

*Conservation International  
Biodiversity Corridor Planning and Implementation program (Corridor)*

**Annual Progress Report  
FY01: October 1, 2001 - March 30, 2002**

**June 17, 2002  
Cooperative Agreement No. LAG-A-00-99-00046-00**

**Summary of Activity Status and Progress**

**A) Introduction**

This report covers activities in the first half of FY02, from October 1, 2000 to March 30, 2002 for the USAID Biodiversity Corridor Planning and Implementation Program (Corridor) Cooperative Agreement. For FY02, obligated funding for the Corridor Cooperative Agreement supported country activities in Brazil, Guyana, the Philippines, and activities in Enforcement Economics.

Under the USAID/Global Bureau Leader with Associates Global Conservation Program, Conservation International (CI) is implementing biodiversity corridors in three priority areas: the Kanuku Mountains and New River Triangle region of southern Guyana, the Sierra Madre mountain range in the northern region of Luzon, Philippines, and the Cerrado/Pantanal region of south-western Brazil. The purpose of these programs is to establish functioning biodiversity corridors over the five-year life of the Agreement. Each of the regions has made progress toward this goal. The Enforcement Economics program is developing an economic model of how to help countries effectively enforce protected areas and related regulations. This report provides an update on the progress of each of these programs.

The Highlights and Successes section below summarizes some key activities and outcomes of each program. The Activities section provides more of a summary of outcomes and activities for the programs. Appendices provide examples of some of the outputs from the program for FY01.

**B) Highlights and Successes**

**Brazil**

**1) Story 1**

CI conducted a National Expedition, the only one of its kind, using the Rapid Assessment Program (RAP) standard procedures. In February/March, CI, in partnership with Ecotrópica Foundation, FEMA-MT, Mato Grosso State University (UNEMAT) and Mato Grosso Federal University (UFMT) carried out a Biological Rapid Assessment (Aqua RAP) along the Sepotuba river basin and the headwaters of the rivers Cabaçal, Jaurú and Paraguay. The expedition covered over 600 kilometers of river and 3,000 kilometers

over land. It was a critical activity to expand the Biodiversity Corridor from the Pantanal to the Amazon region. As a result, the 36 participating Brazilian researchers obtained a sound biological overview of the area. They also discovered over 14 new species of fish, 2 of dragonflies, 10 new spiders and many new records of plants, birds, macro-invertebrates and fishes. In addition, many areas such as the Juba dam, Rio do Peixe (Rio Cabaçal tributary) and the lower Sepotuba (confluence of the Rio Paraguai and Araras hills), were identified as areas of high biodiversity and will be recommended as priority areas for conservation. The Aqua RAP expedition was featured in Globo Repórter, a Globo television product of great national and international coverage.

In addition of the value of adding all these species to important Brazilian collections held in Museums and Universities, this expedition offered a unique opportunity for Brazilian researchers to be trained in the Aqua RAP methodology. Results from the expedition, to be published by the end of this fiscal year, will base Corridors actions in FY03.

## **2) Story 2**

In 1998, IBAMA decreed a law to authorize and tax controlled burn activities. Even though fire can be a management tool, if not used properly it can become a biodiversity threat.

However, most landowners agreed that the law couldn't be adequately enforced. Therefore, many landowners practiced this method but didn't pay the required R\$ 3,50 (around \$1.40) fee. As a result, the use of fire in the Mato Grosso do Sul state remained largely uncontrolled.

As a result of CI negotiations with IBAMA and other State Committee members, IBAMA agreed to abolish the tax. CI and its partners believe that eliminating the tax will encourage farmers to formally request authorization. This point of contact will be a great opportunity to establish a relationship between Environmental Agencies and landowners. It will also allow landowners to learn how to conduct responsible burns.

## **3) Story 3**

In April CI-Brasil/Pantanal launched the video "Redesigning the Landscape – Cerrado-Pantanal Corridor" in Campo Grande, Mato Grosso do Sul State. The eleven-minute video explains the Corridor concept as a creative and modern solution to protect the Cerrado and the Pantanal biomes. It emphasizes that the corridor concept does not exclude productive land use areas. It also explains the role that each segment of society has in this project. It highlights the important role of land owners, who could help the Corridor program not only by complying with the Brazilian environmental law but also by creating private protected areas within their properties. By utilizing very accessible language and self-explanatory images the "Redesigning the Landscape" video is proving to be a great communication tool for a broader audience.

Copies of the video will be distributed to schools and rural cooperatives and associations along the Corridor. In addition, complementary brochures will also be disseminated. Future plans include wider distribution of the video to include the general public, educators and NGO's. This video has been shown on national TV, after which CI Brasil received hundreds of requests for copies of the video by various types of organizations, including schools, governmental agencies and the private sector.

#### **4) Story 4**

Two years ago, CI was instrumental in establishing the State Park of the Pantanal of the Rio Negro. The land tenure survey of the State Park of the Rio Negro has been accomplished by Idaterra (Instituto de Desenvolvimento Agrário Assistência Técnica e Extensão Rural de MS) with CI's financial and logistical support. The park is composed of three farms – Esperança, Rancho Alegre and Redenção, with an area of 78.302.9781 ha. It includes one of the most pristine portions of the Pantanal, the Rio Negro watershed. Purchase of the land is based on the CI-state government matching fund program. CI raised \$1 million and the state has raised \$500,000 thus far, with the second tranche in the pipeline. By September, we'll be able to buy the first 25,000 hectares, covering Esperança and Rancho Alegre. An additional \$4 million have been raised by CI to begin negotiations for 2 to 3 new areas along the Negro river basin, the central axes of the Cerrado Pantanal area. As well as acquiring the land, this generous donation will support CI to establish a training center to build capacity of local people on how best to use their natural resources. Courses will include a variety of topics, from learning to making leather artifacts and seasonal fruit compotes to more formal education about concepts of biodiversity and conservation.

#### **5) Story 5**

CI-Brazil and Emas Foundation continue to develop partnerships with environmental agencies managing natural resources and protected areas along the corridor. The objective is to assist their organizational and personnel development. The desired result is improved service quality and increased visibility in their local communities. In the Cerrado corridor, partnerships were established during FY01. The exchange of information and knowledge among park staff, Emas Foundation specialists, and associated researchers resulted in implementing new biodiversity management and monitoring practices. Direct benefits to personnel include training, access to GIS and modern communication technologies, and improvement of lodging conditions. Emas Foundation is also providing information to help national and state environmental agencies create new conservation units and helping municipal secretaries to improve their capacity to manage these areas. The next steps are to continue providing personnel training, officially integrate common strategies of state environmental agencies (Goiás, Mato Grosso do Sul and Mato Grosso), and to strengthen the environmental education component activity in protected areas.

### **Guyana**

#### **1) Story 1**

The Guyana Forestry Commission has approved the management plan for CI's conservation concession in Guyana. It will make innovative use of existing forestry legislation to establish a strategic area of tropical wilderness. Although not highly threatened, securing this area is an important building block for the conservation corridor being implemented in southern Guyana.

Stakeholder engagement is one of CI's primary strategies to ensure broad-based project support. The management plan, for example, is based on stakeholders' guidance. Elaborated by consultants, the draft management plan was then presented to stakeholders for review before it was finalized. A Social Impact Assessment, focusing on the three indigenous stakeholder communities was also conducted.

The approval of the management plan now paves the way for the concession agreement to be negotiated and signed. CI Guyana is now negotiating the details of the concession agreement with the Guyana Forestry Commission. The first one will be established in July 2002. The potential future expansion of the initial concession [in the what?] also provides CI a flexible approach to link areas under protection to a regional conservation corridor across the Guayana Shield.

## **2) Story 2**

Several strategic initiatives have been initiated to reinforce the foundation and nurture critical support for the proposed Kanuku Mountains Protected Area.

Although activities were largely stalled during November 2001 to late March 2002, CI Guyana, collaborating with the Ministry of Education in Guyana and with support from CI's International Communications program, implemented a one-week training workshop for teachers in Region Nine.

The aim was to empower the teachers with information on conservation and protected areas and eliminate misconceptions about the process to establish a protected area and teachers would become more supportive of the process. It was also expected that teachers might integrate conservation concepts into the existing school curriculum. The evaluations were very favorable.

## **3) Story 3**

The Minister of Amerindian Affairs launched the Community Resources Evaluation in late March 2002. The Executive Director of the Environmental Protection Agency also participated in this exercise.

The Community Resources Evaluation is significant, since it will provide important information on how the stakeholder communities use and perceive the Kanuku Mountains and the surrounding areas. Its occurrence is also significant because of delays related to indigenous lands. Further, the information generated will guide the development of a proposal to establish the protected area. The implementation of these Community Resources Evaluations will be a major activity during the rest of the fiscal year.

## **4) Story 4**

CI Guyana has adapted its approach to engaging regional stakeholders. It is taking the workshop approach to nurture environmental leadership in each community.

Captains and members of the Village Councils are being trained in a broad range of conservation related issues and the protected area process. As with all other educational activities, the aim is to dispel the many suspicions and misconceptions that arise from misinformation or a lack of information. Initial indications are that community leaders highly appreciate the enhanced capacity that these workshops provide them. There is also indication that the initiative is likely to generate a critical mass of widespread support for the establishment of the proposed protected area.

## **Philippines**

### **1) Story 1**

The Office of the Secretary of the DENR has received the application to expand the Penablanca Protected Area Landscape and Seascape, from its present coverage of 4,136 hectares to 117,017 hectares. This document will be sent to the President of the Philippines for endorsement after the review and approval by the DENR. CI Philippines played a major role in this achievement by ensuring that all documentary requirements were met in a timely manner. They include the Protected Area Management Board resolution, municipal resolution, provincial government and local DENR endorsements, initial Protected Area Plan (IPAP) and the draft Presidential Proclamation. One of the immediate impacts of the proposed expansion will be revoking all existing timber licenses and the removal of mining applications within the proposed expanded area.

Similarly, CIP is working with the DENR and the LGUs of Quirino and Aurora to prepare the requirements for the creation of a new Protected Area in Quirino. It will cover approximately 65,000 hectares. We are also working with the DENR to expand the Maria Aurora Memorial National Park from 5,000 to approximately 85,000 hectares. The target date for Completion of the documentation requirements is targeted for the end of the FY2 implementation plan.

### **2) Story 2**

CI Philippines initiated the formation of local coordinating units (LCUs) for the implementation of management plans in each province in the corridor. LCU members include the Department of Environment and Natural Resources, Department of Agrarian Reform, Department of Tourism, Peoples Organizations, NGOs, other civil society groups, private sector, local government units and religious groups. They are currently reviewing the draft Memorandum of Understanding. At the same time, the four LCUs are each preparing their provincial integrated natural management strategy. Each will serve as the blueprint for implementing sustainable development and conservation programs in the respective province. New LCUs are also being created in the Quezon, Nueva Ecija, Bulacan, and Rizal provinces.

In the Northern Sierra Madre Natural Park (NSMNP), CIP has been an active participant in a Technical Assistance Unit (TAU), which functions similarly to an LCU. Since its formation in 1999, it has been responsible for coordination of various Park-related activities and technical support to the Protected Area Management Board (PAMB) and NSMNP Park Administration.

### **3) Story 3**

A major achievement for the project's advocacy program is the Northern Sierra Madre Natural Park Protected Area Management Board's pro-environmental decisions. Specifically, it voted to disapprove the Luzon Mahogany Timber Incorporated request to open an old and abandoned logging road. This road cuts across the southern portion of the park, as access to its proposed concession area. The Management Board also disapproved the Palanan, Isabela furniture sector's request to use their remaining inventory of timber. This decision ended their operations in the area. As an active member of the PAMB, CI Philippines provided the necessary information for the PAMB members' deliberations and final decision. Lastly, after CI demonstrated that a proposed open pit mine could adversely impact about 35,000 hectares of forestlands, the Board also disapproved its application.

## **Enforcement Economics**

### **1) Story 1**

The highlight of the Selva Maya, Mexico program is the development of a new broader initiative on Wildlife Hunting and Trade. Integrated analysis of the enforcement chain, wildlife markets and marketing chains, identification and assessment of key trade groups are now possible. This data is fed into the conservation investment analysis matrix. Finally, all potential counter initiatives will be assessed in terms of the type of threat and the socio-economic conditions. A concept paper detailing the importance and rationale for the Wildlife Hunting and Trade Initiative was written. It is a useful advocacy tool. Potential partners, such as PROFEPA, CONANP, TRAFFIC-Mexico, ECOSUR, UNAM, CEMDA, BIOCENOSIS and PRONATURA are being approached and invited to a June 2002 workshop to decide individual roles and responsibilities. The initiative was developed and designed with the full participation of the project team. A collaborative approach provides a valuable foundation to the project.

### **2) Story 2**

CI Papua, Indonesia identified key players for conservation law enforcement in Papua. Next, it began to socialize the process with them. Bilateral meetings were held with the Papua Regional Police (Polda Papua), the Papua Army Command (Kodam XVII Trikora), the Papua Navy Command, attorneys for several regencies, several regency courts, the Papua Forest Rangers, the Nature Conservation Agency, the Faculty of Law-University of Cenderawasih, Provincial parliament, and Papua NGO alliances. These organizations, in turn, have socialized the process with key players in the wildlife trade.

A key relationship has been established with the Papua Army Commander. He asked us to brief 600 new troops about Papua Biodiversity and conservation regulations to protect endangered wildlife. Subsequently, CI-Papua was invited as a keynote speaker to the Annual Commanders Meeting of the Papua Army Command. The other keynote speakers were Governor of Papua, Papua Police Commander, and Head of Nature Conservation Agency. All provincial commanders, including territorial commanders at the regency and district levels attended this meeting. These events provided advocacy opportunities and increased CI's visibility.

The socialization process has also help profile the Papua enforcement systems at the national, provincial, regency, and local level. With institutional support, we've been able to access five years of available illegal wildlife trade data for one regency and several years of data for others.

The socialization process and the enforcement profiling work in Jayapura and several outer provinces significantly increase our ability to get inside information from police and prosecutors. We now understand standard investigation and legal processes.

### **3) Story 3**

The enforcement economics study in Palawan, Philippines initiated the legal review and enforcement profile. Through a series of discussions with our partner in the Enforcement Economics work, ELAC we developed a terms of reference (TOR) formalizing the roles of ELAC, our partner, and CI.

The time taken in this initial investment was important for three reasons:

1. ELAC can now distinguish between its needs and CI's needs.
2. CI learned more about the extent to which current enforcement activities threaten biodiversity conservation efforts in Palawan.
3. It allowed for further discussion on the importance of quantifying data and the strategies.

The result is a close working relationship between CI and ELAC that significantly reduces the chances of miscommunication. It strengthens our enforcement analysis by including ELAC input from the start.

Our second success in this area results from the first one. The legal review and the enforcement profile are already turning up the data required for the analysis of the enforcement chain. Thus far, they have identified the responsible detection agencies, relevant authority legislation, mechanisms used in traditional enforcement systems, overlapping responsibilities, and arrest records. ELAC and CI-PAL will complete initial drafts by June 23. The entire team will review these drafts. The final documents will be completed by June 30. The final analysis will be used as a planning tool for the next step - a more detailed analysis of system weaknesses and developing least-cost strategies.

### C) Table of Activity Status

<b>Activity Number</b>	<b>Activity Title</b>	<b>Status*</b>	<b>Page number for more information</b>
<b>Brazil</b>			
1.1.1	Assess financial incentives of existing economic activities in the Corridor	On-track	20
1.1.2	Present and discuss results from issues papers/incentive analyses and to bring relevant experts to consensus around financial incentives findings	Delayed	20
1.1.3	Aqua RAP expedition to the Upper Paraguay River Basin	Completed	21
1.1.4	Conduct land tenure survey to compile information on private properties within the Corridor	On-track	21
1.2.1	Develop and operate the Corridor Information System	On-track	22
1.3.1	Hold technical meeting to establish a minimum protocol to collect biological information in the corridor	On-track	22
1.3.2	Implement draft monitoring plan	On-track	23

<b>Activity Number</b>	<b>Activity Title</b>	<b>Status*</b>	<b>Page number for more information</b>
1.4.1	Identify and create partnerships to extend the area of the Cerrado – Pantanal Biodiversity Corridor.	On-track	23
1.4.2	Annual Corridor Planning Meeting	On-track	23
1.5.1	CI Pantanal database specialist hired	Completed	24
1.5.2	Establish field support station at Chapadão do Céu municipality	Completed	24
1.5.3	Cerrado communication expert hired	On-track	24
1.6.1	Assessment of Cerrado economic and environmental viability of apiculture produced	Cancelled	25
1.7.1	Video and other educational materials distributed to schools in the Pantanal and Cerrado.	On-track	25
1.7.2	4-P workshop held resulting in Corridor communication strategy defined	Completed	26
1.7.3	4-P created Environmental awareness material produced and distributed	On-track	27
2.1.1	Continue assisting IBAMA, SEMACT and landowners in the creation of private reserves	On-track	27
2.3.1	Implement field stations in the core nuclei area of Emas National Park and Taquari Headwaters State Park	Completed	28
2.3.2	Emas Charette held	Delayed	28
2.4.1	Land tenure and infrastructure assessment for the Rio Negro State Park completed, management plan started.	Completed	29
2.4.2	Emas Foundation supports to implement the activities determined by the management plan designed by IBAMA for the Emas National Park in place	On-track	29
2.4.3	Corridor staff supports to assist the creation and management of public and private protected areas in the North – South Corridor region provided.	On-track	29
2.5.1	Emas Foundation support of FIMES herbarium and entomological collections	On-track	30
2.5.2	MS Private Reserve Land owners Association created and supported.	On-track	30
2.5.3	Formal educational program for adults at the Fazenda Rio Negro to teach the “pantaneiros” to read and write created	On-track	30
2.6.1	Pantanal Corridor Vegetation Map protocol produced	On-track	31
2.6.2	Support and host two training programs	Completed	32

<b>Activity Number</b>	<b>Activity Title</b>	<b>Status*</b>	<b>Page number for more information</b>
	on biodiversity, wildlife conservation and population ecology studies on the Rio Negro farm		
2.6.3	Support two biodiversity researchers by providing them with mid-term research grants to conduct individual research projects at the Rio Negro Farm	Completed	32
2.6.4	Continue the established partnership with the Earthwatch Institute to carry out research with demography and/or ecology of keystone species	Completed	32
2.6.5	Kids RAP field trips held, data collected and published.	On-track	32
2.7.1	Corridor environmental education workshops held, materials distributed.	On-track	33
2.7.2	10 volunteer teachers awarded with Earthwatch fellowships	Completed	33
2.7.3	Information gathered on major threats to expand the preservation of the Pantanal watershed campaign.	On-track	33
2.7.4	New volunteer fire brigades trained and equipped	On-track	34
3.1.1	Rio Negro Research Center Herbarium and entomological collections in place	On-track	34
3.2.1	Business plan on the sustainable use of game in Cerrado developed on a pilot project scale	On-track	35
3.2.2	Training program in soil conservation and production of native plant species offered	Delayed	35
3.2.3	"UFMS vai a escola" project visiting Corridor municipalities.	On-track	36
3.2.4	Establish partnership with COMIVA to improve sustainable cattle raising and dairy production management in the Cerrado	On-track	36
3.2.5	Continue to promote apiculture training in the Pantanal portion of the Corridor	On-track	36
3.3.1	Best practices in agriculture" project land use tool kits disseminated	Mixed performance	37
3.3.2	Brazilian Association of Organic Beef Producers Created	Completed	37
3.4.1	Diagnosis program to evaluate sustainable economic practices for the Kadiweu Indigenous Community supported	On-track	38
3.4.2	Implementation plan for long-term corridor	On-track	38

<b>Activity Number</b>	<b>Activity Title</b>	<b>Status*</b>	<b>Page number for more information</b>
	financing mechanisms produced		
3.6.1	MOU signed with Oswaldo Cruz Foundation (FioCruz) to analyze infectious and parasitic agents on domestic and wildlife species.	Mixed-performance	39
3.6.2	Biodiversity analysis and mapping initiated of Pantanal portion of Corridor	On-track	40
3.7.1	Biological information obtained by Cerrado team to access Corridor effectiveness	On-track	40
4.1.1	Corridor GIS technical team meeting held to discuss landscape analysis, fragmentation and connectivity processes data gathered throughout the life of this agreement.	Delayed	40
4.1.2	Emas Foundation viability studies to define the most appropriate category of protected area conducted	Completed	41
4.2.1	Capacity building training for Federal, State, Municipal government, district attorneys and land owners associations on the current Forestry Code held	Mixed-performance	41
4.6.1	North – South Corridor mapped; areas of high biological diversity highlighted, existing private and public protected areas indicated	On-track	41
4.6.2	Map of Land use restrictions and agricultural best practices created for the Araguaia headwaters.	Mixed-performance	42
4.7.1	Campaign launched to avoid road kills in corridor.	Mixed-performance	42
<b>Guyana</b>			
1.4.5	Engaging staff for conservation concession	Mixed Performance	44
1.4.6	Completion and review of Social Impact Assessment report	Completed	44
1.6.1	Analysis of potential for establishing a financial mechanism for funding protected areas	On-track	46
2.1.1	Submission of a workplan to Protected Area Secretariat	Completed	47
2.1.2	Formulation and consultations on a proposal to establish a protected area in Kanuku Mts.	Delayed	47

<b>Activity Number</b>	<b>Activity Title</b>	<b>Status*</b>	<b>Page number for more information</b>
2.1.3	Negotiation of payments for conservation concession	On-track	47
2.2.1	Engaging personnel to monitor conservation concession	Delayed	47
2.3.1	Negotiating the expansion of the conservation concession	Delayed	47
2.4.1	Finalizing management plan for conservation concession	Completed	48
2.5.1	Training Rangers for conservation concession	On-track	48
2.5.2	Building capacity of stakeholders for informed consultations	Cancelled	48
2.6.1	Finalization of RAP report	On-track	48
2.7.1	Publication and distribution of newsletters	On-track	48
2.7.2	Implementation of national and regional summer camps for school students	On-track	49
2.7.3	Biodiversity Award and training workshop	On-track	49
2.7.4	Production of communication tools	On-track	49
2.7.5	Production of conservation documentary on Kanuku Mountains	Delayed	49
2.7.6	Production of awareness products and launching of conservation concession	On-track	50
2.7.7	Participation in national trade exhibition to raise conservation awareness	On-track	50
2.7.8	Training teachers in biodiversity concepts	On-track	50
3.2.1	Networking to support development of enterprise strategy	On-track	51
3.2.2	Building capacity of Nappi Balata Artisans	On-track	51
3.2.3	Training workshops for regional stakeholders on evaluate business proposals	Cancelled	51
3.2.4	Finalization and implementation of Business Plan for Nappi Balata Artisans	On-track	51
3.2.5	Development of a marketing strategy for Nappi Balata Artisans	Mixed Performance	52
3.2.6	Verification of biological sustainability of balata extraction and maintaining ban on Bulletwood harvest	On-track	52
3.2.7	Construction of resource center for Nappi Balata Artisans	On-track	52
3.2.8	Elaboration of CIG's national strategy for conservation enterprise development	Delayed	52

Activity Number	Activity Title	Status*	Page number for more information
<b>Philippines</b>			
1.1	Build regional understanding for Corridor strategy as an effective tool for integrated resource management and biodiversity conservation	On track	55
1.2	Corridor learning system/adaptive management in place and operational	On track	55
1.3.1	Establish Local Coordinating Units	Mixed performance (Completed the stakeholders workshops but the establishment of the LCU through signing of MOUs is ongoing)	55
1.3.2	Corridor-wide meeting to assess effectiveness of LCUs	On track	56
2.1.1	Training of trainers in resource mapping and resource management planning	On track	56
2.1.2	Training in the preparation of Special Habitat Zones for IPAP development	On track	57
2.1.3	Develop management plans for new and existing protected areas	On track	57
2.1.4	Management zoning and boundary monumenting of Penablanca Protected Landscape and Seascape	On track	57
2.2.1	Park Rangers technical and in-kind support	On track	57
2.2.2	Capacity Building for Protected Area Management Boards	Mixed performance (Para-legal training for the PAMB members of Casecnan Protected Area is still to be conducted)	58
2.2.3	Awareness Campaign to build Protected Area constituency	On track	58
2.3.1	Facilitate the process of establishing legal Protected Area status	Mixed performance (Expansion of	58

Activity Number	Activity Title	Status*	Page number for more information
		Penablanca Protected Landscape and Seascape already indorsed, however, the requirements for endorsement for the creation of Quirino Protected Area is still being worked out)	
3.1.1	Reforestation for habitat connectivity	Mixed performance (The establishment of the nursery was completed but the establishment of the reforestation and agro-forestry is to begin this coming rainy season)	59
3.1.2	Promote connectivity through adaptive farming (agro-forestry) practices to curtail slash and burn agriculture	On track	59
3.2	Consensus building for Southern Sierra Madre Protected Area to alleviate the threat of the Pacific Coast City and threats to the Metro/Manila Watershed	On track	60
<b>Enforcement Economics</b>			
	<b>A. Selva Maya, Mexico</b>		
A.1.1	Profile enforcement system, illegal activities and threats to biodiversity, and secure support for the project from key stakeholders	Mixed performance	63
A.1.1.1	Profile the current enforcement systems used by Government and by communities to address wildlife hunting and trade in protected endangered species	Mixed performance	63
A.1.1.2	Profile the illegal wildlife trade and assess the threat to endangered species and keystone species	Mixed performance	63

Activity Number	Activity Title	Status*	Page number for more information
A.1.1.3	Socialize the project with key decision-makers and stakeholders and secure their input and support for the project	Mixed performance	63
A.1.2	Identify weaknesses in the enforcement system and develop least-cost investment strategy for addressing them	On track	64
A.1.2.1	Review of legislation to document laws governing wildlife hunting and trade in the Selva Maya	On track	64
A.1.2.2	Collection and compilation of quantitative data on the government enforcement system	On track	64
A.1.2.3	Interview enforcement staff to gather further qualitative information on the determinants of weaknesses in the enforcement system	On track	64
A.1.3	Identify cost-effective opportunities to reduce the incentives for illegal activities	On track	64
A.1.3.1	Policy Analysis Matrix	On track	64
A.1.3.2	Market survey	On track	65
A.1.3.3	Local livelihoods analysis to identify opportunities for reducing hunters' incentives for illegal activities.	Scheduled for FY03 as per FY02 Implementation Plan	65
A.1.4	Influence key decision makers to implement least-cost investment strategies to improve quality of enforcement	On track	65
A.1.4.1	Ongoing engagement with critical decision-makers to initiate improvement programs and activities as urgent problems in enforcement are revealed	On track	65
A.1.4.2	Bilateral and multilateral discussions with enforcement agencies and other institutions to discuss findings and secure the necessary resources for strengthening enforcement	Scheduled for FY03 as per FY02 Implementation Plan	65
A.1.4.3	Targeted outreach strategy focusing on policy-makers, conservation partners, and other stakeholder groups designed and implemented	Scheduled for FY03 as per FY02 Implementation Plan	65
A.1.4.4	Policy Analysis Matrix workshop for decision-makers, partners and other	Scheduled for FY03 as per FY02	66

Activity Number	Activity Title	Status*	Page number for more information
	stakeholders to reach consensus on initiatives to address wildlife hunting and trade	Implementation Plan	
	<b>B. Papua, Indonesia</b>		
B.1.1	Profile enforcement system, illegal activities and threats to biodiversity, and secure support for the project from key stakeholders	On track	66
B.1.1.1	Profile the current enforcement systems used by Government and by communities to address illegal logging and trade in protected endangered species	On track	66
B.1.1.2	Profile the illegal wildlife trade and assess the threat to protected endangered species	On track	66
B.1.1.3	Profile illegal logging and assess the threat to protected areas and other high conservation value forests	On track	66
B.1.1.4	Socialize the project with key decision-makers and stakeholders and secure their input and support for the project	On track	67
B.1.2	Identify weaknesses in the enforcement system and develop least-cost investment strategy for addressing them	On track	67
B.1.2.1	Collection and compilation of quantitative data on the government enforcement system	On track	67
B.1.2.2	Interview enforcement agency staff to gather further qualitative information on the determinants of weaknesses in the enforcement system	On track	67
B.1.2.3	Collect and compile quantitative information on all elements of the traditional enforcement system	Scheduled for FY03 as per FY02 Implementation Plan	67
B.1.2.4	Carry out quantitative analysis to identify weak elements in the enforcement systems	Scheduled for FY03 as per FY02 Implementation Plan	67
B.1.2.5	Synthesize information from enforcement agency staff and local communities to identify least-cost strategies for strengthening weak	Scheduled for FY03 as per FY02 Implementation Plan	67

Activity Number	Activity Title	Status*	Page number for more information
	elements in the enforcement systems		
B.1.3	Identify cost-effective opportunities to reduce the incentives for illegal activities	On track	68
B.1.3.1	Community Livelihoods assessments	On track	68
B.1.4	Influence key decision makers to implement least-cost investment strategies to improve quality of enforcement	On track	68
B.1.4.1	Ongoing engagement with critical decision-makers to initiate improvement programs and activities as urgent problems in enforcement are revealed	On track	68
B.1.4.2	Participatory design workshop to reach consensus on areas of weakness in enforcement and design solutions and/or changes to the enforcement system	Scheduled for FY03 as per FY02 Implementation Plan	68
B.1.4.3	Legal working group to streamline procedures and develop legislation to introduce positive changes to the enforcement system	Scheduled for FY03 as per FY02 Implementation Plan	68
B.1.4.4	Bilateral and multilateral discussions with enforcement agencies and other institutions to secure the necessary resources for strengthening enforcement	Scheduled for FY03 as per FY02 Implementation Plan	68
B.1.4.5	Carry out capacity-building / training workshops for enforcement agency staff involved in critical parts of the enforcement system, as agreed with decision-makers	Scheduled for FY03 as per FY02 Implementation Plan	68
	<b>C. Palawan, Philippines</b>		
C.1.1.	Profile enforcement system, illegal activities and threats to biodiversity, and secure support for the project from key stakeholders	On track	68
C.1.1.1	Profile the current enforcement systems used by Government and by communities to combat the use of illegal destructive fishing practices and illegal trade in fish in the life reef	On track	68

Activity Number	Activity Title	Status*	Page number for more information
	fish trade (LRFT)		
C.1.1.2	Profile the illegal use of destructive fishing practices and illegal trade in fish in the LRFT and assess the threat to target species	On track	69
C.1.1.3	Socialize the project with key decision-makers and stakeholders and secure their input and support for the project	On track	69
C.1.2	Identify weaknesses in the enforcement system and develop least-cost investment strategy for addressing them	On track	69
C.1.2.1	Collection and compilation of quantitative data on the government enforcement system	On track	69
C.1.2.2	Interview enforcement agency staff to gather further qualitative information on the determinants of weaknesses in the enforcement system	On track	69
C.1.2.3	Collect and compile quantitative information on all elements of the traditional enforcement system	On track	70
C.1.2.4	Carry out quantitative analysis to identify weak elements in the enforcement systems	Scheduled for FY03 as per FY02 Implementation Plan	70
C.1.2.5	Synthesize information from enforcement agency staff and local communities to identify least-cost strategies for strengthening weak elements in the enforcement systems	Scheduled for FY03 as per FY02 Implementation Plan	70
C.1.3	Identify cost-effective opportunities to reduce the incentives for illegal activities	On track	70
C.1.3.1	Community Livelihoods Assessment	On track	70
C.1.4	Influence key decision makers to implement least-cost investment strategies to improve quality of enforcement	On track	70
C.1.4.1	Ongoing engagement with critical decision-makers to initiate improvement programs and activities as urgent problems in enforcement are revealed	On track	70
C.1.4.2	Participatory design workshop to	Scheduled for FY03	70

Activity Number	Activity Title	Status*	Page number for more information
	reach consensus on areas of weakness in enforcement and design solutions and/or changes to the enforcement system	as per FY02 Implementation Plan	
C.1.4.3	Legal working group to streamline procedures and develop legislation to introduce positive changes to the enforcement system	Scheduled for FY03 as per FY02 Implementation Plan	70
C.1.4.4	Bilateral and multilateral discussions with enforcement agencies (government and traditional) and other institutions to secure the necessary resources for strengthening enforcement	Scheduled for FY03 as per FY02 Implementation Plan	70
C.1.4.5	Strengthen and/or support ongoing ELAC efforts at providing capacity-building / training workshops for government and private enforcement agency staff and community members involved in critical parts of the enforcement system, as agreed with decision-makers	Scheduled for FY03 as per FY02 Implementation Plan	71
2.1	Develop regional and global communications strategy for the project	Mixed Performance	71
2.2	Place commentaries and reports on the project in regional and global media	On Track	71
2.3	Make presentations on the project in relevant regional and local conferences, workshops and other forums	On Track	71

\*Status may include activities that are completed, on-track, delayed, mixed performance, or cancelled.

## II) Brazil

### A) Key Short- and Long-Term Program Objectives for the Site

The biodiversity corridors project, conducted by CI-Brazil in association with the State Secretary for the Environment of Mato Grosso do Sul and the Emas Foundation has the long-term objective to link protected areas in the Pantanal and Cerrado regions through a network of private and governmental reserves and sustainably managed areas, allowing

for the dispersion of key species and the protection of a relevant area of two of the most diverse and endangered ecoregions in Brazil.

The Cerrado-Pantanal Corridor program has also established additional short-term goals to help achieve this long-term objective. They are:

- To develop low impact economical approaches to encourage landowners to keep their legal reserves, permanently protected areas, and establish RPPNs;
- To reduce negative impacts of land management practices and use, such as fire, overgrazing, soil erosion and deforestation;
- To increase effective protected areas by 10 % in the south of the Rio Negro and Taquari river basins;
- To increase population monitoring on private property of key threatened species along the Cerrado-Pantanal Corridor.

## **B) Summary of Progress for Site**

In order to achieve its ultimate Corridor Implementation goal, CI has established partnerships with key private and governmental institutions in the three Corridor states. The existing fragments in the Cerrado area, require rapid action to ensure protection from the accelerating and uncontrolled agricultural production. CI and the Emas Foundation are working to identify these fragments and the related through satellite imagery mapping and baseline data collection. These findings are then presented to environmental agencies, responsible for the creation of protected areas. In addition, CI is seeking funds to assist the acquisition and management of these remaining fragments.

Support for the creation of protected areas is increasing as a result of our newly launched awareness raising campaign. Public and stakeholders support are critical to ensure the program's long-term success.

## **C) Activities**

### **Outcome 1: Build Biodiversity Corridor planning and implementation support framework**

In the first half of FY02, the Corridor team purchased satellite imagery equipment and made videotape and aerial photography of the Mato Grosso state portion of the Corridor. Preliminary analysis identified key areas for conservation, which CI's Rapid Assessment Program then assessed for biodiversity value. A preliminary report of these findings will strengthen the Pantanal – Amazon biome linkage.

This survey also generated alarming evidence of how unplanned agricultural development leads to forest fragmentation as a result of, which severs the connection between existing protected areas in this portion of the corridor.

#### **Activities:**

##### **1.1.1 *Biodiversity corridor assessment completed (baseline legal, biological, economic and social assessments / data gathered)***

### **1.1.2 New Activity**

At least three consultants will be hired to produce issue papers on agriculture (soy, corn, cotton), cattle ranching, dairy farming, and agricultural subsidies and financing in the Corridor. They will assess the financial incentives of each activity, and will be used to develop alternative economic activities and possible compensatory mechanisms. CI-DC REP (Resource Economic Program) staff and the CI-Brazil economist will oversee this activity.

Agricon, a consulting firm based in Campo Grande was hired to do a general assessment of economic activity across the Cerrado-Pantanal Corridor in advance of hiring consultants to do analyses of individual economic activities. For the purposes of this analysis, the corridor was divided into five sections – the Cerrado Plateau, the Border Plateau, Transition Zone 1, the Intermediate Plateau, Transition Zone 2, and the Pantanal Plain. Details regarding these regions can be found in the ToR for this assessment (see attachment 1.1.1 – ToR). Agricon completed the general assessment of economic activity across the corridor in January 2002.

This report's (see attachment 1.1.1 – Report) main findings are as follows:

- productive systems in the corridor cannot be separated easily into agriculture versus cattle or dairy ranching
- based on the weakness of secondary data on economic activities in the corridor, our strategy for the gathering of economic data for the corridor changed.
- Agricon's further work will focus on the collection of a representative sample of primary data, which will be used to calculate an average profitability value per hectare for each of the five corridor regions.

The information on financial incentives will be used to develop a strategy for the application of the Brazilian Forestry Code. It permits farmers who have not met their legal reserve requirements to fulfill them by creating joint legal reserves, buying forestland in other locales rather than replanting on their own land, or making compensation payments to landowners who have forestland in excess of their legal reserve requirements. The goal is to consolidate the Pantanal-Cerrado Corridor.

### **1.1.3 New Activity**

By the end of FY02, technical focus group meetings on agriculture, cattle ranching dairy farming and agricultural subsidies/credit in the Corridor will occur. These meetings will be organized and executed by the CI-Brazil Economist and relevant corridor staff, with guidance and oversight from CI-DC REP staff and Cerrado-Pantanal Corridor Directors. The objectives of these meetings will be to present and discuss results from issues papers/incentive analyses (1.1.1) and to bring relevant experts to consensus around these findings. Following the technical focus group meetings, final drafts of the issues papers will be written.

In light of the changes in the strategy for collection of economic data on the corridor, the technical focus group meeting component has also changed. In lieu of holding individual meetings on the issues papers, a meeting will be held in the first semester of 2003.

Regional experts will review the results of our land profitability and build consensus around these results.

#### **1.1.4 New Activity**

In FY01, CI Pantanal and partners planned an Aqua RAP expedition to the upper Paraguay River basin. CI Pantanal will complete all travel, data collection and species identification activities to produce a preliminary report by the end of FY02. The information gathered during this Aqua RAP expedition, on February 26 through March 12 2002, will support future actions for the implementation of the North-South Corridor and provide biological data to inform stakeholders on the impact of the Paraguay-Paraná waterway.

The delay of the expedition was caused by the new regulations established by the National Research Council regarding International Scientific Expeditions, which overruled our previous permits. Since then, CI and partner institutions in Mato Grosso decided to carry out a National Expedition using RAP standard procedures, supervised by Dr. Barry Chernoff from the Chicago Field Museum, and CI DC. Samples will be processed locally and the report will be organized in Brazil, using this opportunity for training Corridor Team and associate researchers, like PEQUI Foundation on the RAP methodology.

CI, in partnership with Ecotrópica Foundation, FEMA-MT, Mato Grosso State University (UNEMAT) and Mato Grosso Federal University (UFMT) carried out a Biological Rapid Assessment – Aqua RAP along the Sepotuba river basin and the headwaters of the rivers Cabaçal, Jaurú and Paraguay in Mato Grosso's State. The expedition covered over 600 kilometers of river and 3.000 kilometers over land and, as a result, the 36 Brazilian researchers participating obtained a sound biological overview of the area, discovered over 14 new species of fish, 2 of dragon flies, 10 new spiders and many new records of plants, birds, macro-invertebrates and fishes.

Also as a result of the expedition, many areas, such as the Juba dam, Rio do Peixe (Rio Cabaçal tributary) and the lower Sepotuba (confluence of the Rio Paraguai and Araras hills), were identified as areas of high biodiversity, strongly influenced by three ecosystems (Amazon, Pantanal and Cerrado) and are recommended as priority areas for conservation in the final RAP report to be released by the end of FY02. The Aqua RAP expedition was featured in Globo Repórter, a Globo television product of great national and international coverage. For detailed information of the expedition please visit: <http://www.fazendarionegrro.com.br/aquarap> or the site of the Estado de São Paulo newspaper, who also made a live report of the expedition – <http://www.estadao.com.br/ext/ciencia/pantanal/apresentacao.htm>

#### **1.1.5 New activity**

Corridor land tenure information will continue to be compiled from the records of governmental agencies such as INCRA (Instituto Nacional de Colonização e Reforma Agrária) and IDATERRA (Instituto da Terra de Mato Grosso do Sul). Field surveys will also be conducted by the Emas Foundation in the buffer zones of protected areas in the Cerrado and the information obtained will be entered in the corridor database. Information to be collected includes: land ownership, area, existence of permanent and legal reserves and others.

This information will be used to:

- describe the current conservation status of properties;
- assist landowners who currently do not have legal reserves to create joint legal reserves in areas of high biological importance;
- describe the current land use on properties within the Cerrado.

The Corridor staff completed the land use map and land tenure for the Cerrado and its buffer zones. This information was then compiled into the Corridor Database. Additional information of land tenure was obtained from SEMA-MT (Environmental Agency of Mato Grosso) and I-MAP (Environmental Agency of Mato Grosso do Sul). The land use map was made by remote sensing analysis and field information in the Emas Foundation GIS Lab. Nine maps (1:100.000 scale) covering the Cerrado buffer zones were produced and distributed in 5 Municipalities.

## ***1.2 Integrated corridor information system designed and operational***

### ***1.2.1 Ongoing activity***

The corridor team and counterparts will continue to identify and compile available economic, social, biological and spatial data, as well as information on stakeholders. The database will be available on the Internet and will be maintained and improved continuously by the local Corridor Team. Since the beginning of this agreement, the Corridor team has compiled information on: fauna (613 species with 1740 occurrences), flora (1122 species), institutions (73 records), and bibliographies (68 records). Information is continuously being entered in the database by Corridor staff to provide up to date data for Conservation decision-making progress.

## ***1.3 Corridor learning system/adaptive management in place and operational***

### ***1.3.1 New activity***

The corridor team will hold a technical meeting to establish a minimum protocol to collect biological information in the corridor, which will help with the implementation of a pilot monitoring and evaluation program. The protocol will assist the design of a monitoring system to measure the effectiveness of the corridor. The pilot monitoring system designed by the in country staff with partners will later be associated to CI-DC M & E plan being designed, which includes: 1. Participation by new technical staff in the use of corridor planning methodologies, to be held in '02, 2. Project implementation staff participated in a workshop on "project cycle" reporting.

CI's regional strategic planning department (RSP) is planning a 5-day workshop for August 12-16, 2002, to consolidate USAID "corridor learning system" that unites the methodologies used for managing and monitoring corridor strategies in Brazil's Pantanal-Cerrado Corridor, the Guyana's' Kanuku Mountains Corridor, and the Philippines' Sierra Madre Corridor.

### ***1.3.2 New Activity***

Corridor in-country staff will create and implement the monitoring plan, as established during 1.3.1, through partnership with universities and other institutions. All the biological data collected will be entered in the corridor database and also published as individual papers by researchers and partner institutions.

CI and Emas Foundation have established many partnerships with universities and research institutions in the 3 states covered by the Cerrado – Pantanal Corridor during the first 3 years of the Corridor program. These partners will also assist with future implementation of the monitoring plan developed by the Corridor's technical team.

#### ***1.4 Participatory planning and implementation framework and process established***

##### ***1.4.1 New Activity***

The Corridor team will identify and create new partnerships with Universities, NGOs and other institutions, which active on the border areas of the Corridor, using them as multipliers to extend further our actions in the Corridor area. Pantanal staff will establish partners in the North-South Corridor region, particularly in Mato Grosso State. The perspective institutions are: the Federal University of Mato Grosso (UFMT), the State University of Mato Grosso (UNEMAT), Ecotrópica and ARCA. Cerrado staff will pursue partners in the Araguaia – Bananal Corridor. Possible institutions working in this Corridor are: Ministry of Environment (MMA), IBAMA and SEMARH. Corridor staff will help increase local capacity of key partner institutions in the Corridor, to help them carry out their own participatory planning and implementation on biodiversity conservation within the proposed Corridor area.

During the first six months of this year's contract, CI has created partnerships with local NGOs and government agencies to expand our actions in the Corridor. In the North, CI is working with Ecotrópica Foundation to create and implement management plans for the three private reserves neighboring the Pantanal National Park in Mato Grosso's state. Still in the North, other partnerships are being considered with Ecopanta and Arca to work in the Chapada dos Guimarães National Park. CI also established partnerships with FEMA (Environmental State Foundation in Mato Grosso) and with local universities in Cuiabá (Unemat and UFMT) to evaluate the biodiversity of three main basins – Sepotuba, Jaurú and Cabaçal – all of which are sub-basins of the Paraguay watershed. In the South, CI has partnered with a cooperative named Oikos, to develop a business plan to work with the Kadiweu indigenous population, in an attempt to mitigate impacts to biodiversity caused by their actions.

##### ***1.4.2 Ongoing activity***

As in FY01 the corridor team will conduct an annual corridor-planning meeting, a weeklong review of FY02 activities and planning activities for FY03, organized by CI-Pantanal. This meeting will be held in Bonito and will result in an FY03 work plan in accompanying budget. As well as the work plan, the Corridor team will carry out a mid-project review to evaluate original technical project goals and objectives.

The Corridor annual meeting will be held in July 02.

## **1.5 Corridor project team operational**

### **1.5.1 New Activity**

CI Pantanal will hire a database specialist to manage and maintain the Cerrado-Pantanal corridor database. The database specialist will interact with all corridor partners to oversee the standard protocol, guaranteeing integrity of the information and ensuring its availability on the Internet.

CI Pantanal will continue using interns to manage the database under the supervision of CI IT technical team. This is not only more cost effective, but also provides learning opportunity to local young undergraduates.

### **1.5.2 New Activity**

The Corridor team will establish a new field support station at Chapadão do Céu municipality, strategically located near the Emas National Park. This station will facilitate the work and provide lodging to researchers and Corridor staff in the region of Costa Rica, Serranópolis, Chapadão do Céu and the Southeast portion of the Emas National Park. Current actions in this region are the creation of a new protected area (Serranópolis) and the “Best Practice in Agriculture Projects” being developed in partnership with TNC, Embrapa and Goiás Rural Agency. This field station will be located in a rental house in town, to provide researchers and staff with easier access to communication. In addition to Chapadão do Céu Field Support Station, the Cerrado Corridor team is supporting the implementation of one other Station in the Jacuba area and one in the Taquari Headwaters State Park with funds from CI - Global Conservation Fund and local landowners.

The Emas Foundation has implemented three field stations to support the Corridor’s monitoring work. In Chapadão do Céu, a house is available for accommodation and communication services (telephone and Internet). In the Jacuba village, on the boundary of the Emas National Park, the Emas Foundation was given a house for lodging and environmental education activities. Another field station is available at Boa Vista Farm, near the Taquari River. The Corridor staff, researchers and park staff, has used all field stations.

These stations have been useful in reducing costs, traveling time and improving conditions and work safety.

### **New Activity**

The Cerrado team of the Corridor will hire a communication expert who will implement a communication strategy and promote awareness products designed during the Cerrado-Pantanal 4-P workshop. These products will be used to sensitize the general public and stakeholders, considering their different social sectors and their livelihood, and will promote participation in the conservation efforts to establish the corridor project along 32,000km<sup>2</sup>.

The Cerrado team is conducting the selection process to hire the communication expert. The delay in this process was caused by changes in the hiring policy of Emas Foundation after the transition to a new board of Directors. The selection process will be concluded by June 2002 and the communication expert will be hired by July 2002.

## ***1.6 Research long-term financial mechanisms***

### ***1.6.1 New Activity***

In an effort to develop alternative economic activities in the Cerrado portion of the corridor, a consultant from FIMES University will conduct a study of apiculture viability. This study will examine the current extent and profitability of apiculture in the region outside the park, the potential for expansion, and market opportunities. To obtain these data, the consultant will visit all properties near the Emas National Park, collecting data on number of properties producing honey, type of bee management and vegetation utilized by the bees and whether the bees use the park area. As a complement to this study the Cerrado team and consultant will also investigate the interactions among apiculture, native bees and the environment within the core protected areas.

This activity was suspended by USAID. The activity was not initiated and no money was spent. The impact of the existing exotic bees commonly used for honey production, over natural polinization processes or over the native bees population, is still unknown. In areas adjacent to the Emas National Park and Taquari headwaters State Park, apiculture activity has been monitored by Corridor Staff and by a researcher from Universidade de São Paulo.

## ***1.7 Awareness Program established***

### ***1.7.1 Continuing Activity***

The corridor video that was produced in FY01 will be launched, in conjunction with environmental education materials, such as a folder and the Corridor popular texts, at the beginning of the school year in FY02. The decision to delay the launch of the video, other educational materials and information (see activity 2.7.1) was part of a strategy to optimize the impact of the environmental education campaign materials within the corridor. With the launching of the video and other education materials, we expect to make local population aware of the importance of the Cerrado-Pantanal Corridor in protecting Biodiversity.

In a broad scale launching event, the video "Redesigning the Landscape – Cerrado-Pantanal Corridor" (see attachment 1.7.1 – Video) was presented to over 150 people, including representatives of governmental and non-governmental institutions in Campo Grande (Mato Grosso do Sul State). The video uses simple terms to explain the importance of maintaining connectivity among remaining natural areas of Cerrado and Pantanal, emphasizing the role person, specially land owners, has in this project. The launch effort has given great visibility to the Corridor project locally and nationally and generated great feedback from the general public. One VHS copy of the video was distributed to each partner institution and will now be distributed to schools in the Corridor

area. The Corridor video is financed by GEF in partnership with OAS, ANA (Agência Nacional de Águas) and UNEP.

### **1.7.2 New Activity**

The in country corridor team will organize and host a 4-P workshop with CI-DC Intercom, LCU and other partner institutions. The aim of this 4-P workshop is to develop an environmental awareness raising strategy to be applied throughout the corridor. The results of this 4-P workshop will be presented in the form of a strategy document. The 4-P workshop is a creative tool designed by CI's International Communication department to formulate a communication strategy for a specific region, through a participatory process that will allow a communications effort or campaign to be customized. The name 4-P stands for problems, publics, products and plans and represents the four main themes addressed during the workshop.

The Corridor communication strategy has been designed based on the results of the 4-P workshop organized by Corridor team with support from communication experts, an agribusiness's consultant, partner NGO's, government officials, media people and land owners. The 4-P tool helped the Corridor team develop best ways to approach target audiences, through the most appropriate media. During FY02, CI and Emas Foundation will implement the resulting strategy, which focuses on raising awareness about the importance of biodiversity and protected areas.

### **1.7.3 New Activity**

The corridor team will produce awareness-raising material as defined by the strategy developed during the 4-P workshop. These materials may include: audio spots for a radio campaign, printed material such as posters, billboards and brochures, and web content to be distributed as established by the 4-P workshop. The public awareness campaign will explain the importance of the Cerrado-Pantanal corridor for the protection of biodiversity.

According to the Corridor communication strategy defined during the 4-P workshop, the in country team is focusing on a series of activities/products designed to reach target audiences throughout FY02.

**General public** – the video and the booklet “Redesigning the Landscape”

**Journalists** – media campaigns and press kits (releases, fact-sheets, photos and maps)

**Teachers/students** – the video and the booklet “Redesigning the Landscape” in association with the workbook that is being developed by the Environmental Education project

- the Aqua RAP website
- the Corridor website
- other activities designed by the Environmental Education project

**Government officials**

- the video and the booklet “Redesigning the Landscape”
- Aqua RAP final report
- the Corridor website
- organic beef brochure
- corridor brochure

**Rural cooperatives and associations**

- the video and the booklet “Redesigning the Landscape”
- the Corridor website
- organic beef brochure
- corridor brochure
- uncontrolled fire campaign

**Land owners**

- the video and the booklet “Redesigning the Landscape”
- organic beef brochure
- corridor brochure
- uncontrolled fire campaign

**Objective 2: Protected areas created, strengthened and extended**

In the first 6 months of FY02, CI has identified new priority areas of exceptional biodiversity that have the right conditions to be made into new protected areas, expanding the Corridor. CI has also contributed to existing protected areas by increasing baseline information, marking park boundaries and building park management capacity by developing infrastructure and hiring and training of park staff.

The Corridor Communication Campaign during this period has focused on obtaining general public support to the Cerrado – Pantanal Corridor implementation.

**Activities:**

***2.1 New protected areas (protected areas, private reserves, indigenous reserves / territories) are created***

***2.1.1 Ongoing Activity***

CI Pantanal will continue to assist IBAMA<sup>1</sup> [Instituto Brasileiro do Meio Ambiente e dos Recursos Renováveis], SEMACT<sup>2</sup> [Secretaria de Estado do Meio Ambiente, Cultura e Turismo] and landowners in the creation of private reserves. CI-Pantanal’s GIS team is providing technical assistance through the use of satellite imagery, base maps and legal documents. These data provide characterization of the properties, detailing the property’s biological importance and their conservation status, so that private reserve status can be granted. Private reserves have been shown to be an effective mechanism for providing connectivity between core nuclei areas, ensuring genetic flow across the corridor.

<sup>1</sup> Brazilian Environmental and Renewable Resources Institute

<sup>2</sup> State Secretary for the Environment, Culture and Tourism.

CI's extensive satellite imagery database and technicians are helping government agencies with the process of creating new private protected areas by providing information on the area's conservation status. CI is also supporting the State Secretary for the Environment in monitoring the status of existing private reserves in the Pantanal region. The monitoring is done by satellite imagery and field trips. Mato Grosso do Sul state has 36 private reserves totaling up to 156,601 hectares of privately protected areas in the state.

The Corridor team is preparing a folder to be distributed among the landowner community to promote the creation of new private areas in the scope of the Corridor. The folder and the Corridor video already launched are powerful communication tools to consolidate more private protected land, therefore advancing the connection between the Corridor's core areas.

## ***2.2 Protected area level infrastructure in place (park guards, posts, etc.)***

No activities during this reporting period.

## ***2.3 Strengthen or extend existing protected areas***

### ***2.3.1 New Activity***

In FY01 CI Cerrado will implement field stations in the core nuclei area of Emas National Park and Taquari Headwaters State Park. These facilities will provide field conditions to strengthen biological research and data collection. In the Emas N. Park, part of the Cerrado nuclei, the Jacuba facility will allow research teams to cover the northwest part of corridor. The Taquari State facility will provide support to the southwest part of the corridor, serving as a Headquarter base to extend the scientific work along the Taquari River, in the Coxim (MS) direction.

The Emas Foundation has implemented three field stations to support researchers' work. In Chapadão do Céu a house is available for accommodation and communication services (telephone and Internet). In the Jacuba village, in the edge of the Emas National Park, the Emas Foundation was given a house for lodging and environmental education activities. Another field station is available at Boa Vista Farm, near the Taquari River. The Corridor staff, researchers and park staff, has used all field stations.

### ***2.3.2 New Activity***

Following the successful model of CI's Charette conducted and tested last year in the Pantanal, this five-day activity will now be held in the Emas National Park. The Charette will result in a series of draft designs and a strategic plan, which will help IBAMA and the Emas Foundation to enhance the Park's sustainability through tourism development. This comprehensive ecotourism product will incorporate strategic planning, sustainable design and marketing opportunities.

The Charette will be held at the Emas National Park in August/2002. This protected area is expected to become an ecotourism model, demonstrating the potential of the Charette as a conservation tool and as a way of developing the economy of the Park. This event

will focus on practical and conceptual issues regarding products development, the development of facilities, marketing and education/interpretation for the Emas N. P. Two basic products are expected to emerge from the charette:

- An Ecotourism Plan for Emas N. P., including detailed guidelines for future improvements and further product development;
- A schematic architectural and landscape plan for the renovation and improvement of Emas N. P. existing facilities.

## ***2.4 Develop and implement management plans for new and existing protected areas***

### ***2.4.1 Continuing Activity***

In FY01, CI Pantanal and IDATERRA started the land tenure and infrastructure assessment process for the Rio Negro State Park. In spite of extensive flooding of the region at the time of ground surveys, assessments were completed in two of the three properties that will form the Park.

Idaterra (Instituto de Desenvolvimento Agrário Assistência Técnica e Extensão Rural de MS), with CI's financial and logistical support, accomplished the land tenure survey of the State Park of the Rio Negro.

### ***2.4.2 New Activity***

Emas Foundation and IBAMA-GO will implement the activities established in the IBAMA management plan for the Emas National Park. They will include: mapping and monitoring exotic species, fire monitoring, mapping of the native vegetation, large mammal census, and Park edge effect analysis. All the data gathered will be entered in the Corridor database and be used to support the Park management committee decision-making process.

The Emas Foundation and IBAMA have been working successfully to implement management activities in the Emas National Park. The "Invasive Grass Control Project" involves mapping, research and control of exotic grasses invasion over the Park's grasslands. The Emas Foundation GIS Lab has mapped native vegetation and fire occurrence while the Pró-Carnívoros Association is monitoring large mammals populations. All information was compiled into the Corridor Database.

The Emas N. P. is the most important protected area of the Cerrado. The Corridor team is concerned about the viability of populations inside the Park and believes that our work will improve the management of biodiversity conservation.

### ***2.4.3 New Activity***

Corridor staff and partners will provide technical, logistical and financial support for the creation and management of public and private protected areas in the North – South Corridor region. CI will also support the implementation of management plans in existing protected areas. We are considering support in the South – Parque Nacional da Serra da

Bodoquena and surrounding private reserves; in the North – Pantanal National Park, Taiamã Ecological Station and nearby private reserves. Support actions include:

- Provide technical assistance and training in scientific activities needed to increase baseline data, develop and implement management plans;
- Promote studies to strengthen financial supporting mechanisms for private reserves;
- Establish and promote the need for new protected areas through technical information and justification explanations, as well as policy decisions promotion.
- Promoting the importance of private reserves in preserving the integrity of the corridor and encouraging landowners to set aside part of their lands as reserves; and,
- Strengthening public institutions that regulate privately held reserves by capacity-building regional staff and offering ongoing technical support.

The survey of the Federal Park of Serra da Bodoquena and Formoso River Basin has begun. Based on the remote sensing information, the state agency (IBAMA) will develop a management plan for the National Park. In addition, a conservation-planning program for some of the highly degraded sites at the Formoso River Basin, located in the Southern portion of the Corridor.

CI's Center for Biodiversity Conservation is financing the local NGO - Ecotrópica Foundation to create and implement a management plan for three large private reserves surrounding the Pantanal National Park.

## ***2.5 Capacity-building at the level of new and existing protected areas***

### ***2.5.1 Continuing Activity***

Initiated in FY01, Emas Foundation will continue to support FIMES to improve and maintain its herbarium and entomological collections.

During FY01, a Cooperation Agreement was signed between the Fundação Emas and FIMES to establish two laboratories, a herbarium and an entomological collection.

### ***2.5.2 New Activity***

The corridor team will assist in the creation and support of the Mato Grosso do Sul Private Reserve Land Owners Association. The Association will ensure support to the management and implementation of existing and new privately protected areas. In addition, CI-Brazil is evaluating the creation of a matching fund directed to landowners to provide further economic assistance for existing private protected areas and incentives for the creation of new ones. Corridor team will continue to find incentives and support mechanisms for private reserves.

CI held a meeting with owners of private protected areas to support the creation of an association of private reserves for Mato Grosso do Sul State. During the meeting the statutes of several associations from different states were presented and, based on these, a statute was drafted for MS State. This draft is currently being examined by all the

owners present at the meeting, after which CI will arrange a new meeting to present a final draft and officially create the association. The association will generate additional support mechanisms for private protected areas, including financial stimulus for the creation of new ones. This ongoing effort by the Corridor team to support private reserves attempts to connect core nuclei areas throughout the landscape, protecting biodiversity and maintaining ecological processes.

### **2.5.3 New Activity**

CI Pantanal will assist the creation of a formal educational program for adults at the Fazenda Rio Negro to teach the “pantaneiros” to read and write. In addition to basic education, a series of practical courses will be offered on topics, such as artificial insemination, leather crafts and tools, horticulture, in farm food products, machinery maintenance and operation, and poultry farming. During the first part of this activity, the Pantanal team will focus on gathering information necessary to establish these classes, as well as look for partnerships to offer periodic courses.

In order to make our public awareness and environmental education campaigns more effective, it is important that the local population can read and write. This initiative aims to attend to a local problem in the Pantanal, which is the lack of basic education among the adult rural population. The Education Secretary of Aquidauana municipality, where Fazenda Rio Negro is located, will be our partner in implementing this adult training center.

A partnership with the Federal University of the state of Mato Grosso do Sul has been established to gather key specialists to offer some of these trainings. Other partnerships are also being considered. This activity, financed by the Moore Family Foundation, will improve pantaneiros’ living conditions by offering basic education, which will lead to better comprehension of environmental and biodiversity conservation efforts.

## **2.6 Information gathering, integration and analysis for protected area creation and strengthening (new or targeted biological, social, legal and/or economic data)**

### **2.6.1 New Activity**

In an effort to assist the classification of the different types of vegetation in the Pantanal ecosystem, a weeklong training in July will be offered to the GIS team. During this week, a vegetation map protocol will be produced, indicating the different vegetation types and existing fragments. The preparation for this technical meeting has already taken place and maps of the area showing municipalities, conservation units, basins, etc. have been produced using similar scales.

### **2.6.2 Continuing Activity**

CI Pantanal will continue to host and support two training programs on biodiversity, wildlife conservation and population ecology studies on the Rio Negro farm. Two other research stations are involved in the training program through a partnership with EMBRAPA – Pantanal and UFMS. The purpose of these training programs is threefold: to

build local capacity for field research, to stimulate short to long term research activities in the Pantanal, and to increase our knowledge about the biodiversity of the Rio Negro-Nhecolandia region. These courses are offered to graduate students in October and November, and will yield published reports of the short-term research projects undertaken by the students. These results will be incorporated in the corridor database to support some conservation actions.

CI has supported two training programs on Rio Negro Research Station. The first course was the UFMS Field Ecology Course designated for Master Students, held on October 2001. The main objective of this course was to build opportunities for future projects and to engender cooperation to Pantanal's conservation. CI also helped to publish a scientific report with the short-term research results produced during the course (see <http://www.ufms.br/ecopanta/relator.htm>).

The second course was held through cooperation between CI, EMBRAPA and the Smithsonian Institution and was focused on monitoring large vertebrates to evaluate the populations along the corridor, especially in fragments of original habitats. These data will support the preliminary measurements of the corridor efficiency. The course was held on November 2001 and 15 people attended.

### **2.6.3 Continuing activity**

CI – Pantanal will continue to support two biodiversity researchers identified at the end of each of the training programs from activity 2.6.2.

In an effort to improve the monitoring and connections within the core areas of the Corridor, CI and EWI selected two projects to be held in the Rio Negro core area: "Bat assemblage in the Rio Negro region: richness, diversity, food sources and associated ectoparasites" and "Composition and Dynamic of birds community, comparing wildlife and extensive cattle ranching areas".

### **2.6.4 Continuing Activity**

CI Pantanal will continue the established partnership with the Earthwatch Institute, hosting another 12 groups of volunteer research assistants. In addition to the regular volunteer groups, EWI will award a total of 50 fellowships for high school students, undergraduates, teachers, corporate staff and local tour guides. These fellowships will provide great opportunity for the awarded fellows to learn about biodiversity conservation and serve as multipliers of this information.

Earthwatch's Conservation Research Center (CRC) in the Pantanal was established in partnership with CI. It will gather critical data on key species that inhabit the Pantanal and their vulnerability to human activities.

Seven Earthwatch teams have participated in projects at the Pantanal CRC, including an international team of teachers and a team of Brazilian ecotour guides. Teachers from Campo Grande, the nearest town, are already giving lectures in their community based on their experience at the CRC and plan to return with their students. Local ecotour guides gained professional development from participation in the CRC.

### **2.6.5 New Activity**

As part of the Environmental Education campaign, the Corridor Team will develop an innovative strategy to stimulate regional students to get involved with the corridor program. This initiative consists of triggering the scientific curiosity of kids to “discover and monitor” biological and physicochemical parameters at different areas of the corridor. The “Kids RAP” will be a small-scale reproduction of CI’s rapid assessment program. The focal areas for the development of the Kids RAP are the corridors private reserves (RPPN) and at the Cerrado on public protected areas, creating baseline data, and information generation for the Corridor database. The first five teachers to participate in this initiative were selected during last year’s EWI fellowship program.

Maps of the corridor’s private reserves (RPPNs) have been produced to indicate areas of great vegetation diversity to deploy these expeditions. In addition, alliances with universities and municipal secretaries are set to assure the quality of the data to be collected, and the first group of researchers is finalizing the sampling protocol for this activity. The data produced will be extremely valuable to assess the importance of existing private reserves in protecting biodiversity in the Pantanal watershed.

## **2.7 Develop and implement awareness campaign for new or existing protected areas**

### **2.7.1 Continuing Activity**

The first “Amigos da Natureza” (Friends of Nature) was held in the Pantanal and a second workshop in the Cerrado region. Both of them were a great success. A website was created to promote the environmental education workshop and the Corridor concepts (<http://www.corredoresecologicos.com>). Printed information materials, designed especially for schools to promote awareness raising and gather support to Corridor implementation are in the final stage of production and will be distributed with the video “Corredor Cerrado-Pantanal – Redesenhando a Paisagem” in schools along the corridor municipalities.

### **2.7.2 Continuing Activity**

Two more groups of fellowships were awarded to a twelve-day research field expedition. They were exposed to important information about the local fauna and flora. The information they brought back into the classrooms helped spread the word about our goals and about our efforts to protect biodiversity. These teachers assisted Corridor team in organizing the 2<sup>nd</sup> Friends of Nature Workshop in the Cerrado presented to their students in the Cerrado portion of the Corridor. These students are now producing material to illustrate Corridor concepts in the printed material produced by the Corridor team Environmental Education Program.

### **2.7.3 Continuing Activity**

CI and EMBRAPA SOLOS have signed a technical cooperation agreement to develop an evaluation and monitoring system of the environmental impacts of agricultural activities in the Taquari Headwater. It will focus on erosive processes and indiscriminate use of pesticides. Video and aerial photographic data has been collected. They are being analyzed to disseminate information on the threats caused by poor land use in the Cerrado.

#### **2.7.4 Continuing Activity**

Building on the progress made in previous years' campaign for fire control and the demand of local community members, CI Pantanal and local partners continued efforts to train and equip volunteer fire brigades in and around core nuclei areas and the corridor's sustainable development target areas. In addition, the public awareness campaign launched in FY01 in the Pantanal region of the Corridor will be expanded to the whole corridor.

Continuing the efforts to minimize the impacts of uncontrolled burns to biodiversity, CI and the Fire Department met PROARCO specialists in Brasília-DF to learn from their experience working in the Amazon region. Also, CI and the USDA Forest Service are articulating support to increase local capacity to make decisions and design strategies to fight against fire in protected and non-protected areas in Mato Grosso do Sul State.

CI visited the Project "Friends of Earth" in Pará State, who has a great experience in engaging communities to deal with fire issues. Based on their experience, the Corridor team is designing an environmental education product to be proposed to the State Secretary of Education for the next fiscal year. For FY02, CI and partners are preparing an advertisement campaign explaining the best conditions to improve the usage of fire as a management tool to enforce the fact that uncontrolled burns are a threat to biodiversity. With CI's support, IBAMA held a training to create a fire brigade in the Serra da Bodoquena National Park. CI distributed booklets and donated equipments to the brigade, which have as a mission the prevention and combat of fire in the South-Corridor Region.

### **Objective 3: Core nuclei of protected areas established**

Corridor team is continuing efforts to promote long-term conservation in areas already secured for conservation (core areas) as well as biological monitoring of these to guarantee the protection of biodiversity. Specific achievements to obtain this outcome are: capacity building of partners, support of monitoring field stations and support of long-term financial mechanisms.

#### **Activities**

##### ***3.1 Select and monitor the priority areas and connections within the nuclear area to best protect biodiversity***

###### ***3.1.1 Continuing Activity***

The research infra structure available at the Fazenda Rio Negro is equipped and being used to collect baseline and monitoring data. Biological Collections have been created and will be maintained at the research center.

### ***3.2 Promote environmentally compatible activities in connections within the nuclei***

#### ***3.2.1 New Activity***

Sustainable use of biodiversity can be an alternative to avoid reduction of natural population of game species. The need for diversity to avoid inbreeding is another value for conservation of wild species. The tradition of hunting in the Cerrado portion of the corridor is leading wild population on forest fragments to local extinction, reducing the chances of success of the corridor effort. Recently opened for breeding and production native species such as peccaries, agoutis and capybaras, tapirs and rheas have already a market potential being exploited by some producers in the South of Brazil. Beginning the same effort at the corridor level, EMBRAPA-CPAP <sup>3[1]</sup> started some experiments at Mato Grosso do Sul. On the other extreme of the corridor route, neighboring producers of Emas National Park are establishing commercial breeding facilities to fill a local niche. Supported by the biological information generated by Pró-Carnívoros Association, the intention is to understand the impact on local wildlife populations of such initiatives and develop a sustainability analysis.

The implantation and operation cost are tracked to determine the ideal size of peccary breeding-ground for commercial purposes. We also take into consideration economic, biological, and environmental data.

We are also expanding a plan for futures studies on the local, regional and national meat market. These studies include strategic planning for product launches. As for the local market, we have been testing the product in the Mineiros (GO) market, with special authorization from IBAMA. We are also finalizing a plans for a feasibility study of the leather market.

#### ***3.2.2 New Activity***

Cerrado-Pantanal corridor team, with technical support of EMBRAPA SOLOS, will offer a training program in soil conservation and production of native plant species. The restoration of degraded areas and recover gallery forests along critical watersheds are the goals. This training program will be held in Mineiros – GO for 30 people from local farms, rural agencies, agriculture graduates and local Government.

CI and Emas Foundation, in partnership with the EMBRAPA SOLOS, will offer a Soil Conservation and Restoration training to 40 people in August 2002. Emas Foundation will select the candidates in all Cerrado Core Zone.

#### ***3.2.3 New Activity***

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The Pantanal corridor team will support the Federal University of the State of Mato Grosso do Sul project “UFMS vai à escola”. It will offer seventeen different undergraduate courses. They include medicine, engineering, biology, and dentistry. These undergraduates and their tutors will then provide basic assistance to communities and disseminate information about biodiversity conservation through cultural activities. Over 20.000 people in Campo Grande city have already participated. CI proposes to provide the logistics to expand this initiative to the Corridor municipalities.

CI provided financial, logistical and technical support to the project “UFMS vai à escola” to offer assistance to 10 rural schools and their communities in the Pantanal. Undergraduate students, under supervision of teachers and CI Environmental Education staff, teach young rural students about biodiversity. Doctors and dentists also service these difficult to reach localities. This low cost effort has attended over 200 people in far rural communities of the Pantanal.

### ***3.2.4 New Activity***

CI – Cerrado will partner with Cooperativa Mista Agropecuária do Vale do Araguaia (COMIVA) to incorporate environmental best practices according to Brazil’s Environmental law. COMIVA is committed to improve cattle raising and dairy production management in the Cerrado region. CI Cerrado will offer capacity building courses to COMIVA’s technical staff and develop an evaluation system able to identify environmental benefits at the property level.

Emas Foundation and COMIVA established an informal agreement to support two projects: the “Mais Leite” (more dairy) to improve dairy production and the “Mais Carne” (more beef) to improve cattle raising. The Emas Foundation will add environmental issues in the COMIVA projects, including the environmental analysis of properties and environmental laws. A formal evaluation of these projects has been done by FIMES.

### ***3.2.5 Continuing Activity***

CI Pantanal will continue to promote apiculture activities. Two additional free honey production-training courses and a follow-up course on honey processing and packaging will be held for local communities. As a complement to the promotion of apiculture, CI Pantanal will launch a research program to examine the interactions among apiculture, native bees, and the environment.

Two more courses were offered to promote apiculture as a sustainable economic alternative. In addition, the Conservation Research Center monitors the impact of the exotic bees over the native ones and supports CI’s conservation goals.

## ***3.3 Engage core nuclei stakeholders for future corridor development (workshops, awareness building, promoting)***

### ***3.3.1 Continuing Activity***

The TNC “Best Practices in Agriculture” project had a delay by operational problems. The land use tool kit will be available in early 2003.

### **3.3.2 Continuing Activity**

Building on the successes generated through USAID financing, CI Pantanal is exploring the possibility of establishing marketing agreements with major industry partners, to create incentives for more cattle ranchers to join the organic beef certification initiative.

Founded in 2001 with CI's support, the Brazilian Association of Organic Beef Producers aims to unite organic producers to achieve economies of scale not only for the domestic market but also international. The union of the Producers of Pantanal Organic Meat is key for the managerial, administrative, economic and political processes to flow quickly and smoothly.

CI has decided to terminate direct support for this activity. The Association will continue to provide technical support while CI will partner and finance researchers to monitor any potential future impacts of cattle grazing on native vegetation.

### **3.4 Economic analysis and policy level work and/or analysis to identify land uses that meet conservation objectives at nuclei level**

#### **3.4.1 New Activity**

The Corridor team will support a diagnosis program to evaluate sustainable economic practices for the Kadiweu Indigenous Community within the Southern core nuclei. The 560,000ha Kadiweu Indigenous reserve neighbors the 76,000 ha Bodoquena National Park, these two areas together form the potential greatest complex of protected areas in Mato Grosso do Sul. Despite the fact that indigenous land is not a formally protected area, the role of its integrity in supporting Indigenous traditions is an important supporter to safeguard a portion of original southern Pantanal landscape. Communities like the Kadiweu, with its strong tradition in pottery and other cultural values must be supported as part of Pantanal's origin.

The corridor project intends to start a process to understand the community needs to face future conservation challenges. Planned activities include: health and education initiatives, small business development, fire prevention and tourism development.

CI established a partnership with OIKOS, a local private institution, to develop social, economic and environmental inventories at Kadiwéu's Indigenous land. The plan will include the diagnosis to evaluate sustainable economic practices for the Kadiwéu Community.

#### **3.4.2 New Activity**

CI-Cerrado and CI-Pantanal staff, in conjunction with CI-DC REP staff and CI-Brazil Economist will use findings of issues papers/incentive analyses (1.1.3) to develop an implementation plan for FY03. The goals are to strengthen strategic activity planning,

develop long-term corridor financing mechanisms, and devise economic instruments to encourage sustainable land uses and conservation.

Findings of the initial assessment of economic activities across the corridor have already been used in the process of strategy development. The results of other planned economic assessments will also be used to develop long-term corridor financing mechanisms and economic instruments to encourage sustainable land use and conservation.

### ***3.5 Awareness program designed and made operational***

No developments during this period.

### ***3.6 Select Indicator species and promote research on them for integration at the corridor level.***

#### ***3.6.1 New Activity***

In an effort to understand the impact of infectious agents in animal species currently being studied at Rio Negro Research Station, the corridor team will sign an MOU with Oswaldo Cruz Foundation (FioCruz) to analyze infectious and parasitic agents on domestic and wildlife species. Based on the results of the diagnosis, a program to monitor the status and control potentially contagious infectious agents in key wildlife species along the most critical Corridor areas will be developed. Disease is a major extinction cause to wildlife. Corridors on the other hand have been pointed as facilitators on the dispersion process of some diseases. Another important but neglected factor is the role of corridors as a tool to spread resistance genes between different meta-populations. CI/FioCruz will later address as a further step on this program.

CI hosted an October meeting at the Fazenda Rio Negro. Decisions included: which activities should be carried out in the Research Facility of the Rio Negro farm in the Pantanal; small mammal target species for health monitoring; and sampling sites and dates for all expeditions during the year.

#### ***3.6.2 New Activity***

CI Pantanal will support researchers to carry out biodiversity analysis and mapping in the Pantanal, and understand distribution patterns of keystone species along the Corridor.

CI has signed a contract with ComCiência Foundation to start the biodiversity analysis mapping of the Pantanal area. The work is scheduled to start in May 02 and will provide Corridor team with information on the densities of animal populations in the Corridor.

### ***3.7 Information gathering, integration and analysis for core nuclei (new or targeted biological, social, legal and/or economic data)***

#### ***3.7.1 New Activity***

The Cerrado Corridor team will continue to stimulate scientific research in the Corridor to obtain specific biological information on the effectiveness of the Corridor as a tool to protect biodiversity in the Cerrado. The research projects to be selected will depend on the minimum biological protocol to be defined by Corridor team (1.3.1). All data gathered will be entered in the Corridor database.

The Emas Foundation has been offered logistical and technical support to researchers in field and office. In Emas Foundation office is available for communication services (Internet, telephone), technical information and the GIS Lab. The Corridor Staff held a meeting with researchers in March to create a strategy of biological information protocol. The protocol will be implemented for new scientific surveys.

#### **Objective 4: Biodiversity corridor of connected core nuclei established**

During the first 6 months of FY02, the Cerrado team has identified new key areas for connectivity of the Cerrado portion of the Corridor. These recommendations have been presented to the Environmental Agency of Goiás. Priority areas have also been identified in the Northern portion of the Pantanal through satellite images and Biological sampling. Protection of these key areas identified in the Cerrado and Pantanal will guarantee the implementation and connectivity of core areas of the Biodiversity Corridor in the two biomes.

#### **Activities**

##### ***4.1 Analyze biological, economic, and social data to identify priority areas for connection***

###### ***4.1.1 New Activity***

Corridor GIS technical team and the Federal University of Mato Grosso do Sul will hold a 4-day meeting in August 2002 to review decision-making methodologies for the Cerrado-Pantanal Corridor. Experts from São Paulo University (USP), Goeldi Museum and IBAMA will appraise existing fragmentation and connectivity processes data. Using state of the art technology, the corridor technical team intends to identify priority routes for corridor connection. In addition to expert researchers, local MSc students will also have the opportunity to work on this project.

###### ***4.1.2 New Activity***

Emas Foundation will conduct three viability studies to define the most appropriate categories of protected areas to be implemented at Serranópolis (GO), Araguaia Headwaters (GO-MT) and Rio do Peixe (MT). The goal is to increase connectivity within the Cerrado core nuclei buffer zones. The viability study will use satellite imagery and information from Corridor database and field surveys.

In an effort to take advantage of the government's current interest in new protected areas, the Corridor staff has studied key areas to increase corridor connectivity. Two studies

were completed (Serranópolis and Araguaia Headwaters). The recommendation is to create three private reserves (RPPN) in the Panela Headwaters (Serranópolis) and a state park in the Araguaia Headwaters. The Corridor staff presented these studies to the Environmental Agency of Goiás.

#### ***4.2 Design and promote policy interventions to alter economic decision-making environment across corridor***

##### ***4.2.1 New Activity***

The Cerrado Corridor team will promote an August capacity building training for Federal, State, Municipal government, district attorneys and landowners associations on the current Forestry Code. The Instituto Socioambiental (ISA), Emas Foundation and CI - Cerrado will offer this course. This leveling seminar will focus on new alternatives established in the code for Legal Reserve areas, including consortiums and private agreements, to promote connectivity and safeguard natural resources and biodiversity flow.

#### ***4.2 Define and monitor biological, social, and spatial indicators for change at the corridor level***

No developments during this period.

#### ***4.3 Promote changes in legislation incompatible with corridor goals is completed***

No developments during this period.

#### ***4.4 Develop market connections for alternative certified products/goods from the corridor***

No developments during this period.

#### ***4.6 Information gathering, integration, and analysis for corridor activities (new or targeted biological, social, legal and/or economic data)***

##### ***4.6.1 New Activity***

Corridor team and partners will map the North – South Corridor areas with satellite imagery to identify geographic fragments that may be critical for the connectivity of the Corridor. CI Pantanal in partnership with IBAMA, SEMACT and NGOs has already started compiling a list of all the existing protected and indigenous areas along the North – South Corridor. Biological Information for the Northern Portion of the Corridor will be subsidized by the Aqua RAP expedition.

CI Pantanal GIS team has purchased seven images. It is in addition to the thirteen images previously acquired to create a map of the North – South Corridor. A preliminary analysis of the compiled images has been carried out and all conservation units in the extension of the Corridor were allocated and can be seen in the map(Attachment 1). Further detailed analysis of vegetation types and biodiversity mapping will be planned in a

technical workshop to be held by CI GIS specialists with support from vegetation specialists in the area.

#### **4.6.2 New Activity**

Corridor staff will map the Araguaia headwaters, located in the Northeast of the Emas National Park. Information obtained from satellite imagery, video and aerial photography will provide a detailed view of the landscape and allow identification of fragments that may be critical for the connectivity of the Cerrado Corridor core nuclei. The data produced will be used to create a map of land use restrictions and agricultural best practices by Corridor staff in partnership with EMBRAPA and Goiás Federal University Institute for socio-environmental studies (IESA).

The Araguaia Headwater Project is a partnership of Emas Foundation and Environmental Agency of Goiás. The project has stopped due to operational problems. Although, the Corridor staff have been continuing the programmed activities because the Araguaia headwaters is inside the Cerrado Core zone. The Emas Foundation GIS Lab will finish a 1:20.000 scale land use map of Araguaia headwaters in August 2002. The agricultural best practices protocol will be ready on November 2002.

#### **4.7 Awareness program designed and made operational at corridor level**

##### **4.7.1 New Activity**

Research around protected areas has indicated the great numbers of wild animals that cross the surrounding roads yearly. They cause great impact on local populations. There is a clear need for a large public awareness campaign. It will consist of printed materials, as well as video material. The impact of the campaign will be measured by the ongoing research on the impact of road kills on wild animal populations.

The campaign to reduce road kills will be part of a largest effort involving driver's awareness raising and changes in infra-structure of roads, as advised during 4-P workshop. During a March technical meeting, researchers from the Cerrado and the Pantanal defined a pilot area, Emas National Park, for an action plan.

### **III) Guyana**

#### **A) Key Short and Long-Term Program Objectives for the Site**

The long-term objective of CI Guyana is to establish a wilderness protection corridor that spans southern Guyana and links to other corridors in neighboring countries. To implement this corridor CI is focusing its efforts on achieving conservation status for two sites: a conservation concession, which spans the upper reaches of the Essequibo River, and a protected area in the Kanuku Mountains.

In the short-term, CI has gathered the relevant baseline data into a geographic information system, which will be used to guide the development and implementation of

the corridor. CI is also engaging stakeholders and seeking to raise their awareness of the importance of resource conservation in the Kanuku Mountains. Improved stakeholder understanding of conservation issues and the protected area process is critical for the establishment of the protected area. CI is also developing conservation enterprise development.

## **B) Summary of Progress for Site**

CI is required to submit a management plan to the Guyana Forestry Commission before a conservation concession is received. Community, regional and national consultations were held among stakeholders to inform and solicit feedback. Broad support for the idea of a conservation concession was expressed during these meetings. All input was considered for the final draft management plan. The Guyana Forestry Commission approved the management plan and the actual concession agreement should be executed during July 2002.

The process to establish a protected area was stalled for most of the reporting period. Some indigenous leaders from the stakeholder communities wanted to link the process of receiving legal titles to their lands to the establishment of the protected area. However, when the Minister of Amerindian Affairs visited the stakeholder communities, she found that 17 of the 18 communities were in favor of the continuation of the protected area establishment. On the basis of this consensus, the Community Resources Evaluation, the major activity in the current phase, was launched in late March 2002. It was immediately followed by the implementation of a series of workshops to nurture environmental leadership within the stakeholder communities.

In the meanwhile, the balata artisans were continually trained in management to allow them to fully manage the balata (the latex of the Bulletwood tree used to produce the craft products).

## **C) Activities**

**Outcome 1: Build biodiversity corridor planning and implementation support framework: Gathering baseline data, establishing a corridor information system and assembling the corridor project team are critical first steps to develop corridors in Guyana.**

CI Guyana has signed an MOU with the Government of Guyana to pave the way for data-sharing agreements with relevant institutions. The corridor team is in place and being trained. In addition, spatial data is being generated or collated, and the corridor information system is being developed. Stakeholders are actively involved in finalization of the corridor monitoring and evaluation framework. These initiatives will provide the foundation for the development and implementation of the corridor in southern Guyana.

***1.1: Biodiversity corridor assessment completed (baseline legal, biological, economic and social assessments/data gathered)***

### ***1.1.1 Continuing Activity***

On October 24, 2001, CI and the Government of Guyana have signed a Memorandum of Understanding. It formalizes data collection and sharing modalities.

CI Guyana is negotiating a contract with the University of Guyana to database the specimens in the Jennman Herbarium at the University. Databasing the herbarium is a priority activity so that it'll be included in the GIS.

In addition, a draft of the vegetation map for the corridor region was completed and will be circulated among local experts for input.

### ***1.1.2 New Activity***

CI-Guyana has approved a consultancy proposal to oversee the implementation of a timber inventory. It will be conducted after the concession agreement is signed. It will provide important data on the timber value and be used to negotiate payments to the Government of Guyana.

### ***1.1.3 Continuing Activity***

This activity was temporarily stalled by a request from some indigenous leaders to address the issue of legal titles to indigenous lands. However, the issue was resolved and the first CRE is scheduled for 8 May 2002.

## ***1.2 Continuing Activity***

The directory structure for the corridor information system was developed to facilitate organized data input, storage, retrieval and use. Topographic data for the corridor region is now being digitized.

The Guyana Integrated Natural Resources Information System (INRIS) board has been asked to consider the formal inclusion of CI Guyana. It should facilitate more effective data and resource sharing. CI Guyana has already been granted use rights to the GINRIS data sets and now participates in the GINRIS Technical Committee.

CI Guyana's Lethem field office staff and members of the Community Resources Evaluation (CRE) of the Kanuku Mountains team received Geographic Information Systems (GIS) and Global Positioning Systems (GPS) training. One staff member has received further GIS training and advanced GPS skills. He will also receive ongoing training to enable him to carryout GIS tasks in the field.

## ***1.3 Corridor learning system/adaptive management in place and operational***

### ***1.3.1 Continuing Activity***

The CI-Guyana Corridor Coordinator and Projects Manager were trained in CI's Strategic Management Approach. The draft monitoring and evaluation plan is being finalized and the lessons learned during project implementation will be documented and used for adaptive management. Although a monitoring and evaluation plan for the corridor program has not been completed as yet, managers are required to clarify their project baselines and to evaluate the impacts of each project activity.

## ***1.4 Participatory planning and implementation framework and process established***

### ***1.4.1 New Activity***

Several groups were established to ensure that stakeholders are consulted in the proposed protected area process. CI-Guyana will continue to fund meetings of the National Advisory Committee (NAC) and the Region Nine Advisory Group (RAG) for the proposed Kanuku Mountains protected area. Community leaders are engaged through a series of educational workshops. They provide them with the information to make informed decisions on the establishment of the proposed protected area.

### ***1.4.2 New Activity***

A stakeholder analysis and a stakeholder management strategy have been revised and are currently being implemented as described in activity 1.4.1 above.

### ***1.4.3 New Activity***

The corridor team will review and document the consultation process for the proposed protected area. Lessons learned will be disseminated. The final report, due at the end of this fiscal year, will be part of the monitoring and evaluation plan. It will also provide input to the corridor learning system. Other ways of disseminating the lessons learnt will also be examined.

### ***1.4.4 Continuing Activity***

Discussions were held between the management of Vanessa Mining and CI-Guyana along with CI's Center for Environmental Leadership in Business (CELB). We found that although this Company still has exploratory rights status, they have no expressed interest in mining these areas in the near future.

### ***1.4.5 New Activity***

A Field Coordinator will be contracted to manage the logistics for consultation visits, resource assessments, and monitoring at the sub-regional level. We will also organize a coordinating committee of stakeholder representatives in the sub-district. It will provide a formal group for consultations on the conservation concession. A Program Facilitator will also be hired to oversee the ongoing community consultations. In addition, an interim Logistics Coordinator was hired to provide support for field activities.

### ***1.4.6 Continuing Activity***

The final proposed conservation concession Social Impact Assessment (SIA) was submitted to CI Guyana in January 2002. The SIA confirmed that there are no residents within the concession site and that the stakeholder communities only use the concession area sporadically for fishing and balata harvest. Report copies were distributed to the relevant stakeholders. Regional and national consultations were also held to discuss the findings of the SIA.

### **1.5 Corridor project team operational**

This activity has been condensed into activity 1.3.

### **1.6 Research long-term financial mechanisms**

#### **1.6.1 Continuing Activity**

Analysis of the possible long-term financial mechanisms has been delayed. Consensus on the national framework for conservation in Region 9 needs to be reached.

As a result of extensive discussions, the Government of Guyana now supports the establishment of a trust fund.

### **Outcome 2: Protected areas created, strengthened and extended**

A management plan has been approved for the conservation concession. It paves the way for its legal establishment. Simultaneously, monitoring and enforcement efforts are underway. In addition, an aggressive stakeholders educational campaign has been launched to generate support for a protected area in the Kanuku Mountains.

#### **Activities:**

#### **2.1 New protected areas (protected areas, private reserves, indigenous reserves/territories) are created**

##### **2.1.1 New Activity**

The CI-Guyana corridor team will develop an annual and medium-term workplan for the Protected Area Secretariat (PAS). Workplans outlining the consultation process were developed and given to the Protected Areas Secretariat of the Environmental Protection Agency (EPA). The EPA is monitoring the implementation of the process and reporting mechanisms have been established.

##### **2.1.2 Continuing Activity**

CI-Guyana developed a draft workplan to establish a protected area near the Kanuku Mountains. Once all critical stakeholders provide their input, it'll be submitted to the Government of Guyana.

The Community Resource Evaluations have been delayed. Therefore, the data collection phase continue through October 2002 and the proposal will be developed during the next fiscal year.

##### **2.1.3 New Activity**

Once the management plan for the proposed conservation concession is submitted to the Guyana Forestry Commission (GFC) (activity 2.4.1), a team will be identified to

negotiate the details of the GFC concession rights payments. CI-Guyana will provide overall guidance to the negotiation team.

Payment negotiations have been ongoing with the Guyana Forestry Commission and interim levels of payments have been agreed upon. Results from the upcoming timber inventory may lead to payment adjustments.

## ***2.2 Protected area level infrastructure in place (park guards, posts, etc.)***

### ***2.2.1 New Activity***

CI-Guyana will engage four people from the stakeholder communities to monitor the conservation concession. The primary objective is to ensure that the ecological integrity of the proposed concession area is not compromised. CI-Guyana will seek to have these monitoring officers sworn in as Rural Constables. They will then have legal authority.

This activity will be fully implemented after the conservation concession is legally established. In the meanwhile, CI Guyana has initiated discussions with a local organization to facilitate concession monitoring and enforcement.

## ***2.3 Strengthen or extend existing protected areas***

Once the Guyana Forestry Commission has accepted the management plan and a long-term concession is allocated, CI-Guyana will have further meetings with the Guyana Forestry Commission on the possible expansion of the concession to the one million acres, which is the size in the initial application.

The concept of expanding the Concession eastward to the Courentyne River was raised with the GFC, the EPA and the Office of the President. It was agreed that an application would be reviewed after the first year of the initial concession. This will provide all parties with an opportunity to evaluate the effectiveness of the concession.

## ***2.4 Develop and implement management plans for new and existing protected areas***

### ***2.4.1 Continuing Activity***

Regional and national consultations were held to share the draft management plan with stakeholders and to solicit feedback. The Guyana Forestry Commission approved the final management plan. The consultation process revealed that there is broad support at both the local national levels for the establishment of the conservation concession. Discussions have also been initiated with the North Rupununi District Development Board to examine the potential for collaboration to implement specific aspects of the management plan.

## ***2.5 Capacity-building at the level of new and existing protected areas***

### ***2.5.1 New Activity***

CI-Guyana will fund sixteen months of Forest Ranger training for four local community members. The Iwokrama International Center for Rain Forest Conservation and

Development will conduct the training. This cadre of skilled personnel will monitor the long-term conservation concession.

### **2.5.2 New Activity**

CI-Guyana will host a regional and a national workshop for the Regional Advisory Group for the proposed Kanuku Mountains protected area and the National Advisory Committee. The regional workshop will cover data collection and management of protected areas. The national workshop will provide information not only on the establishment but also the management of protected areas.

## **2.6 Gather, integrate and analyze information for creating and strengthening protected area (new or targeted biological, social, legal and/or economic data)**

### **2.6.1 Continuing Activity**

CI-Guyana implemented a Rapid Assessment Program (RAP) in the eastern Kanuku Mountains during September-October 2001. The preliminary report on the RAP expedition revealed that the Kanuku Mountains area is high in avifaunal and mammalian diversity. The Kanukus Mountains is now known to have the highest bat diversity for any protected area in the world. Sixty-six species of the total number of plants collected during the expedition are new records for the Kanukus.

## **2.7 Develop and implement awareness campaign for new or existing protected areas**

### **2.7.1 New Activity**

CI-Guyana Communications Manager will produce and distribute a newsletter for both regional and national audiences. It will update stakeholders, members of the media, opinion leaders and school children on the creation of the proposed protected area near the Kanuku Mountains. It will also provide general information on conservation activities implemented by CI-Guyana. It is expected that this effort will nurture a more positive attitude and increase stakeholder participation in the conservation initiatives being promoted.

The bi-monthly newsletter was the first-ever for CIG. It is being read and referred to by all stakeholders, including government officials. An initial assessment of the usefulness of the newsletter suggests that monthly publication is sufficient and that the overseas is smaller than originally anticipated. It is too early to determine how the newsletter has influenced behavioral change.

### **2.7.2 Continuing Activity**

Plans for the national and regional summer camps for children are on-track. The National Camp will be held from July 29 to August 3, 2002. Thirty-six students from 6 secondary schools will be educated in conservation and environmental issues. Students will be chosen from a mixture of schools with environmental clubs and those without environmental clubs, so that at the end of the camp a comparative assessment can be made of the two groups.

### **2.7.3 Continuing activity**

This activity is on-track. The competition was announced during February 2002. The Communications Manager distributed brochures on the award and promoted the award among various media houses.

### **2.7.4 New activity**

CI-Guyana will collaborate with CI Washington to produce calendars for 2002, a portable exhibit on biodiversity conservation, promotional posters on conservation, and several fact sheets. These communication tools will be distributed to key national and regional stakeholders to improve awareness of the importance of biodiversity conservation. These tools will be valuable, during the Community Resources Evaluation (activity 1.1.3). Enhanced environmental awareness will also provide valuable support and participation in the establishment and management of a protected area.

The content of all communication products have been completed. The poster on the Kanuku Mountains and the calendars are being used nationally and regionally. The Kanuku poster was well received. The fact sheets, brochures and exhibit are currently being printed in Washington, DC.

### **2.7.5 New activity**

CI Washington's International Communication Department will prepare a documentary on the Kanuku Mountains area. It will depict the rich biodiversity of the Kanuku Mountains area and clarify why they should be conserved. It will to be shown to regional stakeholders during the consultation process to generate greater support for the establishment of the protected area. The documentary will also be shown on national television to foster national support. The ultimate aim is also to enhance national and regional participation in the discussion on the establishment of protected areas in Guyana.

This activity was delayed as a result of the events of September 11. It is rescheduled for August 2002.

### **2.7.6 New Activity**

CI-Guyana will produce several products (T-shirts, caps, bags, pens) to increase conservation awareness visibility. CI Guyana will also host a media tour to the conservation concession site in celebration of the acquisition of a long-term lease. The resulting environmental coverage will attempt to showcase the success of the conservation initiative and will highlight the national benefits of conservation. These efforts are also expected to generate public support and participation in conservation initiatives.

The products are scheduled for production by August 2002. A press briefing is scheduled for July 18, 2002 when the agreement for the conservation concession will be signed. This will be followed by other local initiatives to advertise the establishment of the first conservation concession in Guyana.

### **2.7.7 New Activity**

CI-Guyana will participate in a major national trade and science exhibition in Georgetown (Guyexpo) to showcase CI's activities. This will involve the use of photographic displays, video shows, fact sheets and a portable exhibit. Natural craft products, highlighting the potential for conservation enterprise development, will also be on display. This event will also be used to improve national awareness of the importance of conservation and to increase public support and participation in conservation initiatives.

This activity is on-track. The portable exhibit is being designed is expected in Guyana by June 2002.

### **2.7.8 New Activity**

CI-Guyana will collaborate with CI-Washington and education authorities in Region Nine to implement a training workshop for local teachers. The workshop will support the consultation process, since teachers serve as multipliers of the conservation message in their communities. Teachers will learn about biodiversity conservation and protected areas. They will also participate in a variety of hands-on educational activities to build their capacity to provide innovative and effective environmental education to their students. Materials will be provided to take back to their schools, and CI's education staff will provide on-going support. Over the medium-term, this activity will also nurture support for and participation in the discussions on the establishment and management of a protected area.

The workshop was conducted and a final report will be available for distribution by April 2002. An evaluation of the workshop suggests that it was successful in educating teachers on protected areas and the importance of biodiversity conservation. Participants expressed a strong commitment to link these new concepts to existing school curriculum. Evidence also suggests that many teachers are now more supportive of the establishment of a protected area.

### **Outcome 3: Core nuclei of protected areas established**

There has been no development under this outcome to establish core nuclei, since no protected areas exist at the moment. However, there has been progress in developing viable economic alternatives in the buffer zone. For example, there has been steady progress in the Nappi Balata Artisan Group's goal of self-sufficiency. Efforts during the reporting period have focused on building the management and marketing capacity of the group.

### **3.2 Continuing Activity**

CI-Guyana's Enterprise Expert has met with other organizations and agencies supporting the field of enterprise development in Region 9. The evaluation of potential enterprise opportunities under the Community Resources Evaluations will further guide this dialogue.

#### **3.2.1 Continuing Activity**

Managers have been trained in basic business concepts. Training in basic computer skills, electronic communication and internet use are underway. Attendance to an Ecuadorian Trade show was cancelled due to travel restrictions relating to the events of September 11. Participation in a possible Caribbean trade show is now under consideration.

### **3.2.2 Continuing Activity**

CI-Guyana Enterprise Specialist will continue to enhance the capacity of the Nappi Balata Artisan Group by providing weekly training in product development and business planning. Funding will also be provided for the Group to participate in a Trade Show in Ecuador during October 2001 and in New York in January 2002

### **3.2.3 New Activity**

CI-Guyana will host a two-day training workshop for the Region 9 Regional Advisory Committee for Mining, Forestry and the Environment to evaluate new business proposals. The goal is to enhance the ability of the Committee to integrate environmental and development issues.

This activity was cancelled. The strategy for engaging regional stakeholders has now been modified. Instead of a single body of village leaders and other stakeholders, the whole Village Council is being trained in environmental issues and protected area concepts. The aim of this new initiative is to build community capacity for informed decision-making on protected area issues.

### **3.2.4 New Activity**

A Conservation Enterprise Development Specialist will organize a May/June 2002 workshop in Nappi to finalize a business plan for the Nappi Balata Artisan Group. It will be the framework for the management of the balata enterprise. The Group will also be trained to implement, monitor and evaluate the plan.

### **3.2.5 New Activity**

CI Washington's Enterprise Development Program Assistant will travel to Guyana to develop a three-year marketing strategy for the Balata Group. An appropriate export agent will be identified and contracted to support the implementation of the marketing strategy.

Mixed Performance. A marketing plan development workshop was held in Nappi during November 2001. However, a formal marketing strategy has not been developed. Instead, the marketing strategy is being integrated into the business plan to be completed during June 2002.

The selected export agent cancelled our agreement. We are now searching for a new candidate.

### **3.2.6 New Activity**

A consultant will be contracted to carry out a biological assessment of the sustainability of using the Bulletwood tree for balata craft development. The consultant will also provide recommendations on sustainable use levels. CI-Guyana's Executive Director will pursue discussions at a policy level to ensure that the current ban on the Bulletwood tree is not lifted in the foreseeable future.

CI Guyana is reviewing the approach to identify sustainable use levels. It is still expected that a biological assessment will be conducted.

CI Guyana has discussed keeping the ban on the Bulletwood tree with the Guyana Forestry Commission. It is under consideration.

### **3.2.7 New Activity**

A resource center will be constructed to improve the working conditions of the Nappi Balata Artisans Group. It will have with adequate equipment, including a computer and printer.

The construction of the resource center is complete. It is now being used as an office, workshop, showroom and meeting room. A computer and printer will be purchased after the completion of computer training in June 2002.

### **3.2.8 New Activity**

CI-Guyana's Enterprise Specialist, in consultation with other stakeholders, will expand a national strategy for enterprise development in Guyana. It will guide CI-Guyana's long-term efforts to support the development of conservation enterprises in Guyana.

It has now been decided that the information emerging from the Community Resources Evaluation will contribute to clarifying the potential for enterprise development within the 18 stakeholder communities being engaged. This will serve to inform the development of the enterprise strategy. The strategy on enterprise development will therefore be completed after the Community Resources Evaluation is completed.

## **IV) Philippines**

### **A) Key Short- and Long-Term Program Objectives for the Site**

The Sierra Madre corridor is a Bio-geographic region largely defined by the Sierra Madre mountain range, the longest mountain range in the country. The present forest cover of the Sierra Madre corridor is the most extensive in the Philippines, about 1.4 million hectares composed of different ecosystem types. The corridor accounts for 25% of the remaining forest cover of the country, wherein about 40% or about 400,000 hectares is old growth. The biological importance of the corridor lies not only in its remaining intact forest, but also in the high diversity of flora and fauna it harbors and that are included in the IUCN red list of threatened endemic species.

The threats to the biodiversity of the Sierra Madre corridor are complex and interlinked. Foremost are destructive resource use, development-related activities and population

pressure. Unless properly addressed, unabated development and extractive activities will continue to break up the already highly fragmented forest stands.

Establishing the Sierra Madre corridor will connect various sustainable land use areas through Protected Area networks and other biodiversity-friendly conservation management systems. Examples include the Community-Based Forest Management program and the Certificate of Ancestral Domain Claims. These conservation mechanisms will mobilize stakeholders to actively participate in protecting and conserving biodiversity.

Key conservation areas in the corridor have been identified. They will receive immediate attention based on their sensitivity (e.g., presence of threatened and endangered species) and the intensity of threats. The long-term goal, however, is to declare areas adjacent to the core as Protected Areas under the existing legal frameworks.

## **B) Summary of Progress for Site**

The accomplishment highlights in the corridor during the reporting period are as follows:

### **New Protected Areas or the expansion of existing ones**

CI Philippines is assisting with the Department of Environment and Natural Resources (DENR) and LGUs to meet the requirements for the establishment of two Protected Areas (PAs). They are the Penablanca Protected Landscape and Seascape and Quirino Protected Area. A draft Presidential Proclamation for Penablanca Protected Landscape and Seascape was submitted to the office of the Secretary of the Department of Environment and Natural Resources. The creation of Quirino Protected Area will follow a similar process. The combined acreage of these two Protected Areas together with the Northern Sierra Madre Natural Park covers approximately 50% of the Sierra Madre Biodiversity Corridor target area for permanent protection.

### **Conservation constituency building and strengthening**

CI trained Peoples Organizations, Protected Area Management Board (PAMB) members, staff of the DENR, and Local Government Units in a range of skills. They included biodiversity monitoring, organizational development and management, financial management, agro-forestry establishment, and paralegal action. We provided further assistance through an awareness campaign and advocacy work at the community and regional levels.

The Protected Area Management Board of the Northern Sierra Madre Natural Park sees the major impacts of these efforts in the recent moves. It discontinued the operation of all the furniture businesses in Palanan, Isabel, a municipality located inside the Park; and disapproved the request by one big logging company to use its old logging road in park to access its concession area. The PAMB denied the application despite the strong lobby by powerful regional interest groups.

CI Philippines, together with its local NGO partners, has persuaded the regional DENR to put a temporary moratorium on the timber harvesting activities of the Community-Based Forest Management Agreement (CBFMA) holders. CI and its partners have successfully

argued that the CBFMA holders have a lack of technical capacity to handle this type of endeavor. The final determination will depend upon the review of their Community Resource Management Frameworks .

### **Partnership/alliance building**

CI continues to lead efforts to create Local Coordinating Units to address the need for partnership/alliance building. It has increased its focus on these alliances due to the project's limited life and the difficulties in establishment of multi-sectoral bodies. To date, a series of organizational workshops have been conducted in the provinces of Quirino, Nueva Vizcaya, Cagayan, Aurora and Quezon. As a result, LCUs now exist in Quirino, Nueva Vizcaya, Cagayan and Aurora They are currently finalizing their Memorandums of Understanding (MOU). In addition, the Local Coordinating Units of Quirino and Nueva Vizcaya each decided to develop a provincial Integrated Resource Management Strategy (IRMS) to integrate stakeholders' current and future programs plans. They are currently being finalized, as well. As part of this new strategy, members are considering the creation of a common program database.

### **C) Activities**

#### **Outcome 1: Build Biodiversity *Corridor* planning and implementation support framework**

CI Philippines conducted a series of workshops for the Local Coordinating Units of the four core provinces. The goal was to assist them to strengthen their local stakeholders' alliances and formulate an integrated resource management strategy. The LCUs serve as a public arena for the local stakeholders to plan, consult, and discuss issues related to natural resource conservation and protection. An initial milestone was the LCU members' agreement to integrate their databases with the corridor GIS-based information system. As a result, information will be shared across organizations and ultimately mainstream conservation efforts. CI Philippines, together with the LCU of the provinces of Quirino and Nueva Vizcaya, is currently working on the database integration.

##### ***1.1 Build Regional Understanding for Corridor Strategy as an effective tool for integrated resource management and biodiversity conservation***

CI Philippines initiated a series of workshops for the Local Coordinating Unit members to assist them in developing a common corridor information system. It will contain existing land use, biophysical features, and other relevant information. The Quirino and Nueva Vizcaya LCUs are already in the advanced stages of data integration. The provinces of Cagayan and Aurora have begun the process of compiling their data.

To prepare for the next step, CI Philippines completed the planning for the database system trainings, to begin in June 2002. The curriculum will include software handling, its use and maintenance, and actual database installation.

At the community level, CI Philippines' corridor information system has been discussed during workshops, consultations, public hearings and other public gatherings. This has helped to generate local support for the establishment of more Protected Areas within the corridor.

## ***1.2 Corridor Learning System/Adaptive management in place and operational***

CI Philippines conducted a series of consultations with key stakeholders to refine the corridor monitoring and evaluation system. We also finished planning for a July 2002 corridor wide workshop . It will provide background information for a proposed August meeting, which will provide a forum for government institutions and civil society groups to share lessons learned from their respective conservation programs.

## ***1.3 Participatory planning and implementation framework and process established***

### ***1.3.1 Establish Local Coordinating Units***

CI Philippines held a series of workshops with key stakeholders in the core provinces to assist in the establishment of their Local Coordinating Units. One of the major decisions by the LCU members was to develop a provincial Integrated Resource Management Strategy (See Attachment Philippines 2 & 3, draft IRMS and MOU of Nueva Vizcaya). It integrates all stakeholders programs and projects, with the goal of improved collaboration. The Provincial Governor of Nueva Vizcaya, Atty. Rodolfo Agbayani issued a letter of commitment for shared management of the Casecnan Watershed Landscapes and Ecosystems (See attachment Philippines-4). The LCU is circulating a draft MOU to support this effort.

CI helped LCUs gather the necessary documents for the Presidential Proclamation to expand the Penablanca Protected Landscape and Seascape in Cagayan, the creation of Quirino Protected Area in Quirino, and the expansion of the Maria Aurora National Park in Aurora. The DENR led the ground activities. The active participation of these key stakeholders demonstrates the increased interest in protecting the Sierra Madre.

### ***1.3.2 Corridor-wide meetings to assess effectiveness of Local Coordinating Units***

CI Philippines, together with Plan Philippines, Isabela State University (ISU), Cagayan Valley Program on Environment and Development (CVPED), Leiden University, NGO for Integrated Protected Area Inc. and the Department of Environment and Natural Resources (DENR) conducted a series of consultative meetings on a proposed Environment and Development Regional Conference (See Attachment Philippines-5, MOU of participating institutions). The group agreed that the conference theme would be "Sierra Madre Mountain Range: Global Relevance, Local Realities". The conference brought together local and international experts, who shared research results, experiences, and lessons learned in order to strengthen the corridor's existing information base.

The conference took place from May 20-24, 2002 at the Environmental Information Center at Isabela State University. The papers presented during the conference focused on the implementation of conservation programs. They provided important input for refinement of the Sierra Madre Biodiversity Corridor strategy. The conference also forged stronger partnership among local and international experts pursuing biodiversity research work and implementing conservation programs.

## **Outcome 2: Protected areas created, strengthened and extended**

CI Philippines, together with the Department of Environment and Natural Resources, initiated public hearings and consultations with local stakeholders to establish the Protected Areas (PAs). The consultations and meetings generated public support for the preservation of the remaining natural resources of the Sierra Madre. The establishment of these Protected Areas will void several mining applications and timber harvesting permits.

CI-conducted trainings for members of People's Organizations, Protected Area Management Boards, Park Administrations, and other civil society groups led the participants to oppose requests by influential interest groups to operate extractive businesses (mining and logging) in the Sierra Madre.

### ***2.1 Participatory Activities in creation, expansion and strengthening of Protected Area***

#### ***2.1.1 Training of trainers in resource mapping and resource management planning***

Local DENR and LGU staff, as well as for selected PAMB members of Protected Areas participated in the CI-Philippines trainer's training course on resource mapping and planning . The Cagayan trainees are now leading the community mapping and planning of the barangays – part of the expanded Penablanca Protected Landscape and Seascape. The barangay plans, which are being developed in Penablanca, will be integrated into the PA management plan. They will also be used to update the community-based resource management framework. The barangay leaders enhanced local capacity through inclusion of their members in these training exercises and on-the-job training in community mapping and planning. Trainers from Nueva Vizcaya and Quirino, on the other hand, are actively involved in preparing the management plan of the Casecnan Protected Landscape and the Initial Protected Area Plan of the proposed Quirino Protected Area.

#### ***2.1.2 Training in preparation of special habitat Zones for Initial Protected Area Plan (IPAP) development***

CI Philippines together with the DENR completed the planning for a field survey of the Philippine eagle habitat in Mt. Ceteceo in Cagayan and Mt. Anakwaw in Quirino-Aurora. The fieldwork will be carried out in June 2002 or during the dry summer season. It will include training of local communities in biodiversity monitoring, identification of threatened species, preliminary survey of the Philippine Eagle habitat zone, and the initial establishment of biodiversity monitoring plots.

The results of the biological survey will strengthen the PA database and management plan. In Quirino and Aurora, the biological information will be used in the preparation of the Initial Protected Area Plan, required for the proclamation of the proposed Quirino Protected Area and the expansion of the Maria Aurora Protected Area.

#### ***2.1.3 Develop management plans for new and existing protected areas***

CI Philippines, upon the request of the Department of Environment and Natural Resources, conducted a series of stakeholder workshops in November 2001 and February 2002 to develop the Casecnan Protected Landscape Management Plan (See attachment Philippine-6, request of the DENR). The local government units of the provincial and municipal levels, PAMB members, and local leaders attended the planning workshop. In a series of public hearings and consultations at the site level, the draft management plan was presented to the local people. These public hearings generated greater local participation in the formulation of the plan.

The last stage in preparing the management plan is a series of integration workshops scheduled for May and June 2002. The purpose is to integrate new information gathered during the earlier public hearings and consultations into the final document. It will serve as the basis for the Protected Area legislative bill.

#### ***2.1.4 Management zoning and boundary monumenting of Penablanca Protected Landscape and Seascape***

CI Philippines and the Department of Environment and Natural Resources completed the mapping of the Penablanca Protected Landscape and Seascape. It included the multiple-use, sustainable-use, strict-protection, and habitat zones. All are currently being verified on the ground and provide information to the on-going community mapping and planning. Once the President approves the draft presidential proclamation, monumenting the PA boundary and the management zones will occur. The proclamation is currently in the office of the DENR Secretary.

### ***2.2 Capacity and constituency building to promote Protected Area sustainability***

#### ***2.2.1 Park Rangers technical and in-kind support***

CI Philippines provided support for the continued NSMNP Park Administration patrols of the identified hotspots. The support enhanced the mobility of the park rangers and park volunteers (bantay Kalikasan brigades). As a result, 61 pieces of narra square logs, with a total volume of 2,067.01 board feet, were confiscated. According to the Park Administration records, the intensified efforts tremendously reduced the number of timber poaching activities, particularly on the Western side of the park. A case against illegal fishing is being prosecuted in the Palanan, Isabela municipal circuit court. The Park Administration, PAMB and local government unit of Palanan are aggressively pursuing this case.

#### ***2.2.2 Capacity Building for protected Area Management Boards***

CI Philippines conducted paralegal training for the members of the Aurora Memorial National Park Protected Area Management Board. The training equipped the PAMB members with knowledge on how to file and prosecute cases. It is noteworthy to mention that during the training, the PAMB made the decision to expand the area of the park from 5,676 hectares to approximately 106,000 hectares. This resolution is now with the Chairman, who is awaiting the result of public hearings in order to make his decision.

CI Philippines also supported several meetings of the Protected Area Management Board of existing PAs within the core provinces. During the PAMB meeting on May 1, 2002, members approved and finalized plans for a visit of PAMB members to the Northern Sierra Madre Natural Park. It should give them further insights on ways to strengthen their group as a local policy making body.

### ***2.2.3 Awareness Campaign to Build Protected Area constituency***

CI Philippines supported three dalaw-turo trainings conducted by the Department of Environment and Natural Resources in Rizal, Bulacan, and Quezon. The target audiences were the youth and local community leaders, including women. The purpose was to establish community-level IEC campaign tools to spearhead awareness campaign activities. This approach was found effective to mobilize the youth leaders and women in the Northern Sierra Madre Natural Park.

CI Philippines also participated in a photo exhibit in celebration of earth month, organized by St. Mary's University. It depicted the current status of the environment, and the remaining natural resources of the Philippines. The 5,000 students attended.

## ***2.3 Establish local Protected Area status***

### ***2.3.1 Facilitate the process of establishing legal protected Area Status***

CI Philippines worked with the Department of Environment and Natural Resources to complete the requirements for the proclamation of the expanded Penablanca Protected Landscape and Seascape in Cagayan (See Attachment Philippines7, resolutions and endorsements). CI's support included holding of public hearings, preparation and posting of public notices, consultations, preparation of the Initial Protected Area Plans, provision of a resource basic inventory, as well as the gathering of resolutions and endorsements. The draft proclamation was submitted to the Secretary of DENR for his final review and endorsement. It will pave the way for the Philippine President's approval (See Attachment Philippines-8 & 9, draft presidential proclamation and map of the expanded area). The same process for the creation of the proposed Quirino Protected Area and the expansion of Aurora Memorial Park (See Attachment Philippine 10) is currently underway. These requirements will be submitted to the DENR Secretary by September 2002.

Once these areas are declared permanent protected areas, it will interrupt plans by mining and timber companies to exercise or apply for permits. These business activities are considered the most destructive among the threats to the biodiversity of the Sierra Madre. It will also reduce the influx of migrants, who cause the rapid expansion of upland agriculture in the forestland areas in search of livelihoods.

## **Outcome 3: Decrease threats and increase healthy habitats**

CI Philippines and the NSMNP Park Administration created a reforestation and agro-forestry project inside the park. The goal is to rehabilitate the degraded watershed area of the blue lagoon at Barangay Villa Robles, Palanan, Isabela. The community participants were encouraged to interplant indigenous species with fast growing species in order to

enhance the biodiversity of the area. Similarly, to introduce them to agro-forestry development, CI provided instruction on the benefits of planting fruit-bearing trees alongside indigenous species. An agro-forestry zone area is also being established near the sixteen hectares biodiversity monitoring plot and will serve as a buffer zone.

### ***3.1 Promote environmentally compatible activities to assist in corridor connectivity***

#### ***3.1.1 Reforestation for habitat connectivity***

CI and the Park Administration provided technical support to local communities to establish two nurseries in Centro West and Villa Robles, both inside the Northern Sierra Madre Natural Park. The communities are key stakeholders, as they provide park protection, particularly within the vicinities of the project.

The nurseries are key to the rehabilitation of approximately 25 hectares of critically degraded ecosystem. An estimated 25,000 seedlings of various species (fruits bearing trees, fast growing species and indigenous species) have been raised and are ready for planting during the coming rainy season. The fruit bearing trees and fast growing species will serve as nurse crops for the indigenous species, which normally cannot grow when directly exposed to sunlight. CI Philippines also conducted community trainings in nursery development, agro-forestry establishment and organizational development.

#### ***3.1.2 promote Connectivity through adaptive farming (agro-forestry) practices to curtail slash and burn agriculture***

CI Philippines initiated site selection to establish agro-forestry model sites in the core provinces. The major criteria used in the site selection were: the willingness of farm owners and the local government units to provide counterpart resources, willingness to use indigenous species and inter-plant those with agro-crops and fruits bearing trees, willingness to protect adjacent forest areas, availability of adjacent area for replication, and suitability of the area. Four sites were selected ranging from 10 to 20 hectares per site. Training was conducted to expose the cooperators to farm planning and agro-forestry establishment. The participants are now preparing their sites for planting during the upcoming rainy season. CI Philippines will provide farm inputs and planting materials, while the Department of Environment and Natural Resources local office will provide the technical support.

CI Philippines also conducted supplemental trainings to build the capacity of the Peoples Organizations in the community-based Forest Management projects outside of the core provinces. The trainees live within the buffer zones of the critical watershed forest reserve that supplies water to Metro-Manila. CI Philippines is currently establishing partnerships with other NGOs to develop these communities into a “social fence” to contain intrusions from nearby urban areas.

### ***3.2 Consensus building for southern Sierra Madre protected Area to alleviate the threat of the Pacific Coast City and threats to the metro manila watershed***

CI Philippines conducted a series of consultations and orientations with various stakeholders to try and create the Bulacan-Rizal-Quezon Protected Area. This proposed PA consolidates the several overlapping watershed reservations and integrate the remaining eastern, open-access forest. In Quezon province, the church hierarchy, headed by Bishop Julio Labayen, and the local government unit, have spearheaded public hearings in all of the communities. Once established, the proposed Protected Area will cover approximately 150,000 hectares, including the whole area of the proposed Pacific Coast City.

In addition, the Protected Area Management Board of the proclaimed watershed already passed a resolution (under Proclamation 1636) that endorses the establishment of the proposed Protected Area. It will prevent the development of the Pacific Coast City and halt the processing of several mining applications and timber harvesting permits.

## **IV) Enforcement Economics**

### **D) Key Short- and Long-Term Program Objectives for the Project**

The Enforcement Economics Project aims to a) improve enforcement performance in each of the three case study sites (Selva Maya – Mexico, Papua – Indonesia, and Palawan – Philippines), b) catalyze a global initiative to strengthen enforcement of natural resource management and protected area policies and regulations worldwide.

The threat posed to conservation by poor enforcement and high levels of forest crime cannot be overstated. The illegal trade in wildlife has had an enormous impact on many endangered species, including high profile examples such as the New Guinea birds of paradise and tree kangaroos, Sumatran tiger, African rhino, and the Scarlet macaw of Mexico. Many more less-well-known species are also at significant risk. The role of illegal hunting and wildlife trade is undermining terrestrial conservation efforts. A new term has even been introduced into the conservation lexicon: “the empty forest syndrome”.

Equally important in many areas of the world are the continuing high levels of illegal logging within formally protected areas. Recent estimates place illegal logging at 73% of log production in Indonesia, 80% in Brazil and 50% in Cameroon. Within biodiversity hotspots, where virtually all logging of old growth forests is illegal, the figures are likely to be even higher. Much of this timber is illegal because it comes from over-harvesting or under-declaring of log production in logging concessions. However, significant illegal logging is also taking place inside protected areas and causing significant damage to conservation efforts.

In the marine realm, the grouper species Napoleon wrasse has been depleted across almost all the coral triangle to meet demand for live reef fish in Asian restaurants. Destructive fishing practices are also destroying marine habitats and undermining entire ecosystems, as seen for the coral reefs of the Philippines.

This project will have significant positive biodiversity impacts. Effective enforcement regimes, with credible threats of penalties, will generate incentives against the illegal activities mentioned above. The results of this work will be disseminated worldwide throughout the lifetime of the project. The goal is to raise awareness of enforcement

economics and share successful activities to strengthen the enforcement of protected areas and environmental regulations. A major global outreach effort will take place in Year 3 (FY04). The results of the three case studies and lessons learned will be presented to senior government officials and key partners at the global launch of the project report. A parallel series of high profile workshops will be held in several priority biodiversity corridor areas.

## **E) Summary of Progress for Project**

### ***Overall Progress***

In its first semester, CI has been successful in socializing the enforcement economics approach with critical government agencies and government partners. Extensive and careful socialization of the enforcement economics concept is important at this early stage. The development of partnerships with key agencies now will facilitate access to data, provide channels for project results dissemination, and aid to strengthen enforcement. The collection of preliminary data on the enforcement systems of each of the three project sites will allow the careful design and detailing of research protocols for the collection of detailed quantitative and qualitative data— has also begun. It will continue into the next semester of FY02.

### **Selva Maya, Mexico**

Progress during the first six months has focused on developing a concept paper. It explains the importance and rationale for the Enforcement Economics work and broader Wildlife Hunting and Trade Initiative. It also describes the main project components, provides a timeline for deliverables and identifies potential partners. Development of the concept paper has also been accompanied by more detailed planning of the main project components and methodology development. These work plans and methodologies will be reviewed and finalized at the partner workshop in June 2002.

Papua, Indonesia: In the first six months, we have socialized our project with key players of law enforcement agencies. Respective institutions expressed support during bilateral meetings, and they promised to help us in data collection and following up on information we provide to them. Our efforts to collect existing laws, bills, and regulations have been started at the provincial level, and are being conducted in several agencies. Market surveys and several case studies of illegal logging/wood and wildlife trade have been initiated since January 2002. We have received particularly helpful support from the forest police and from public prosecutors. The enforcement profile is ongoing and has informed us about how detections usually occur and the initial problems that are associated with bringing a case to court. Traditional enforcement systems will be profiled in upcoming community livelihood studies. Data on illegal logging has been harder to procure. However, the several cases that have been reported are providing us with a clearer picture of the types of illegal logging that are taking place, where it is taking place, and the species that are most often taken.

Palawan, Philippines: All activities planned for FY02 are on track. Socialization of the enforcement economics concept with relevant government agencies and organizations is being conducted. Our partner in the Enforcement Economics work, ELAC, is profiling the government enforcement system. CI-Philippines is profiling the traditional enforcement system and continuing the process of community entry. A review of

relevant national, local and customary laws related to enforcement in the Calamianes is being produced. In preparation for the community livelihood study, CI-Philippines staff are scoping community livelihood activities in the Calamianes. Finally, the live reef fish trade is being profiled at the provincial and national level. No major problems in carrying out project activities have been encountered to date.

### ***Global Progress***

At the global scale, CI has identified key regional and global communication and awareness raising opportunities, and is finalizing a communications strategy for the project. The enforcement economics approach is being disseminated as part of this communications strategy. A draft paper describing how this approach was successfully used to strengthen enforcement in Bahia, Brazil has been prepared for publication. The enforcement economics approach was also the subject of a presentation at the Annual Conference of the Yale chapter of the International Society of Tropical Foresters, entitled "Illegal Logging in the Tropics: the ecology, economics and politics of resource misuse". CI is also securing support from other donors so that the enforcement economics approach can be used in other sites and in partnership with other institutions.

### **F) Activities**

#### **Outcome 1: Carry out enforcement economic analyses (in three case study areas) and work with local stakeholders and decision-makers to design, leverage financing and implement necessary improvements in the enforcement regimes**

In all three case study sites (detailed activity progress per site provided below), CI has successfully socialized the enforcement economics concept and project with critical partners and developing partnerships, which will facilitate the data collection process, dissemination of results, and implementation of recommendations. Current enforcement systems are being profiled so that preliminary assessments of weaknesses in each site can be conducted, and so that protocols for the collection of detailed quantitative and qualitative data on the enforcement can be prepared. The data collected will feed the enforcement economics analysis of weaknesses in enforcement systems. It will also serve as the basis for the development of cost-effective strategies to improve the enforcement of natural resource-use rules and regulations.

### **SELVA MAYA, MEXICO**

#### ***A.1.1 Profile enforcement system, illegal activities and threats to biodiversity, and secure support for the project from key stakeholders***

This Activity saw mixed performance due to delays in the initiation of activities, but these delays will be quickly compensated for and will not delay other activities. Scheduled to complete in April 2002, it will now conclude in June 2002. This change is attributable to difficulties in coordinating the schedules of key partners with senior CI Selva Maya Program staff. Given the sensitive nature of this project, it was agreed that this activity should not be completed without the full participation of key partners, through bilateral partner meetings and a workshop to be held by the end of June 2002. The change in schedule is not expected to significantly impact the completion dates for other activities.

***A.1.1.1 Profile the current enforcement systems used by Government and by communities to address wildlife hunting and trade in protected endangered species***

CI has profiled the current enforcement systems used by Government, including a description of the enforcement chain, an organogram of the roles and responsibilities of key federal and state government agencies, based on a review of existing information available to the CI Selva Maya Program. This profile will be reviewed in bilateral partner meetings now scheduled for April to June 2002. The information will be used to develop the methodology for the enforcement economics analysis and to identify key partners.

***A.1.1.2 Profile the illegal wildlife trade and assess the threat to endangered species and keystone species***

A profile of the illegal wildlife trade and an assessment of the threat to endangered and keystone species has been developed through a preliminary literature review. This profile will be strengthened through further in-depth literature reviews and inputs from local experts, which will now take place in April to June 2002. This information will be used to develop the methodology for the market survey and to ensure that data collection is targeted at endangered and keystone species.

***A.1.1.3 Socialize the project with key decision-makers and stakeholders and secure their input and support for the project***

Bilateral meetings with potential partners (such as PROFEPA, CONAMP, Dirección de Vida Silvestre, TRAFFIC-Mexico, PRONATURA, Instituto de Historia Natural, Mesoamerican Program for Environmental Law) will now take place in April-June 2002. These meetings will facilitate data collection and provide an opportunity for stakeholders to provide inputs into study design.

***A.1.2 Identify weaknesses in the enforcement system and develop least-cost investment strategy for addressing them***

This Activity has been initiated. Efforts will be scaled-up once bilateral meetings with key partners have been completed as described in Activity 1.1. This approach will ensure that sensitivities regarding the study are addressed and resolved prior to the collection of detailed quantitative information on the government enforcement system and interviews with enforcement staff. This Activity will continue into FY 2003. This Activity will enable an estimation of the overall deterrent value of the current enforcement regime and identification of the weakest links in the enforcement chain; a quality of enforcement qualitative determinants assessment to support improved understanding of why weaknesses in the current system exist; and the development of recommendations for a least-cost investment strategy for strengthening the quality of enforcement.

***A.1.2.1 Review of legislation to document laws governing wildlife hunting and trade in the Selva Maya***

CI has the review of legislation on wildlife hunting and trade. This preliminary review will be complemented by a gap assessment of existing reviews of legislation and regulations

conducted by a specialist in environmental law. It will be reviewed by partners by the end of June 2002. If necessary, CI will then commission further analysis of legislation to fill these identified knowledge gaps in FY 2003. This review will provide important information for understanding weaknesses associated with current legislation and regulations and developing recommendations for improving the quality of enforcement.

***A.1.2.2 Collection and compilation of quantitative data on the government enforcement system***

Collection and compilation of quantitative data will be initiated on the completion of partner meetings in June 2002, and are scheduled to continue into FY 2003.

***A.1.2.3 Interview enforcement staff to gather further qualitative information on the determinants of weaknesses in the enforcement system***

Interviews with enforcement staff will be initiated on completion of partner meetings in June 2002, and are scheduled to continue into FY 2003.

***A.1.3 Identify cost-effective opportunities to reduce the incentives for illegal activities***

This Activity has been initiated through the design of the Conservation Investment Analysis Matrix. Efforts will be scaled-up through the initiation of the market survey in the last quarter of FY 2002 and the initiation of the livelihoods analysis in FY 2003.

***A 1.3.1 Policy Analysis Matrix***

A draft Conservation Investment Analysis Matrix has been designed and will be reviewed through partner meetings to be held by June 2002. Secondary data will be incorporated and the Matrix will be continually updated through FY 2003 and into FY 2004. It will enable the assessment of the full range of potential initiatives for addressing wildlife hunting and trade, in terms of the type of threat and socio-economic conditions.

***A.1.3.2 Market survey***

The market survey will be initiated in the last quarter of FY 2002 and will be completed in the last quarter of FY 2003. The market survey will contribute to the identification of cost-effective opportunities for reducing the incentives for illegal activities through market-level interventions.

***A.1.3.3 Local livelihoods analysis to identify opportunities for reducing hunters' incentives for illegal activities***

Livelihoods analysis is not scheduled to start until FY 2003. The final schedule will depend on the primary data required and the seasonal activities of local populations.

***A.1.4 Influence key decision makers to implement least-cost investment strategies to improve quality of enforcement***

This Activity is scheduled to start in May 2002 and continue into FY 2003 and FY 2004. It will be used to secure a consensus on recommendations regarding enforcement regime improvements, which in turn will serve as the basis for working with relevant agency staff to secure financing for implementation of these activities.

***A.1.4.1 Ongoing engagement with critical decision-makers to initiate improvement programs and activities as urgent problems in enforcement are revealed***

A workshop with key enforcement partners is scheduled for June 2002. This workshop will build consensus in support of study objectives and outputs, and provide channels for disseminating results to key decision makers. It will designate an advisory committee of key decision-makers and partners enhancing these stakeholders' involvement in the project and providing a mechanism for initiating programs and activities improvements. This advisory committee will continue for the duration of the project.

***A.1.4.2 Bilateral and multilateral discussions with enforcement agencies and other institutions to discuss findings and secure the necessary resources for strengthening enforcement***

These meetings will be initiated in the last quarter of FY 2003 and will continue into FY 2004. Building on the work of the advisory committee, these meetings will promote consensus on study findings and will aim to secure the necessary resources for strengthening enforcement in Selva Maya.

***A. 1.4.3 Targeted outreach strategy focusing on policy-makers, conservation partners, and other stakeholder groups designed and implemented***

This strategy will be initiated in the last quarter of FY 2003, following on bilateral and multilateral discussions, and will continue into FY 2004. The outreach strategy will ensure that study findings and recommendations are delivered directly to policy makers, conservation partners and other stakeholder groups.

***A.1.4.4 Policy Analysis Matrix workshop for decision-makers, partners and other stakeholders to reach consensus on initiatives to address wildlife hunting and trade***

This workshop will be held in FY 2004, following on bilateral and multilateral discussions.

**PAPUA/IRIAN JAYA, INDONESIA**

***B.1.1 Profile enforcement system, illegal activities and threats to biodiversity, and secure support for the project from key stakeholders***

Bilateral meetings were held with key players at the provincial level to get support from those institutions. CI-Papua was involved in the Environmental Law Enforcement Workshop in Jayapura to understand the profile of the current enforcement system and to establish a network in Jayapura. The data collection process for the profile is on schedule and initial analysis will soon be completed. Bilateral meetings are also being held to build the relationships necessary to procure sometimes sensitive data and/or to

encourage enforcement agency staff to expend additional effort to locate misplaced data since filing systems are less than perfect.

***B.1.1.1 Profile the current enforcement systems used by Government and by communities to address illegal logging and trade in protected endangered species***

CI has identified key law enforcement agencies and their roles, although more data collection and triangulation of data is necessary to complete this profile. CI has collected information on and documented the processes that comprise the enforcement chain, and natural resource use regulations are being reviewed. Traditional laws used by communities will be profiled over the next six months as the livelihood study gets underway. These profiles will provide the data needed to further detail the quantitative study. The questions that are being raised along the way will be further explored in the later parts of the study.

***B.1.1.2 Profile the illegal wildlife trade and assess the threat to endangered species and keystone species***

CI-Papua conducted a market survey in Jayapura to identify market values for valuable species. The literature review is nearly complete, and secondary data is being collected from relevant institutions in Papua. CI-Papua visited the animal transit building, where confiscated animals are temporarily stored before being released. Market surveys have been conducted in Jayapura and will be extended to other regencies in the near future. Information collected through these means will provide important information to be pursued further in the later stages of the livelihood study. Wildlife trade data collected will enable CI to develop an idea of the opportunity costs of not participating in the wildlife trade. That data, in turn, will help determine the magnitude of the deterrent required to reduce illegal wildlife trade activities.

***B.1.1.3 Profile the illegal logging trade and assess the threat to forest cover***

Due to the difficulties associated with collecting data on illegal logging, this profile is being developed through a case study approach. It has enabled us to identify the two primary ways in which illegal loggers are caught, and has demonstrated major weaknesses in the enforcement process. Although this profiling process has only just been initiated, the information collected to date already reveals several patterns in corruption. The quantitative data being gathered does not compare easily across sites. However, this activity is enabling CI-Papua to plan a quantitative strategy based on a wide representative sample. By applying this profile, CI-Papua will quantify the extent to which illegal logging is taking place, the types of timber that are most sought after in the illegal trade, and the locations of most illegal logging activities.

***B.1.1.4 Socialize the project with key decision-makers and stakeholders and secure their input and support for the project***

Bilateral meetings with key government institutions were initiated at the outset of the project. Institutions at the provincial level were the first to be targeted. Regency and local level government institutions will be contacted as the research effort expands into the quantitative data collection stage. The socialization process has also targeted UNCEN and local NGOs such as Telapak and NGO Move. These institutions have welcomed

CI's approach and have asked CI to present it at several important meetings. These relationships are critical for the data procuring process. Much of the secondary data is either non-existent or hard to find because of poor filing or the non-creation of records. Therefore, much of the quantitative data collection process will rely on working closely with these partners, taking extra time to find misplaced data, and supplementing data collected with interviews. The partnerships that are being built in this project will certainly facilitate data quantitative and triangulation.

### ***B.1.2 Identify weaknesses in the enforcement system and develop least-cost investment strategy for addressing them***

Data on cases of illegal logging and wildlife trade have been gathered in Jayapura. In the next six months, this effort will be extended to other regencies.

#### ***B.1.2.1 Collection and compilation of quantitative data on the government enforcement system***

As part of the illegal logging and wildlife trade profiles, some quantitative data has been collected. From April to June 2002, CI-Papua worked in the Regencies of Sorong, Manokwari, and Biak, to collect data for illegal logging and wildlife trade cases in court files, attorney files, police records, Navy records, and in the forestry office. A lawyer was consulted in Sorong, and assisted the CI team in analyzing every case in that regency. Data collected from different offices in different regencies is not uniform, so putting data in a format that allows comparison among sites will require some effort. Data on detection and releases has been collected, thus far. Quantitative data will provide insights into such issues as the extent to which illegal activities occur and how often they are detected.

#### ***B.1.2.2 Interview enforcement agency staff to gather further qualitative information on the determinants of weaknesses in the enforcement system***

Interviews with police and local attorneys are being used to crosscheck the quantitative data described above. These interviews are helping to assess the quality of the data gathered so far, ascertain whether more data is available, and determine how such data might be procured.

### ***B.1.3 Identify cost-effective opportunities to reduce the incentives for illegal activities***

This process has not begun formally under the Enforcement economics grant. However, the livelihoods analysis is underway for the Papua-wide economic assessment and will be completed by July 2002. This information will provide insight into the extent to which various groups of people rely on illegal logging or wildlife to earn income. It will also help to determine the necessary level of disincentives for illegal logging/hunting.

### ***B.1.4 Influence key decision makers to implement least-cost investment strategies to improve quality of enforcement***

CI-Papua recently met with the Ministry of Forestry's Director General of Forest Protection and Nature Conservation, responsible for protected areas and species

conservation. He expressed interest in being an ally in our work. His partnership will be a great benefit for future effort, especially as CI tries to create pressure at the national level to increase enforcement effectiveness.

Efforts to establish a national-level NGO support network have been initiated in Jakarta. CI-Papua staff met with Telapak (which deals with illegal logging, mostly in Kalimantan), and NGO-Move (which deals with the wildlife trade in Java). CI-Papua is also working on establishing partnerships with KSBK (Animal Conservation for Life, mostly dealing with illegal wildlife trade and animal welfare), and Pantau (involved in wildlife trade monitoring). Establishing a national-level network is critically important for developing a common agenda with Papuan NGOs.

## **PALAWAN, PHILIPPINES**

### ***C.1.1 Profile enforcement system, illegal activities and threats to biodiversity, and secure support for the project from key stakeholders***

CI forged a partnership with ELAC, an NGO actively engaged in environmental sector legal and paralegal work. CI's partnership with the Federation of Tagbanwa Councils and PAFID – part of the Coron Island livelihood assistance project supported by Packard Foundation, and its carefully planned entry to other Tagbanwa areas have facilitated data collection on the traditional enforcement system and customary practices. The building of these partnerships early in the project is critical because the cooperation of the Tagbanwa and ELAC – which already has in-depth knowledge of the enforcement system in this site – will contribute to the efficiency and quality of our Outcome 1 activities.

#### ***C.1.1.1 Profile the current enforcement systems used by Government and by communities to combat the use of illegal destructive fishing practices and illegal trade in fish in the life reef fish trade (LRFT)***

Data gathering to profile both government and traditional enforcement systems are on going. ELAC is currently covering the government enforcement system and the review of relevant legislations, while CI focuses on the traditional enforcement system. Translation of the Tagbanwa customary laws and the analysis with respect to other national laws are ongoing. The completion of the profiles, expected by June 30, is an important first step in understanding the enforcement chain and the related issues. It will also facilitate the design of a more focused research protocol needed to undertake the enforcement disincentive analysis.

#### ***C.1.1.2 Profile illegal use of destructive fishing practices and illegal trade of fish in the LRFT and assess the threat to target species***

CI is currently preparing the report on the LRFT in the Calamianes. It will provide an analysis of the incentives that drive illegal activities and provide an assessment of the extent of that threat to regional marine biodiversity. An expanded profile of LRFT is currently underway at the provincial and national level. Informal collaboration with WWF Philippines and International Marinelife Alliance (IMA-Phil) allows the sharing information on the extent of illegal harvest using poison and the impact of trade policies. The studies

by WWF-Phil and IMA-Phil are greatly contributing to the analysis of the factors that influence enforcement effectiveness at various levels of the enforcement chain.

### ***C.1.1.3 Socialize the project with key decision-makers and stakeholders and secure their input and support for the project***

CI has initiated discussions with the Calamianes-based government and non-government organizations to explain the objective of the enforcement project and gain initial support. This first level socialization has given CI insights into the issues faced by local enforcement agencies and indigenous peoples councils. It also provides CI with information on other relevant. The socialization will be expanded to relevant provincial and national agencies and institutions. It is expected that socialization will be a continuing activity throughout the project and with various audiences, as necessary.

### ***C.1.2 Identify weaknesses in the enforcement system and develop least-cost investment strategy for addressing them***

Initial activities under C.1.2 are being undertaken together with the profiling of the two enforcement systems. CI and ELAC are also currently compiling cases studies highlighting existing weaknesses, and the enforcement chain's major actors. This is an important input into the research protocol design that will enable in-depth data collection and analysis to focus on the most critical elements in the enforcement chain.

#### ***C.1.2.1 Collection and compilation of quantitative data on the government enforcement system***

CI has analyzed the Packard-funded LRFT study results, as well as the enforcement profiles work to identify the size and scope that the study should cover to procure representative case samples. At this point, some data has been collected as part of the profiles work.

#### ***C.1.2.2 Interview enforcement agency staff on the determinants of weaknesses in the enforcement system***

Some qualitative information has been collected from enforcement agency staff as part of the profiles work. While most of the data has been used to inform the quantitative survey design, some will be used to describe how and why the expected results are important. The bulk of this qualitative data will be collected after the quantitative results are analyzed and further questions are raised.

#### ***C.1.2.3 Collect and compile quantitative information on all the elements of the traditional enforcement system***

The methodology for doing this is still under development. We are reviewing the survey instrument to ensure that the questions are appropriate within the local context within which the Tagbanwa people consider such problems. This is an important step to ensure that the data collected accurately reflects the information we seek.

***C.1.3 Identify cost-effective opportunities to reduce the incentives for illegal activities***

***C.1.3.1 Community livelihoods assessment***

CI, through the Packard Foundation grant, is currently conducting a scoping exercise of the livelihood activities in the Calamianes. It is also carrying out an assessment of the biological, social, economic and environmental threats and opportunities of various economic activities in Kayangan Lake, Coron Island. The community livelihood assessments will be completed by September 2002. They will provide the basis for the FY03 activity - assessing incentive reduction alternative to illegal fishing and easing enforcement pressure

***C.1.4 Influence key decision makers to implement least-cost investment strategies to improve quality of enforcement***

***C.1.4.1 On-going engagement with critical decision-makers to initiate improvement programs and activities as urgent problems in enforcement are revealed***

To improve enforcement capacity, CI provides the Coron Island Tagbanwas use of its patrol boats. It is also working with the Busuanga municipal government in facilitating marine protected area zoning and information campaign. Current socialization activities with PCSD, Coast Guard, Coast Guard Auxilliary, Maritime Police and other major actors is also intended to promote understanding among stakeholders.

***C.1.4.2 Participatory design workshop to reach consensus on areas of weakness in enforcement and design solutions and/or changes to the enforcement system***

No activity has been initiated to date. It will be addressed in FY03.

***C.1.4.3 Legal working group to streamline procedures and develop legislation to introduce positive changes to the enforcement system***

No activity has been initiated to date. It will be addressed in FY03.

***C.1.4.4 Bilateral and multilateral discussions with enforcement agencies (government and traditional) and other institutions to secure the necessary resources for strengthening enforcement***

No activity has been initiated to date. It will be addressed in FY03.

***C.1.4.5 Strengthen and/or support ongoing ELAC efforts at providing capacity-building / training workshops for government and private enforcement agency staff and community members involved in critical parts of the enforcement system, as agreed with decision-makers***

No activity has been initiated to date. It will be addressed in FY03.

**Outcome 2: Implement regional and global communications activities for the project to raise awareness of the enforcement economics approach, its impact in addressing environmental crimes and synthesize recommendations and lessons learned**

CI is in the process of finalizing a communication strategy, including the identification of key regional and global opportunities an effective communication strategy targets appropriate decision-makers and results in more effective enforcement programs. As part of the communications strategy, drafts of articles have been prepared for publication. A presentation on the enforcement economics approach was also made to the Annual Conference of the Yale School of Forestry and Environmental Studies' chapter of the International Society of Tropical Foresters, entitled "Illegal Logging in the Tropics: the ecology, economics and politics of resource misuse".

***2.1 Develop regional and global communications strategy for the project***

This activity saw mixed performance. The communications strategy was to have been completed by December 2001. However, regional components had to be tailored, requiring additional time. Therefore, a first draft will now be finished in July 2002. .

***2.2 Place commentaries and reports on the project in regional and global media***

No developments to report. As the project advances, commentaries and newsworthy information on the project will be provided to regional and international media. .

***2.3 Make presentations on the project in relevant regional and local conferences, workshops and other forums***

A presentation was made at the Annual Conference of the Yale chapter of the International Society of Tropical Foresters, entitled "Illegal Logging in the Tropics: the ecology, economics and politics of resource misuse". In September 2001 CI made a presentation in Bali at the Forest Law Enforcement and Governance East Asia Regional Ministerial Conference. As a result, CI is now participating in the NGO Advisory Group, supporting the Conference Task Force, responsible for implementing the conference agreements.