



POSITIVE INCENTIVES COLLABORATIVE PROJECT

Task 18 of the Biodiversity Plan “The Power of Voluntary Action”

Case Study (Costa Rica)



ASOCIACION CONSERVACIONISTA
DE MONTEVERDE

**BOSQUE ETERNO
DE LOS NIÑOS**

CHILDREN’S ETERNAL RAINFOREST

Monteverde Conservation League Costa Rica

Organizers



Children's Eternal Rainforest

Monteverde Conservation League (Costa Rica)

Summary:

Costa Rica emerged as a world leader in the environmental movement in the 1970's with a daring initiative to create a National Park System. Today, the National Parks are credited with fueling a vibrant tourism industry. However, less often recognized is the significance of privately protected wild areas. In fact, they comprise one-half of all protected areas in the nation.



A leader in the network of private conservation is the Monteverde Conservation League, owner and steward of the Children's Eternal Rainforest, the largest privately-owned reserve in Costa Rica. From modest beginnings, the Children's Eternal Rainforest (or "BEN" after its Spanish name, Bosque Eterno de los Niños) has grown and prospered, with contributions from thousands of donors including many schoolchildren as well as public and private Payments for Environmental Services. This case study contributed by Lindsay Stallcup, executive director of the Monteverde Conservation League, documents this achievement as well as the challenges of sustaining the effort.

Case Study:

Monteverde Conservation League

Children's Eternal Rainforest

Bosque Eterno de los Niños ("BEN")

www.childrenseternalrainforest.org

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Introduction

Costa Rica emerged as a world leader in the environmental movement in the 1970's with a daring initiative to create a National Park System. The visionary move, conceived against the backdrop of widespread agricultural expansion, could have flopped miserably. In fact, it paid off. Today, the National Parks are credited with fueling a vibrant tourism industry, and figure in assertions that Costa Rica represents the "best case scenario" for sustainable development. However, less often recognized is the significance of privately protected wild areas. In fact, they comprise one-half of all protected areas in the nation. Like Costa Rica's famous National Parks, a national network of private reserves helped stem the tide of agricultural expansion and deforestation by transitioning an extraction-based economy into one founded upon environmental protection and innovative, sustainable markets.

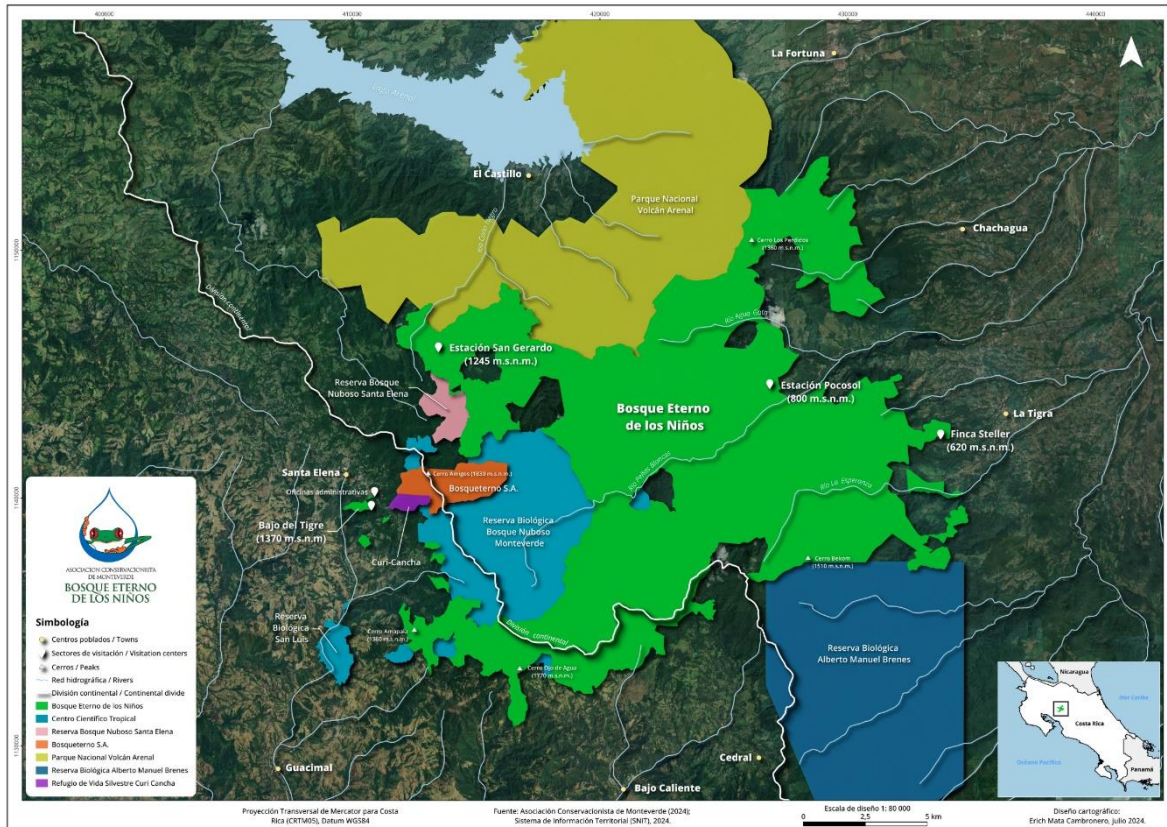
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“BEN” (after the Spanish *Bosque Eterno de los Niños*) is a 22,600-hectare forested expanse that traverses seven geopolitical districts and three provinces, bridges an elevational range of some 1,300+ meters, and spans the Continental Divide that separates Atlantic and Pacific watersheds. Its geographic location is centered within a constellation of protected areas, including multiple private reserves, state-protected areas, and the renowned Monteverde Cloud Forest Preserve. Collectively, the system of protected areas covers about 50,000 hectares, consolidating diverse ecosystems, abundant biodiversity, and simply immense natural capital. As the centerpiece, the BEN is a vital nexus for natural habitats and populations.

The Bosque Eterno de los Niños was the brainchild of individuals from a small community known as Monteverde, which was settled by US Quakers in the 1950's. Early in the town's history, founders set aside cloud forest along the mountaintop for watershed protection. This act seeded efforts that eventually gave rise to the creation of the now-famous Monteverde Cloud Forest Preserve. As the region's flora and fauna was explored by scientists, its biological wealth was recognized. Nevertheless, the region was not immune to rampant deforestation that characterized Costa Rica in the 1970's and 80's. Indeed, in the early 1980's, Costa Rica held the dubious worldwide distinction as the nation with the highest annual deforestation rate. In the Monteverde region, forest destruction was rapidly claiming a hotspot of biodiversity. Although the Costa Rican government tried to protect forests around Monteverde with the declaration of the Arenal Forest Reserve in 1977, there was no indication that the government could effectively intervene in the practical task of acquiring land and preventing deforestation. It was against this bleak landscape that Monteverde residents decided to take action; in 1986, the Monteverde Conservation League (MCL) was born. One of the first objectives of the MCL was to raise funds for the purchase and preservation of forest that would otherwise be lost or severely degraded. The land purchased would soon become known as the Bosque Eterno de los Niños. The consolidation of the properties into a privately-protected reserve resulted in the conservation of its boundless – and largely unstudied – biodiversity. The reserve is home to numerous endangered species, including mammals such as tapirs and jaguars, requiring large areas for population survival, and a host of plants and animals unique to the zone (“endemic” species). The area is also crucial for altitudinal migrants such as the charismatic Resplendent Quetzal and Three-wattled Bellbird, which attract international visitors to the country. Costa Ricans also benefit greatly by the existence of the protected area.

The conservation of five major watersheds provides a continuous supply of clean water for human consumption, agriculture, and hydroelectric production. Very significantly, neighbors benefit in material ways, such as through opportunities in the ecotourism sector, as well as via innovative outreach services of the MCL. These include facilitating participation in national programs that make direct payments to private individuals for forest protection.

In this way, the reach of the BEN extends beyond its borders, creating the human and natural connections needed to ensure the welfare of human and nonhuman communities in the future. Through the purchase of this threatened forest, and the progressive actions of the MCL, the region's biodiversity and beauty will be preserved for future generations – including children, adults, and organizations in 44 countries around the world who participated in fundraising to make the BEN a reality.



Land purchase

The MCL's immediate goal was to acquire land in order to prevent it from being deforested. Land purchase began in 1987, targeting the Peñas Blancas Valley on the Caribbean slope, and threatened Pacific slope areas near Monteverde. Much of the fundraising for land purchase was done by children, the initial spark having come from the 7 to 9-year-old students of Swedish schoolteacher Eha Kern. The movement quickly grew to include schools, individuals, and organizations in 44 countries around the world. Funds for land purchase also came from international NGO's such as World Wildlife Fund, The Nature Conservancy, and Rainforest Alliance, as well as debt-for-nature swaps. The ongoing administration and protection of the BEN has been made possible by donations, grants, payment for environmental services, income from ecotourism at field stations and trails, souvenir sales, and interest on investments.

In the 1980's and early 1990's, it was relatively inexpensive to acquire land; however, by the late 1990's, property was neither readily available nor cheap, and it became clear that land purchase alone was no longer a viable strategy for conservation. The MCL began to do what would become necessary for all successful conservation efforts in the 20th century: to look beyond the borders of the reserve itself and work in earnest with neighboring communities to bring them on board in supporting conservation. Where the Costa Rican government had been unable to prevent deforestation and the destruction of biodiversity, the MCL forged ahead with a series of innovative practices, including environmental education, reforestation, hiring former hunters as forest guards, training local youth to become naturalist guides, creating economic opportunities via ecotourism, and helping neighboring landowners receive environmental service payments for forest conservation on their properties. In this way, the MCL earned community-buy in for the BEN, helping to ensure the long-term protection of the land it had purchased.

The BEN exists today as a successful forest reserve because local communities, scientists, farmers, teachers, children, and many others worked together to make it happen (Kinsman 1991). It represents a long-term international effort at land acquisition, reserve consolidation, and biodiversity conservation. The BEN today comprises more than 200 separate properties, purchased between 1987 and 2023, which together form the reserve.

Results and impact

The purchase and preservation of the BEN has resulted in numerous specific benefits to biodiversity conservation, as well as important and unprecedented benefits for many diverse stakeholders on multiple levels.

Habitat and species protection

- **Costa Rica's largest private reserve.** The BEN consolidates 22,600 hectares of tropical rainforest, representing more than a quarter of Costa Rica's privately protected land. The BEN is strategically located as the largest and most central player in a 70,000-hectare block of protected land that includes both private and state-owned reserves (Appendix 1, Maps). As the centerpiece in this large expanse of forest reserves, the BEN is a vital nexus for natural habitats and populations. Moreover, the BEN preserves intact forest, which has recently been recognized for its value in biodiversity preservation, species recovery, carbon sequestration, adaptation to climate change and more (Watson et al. 2018).
- **Creating connectivity.** The BEN's location in the "bottleneck" of southern Central America gives it special conservation importance. The reserve spans the Continental Divide, preserving habitat in an altitudinal gradient from 450 to 1,800 meters above sea level on the Caribbean slope, and from 1,000 to 1,800 meters on the Pacific slope. Large protected areas with elevational diversity are of special importance because they support high species diversity (Young et al. 1998). The BEN provides critical habitat for species that migrate from North and South America, as well as local altitudinal migrants such as the Resplendent Quetzal (Powell & Bjork 1995), Three-wattled Bellbird (Powell & Bjork 2004), and innumerable species of migratory insects including damselflies, moths, and butterflies (Stevenson & Haber 2000). The BEN and surrounding reserves are located at the center of six biological corridors that form part of the Mesoamerican Biological Corridor (Appendix 1, Maps).
- **Species richness.** The 22,600 hectares of the BEN represent a mere 0.00015% of Earth's terrestrial surface area, and yet contain an astonishing proportion of the world's species, including 2.2% of the world's orchids, 3.7% of the world's butterflies, 6.4% of the bats, and 5% of bird species, to name just a few examples (Appendix 2, Diversity Estimates).
- The BEN is home to numerous **endangered and endemic species**, including but not limited to the following species listed by the International Union for Conservation of Nature (IUCN):
 - Baird's tapir (*Tapirus bairdii*) – IUCN Endangered
 - Jaguar (*Panthera onca*) – IUCN Near Threatened
 - Geoffroy's spider monkey (*Ateles geoffroyi*) – IUCN Endangered
 - Resplendent Quetzal (IUCN Near Threatened)
 - Three-wattled Bellbird (*Procnias tricarunculatus*) – IUCN Vulnerable
 - Bare-necked Umbrellabird (*Cephalopterus glabricollis*) – IUCN Endangered, endemic
 - Green-eyed frog (*Lithobates vibicarius*) – IUCN Vulnerable, endemic
 - Starrett's treefrog (*Isthmohyla tica*) – IUCN Critically Endangered, endemic

Beyond those species that are threatened or endangered, the BEN preserves habitat for many other endemics, including numerous birds, insects, plants, and at least one mammal (Stiles and Skutch 1989; Timm & Laval 2014). It is also home to top predators, including all six of Costa Rica's felines: jaguar, mountain lion, jaguarundi, ocelot, margay, and clouded tiger cat (Wainwright 2007).

- **Habitat heterogeneity.** The BEN protects 7 distinct habitat types (also known as Holdridge life zones), most of which are poorly protected and have been heavily deforested outside protected areas in Costa Rica. In addition to highland cloud forest and Caribbean slope rainforest, the BEN includes approximately 1,500 hectares of particularly threatened habitat on the Pacific slope ("rain shadow forest"). Research suggests that including rain shadow areas in reserves near Monteverde would approximately double the number of avian species under protection on the Pacific slope, also increasing protection for endemic species (Jankowski et al. 2009).
- **Resilience to threats such as disease and climate change.** The green-eyed frog and Starrett's treefrog had not been observed for nearly 20 years and were presumed extinct, when they were discovered in remote areas of the BEN in the early 2000's (Whitfield et al. 2017; M. Wainwright, unpublished data). Today, remnant populations of these endemic species are found only in a few isolated sites. It is likely that the existence of this sizeable, intact forest reserve contributed to these frogs' recovery. Large, diverse habitats are more important than ever in the face of climate change. Scientific research conducted in the Monteverde region demonstrates that the local climate is undergoing rapid change, with consequences for diverse organisms, including birds, bats, reptiles, amphibians, and plants (LaVal 2004, Pounds et al. 1999). Biological corridors, particularly ones that connect forests within and across elevational bands, are recognized by the MCL as critical for population persistence or movement (Townsend and Masters 2015). The BEN provides essential connectivity of habitat for animals and plants living within its boundaries. Very significantly, the geographic position of the BEN also effectively bridges multiple protected areas *outside* of its boundaries. This creates an integrated system that is more resilient to the effects of climate change.

Protection of water resources. The BEN protects 5 major watersheds, two on the Pacific slope and three on the Caribbean slope (Appendix 1, Maps). Their numerous rivers and countless headwater streams provide hydrological connectivity, sustain the integrity of freshwater ecosystems, and are the primary source of clean water for human consumption and agriculture in the many communities surrounding the BEN.

Active promotion of socio-ecological well-being and resilience on local and national scales

- **Economic benefits of ecotourism.** The BEN is the cornerstone of the expanse of forested land that is the primary attraction for ecotourism, the mainstay of the local economy. Neighbors in the communities surrounding the BEN benefit in significant, material ways from opportunities in the ecotourism sector. A relatively stable income from ecotourism yields additional benefits for biodiversity conservation including reduced hunting, logging, and extraction of flora and fauna.
- **Hydroelectricity.** About 70% of Costa Rica's electricity comes from hydropower, and four of the five watersheds protected by the BEN have major hydroelectric projects. At present, a significant proportion of Costa Rica's electricity is produced by rivers flowing out of the BEN.
- **Payment for environmental services (PES) for neighbors.** Scientific studies show that PES significantly and effectively reduce deforestation. Since 2013, the MCL has facilitated the

participation of neighboring landowners, representing a total of 95 properties and more than 3,400 hectares, in a government program that makes direct payments to individuals for forest protection. In this way, the MCL expands its zone of conservation influence beyond the boundaries of the BEN.

- **Promote biological corridors, promote resilience.** The BEN's participation in biological corridor initiatives promotes ecosystem resilience that will serve both agriculturalists and native species in the face of threats due to climate change (Townsend & Masters 2015).

Model for conservation efforts in Costa Rica and beyond

- **Precedent-setting agreements for private payment for environmental services.** In 1998, the MCL signed the first private sector agreement for PES with a private hydroelectric project, setting precedent for other conservation efforts around the world and earning congratulations from *Defensoría de los Habitantes Costa Rica*, World Wildlife Fund, and other organizations (Rojas and Aylward 2001). The MCL currently has two such agreements, which provide crucial funding for ongoing conservation of the BEN.
- **Environmental education, “the forest protection of tomorrow”.** The MCL has spearheaded environmental education efforts in and around the BEN since its inception. By working with children and adults in the communities bordering the BEN, the MCL ensures the long-term protection of natural resources, within and beyond the BEN.
- **Private-government collaboration for forest protection.** The BEN is the largest stakeholder in the Arenal-Monteverde Protected Area (*Zona Protectora Arenal Monteverde*, or ZPAM), formerly the Arenal Forest Reserve. The current limits of the ZPAM, Costa Rica's largest *zona protectora*, were drawn in large part based on the limits of the BEN and the Monteverde Cloud Forest Preserve. In theory, the government must oversee forest protection in the ZPAM; in practice, however, the BEN's own forest rangers carry out forest patrols, ousting poachers, loggers, squatters, and other offenders. In order to work more effectively and ensure that its rangers are acting within their legal authority, the MCL has taken the lead in facilitating private-government collaboration, in particular via the formation of inter-institutional commissions that include multiple public and private entities. Thus, the MCL plays a major role in supporting the Costa Rican government in forest protection, demonstrating how private NGO's can intervene where government efforts are shown to be lacking and/or ineffective.
- **Helping Costa Rica meet international commitments.** The BEN and associated outreach efforts directly support Costa Rica in its quest to achieve international commitments related to biodiversity conservation (Aichi biodiversity targets, United Nations Convention on Biological Diversity; SINAC 2014) and climate change (United Nations Framework Convention on Climate Change, or UNFCCC).

Continuity

The preservation of the BEN in perpetuity depends largely on the economic stability of the MCL, as well as on support from the Costa Rican government and residents in the communities surrounding the BEN. To this end, the MCL has taken the following steps to ensure that the BEN will truly be, as its name states, eternal:

Community support

- **Environmental education.** The BEN's two environmental educators work elementary schools, high schools, and adult populations in the communities bordering the BEN. By

educating the future generation of biologists, guides, policy-makers, forest guards, and teachers, the MCL helps ensure the long-term protection of the BEN.

- The MCL **hires local staff** for the administration and protection of the BEN. This has included forward-thinking strategies such as hiring former hunters as park guards and training local youth to become naturalist guides.
- **Community involvement** efforts range from providing trees for reforestation, to helping landowners receive payment for environmental services for protecting forest on their properties. Such involvement extends the reach of conservation efforts beyond the physical limits of the BEN, cements environmental consciousness, and increases the social-economic resilience of communities surrounding the reserve.

Government partnerships

- The MCL **cultivates positive, long-term relationships** with government agencies and officials, and has a nearly 40-year track record of collaboration with the Ministry of the Environment and Energy (MINAE) the department that oversees the Payment for Environmental Services program (FONAFIFO), and others.
- The MCL has been instrumental in the creation and subsequent effectiveness of **inter-institutional commissions** that support the protection of the BEN and adjacent reserves, in collaboration with MINAE, national park staff, private reserves, District Attorneys' offices, police, firefighters, Red Cross, volunteers, and others.

Financial stability

- A successful **endowment fund** is perhaps the single most important long-term strategy toward achieving eternal protection for the BEN. The MCL's endowment fund is currently in its infancy, at approximately \$650,000. Growing the endowment fund is one of the MCL's greatest priorities in the short to medium term.
- **Payment for environmental services**, both from the Costa Rican government and private hydropower projects, provide approximately half of the funding for the BEN's administration and protection. Private PES contracts are an innovative means by which the MCL secures funds to ensure ongoing preservation of the BEN.
- **Ecotourism** at the BEN's field stations and trails provides a relatively stable source of income for the reserve's ongoing protection, and visitors often become long-term supporters.

Since its inception, the BEN has benefited from the support of **international partner organizations** in Sweden, the USA, England, Germany, and Japan, which over the years have provided important contributions for environmental education, forest protection, infrastructure, and the endowment fund.