

## A CASE STUDY OF BIRD TRAIL DEVELOPMENT IN CENTRAL AMERICA

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**Abstract.** As bird habitat in the New World tropics continues to disappear, innovative approaches are necessary for habitat conservation. In Central America, countries are attempting to create biological corridors to maintain the biological integrity of the region. As birding trails are successfully established across the United States, establishing birding trails in Latin America may help with the creation of biological corridors and the conservation of wildlife habitat. The Rainforest Biodiversity Group is working in Costa Rica to develop the Costa Rican Bird Route as means to increase connectivity and landowner participation in the San Juan–La Selva Biological Corridor. If the Costa Rican Bird Route can successfully increase habitat connectivity within a biological corridor by providing an economic incentive for private landowners, others in the region may use birding trails as a tool for habitat conservation.

**Key Words:** biodiversity, bird routes, Central America, conservation, Costa Rica, land owner participation, trails.

### UN ESTUDIO DE CASO DEL DESARROLLO DE SENDEROS PARA LA OBSERVACIÓN DE LAS AVES EN CENTRO AMÉRICA

**Resumen.** Debido a la rápida desaparición del hábitat de la avifauna en los trópicos del Nuevo Mundo, son necesarios enfoques novedosos para la conservación del hábitat. En Centroamérica, los países están tratando de crear corredores biológicos para mantener la integridad biológica de la región. Debido al éxito que ha demostrado el establecimiento de senderos de observación de aves a lo largo de los Estados Unidos, se considera que el establecimiento de senderos de aves similares en América Latina puede ayudar a la creación de corredores biológicos y, por consiguiente, a la conservación del hábitat de la vida silvestre. El Rainforest Biodiversity Group trabaja en Costa Rica en el desarrollo de la Ruta de Aves de Costa Rica, como un medio para incrementar la conectividad y la participación de propietarios de tierras dentro de la iniciativa del Corredor Biológico San Juan-La Selva. Si la Ruta de Aves de Costa Rica puede incrementar exitosamente la conectividad del hábitat dentro de un corredor biológico, mediante el incentivo económico que provee el ecoturismo a los propietarios privados, otras organizaciones en la región pueden utilizar los senderos de aves como una herramienta para la conservación de hábitat.

### INTRODUCTION

The lowland tropical forests of northeastern Costa Rica provide habitat for over 500 species of birds. Of these 500 species, 60 are Neotropical migrants on the Nearctic–Neotropical Bird List published under the Division of Bird Habitat Conservation: Neotropical Migratory Bird Conservation Act (NMBCA 2004). In addition, seven species are listed on the 2002 Birds of Conservation Concern List (Comite Ejecutivo del Corridor Biológico San Juan–La Selva 2003, NMBCA 2004). Eleven are endangered species that spend part of their life cycle in this region of Costa Rica (Stiles and Skutch 1989, Comite Ejecutivo del Corridor Biológico San Juan–La Selva). Of these endangered species,

the population of the Great Green Macaw (*Ara ambiguus*), the local flagship and our focal species, is seriously endangered of becoming locally extirpated. The Rainforest Biodiversity Group (RBG) is working to protect biological diversity, including migratory bird species through the protection of habitat for the Great Green Macaw.

The RBG is working with over 20 other organizations in an effort to create the San Juan–La Selva Biological Corridor (CBSS) (Fig. 1). The CBSS is a key section of the multinational Mesoamerican Biological Corridor (MBC) project. The CBSS, as part of the MBC is the last viable location to connect remaining forested habitat in Nicaragua with forested habitat in Costa Rica. The San Juan–La Selva section of the MBC will link the protected areas of the

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FIGURE 1. Location of the San Juan-La Selva Biological Corridor in Costa Rica.

lower San Juan River watershed and the Indio-Maize Biosphere Reserve with the Central Volcanic Mountain Range. Nearly 50 000 ha (112 000 acres) in the middle of the corridor has recently been designated the Maquenque National Wildlife Refuge. This still leaves 86% of the proposed CBSS unprotected while deforestation and land conversion to agriculture or cattle pastures continue to threaten remaining wildlife habitat (Comite Ejecutivo del Corridor Biológico San Juan-La Selva 2003, Chassot and Monge 2002).

The RBG has been working within the CBSS to create the Costa Rican Bird Route: Section San Juan-La Selva (CRBR) to provide sustainable economic alternatives that change land use practices and maintain wildlife habitat. The protection of this habitat can increase connectivity within the CBSS, allowing for continued genetic dispersal for a full array of native species while ensuring protection of wintering habitat for neotropical migratory birds. The direct and in-

direct income from eco-tourism has proven to be considerable and favors conservation of the environment (Mangel et al.1997, Haysmith and Harvey 1995)

At this time there are few opportunities provided to landowners that both allow for the protection of habitat and offer economic support. Based on the projected growth of the bird and wildlife watching, and eco-travel industries, the RBG believes the CRBR can provide an economic supplement of a minimum of \$7000 a year annually for landowners after three years of participation in the CRBR. The increasing demand for environmentally and culturally sensitive nature tourism can be met through the CRBR, which can provide new economic opportunities for the local population.

#### METHODS

The RBG has been working since 2003 on the development of the CRBR. The actions

TABLE 1. ACTIONS TAKEN IN THE PRELIMINARY PHASE OF DEVELOPING THE COSTA RICAN BIRD ROUTE.

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- Providing information on birding trails and presenting a project proposal to local conservation groups, decision makers, landowners, and existing lodges.
  - Obtaining feedback from above mentioned groups on project interest, and feasibility.
  - Gathering information on the number of visitors to the region and identifying existing nature tourism options and businesses within the CBSS.
  - Developing the site structure of the CRBR; includes developing Portal or existing sites, and Remote or new sites.
  - Proposing the project to potential donors.
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taken to implement the CRBR are shown in Tables 1 and 2.

## RESULTS

The CRBR features six Portal sites, or sites that already have established tourism, are easily accessible and could provide their clients day excursions to the six new Remote sites, or sites whose eco-tourism efforts are very new and are more remotely based. Sites were selected using an evaluation tool and protocol that was developed by RBG. This protocol considered a variety of factors including habitat and avian diversity, abundance and uniqueness, wildlife viewing opportunities, presence of Great Green Macaws, and general appeal and biological significance. The protocol also assessed other important factors including accessibility, safety, economic support, tourism options and political influence.

In total, with 12 properties under contract with RBG, the project encompasses include 4901 ha (12 007.5 acres) of wildlife habitat. This includes 1497 ha (3697.5 acres) that are newly protected as official private reserves with the Costa Rican Private Reserve Network.

Furthermore, five tours have been proposed by RBG for the CRBR to draw people into the region. These tours are being marketed to existing in-bound and in-country tour operators. The CRBR began to see its first visitors in February 2008. The official opening of the CRBR is planned for December 2008.

## DISCUSSION

To make this project viable for landowners and successful for protecting wildlife habitat visitors must visit the Costa Rican Bird Route and the associated biological reserves. The CRBR sties also need to be developed to provide a high quality experience for visitors. The

TABLE 2. ACTIONS TAKEN TO IMPLEMENT THE FIRST PHASE OF THE COSTA RICAN BIRD ROUTE.

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- Obtaining funds for implementation of project provided by USFWS via NMBCA.
  - Establishing the Costa Rican Bird Route Sustainable Standards requirements for sites.
  - Gathering a pool of at least 10-20 properties that are interested in being a part of the CRBR. In total twenty-one sites were evaluated as Remote sites and 15 additional sites were evaluated as Portal sites.
  - Developing evaluation criteria to select sites to be included within the CRBR.
  - Selecting 13 reserves (seven Remote, six Portal sites) to be included within the Costa Rican Bird Route.
  - Signing contracts with selected reserves. Twelve of the thirteen selected sites are under contract.
  - Providing information to seven key communities within the CBSS about the Costa Rican Bird Route.
  - Identifying transportation routes to each of the 13 reserves of the Costa Rican Bird Route.
  - Enrolling six properties in to the Private Reserve Network of Costa Rica.
  - Developing Site Action Plans for Remote sites to guide tourism development to meet CRBR Sustainable Standards.
  - Producing 2000 copies of the "Guide to the Costa Rican Bird Route: Section San Juan-La Selva" which included the transportation map.
  - Developing the Costa Rican Bird Route: Section San Juan-La Selva Website.
  - Conducting a Familiarization Tour of Bird Route with professional ornithologists, and eco-tour operators.
  - Planning of the CRBR Opening Event.
  - Proposing CRBR tours and products.
  - Distributing information to operators of tours about the CRBR.
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financial and visitation goals for the CRBR are to increase visitation to the region by 14% within three years of operation and enable each site to generate provide an additional \$7625 per year in income.

Rainforest Biodiversity Group has been able to hire a Coordinator for 18 months to work with all of the sites involved to monitor and evaluate development of sites and their associated tours. This person will also have the duty of marketing the CRBR to local and international tour operators and wholesalers. Finally, this person will coordinate a guide training program in the region as well as sustainable tourism workshop for all site owners.

## RECOMMENDATIONS

The RBG has the following recommendations for others working to develop birding trails in Latin America:

- Ensure you do not create false expectations for landowners and community members. Doing so will reduce your credibility in the local communities.
  - Maintain communication with the local landowners. Local landowners need to feel as if they are included in the development of the project and regular communication, updates and question answering are important.
  - Use a solid flagship species that can help gather attention for your efforts. In this case study the Great Green Macaw is the flagship for conservation in the CBSS.
  - Be patient. Most things develop slower in Central American countries, and thus patient but steady progress will serve your project well.
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