensure that appropriate policies supporting the conservation of protected areas are in place at the appropriate levels. At consolidated sites, the policies needed to support the site's long-term security have been identified, and a plan to promote these policies is being implemented.

By 2002, site managers had identified national and local policies that undermine site conservation at all 37 PiP sites and they had made significant progress in changing them. Partners at 23 sites have completed policy agendas assessments of critical public policies that affect conservation at the site. All partners have been involved in the policy arena during PiP implementation. Between 1996 and 2002, partners undertook 370 policy initiatives measured by the policy Strategic Indicator for PiP. In FY99, alone, 31 organizations (partners and *their* local partners) participated in 148 policy actions throughout the region.

Examples of policies supporting conservation at PiP sites

At Morne Trois Piton National Park in Dominica, the Ministry of Agriculture, Forestry, and Wildlife was able to establish, for the first time, a user-fee collection system to fund park management.

Defensores de la Naturaleza, the PiP partner in Guatemala, succeeded in establishing a fishing season that protects fisheries with a total ban on fishing during July and August at Bocas del Polochic Wildlife Refuge.

At El Triunfo Biosphere Reserve in Mexico, reserve staff worked with other protected area managers to support the creation of the National Commission on Natural Protected Areas. Under the direction of SEMARNAP, this commission created greater solidarity and guaranteed continuity in long-term management, financing, and protection activities in natural protected areas within Mexico.

The president of Panama decreed the elimination of mining activities within Darien National Park, a change promoted by partner ANCON.

At the Tariquia Flora and Fauna Reserve in Bolivia, PROMETA and SERNAP signed inter-institutional cooperation agreements with the Municipios of Padcaya, Arce Province and Entre Rios, O'Connor Province. The agreements provided technical assistance to these municipalities on issues such as oil prospecting and production monitoring, and sustainable forestry improvement.

IMADES, PiP's partner at Ajos-Bavispe National Forest and Wildlife Refuge in Mexico, worked with the state government, municipalities, and the Ecology Commission of the State Congress to design and promote the creation of new protected natural areas in the state—the *System of Protected Natural Areas in the State of Sonora* (SANPES). Before the SANPES program was created, no protected areas in Sonora were under active management. SANPES has resulted in the protection of more than 1.8 million hectares in the state.

Lessons learned in the policy arena include:

- More work needs to be done to resolve conflicting policies with regards to protected area management. In El Pinacate /Gran Desierto del Altar Biosphere Reserve in Mexico, contradictory environmental and development policies at federal and state levels have limited the long-term impacts of management activities (Morales 2003).
- Developing policies is only part of the job. Most lawmakers and government agencies require continued lobbying, support, and technical assistance to defend new policies in the political arena, as well as to see that they are enforced. Strive to develop and maintain collaborative relationships among conservation organizations and government agencies.

- Be strategic when selecting policies to support for maximizing conservation impact. Not all policies will have equal bearing on conservation impact. Changing national policies, or changing *de facto* government policies *not to enforce existing regulations*, is some of the hardest work we do, and can consume much time. However, if we focus on policies with truly sweeping effect, then policy improvements can provide some of the most far-ranging and financially efficient conservation solutions.
- This indicator refers to development of a “policy agenda” – a written strategy that describes the policy-related activities that must be addressed to ensure the long-term security of the protected area. The Scorecard manual does not give specific guidance regarding the formal structure of a policy agenda, and this has been a source of frustration to site managers (Touval and Lasch 2003, pers. comm.). In most cases, a policy analysis has flowed from the threats analysis and TNC’s Conservation Area Planning methodology, which identify key policy and law enforcement issues that need to be addressed to achieve results. At a minimum, formal, written description of policy issues and strategies associated with a management plan or conservation area plan is necessary, but further description of recommended formats for the policy agenda could facilitate its preparation.

3.5.4. Environmental Education Programs

Environmental education, or “outreach,” is a necessary part of protected area management. The support of local stakeholders for the reserve’s conservation objectives will depend on their understanding of these objectives. Environmental education covers a broad range of activities and approaches. A common denominator is often a systematic explanation to local residents of the importance of the protected area and of the rules and regulations relating to it. Some education programs focus on schoolchildren; others target adult populations. Site managers should determine the appropriate target audience for outreach programs and design or guide these programs accordingly. To be consolidated within the PiP framework, a site should have well-established education or outreach programs in place.

Environmental education programs are well-established at 25 of the 37 PiP sites, and nearly all of the remaining sites are engaged in environmental education at some level.

Examples of environmental education at PiP sites

At Blue and John Crow Mountains National Park, the Jamaica Conservation and Development Trust and the Jamaica Environmental Trust developed an environmental education program in 12 schools in the buffer zone of the Park. The target group included students between the ages of 4-15 and their teachers. Activities included the promotion of such issues as solid waste disposal, establishment of school nurseries and ‘greening’ of schools, community outreach, and development and/or strengthening of an environmental club. The rangers also visited schools to increase student awareness of the Park and its importance.

El Ocote Ecological Reserve in Mexico was recognized as a national model for excellence in environmental education. Through its efforts, the reserve ensures that 100% of the people living in the reserve are aware of the reserve's existence and importance for conservation. Additionally, 70% of the communities in the reserve are targeted by at least one of the reserve's projects.

In Guaraqueçaba Environmental Protection Area in Brazil, SPVS developed an environmental education program and, through an agreement with the Secretary of Education of Guaraqueçaba, all 110 teachers in local communities are receiving training to fit environmental education into their daily work. Feedback from the teachers was so positive that the Secretary of Education increased the time conceded to SPVS's programs from 2.5 hours to 4.5 hours a month.

In 2001 at Madre de las Aguas Conservation Area in Dominican Republic, PiP sponsored the educational conservation radio program *Cordillera: Madre de las Aguas*. Radio Santa Maria, the most popular radio station in the Cordillera Central, broadcast the program twice each week during 2001. Schoolteachers received training in conservation of the protected areas, and a Conservation Educational Guide was published during the last quarter of fiscal year 2001.

Lessons learned with relation to environmental education programs include:

- Defining the target audience, message, and form of delivery are the first steps to designing a successful environmental and outreach program. At the site-level, focusing environmental education on outreach to key resource users, rather than formal environmental education programs in the schools, might yield greater results for conservation. Targeted outreach and communication initiatives with key resource users can complement the process and leverage the impact of a management plan, scientific investigation, or compatible resource-use project.
- Field-level staff identify outreach and environmental education as areas where they need more guidance for strategic design and implementation of programs. Look for collaborators who can help with environmental education.
- The Scorecard indicator for environmental education does not reflect the complexity of environmental education programs. Environmental education at sites requires definition, and stipulation of goals and measurable outcomes, perhaps through the development of more detailed indicators, should be considered.
- Using complementary management tools such as Conservation Area Planning can help establish priorities for environmental education and outreach at a site. When designing priority conservation strategies, one can point to education and outreach topics, geographic locations, and even target audiences to support conservation results for specific conservation targets. This provides clear guidelines for education and outreach activities at the site.

3.6. Overarching Lessons about the Site Consolidation Process

In previous sections, analysis focused on lessons learned across specific indicators of site consolidation. This section focuses on overarching lessons regarding PiP program effectiveness, funding efficiency, sustainability, and leveraging to other sites and protected area systems.

3.6.1. Program Effectiveness

Effectiveness is defined as the ability of a program to set and pursue appropriate goals. This means “doing the right thing.” A number of lessons have emerged from the PiP experience with program effectiveness, including:

- Developing tools, such as the Site Consolidation Scorecard, Conservation Area Planning, and the Institutional Self-Assessment, contributed to increased program effectiveness, providing ways of systematically pursuing goals across a number of sites over the years.
- Threats analysis and Conservation Area Planning offered ways for managers to prioritize conservation targets, threats, and strategies. Thus, conservation capacity could be effectively strengthened to achieve long-term conservation impacts at sites.
- Building local constituencies also made the PiP Program more effective. To increase effectiveness, rely on partners who have the experience you need – environmental education, community-based conservation, conflict resolution, science.
- Focus on *institutional strength* of partners—build not just technically capable partners, but sustainable, influential partners. To achieve effective biodiversity conservation, it is important to strengthen skills and knowledge on a number of technical, administrative, financial, and policy fronts.

3.6.2. Funding Efficiency

Efficiency is defined as maximizing resources, by using fewer inputs (energy, time, money, etc.) to generate a given output. This means “doing things right.” Aside from the years of experience of PiP creating “brand recognition” which lead to a positive effect on fundraising, it is difficult to analyze funding efficiency. One PiP participant interviewed said that it was difficult to comment on the efficiency of the consolidation approach because other sites to which he might compare did not receive the same level of funding or technical assistance.

To explore the question of funding efficiency during the PiP Program, we compared funding inputs at sites over time to the average difference in Site Consolidation Scorecard scores before and after PiP intervention. We divided sites into three groups:

- “Early” sites received intensive PiP investment before the Site Consolidation Scorecard was ever applied there. Participants estimated “initial” scorecard scores as they would

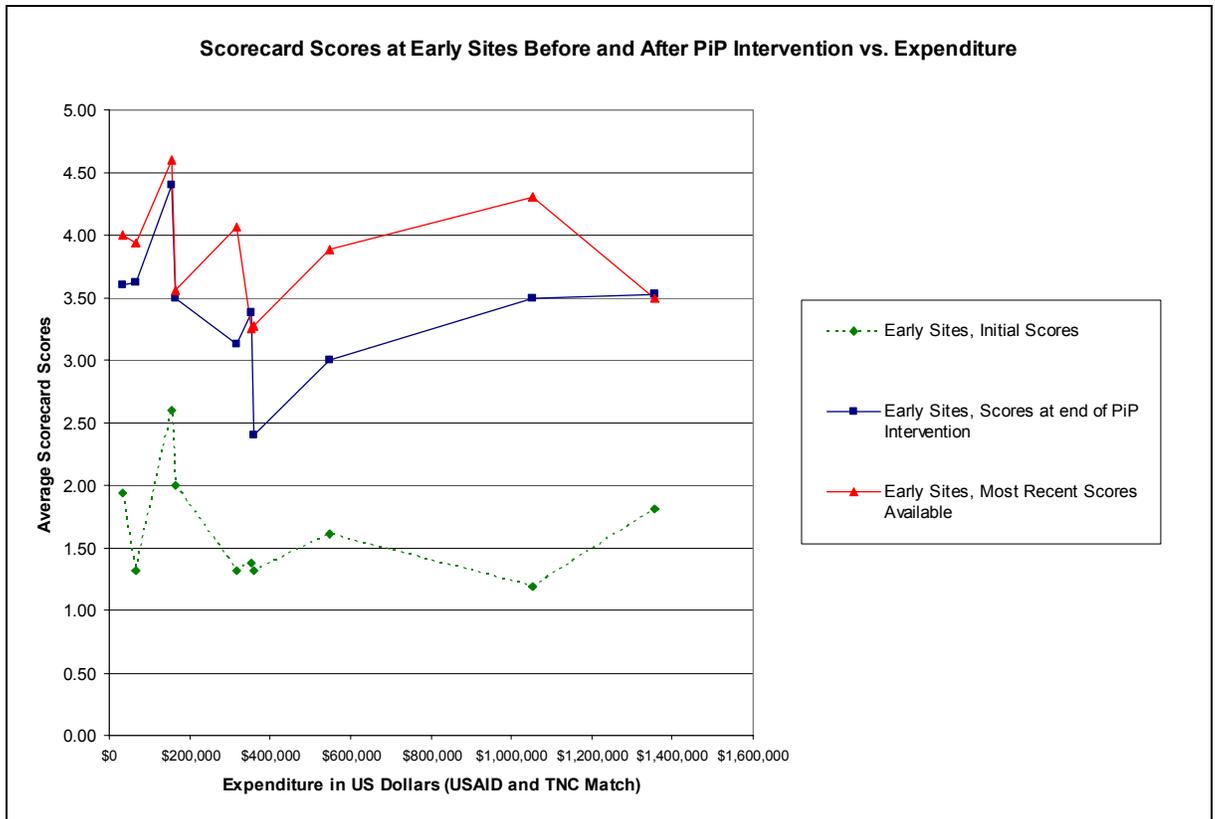
have been before PiP activities began. Although we continued to measure these sites against the scorecard in subsequent years, these sites did not receive additional, intensive PiP investment.

- “Middle” sites usually began implementation of PiP activities before the Site Consolidation Scorecard was available, but continued receiving PiP funding for several years in the late 1990s. Participants also estimated “initial” scorecard scores as they would have been before PiP activities began.
- “New” sites began implementation of PiP activities when the Site Consolidation Scorecard was in active use in PiP. These sites had a generally higher investment per year than other sites—about \$100k to \$200k per year per site—but for fewer years—five or fewer.

Early Sites Pre-Dating the Consolidation Paradigm

Early sites include: Morne Trois Pitons National Park in Dominica, Jaragua National Park in the Dominican Republic, Rio Bravo Conservation Area in Belize, Corcovado National Park in Costa Rica, Noel Kempff Mercado National Park and Amboro National Park in Bolivia, La Paya National Natural Park in Colombia, Yanachaga-Chemillén National Park in Peru, Mbaracayu Nature Reserve in Paraguay, and Panama Canal Watershed and Darien Biosphere Reserve in Panama.

The worst overall scores when intensive PiP funding ended were seen in the sites that had already completed the period of intensive PiP investment by the time the Site Consolidation Scorecard was first applied. These sites did not have the benefit of using the Scorecard for setting priorities. In general, they had lower initial scores than new sites and also had lower scores than new sites by the time PiP funding ended. However, over the years after PiP implementation, consolidation scores rose to be among the highest, comparable to middle sites at the end of the project.

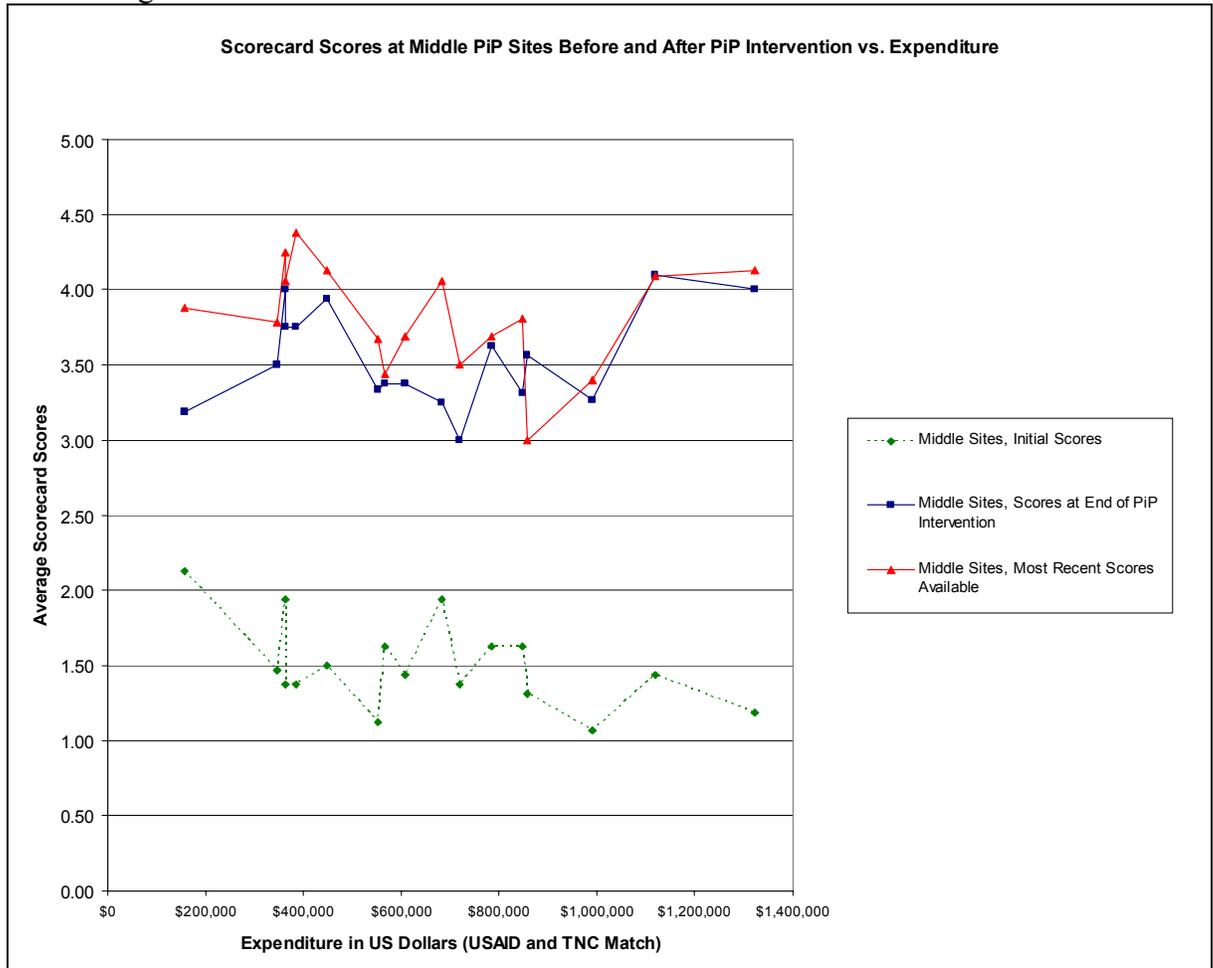


Middle Sites within Consolidation Paradigm

Middle sites include: El Pinacate/Gran Desierto del Altar Biosphere Reserve, Ria Celestun & Ria Lagartos Biosphere Reserves, El Triunfo Biosphere Reserve, El Ocote Biosphere Reserve in Mexico, Podocarpus National Park in Ecuador, Sian Ka'an Biosphere Reserve in Mexico, La Encrucijada Biosphere Reserve in Mexico, Cahuinari National Natural Park in Colombia, Del Este National Park in the Dominican Republic, Machalilla National Park in Ecuador, Sierra Nevada de Santa Marta National Natural Park in Colombia, Chingaza National Natural Park in Colombia, Bahuaja-Sonene National Park in Peru, Talamanca Biological Corridor in Costa Rica, Sierra de las Minas Biosphere Reserve and Bocas del Polochic Wildlife Refuge in Guatemala, and Tariquia Fauna and Flora Reserve in Bolivia.

The best overall performance of Site Consolidation Scorecard scores was for these sites, initiated within the “consolidation paradigm” and receiving funding over the longest period of time. These sites had a range of scores at the end of intensive PiP funding, similar to the new sites (below). Yet, they had a larger overall increase in scores than the new sites did.

They had similar initial scores to those at early sites but generally higher scores at the end of PiP funding.

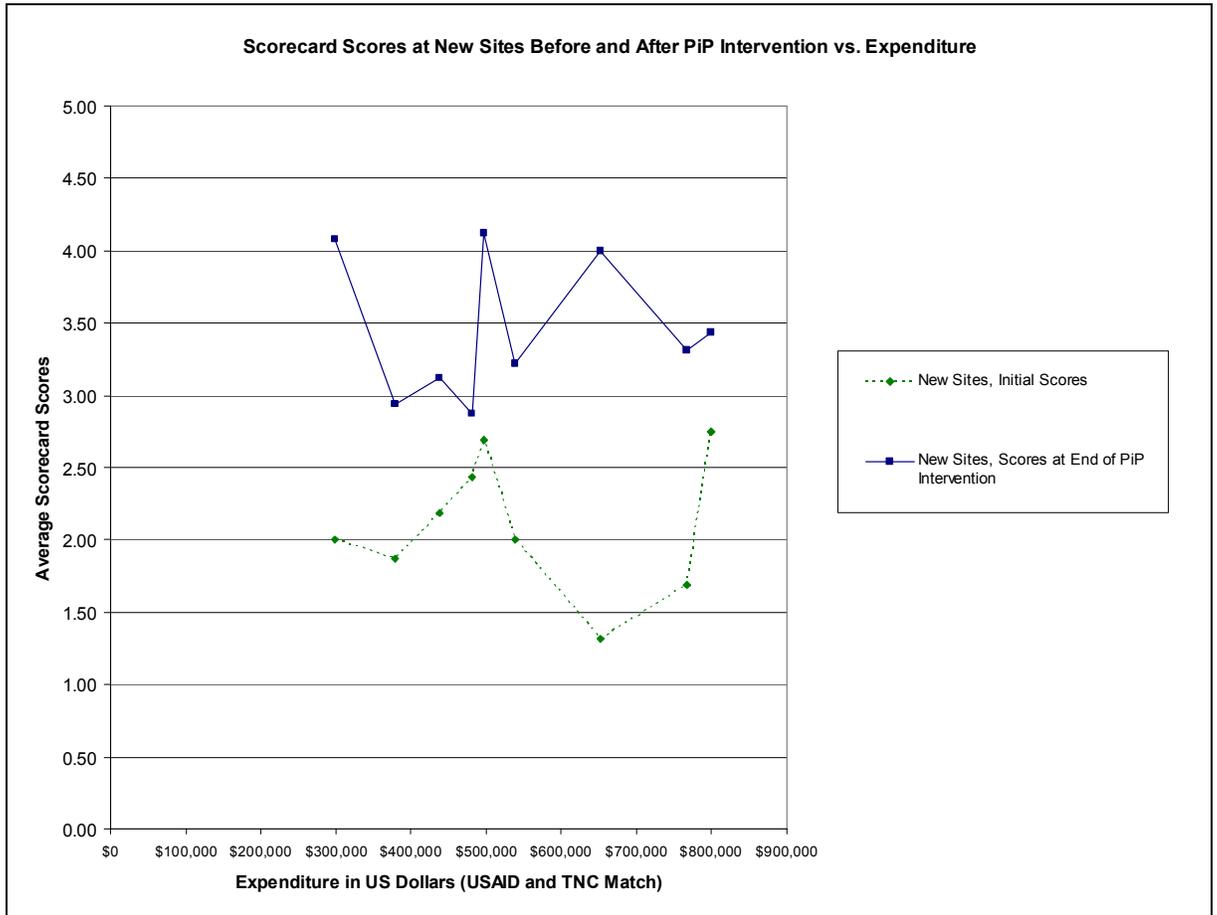


New Sites within the Consolidation Paradigm

New sites include: Paracas National Reserve in Peru, Ajos-Bavispe National Forest and Wildlife Refuge in Mexico, Rio Platano Biosphere Reserve in Honduras, Eduardo Avaroa National Andean Fauna Reserve in Bolivia, Blue and John Crow Mountains National Park Jamaica, Sea of Cortez in Mexico, Madre de las Aguas Conservation Area in the Dominican Republic, Defensores del Chaco National Park in Paraguay, and Guaraqueçaba Environmental Protection Area in Brazil.

These sites had generally higher initial scores than the older sites (above). However, they had a range of Scorecard scores following PiP funding comparable to the ranges for early

and middle sites at the end of PiP funding. Yet, the overall increase in scores was less than the older sites, which had received reliable funding over a longer period of time.



It is difficult to make conclusions about the effect of the overall level of funding, since the situations at different sites vary in the challenges they present, availability of other sources of funding, and the difficulty of working there. Managers probably adjusted PiP budgets among sites based on these considerations—a difficult site might receive a higher budget, but show less progress on the Site Consolidation Scorecard. What appears to be important, in general, is the length of time managers have available to consolidate a site, and the dependability of funding to continue doing work. Consolidation, which deals with a number of complex conservation and management issues, takes time—perhaps more time than the three to five years allowed for the new sites. Given a sufficient amount of time and a coordinated program, sites can improve consolidation scores, and a consolidation program can improve the ability of local managers to manage a site successfully.

3.6.3. Sustainability

To sustain conservation capacity over time requires a long-term vision, one which programs such as PiP begin to provide to sites. In this regard, a number of lessons have emerged:

- Understand that it takes time to orient activities, build conservation capacity and create long-term financial mechanisms for protected areas. A long-term vision should involve local communities, generate integrated projects, establish solid relationships with different entities, identify alliances and include a process of continual monitoring and evaluation (Torres and Hernandez 2003a).
- Sustainability is threatened by the ineffective norms and regulations of laws as well as the incongruence of environmental laws: To achieve greater sustainability of conservation capacity, efforts should focus on overcoming these policy issues (Torres and Hernandez 2003a).
- Political, economic, and social instability put sustainable protected area conservation efforts at risk: These factors should be monitored and managed to reduce the negative impact of these risks on conservation capacity over time.
- Effective training and practical tools allow sites and protected area systems to be more resilient to government turnovers: Protected areas throughout Latin America and the Caribbean have been affected by turnovers in and organizational restructuring of government protected area authorities, which has affected financial management and inter-institutional relations of protected areas. Despite this institutional instability, individuals trained through the PiP Program have continued to apply their skills and knowledge at PiP and non-PiP sites throughout the protected area systems where they work. For example, the Site Consolidation Scorecard has not only remained in use in El Triunfo Biosphere Reserve in Mexico but also been applied to non-PiP sites, due to the fact that staff originally trained in the reserve have continued to apply what they learned (Torres and Hernandez 2003a).
- Partners can be strengthened as *regional* authorities for conservation: Fundación Moises Bertoni in Paraguay is a good example of a partner who became a regional authority, where before PiP, there did not exist an NGO community. Now this partner is a regular participant in government planning activities.
- Lack of funding is a critical limiting factor for achieving sustainable biodiversity conservation impacts. As mentioned elsewhere in this document, developing long-term financial mechanisms is crucial for sustaining efforts over time.

3.6.4. Replication and System-level Impacts

The PiP Program provided added-value to site-specific efforts through its multi-country, multi-site, and multi-partner approach throughout Latin America and the Caribbean. This not only increased the profile of the sites involved, but created opportunities to leverage tools and results to sites and protected area systems not directly benefiting from the PiP Program. Lessons for maximizing replication and system-level impacts of the program include:

- Training of local staff has long-term impacts: While funding may end, the skills and knowledge that on-the-ground conservation practitioners gained during the PiP Program endures. Some of these practitioners have gone on to work at other protected areas or with other agencies after their participation in PiP. Frequently, they have taken the skills they gained with them to achieve results at non-PiP sites.
- Tools and publications (see box text below) facilitate the leveraging and replication of methodologies beyond the site level: Those interviewed for this analysis frequently mentioned PiP's tools and publications as one of the most valuable and unique aspects of the PiP Program. Field-testing these tools in real-life situations through the PiP Program and rolling-up the collective experience has also contributed to innovations and advances in thinking about biodiversity conservation throughout the region.

Using publications to leverage lessons learned

PiP has provided complete or partial funding for preparation of a number of ground-breaking publications that capture the experiences of TNC and PiP partners, making them available to other organizations throughout the region. Some publications are:

- *A Guide to Caribbean Vegetation Types: Preliminary Classification System and Descriptions* (English)
- *Nature in Focus: Rapid Ecological Assessment* (Spanish, English, Portuguese, French)
- *Parks in Peril: People, Politics, and Protected Areas* (English)
- *Wings from Afar: An Ecoregional Approach to Conservation of Neotropical Migratory Birds in South America* (English)
- *The Four Pillars of Financial Self-Sufficiency* (Spanish, English, Portuguese, French, Bahasa)
- *Integrated Strategic and Financial Planning* (Spanish, English, Portuguese, French, Bahasa)
- *Core Costs and NGO Sustainability* (Spanish, English, Portuguese, French)
- *Rumbo al Exito – a Guide for Boards of Directors of Non-Profit Organizations* (Spanish)
- *Site Conservation Planning: a Process for Conservation of Priority Sites* (Spanish and English)
- *Guía de Planeación Financiera para Areas Naturales Protegidas* (Spanish)
- *Guía para la Elaboración de Programas de Manejo para Areas Naturales* (Spanish)
- *Guía de Análisis de Impactos y sus Fuentes en Areas Naturales* (Spanish – Guide to Threats Analysis)
- *Herramientas de Planificación para la Conservación de Sitios. Estudio de Caso: La Reserva de la*

Biosfera El Triunfo, Chiapas, México (Spanish)

- Policy manuals, analysis, and case studies including:
 - *Land Use Zoning* (Spanish)
 - *Community-based Land Use Planning* (Spanish and English)
 - *Water Use-Fee Case Studies* (English)
 - *Mining Mitigation* (Spanish and English)
 - *Conservation Easement Manual* (Spanish)
 - *Private Land Conservation Incentives* (Spanish and English)
 - *Community-based Conservation in Chiapas, Mexico* (English and Spanish)
 - *Integrating Human Population into Conservation Planning* (English)
 - *Defending our Rainforest: A Guide to Community-Based Ecotourism in the Ecuadorian Amazon* (English)
 - *Meeting the Global Challenge of Community Participation in Ecotourism: Case Studies and Lessons from Ecuador* (Spanish and English)
 - *Ecotourism Development: A Manual Series for Conservation Planners and Managers* (Spanish, English, Portuguese, French)
 - *The Nature Guide Training Manual* (English)
 - *Long-term Financial Planning for Parks and Protected Areas* (Spanish, English, Portuguese, French)
- A number of these publications can be found on the CD-Rom entitled “Managing Conservation Areas: Tools for Setting Priorities, Measuring Success, and Building Local Conservation Capacity.”

- PiP made substantial progress in the consolidation of 37 important protected areas throughout the Latin America and Caribbean region; these achievements are described throughout this document. However, if the goal is the conservation of a representative sample of biodiversity throughout the region, then strategies that focus on individual sites fall short. PiP assisted with tool development to leverage impacts beyond PiP sites. Only by using the substantial presence gained in Latin American and the Caribbean to leverage out to additional institutions and sites can we hope to conserve the sites that have not been fortunate enough to receive PiP consolidation funding.

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Marcelo Montero, SERNAP, Bolivia
Guadalupe Morales Abril, The Nature Conservancy, Mexico
Osvaldo Munguia, MOPAWI, Honduras
Sonia Náñez Jiménez, El Ocote Biosphere Reserve, Mexico
Brad Northrup, The Nature Conservancy, USA
Francisco Núñez, Fundación Moscoso Puello, Dominican Republic
Monica Ostria, The Nature Conservancy, Bolivia
Adalberto Padilla, MOPAWI, Honduras
Jeffrey Parrish, The Nature Conservancy, USA
Odalís Pérez, USAID, Dominican Republic
Joe Quiroz, The Nature Conservancy, Mexico
Carter Roberts, The Nature Conservancy, USA
Oscar Rojas, DDM-GTZ, Guatemala
Federico Peña Taveras, World Vision, Dominican Republic
Winsor Suárez, Prefectura Departamento de Tarija, Bolivia
Philippe Taieb, The Nature Conservancy, USA
Jerome Touval, The Nature Conservancy, USA
Ana Meli Torres Villatoro, Consultant, Mexico
Silvia Ziller, Consultant, Brazil
José Alberto Zúñiga, Montes Azules Biosphere Reserve, Mexico

Annex 2: Site Consolidation Scorecard Scores by Parks in Peril Sites

SCORECARD SUMMARY TABLE, BY SITE (Score Reported in FY01 and FY02 PIP Evaluations⁸)

		Mexico																															
		El Triunfo 91-97 IHNE				Ria Lagartos 91-97** Pronatura				Ria Celestun 91-97** Pronatura				El Ocote 92-98 IHNE				La Encrucijada 92-98 IHNE				Sian Ka'an 92-98 Amigos de SK											
Indicator		96	97	98	99	00	01	96	97	98	99	00	01	96	97	98	99	00	01	96	97	98	99	00	01	96	97	98	99	00	01		
Infrastructure		2	4	4	4	4	4	1	4	4	4	4	4	2	3	3	3	3	3	2	3	4	4	4	4	2	4	4	4	4	4	4	
Personnel		2	4	4	4	4	4	2	4	5	5	5	5	2	3	3	3	3	3	3	1	3	5	5	5	2	3	5	4	5	5	5	
Training		3	4	4	4	4	4	1	4	4	4	4	4	1	3	4	4	4	4	1	4	4	4	4	4	1	3	3	4	4	4	4	
Land Tenure		4	5	5	5	5	5	2	4	4	4	4	4	2	3	4	4	4	4	1	4	5	5	5	5	1	4	4	4	4	4	4	
Threats		1	5	5	5	5	5	1	4	4	4	4	4	1	4	4	4	4	4	1	4	4	4	4	4	1	3	4	5	5	5	5	
Declaration		5	5	5	5	5	5	2	3	3	4	5	5	2	3	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	
Zoning		1	4	4	4	4	4	1	3	4	4	5	5	1	3	3	3	3	3	3	1	3	3	3	4	4	2	5	5	5	5	5	
Mgt. Plan		1	2	3	4	4	5	1	3	4	4	4	4	1	3	3	3	3	3	3	1	2	3	3	4	5	2	4	5	5	5	5	
Science Needs		2	4	4	4	4	4	2	3	3	3	4	4	2	3	3	3	4	4	1	2	2	3	3	4	4	1	3	3	4	4	4	
Monitoring Pl.		1	3	4	4	4	4	2	4	4	4	4	4	2	3	4	4	4	4	1	1	4	3	3	4	4	1	3	4	4	4	4	
NGO Self-Suff		2	2	2	3	3	3	1	3	3	3	3	3	1	3	3	3	3	3	2	2	2	3	3	3	3	1	3	3	3	3	3	
Site Fin. Plan		1	4	4	4	4	4	1	3	3	3	4	4	1	2	3	3	3	4	4	1	2	4	4	4	4	4	1	2	3	3	3	3
Mgt. Comm.		1	3	4	5	5	5	1	4	4	4	4	4	1	2	3	3	3	3	3	1	2	4	4	4	4	1	3	3	3	3	3	
Sust. Res. Use		1	4	4	4	4	4	2	4	4	4	4	4	1	4	4	4	4	4	4	1	4	4	4	4	4	1	3	3	3	3	3	
Policy Agen.		2	2	4	4	4	4	1	2	3	3	4	4	2	2	2	3	3	4	4	1	2	2	3	3	3	1	3	4	4	4	4	
Env. Ed		2	4	4	4	4	4	2	3	3	3	3	3	2	3	3	3	3	3	3	1	4	4	4	4	4	1	3	3	3	3	3	

I = Initial score at beginning of implementation.

96-00 = Scores reported for FY96 to FY00

**Ria Celestun and Ria Lagartos were managed as one administrative unit

* Bocas del Polochic is an addition to Sierra de las Minas.

⁸ In FY01, we updated Site Consolidation Scorecard Scores for all 37 PIP sites. In FY02, we updated the scores for only Paracas, Eduardo Avaroa, Rio Platano, Ajos-Bavispe, Sea of Cortez, Chaco, and Guaraqueçaba.

SCORECARD SUMMARY TABLE, BY SITE, continued

	Mexico Sites										Caribbean Sites																									
	Calakmul 93-99 Pronatura					El Pinacate 94-99 IMADES					Jaragua 91-95 Pronatura					Rio Bravo 93-96 PFB					M. T. Pitons 92-96 Dom. Cons. Ass.					Del Este 93-99 Pronatura										
Indicator	1	96	97	98	99	00	01	1	96	97	98	99	00	01	1	96	97	98	99	00	01	1	96	97	98	99	00	01	1	96	97	98	99	00	01	
Infrastructure	1	3	3	4	4	4	4	2	4	4	4	4	nr	4	2	4	4	4	4	5	nr	5	2	4	4	5	5	5	2	3	3	3	2	3	3	
Personnel	2	2	3	4	4	4	4	1	4	5	5	4	4	nr	2	3	3	3	3	nr	4	2	3	4	4	4	4	4	2	3	4	4	4	4	3	4
Training	1	2	2	2	3	4	4	4	4	4	4	4	4	nr	1	4	4	4	4	nr	4	3	5	5	5	5	5	5	1	4	4	4	4	3	3	4
Land Tenure	1	2	3	4	4	4	4	3	4	4	4	4	4	nr	1	4	5	5	5	nr	5	4	5	5	5	5	5	4	3	4	4	4	4	4	4	4
Threats	2	3	3	3	3	4	4	3	4	4	4	4	4	nr	1	4	3	3	3	nr	3	2	5	5	5	5	5	3	1	4	5	5	5	5	5	4
Declaration	2	2	3	4	4	4	4	5	5	5	5	5	nr	5	2	5	5	5	5	nr	5	nr					5	2	3	4	4	4	5	5	5	5
Zoning	2	3	3	3	3	4	4	3	4	4	4	4	nr	4	1	4	3	4	4	nr	4	2	5	5	5	5	4	2	3	3	3	3	3	3	3	4
Mgt. Plan	1	2	3	3	4	4	4	2	4	4	4	4	nr	4	3	4	4	4	4	nr	5	4	5	5	5	5	4	4	1	2	2	2	3	3	3	3
Science Needs	2	2	2	3	2	4	4	2	3	3	3	3	nr	4	1	3	3	4	5	nr	4	2	4	4	4	4	4	4	2	4	4	4	4	4	4	5
Monitoring Pl.	1	1	2	2	2	3	3	2	3	3	3	3	nr	4	1	2	2	2	2	nr	3	2	3	3	3	nr	4	3	1	3	3	3	3	3	3	3
NGO Self-Suff	1	2	2	3	3	3	3	1	3	3	3	2	2	2	1	3	1	3	3	nr	3	4	5	5	5	5	na	1	2	2	2	2	3	3	3	4
Site Fin. Plan	1	1	1	2	3	4	4	2	3	3	3	3	nr	4	1	4	4	4	nr	4	3	5	5	5	5	3	1	2	2	2	2	3	3	3	4	
Mgt. Comm.	2	2	3	4	4	4	4	1	4	4	4	4	nr	4	1	4	3	4	4	nr	4	2	5	5	5	5	4	1	2	3	2	3	2	3	1	2
Sust. Res. Use	3	3	4	4	4	4	4	1	3	2	1	1	4	nr	1	3	4	4	4	nr	4	2	3	3	4	4	4	4	1	3	3	3	4	4	4	4
Policy Agen.	1	1	1	2	2	3	3	1	2	3	2	3	nr	3	1	4	4	4	nr	4	2	4	4	4	4	4	4	4	1	2	2	2	2	2	2	3
Env. Ed	3	3	4	4	4	4	4	1	3	4	4	4	nr	4	1	3	3	3	nr	4	2	4	4	4	4	4	4	4	1	3	4	4	4	4	4	4

I = Initial score at beginning of implementation. Na = scores not available

96-00 = Scores reported for FY96 to FY00

nr = Scores not required to be presented this year

**Ria Celestun and Ria Lagartos were managed as one administrative unit

* Bocas del Polochic is an addition to Sierra de las Minas.

SCORECARD SUMMARY TABLE, BY SITE, continued

Andean/Southern Cone Sites		Mbaracayu 92-94 FMB												La Paya 92-96 Natura												Yanachaga 92-96 ProNatura												Machalilla 92-97 Natura											
Amboro 91-94 FAN		Noel Kempff 91-94 FAN												La Paya 92-96 Natura												Yanachaga 92-96 ProNatura												Machalilla 92-97 Natura											
Indicator	I	96	97	98	99	00	01	I	96	97	98	99	00	01	I	96	97	98	99	00	01	I	96	97	98	99	00	01	I	96	97	98	99	00	01														
Infrastructure	2	4	4	4	nr	2	2	4	4	4	4	nr	3	2	4	4	4	4	4	4	nr	4	2	3	3	3	3	nr	3	2	4	4	4	4	4	4	4	4	4										
Personnel	2	4	4	4	nr	2	2	4	4	4	4	nr	4	2	5	4	4	4	4	4	nr	4	2	3	3	3	3	nr	2	2	4	4	4	4	4	4	4	4	4										
Training	1	4	5	5	nr	3	1	4	5	5	nr	4	1	5	4	4	4	4	4	nr	4	1	2	2	3	3	nr	3	1	4	4	3	3	4	5	4	5	5	5										
Land Tenure	2	4	5	5	nr	3	2	4	5	5	nr	4	2	5	5	5	5	5	nr	5	2	4	4	4	5	nr	5	2	4	4	4	4	4	4	4	4	4	5	5	5									
Threats	1	4	5	4	nr	3	2	3	5	5	nr	4	1	5	5	5	5	nr	5	1	3	3	3	4	nr	4	1	4	4	3	3	4	3	3	2	4	3	4	4	4									
Declaration	2	5	5	5	nr	5	2	5	5	5	nr	5	1	5	5	5	5	nr	5	2	3	5	5	5	nr	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5									
Zoning	1	3	4	4	nr	4	1	1	3	4	5	nr	5	1	3	4	4	5	nr	5	1	1	3	3	3	nr	3	1	4	5	5	5	5	5	5	5	5	5	5	5									
Mgt. Plan	1	2	5	5	nr	4	1	2	5	5	nr	4	1	2	4	4	5	nr	5	1	2	2	3	3	nr	3	1	2	3	3	3	3	3	3	3	3	3	3	3	3									
Science Needs	1	2	4	4	nr	4	1	2	5	5	nr	4	1	2	4	4	4	nr	4	1	1	1	2	2	nr	2	1	2	4	4	4	4	4	4	4	4	4	4	4	4									
Monitoring Pl.	1	3	3	3	nr	3	1	2	3	3	4	nr	4	1	2	3	3	4	nr	4	1	2	2	2	3	nr	3	1	2	2	3	3	3	3	3	3	3	3	3	3									
NGO Self-Suff	1	3	3	3	nr	4	1	3	3	3	4	nr	4	1	3	4	4	nr	4	1	2	2	3	4	nr	nr	1	3	4	4	4	4	4	4	4	4	4	4	4	4									
Site Fin. Plan	1	3	5	5	nr	2	1	2	4	5	nr	4	1	2	2	3	4	nr	4	1	2	2	2	3	nr	3	1	3	4	4	4	4	4	4	4	4	4	4	4	4									
Mgt. Comm.	2	3	4	4	nr	3	1	1	4	4	5	nr	5	1	4	3	3	nr	4	1	2	2	2	2	nr	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3									
Sust. Res. Use	1	3	4	4	nr	3	1	1	4	4	5	nr	5	1	3	4	4	nr	4	1	1	3	3	4	nr	4	2	4	4	4	4	4	4	4	4	4	4	4	4	4									
Policy Agen.	2	4	4	4	nr	3	1	4	5	5	nr	4	1	2	4	4	nr	4	2	2	2	2	2	2	nr	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4									
Env. Ed	1	3	3	3	nr	4	1	4	2	3	4	nr	2	1	4	2	3	nr	4	1	3	3	3	3	nr	4	1	3	3	4	4	4	4	4	4	4	4	4	4	4									

I = Initial score at beginning of implementation.

96-00 = Scores reported for FY96 to FY00

nr = Scores not required to be presented this year

**Ria Celestun and Ria Lagartos were managed as one administrative unit

* Bocas del Polochic is an addition to Sierra de las Minas.

SCORECARD SUMMARY TABLE, BY SITE, continued

“New” Sites—added to PIP during or after FY97

Indicator	Mexico				Mexico				Mexico				Caribbean				Caribbean							
	Loreto Bay 98-02 ISLA				Espiritu Santu 98-02 ISLA				Ajos-Bavispe 99-01 IMADES				BJCM 98-02 JCDT				Madre de las Aguas 96-01 Prodressio							
	I	98	99	00	I	98	99	00	I	99	00	01	I	98	99	00	I	98	99	00	I	98	99	00
Indicator					L				L				L				L				L			
Infrastructure	2	2	3	na	4	4	2	2	4	4	3	na	4	4	4	4	4	4	4	4	4	4	2	2
Personnel	2	3	3	na	4	4	2	3	4	4	3	na	4	4	4	4	4	4	4	4	4	4	2	2
Training	2	2	3	na	4	4	2	2	4	4	2	na	4	4	4	4	4	4	4	4	5	1	1	1
Land Tenure	2	2	3	na	4	5	2	2	4	5	2	na	4	5	5	3	4	4	4	4	5	2	2	2
Threats	1	1	2	na	4	5	1	1	4	5	2	na	4	5	4	2	4	4	4	4	5	1	2	2
Declaration	5	5	5	na	5	5	5	5	5	5	2	na	5	5	5	4	5	5	5	5	4	2	2	2
Zoning	2	2	2	na	4	4	2	2	4	4	1	na	4	4	4	3	4	4	4	4	4	1	2	2
Mgt. Plan	2	2	2	na	4	5	2	2	4	5	2	na	4	5	4	3	4	4	4	4	5	1	1	1
Science Needs	1	1	2	na	3	4	1	1	4	4	2	na	3	4	4	2	4	4	4	4	5	1	1	1
Monitoring Pl.	1	1	2	na	3	3	1	1	4	4	2	na	3	4	4	2	4	4	4	4	4	1	1	1
NGO Self-Suff	2	2	2	na	2	3	2	2	4	4	2	na	2	3	4	3	4	4	4	4	4	1	2	2
Site Fin. Plan	2	2	2	na	2	4	2	2	4	4	1	na	3	4	4	2	4	4	4	4	5	1	1	1
Mgt. Comm.	3	3	3	na	4	5	3	3	4	4	3	na	4	5	4	2	4	4	4	4	5	1	1	1
Sust. Res. Use	1	1	2	na	3	4	1	1	4	4	2	na	3	4	3	3	4	4	4	4	5	2	2	2
Policy Agen.	1	1	2	na	2	4	1	1	4	4	2	na	2	4	5	2	4	4	4	4	4	1	2	2
Env. Ed	3	3	3	na	3	4	3	3	4	5	2	na	3	4	4	2	4	4	4	4	5	1	3	3

I = Initial score at beginning of implementation.
 98-02 = Scores reported for FY98 to FY02
 nr = Scores not required to be presented this year
 LP = Life of Project targets for indicators

SCORECARD SUMMARY TABLE, BY SITE, continued

“New” Sites—added to PIP during or after FY97 – Contd.

Indicator	ASC		ASC		ASC		ASC		C. Am.		Brazil	
	1 98	99 00	00 01	02 LP	Eduardo Avaroa 99-02	Tropico	Paracas 99-01	ProNaturaleza	Rio Platano 98-02	MOPAWI	Guarapeçaba 98-02	SPVS
Infrastructure	2 3 3	4 4 4	2 2 2	2 3 3	2 3 3	4 4 4	2 3 3	4 4 4	2 3 3	3 3 3	4 3 3	4 3 3
Personnel	2 3 2	3 3 3	4 4 4	2 2 3	3 4 3	2 2 3	4 4 4	2 2 3	3 3 3	4 2 2	2 2 2	3 3 3
Training	2 3 3	4 4 4	4 4 4	4 4 4	4 4 4	4 4 4	3 2 3	4 4 4	2 2 4	4 4 4	5 4 3	4 4 4
Land Tenure	4 4 4	4 4 4	5 5 5	3 3 3	3 3 4	2 2 3	4 5 5	2 2 3	3 3 3	4 4 3	2 3 3	5 5 5
Threats	1 1 3	3 3 3	4 4 4	4 4 4	4 4 4	4 4 4	2 2 3	4 5 5	3 3 3	3 3 3	4 4 4	4 4 5
Declaration	2 2 3	4 4 4	4 4 4	2 2 2	2 4 3	2 2 4	5 5 5	5 5 5	5 5 5	5 4 4	4 4 5	5 5 5
Zoning	1 2 2	2 3 4	2 2 2	2 3 4	4 4 4	2 2 3	4 5 5	3 3 3	3 3 3	4 4 3	3 3 3	4 4 4
Mgt. Plan	1 1 2	2 3 5	2 2 3	3 4 4	4 4 4	2 2 3	4 4 4	4 1 2	2 2 2	5 4 3	3 3 3	3 3 3
Science Needs	1 1 2	3 3 4	3 3 3	3 3 3	3 3 3	2 2 3	4 4 4	4 2 2	3 3 3	4 4 4	4 3 3	4 4 4
Monitoring Pl.	2 2 2	2 3 4	1 3 4	4 4 4	2 2 2	2 3 4	4 4 4	4 1 1	2 2 2	3 4 2	2 3 3	4 4 4
NGO Self-Suff	1 1 4	3 3 4	3 2 3	3 3 3	2 2 2	3 4 4	4 4 4	2 3 3	3 3 3	4 4 2	2 2 2	3 4 4
Site Fin. Plan	1 1 2	3 3 4	2 2 2	3 4 3	1 1 2	2 4 4	4 4 4	4 1 2	2 2 2	4 1 2	2 5 4	4 4 5
Mgt. Comm.	1 1 1	4 4 4	3 3 3	3 5 4	3 3 4	4 4 4	4 4 4	2 2 4	4 4 4	5 1 2	2 2 2	3 4 4
Sust. Res. Use	1 1 1	1 1 3	1 1 1	1 3 2	3 3 4	4 4 4	4 4 4	4 3 3	4 4 4	4 2 3	3 3 4	4 4 4
Policy Agen.	4 4 4	4 4 5	3 3 3	3 4 3	2 2 3	3 3 3	3 3 3	2 2 2	2 2 2	4 2 2	2 2 2	2 2 4
Env. Ed	1 1 3	4 4 4	2 2 3	2 3 3	1 1 3	4 4 4	4 4 4	4 3 3	3 3 3	2 4 3	3 3 3	3 3 4

I = Initial score at beginning of implementation.

nr = Scores not required to be presented this year

96-02 = Scores reported for FY96 to FY02

LP = Life of Project targets for indicators