

The Osa biological corridor in the context of the mesoamerican biological corridor

El corredor biológico Osa en el contexto del corredor biológico mesoamericano

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Abstract: In recent decades, and as a result of numerous scientific publications, the importance of Osa biological corridor in order to preserve functional landscapes among the humid forest, mangroves and the cloud forest on the Southern part of the country has been recognised. Occupation, lack of planning and legal uncertainty regarding land tenure are not just social problems, but also threats to the functionality of the corridor. For that reason, it has been decided to utilise the same proposal to implement the Mesoamerican Biological Corridor (CBM), as logic of intervention; seeking a balance between attention to socio-economic needs and biodiversity conservation. In 2001, four NGOs and the National System of Conservation Areas (SINAC) created the Osa Biological Corridor Technical Coalition (CTCBO). They have been working jointly in the corridor area with concrete objectives targeting generation and transfer of technical and scientific information, implementation of conservation strategies and consolidation of local capacities, to achieve a sustainable management of the zone.

Key words: biological corridor, functional landscapes, technical coalition, local conservation and development.

Resumen: En las últimas décadas, respaldado con gran cantidad de publicaciones científicas, se ha reconocido la importancia del corredor biológico Osa para mantener paisajes funcionales entre el bosque húmedo, los manglares y el bosque nuboso al sur del país. La ocupación no planificada y la inseguridad jurídica con respecto a la tenencia de la tierra no son sólo problemas sociales, sino que también atentan contra la funcionalidad del corredor, por lo que como lógica de intervención para el manejo del corredor se ha decidido utilizar la misma propuesta para la implementación del Corredor Biológico Mesoamericano (CBM), buscando el equilibrio entre atención de necesidades socioeconómicas y conservación de biodiversidad. Desde el año 2001, cuatro ONG y el Sistema Nacional de Áreas de Conservación (SINAC) conforman la Coalición Técnica del Corredor Biológico Osa (CTCBO), trabajando en forma conjunta en la zona del corredor con objetivos concretos relacionados con generación y transferencia de información técnica y científica, implementación de estrategias de conservación y consolidación de capacidades locales para la gestión sostenible.

Palabras clave: corredor biológico, paisajes funcionales, coalición técnica, conservación y desarrollo local.

The Corridor

The area covered by the Golfo Dulce Forest Reserve (RFGD) has fulfilled the function of a corridor in a permanent way, ever since the Osa arc was incorporated into the existing peninsula and the rest of the continental mass many millions of years ago.

The climatic changes produced by the last glaciations nearly 20.000 years ago and the landscape changes generated by human activities in recent decades have put the site's importance as a corridor to the test.

However, it is only in the last two decades that the area's ecological role has begun to be recognised as a fundamental element of the Osa conservation strategy.

In response to the call of conservation biology to design strategies to ensure the viability of isolated protected areas, efforts are underway in Osa to reappraise the contribution made by the RFGD, given its importance for the connectivity between Corcovado National Park (PNC) and Piedras Blancas National Park (PNPB) as well as between these areas and the Sierpe Terraza National Wildlife Refuge (RNVST).

More recently, in the last two years, this corridor function has assumed even greater importance, based on an analysis of the implications of global changes – specifically climate change – on the country's conservation actions. The corridor makes it possible to maintain the continuity of functional landscapes between the rainforest, mangroves and the cloud forest, and also

provides a route of connectivity between the Osa peninsula and La Amistad International Park (PILA) in the Cordillera de Talamanca.

Another important element in the corridor area is the Guaymí Indigenous Territory of Alto Laguna de Osa, which covers 2969 hectares. This area still retains nearly 70% of its forest cover, and is located in the corridor area, next to the PNC. According to Costa Rican law, and as established in Convention 169 of the International Labour Organisation (concerning Indigenous and Tribal Peoples in Independent Countries) responsibility for the use and management of indigenous territories rests with the indigenous communities themselves, in recognition of their ancestral rights.

The occupation of these lands in the last few decades has largely been the result of the intensification of gold mining activities in the 1970s and the departure of the banana company from the zone. These factors, together with limitations on the titling of land established in the law for the creation of forest reserves, have produced a situation of juridical insecurity, generating an unnecessary atmosphere of conflict between the visions of those who work for conservation and those who promote social development. It is estimated that only 5% of local properties have titles.

The Ministry of the Environment and Energy (MINAE), one of the few public institutions that has maintained a presence in the area during the last few decades, together with conservation NGOs working in the area, have been the ones who have borne the brunt of this conflict. Fortunately, the presence of social and production institutions is now increasing in the Osa (Ministry of Health, Ministry of Agriculture, the Costa Rican Electricity Institute, the National Training Institute), along with a growing demand for infrastructure and public services. About 73% of the region's population lives in rural areas and nearly 60% are wage earners.

In 1994, MINAE carried out the first gap analysis in the country with the aim of identifying priority conservation areas that were not included within the existing national parks and biological reserves. The methodology used was based on an analysis of priority conservation sites, identified through consultations with national and international researchers and discussed at local participatory workshops. Aside from their recognised importance, the priority sites were defined according to whether they were still considered viable, in conservation terms, with a view to then adopting conservation measures.

In the case of Osa, numerous publications have underscored the importance of the forest reserve as a way to connect the Corcovado and Piedras Blancas national

parks, particularly for large cats, such as jaguars and pumas. Another point emphasised was that the Los Mochos area contains important populations of "nazareño" and "ron ron", two forest species that are in danger of extinction in the country. These elements suggested that the site is not only important for connectivity purposes, but also as a habitat for species of particular interest. Subsequent studies have noted the area's importance in supporting populations of fauna species such as *Corapipo leucorhoa*, a bird of unique characteristics in terms of its local and altitudinal migrations, *Habia atrimaxillaris*, an endemic bird of the Osa peninsula, and *Pterbrycon mirnae*, an endemic freshwater fish species.

In the past, forestry was considered to be the greatest threat to connectivity in sites such as Rancho Quemado, Vanegas, Alto San Juan de Sierpe, Bahía Chal, Los Mochos and Santa Cecilia. Accordingly, after a rapid ecological assessment carried out by the Neotrópica Foundation in 1992, a preliminary proposal was prepared of sites that required absolute protection within the forest reserve.

For the first time, these inputs resulted in an official document that proposed the idea of a biological corridor, drawing attention to the need to gather more information on the land tenure situation in the area and, based on the 1992 proposal, combining the protection zones with those areas receiving payments for the environmental service of biodiversity conservation, or another similar mechanism for private conservation.

While progress was being made in Costa Rica to determine more precisely where to target local biodiversity conservation efforts, similar discussions were taking place elsewhere in the Central American region. This process led to a proposal to establish the Mesoamerican Biological Corridor as the focal point for the co-ordination of regional sustainable development initiatives.

The MBC was conceived as an initiative to promote the implementation and consolidation of actions that would create a new balance between the subsistence needs of the region's populations, the prevailing economic dynamics and the potential of the natural resources, in line with certain ecological, economic and social criteria agreed by the seven Central American countries and the states of southern Mexico.

In 1997, during the Central American Presidential Summit held in Panama, the following concept of the MBC was adopted:

"A system of territorial organisation composed of natural areas under special management prescriptions, nuclear zones, buffer zones, multiple use zones and connecting areas, organised and consolidated to provide a

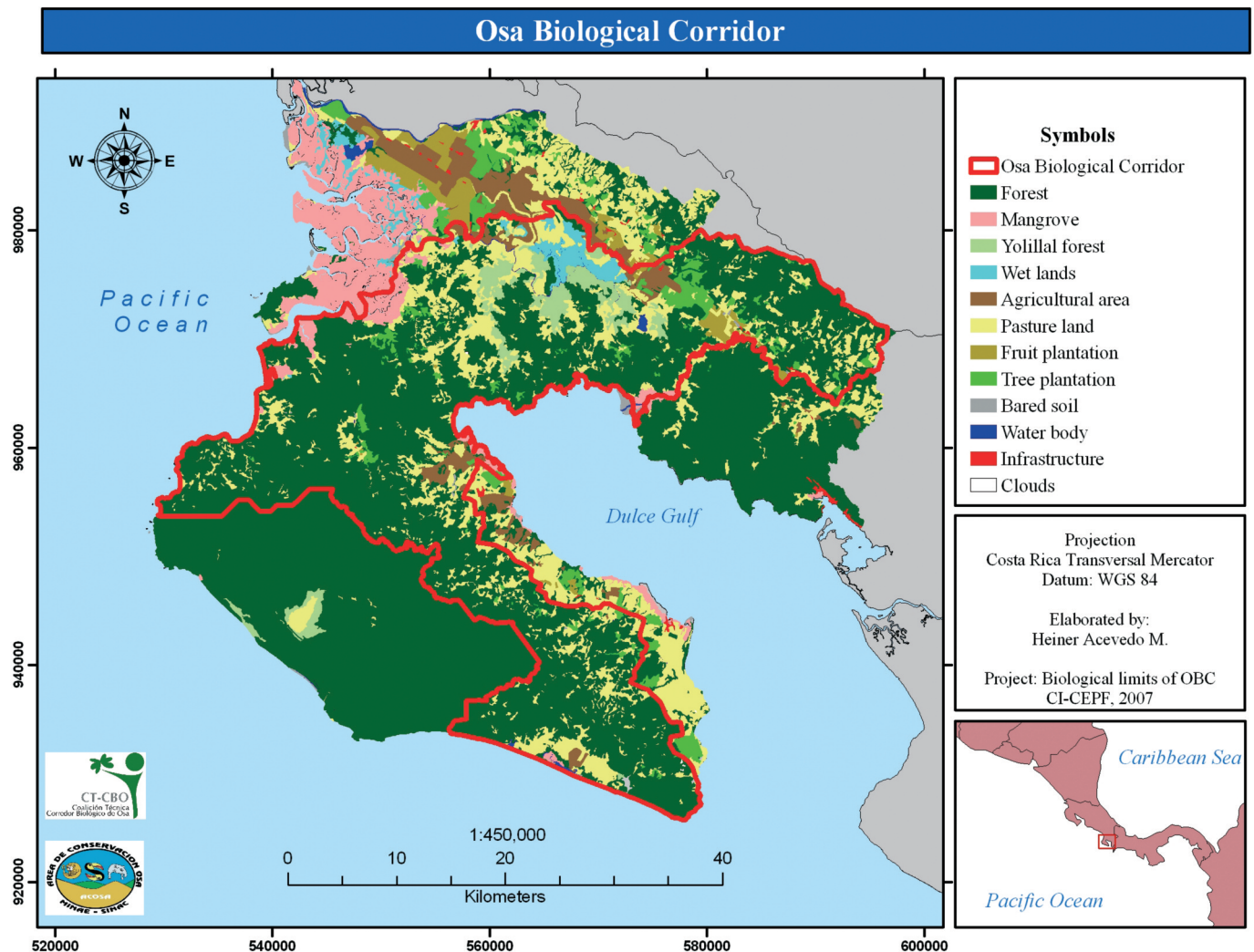


Fig. 1: The map shows the area demarcated as a corridor, as a result of the information analysis performed by the Technical Coalition.

set of environmental goods and services to the Central American and global communities, while creating spaces for social consensus to promote investment in conservation and the sustainable use of natural resources, with the aim of contributing to the improvement of the quality of life of the region's populations".

This vision of combining human needs and biodiversity conservation fully coincided with the management approach that was to be adopted in the Osa Biological Corridor (OBC). Nowadays, the OBC is recognised not only for its contribution to the conservation of the tropical rainforest of Central America's Pacific coast, but also to efforts to manage and co-ordinate biodiversity conservation and human needs.

Work strategy

All the discussions to define the corridor's boundaries agreed that the land in this area would be used for a variety of productive purposes, such as tourism, agri-

culture or forestry, combined with areas dedicated to forest protection. The idea was therefore to establish a land-use mosaic that would give the corridor ecological viability, by maintaining a functional landscape.

To accomplish this objective, MINAE, and more specifically the Osa Conservation Area (ACOSA), was the public institution called upon to conserve, restore and guarantee the appropriate use of the Osa's natural resources and its biodiversity. In its planning exercises, ACOSA proposed a joint work strategy with civil society, in order to achieve an effective organisation of the Osa territory.

In April 2001, the TUVA, Cecropia, Neotrópica and Corcovado Foundations, together with the Centre for Environmental and Natural Resource Law (CEDARENA) and the National Biodiversity Institute (INBio), organisations with a presence of more than 10 years in the area, agreed to unite efforts to support ACOSA in the consolidation of the Osa biological corridor.



Fig. 2: Environmental Education Activities in the corridor areas organized by Corcovado Foundation with the group of environmentalist children of the community, known as “Grupo Jaguares”. Photo: Corcovado Foundation.



Fig. 3: Promotion of sustainable production activities is one of the activities performed by the Fundación Neotrópica. Photo: Fundación Neotrópica.



Fig. 4: A member of the local community providing services as a tourist guide. Photo: Fundación Neotrópica.

This alliance was further strengthened in 2002, with the signing of a formal agreement for joint work in Osa between the Neotrópica and Corcovado Foundations, CEDARENA and INBio. The purpose of the agreement was to work together with ACOSA to consolidate the connectivity between the protected areas, in the context of a sustainable development strategy in which the conservation of ecosystems and the implementation of productive processes coexist, based on the integration of the different sectors. At different times, this initiative has received financial support from The Nature Conservancy (TNC), Conservation International (CI) and the Costa Rica – USA Foundation (CRUSA), both in the implementation of activities, and to consolidate the joint management capacity of the organisations involved.

As part of this effort, the Technical Coalition for the Osa Biological Corridor (CTCBO, www.ctcbo.org) was established to provide capacity and expertise in the areas of research, education, land-use planning and sustainable production and to support the management of the region’s protected areas. This body is committed to promoting sustainable development and biodiversity conservation, consolidating the connectivity of the Osa Biological Corridor (OBC), conserving its natural resources and culture and promoting well-being with equity among the human communities living in the area of the corridor.

The work areas of the CTCBO include:

- Generation and transfer of technical and scientific information
- Conservation measures
- Consolidation of local capacity

Generation and transfer of technical and scientific information

One of the main reasons for promoting joint work is that this approach provides opportunities for integrating information from different organisations on the situation in the field, in terms of the conditions or status of the human communities and the biodiversity living in the corridor. The coalition’s work has been guided, in great measure, by efforts to achieve a greater impact based on a better supply or flow of information for decision-makers and local inhabitants.

Initially, biophysical information was required for the task of defining the corridor’s boundaries; subsequently, conservation efforts focused on developing scientific knowledge to determine more precisely which natural dynamics were to be conserved in the corridor and in the protected areas of Osa.

This process, involving the active participation of national researchers, led to the efforts currently under-

way to assess the populations of spider monkeys, large cats and their prey as tools to determine the health of the forest in the Osa peninsula, and to help define the boundaries of the OBC. In addition, studies on the distribution and abundance of canopy trees in the tropical rainforest have been completed, and work has begun on a pollen analysis to determine the distribution of progeny from parent trees of forest species of particular interest for conservation.

Conservation measures

The identification and application of in-situ conservation measures has been a major part of the coalition's work, in collaboration with other partners such as TNC, CI and the National Forestry Financing Fund (FONAFIFO).

One of these strategies involves efforts to promote sustainable production practices in key locations in order to avoid interrupting the continuity of the forest cover in the area of the corridor. This is accompanied by other initiatives to purchase land in strategic sites or to promote the payment of environmental services by the state, as a way to compensate landowners for biodiversity conservation.

Consolidation of local capacity

The support provided to the Natural Resource Monitoring Committees (COVIRENAS) and to emerging local environmental organisations are perhaps the most significant activities in terms of consolidating local capacity.

The COVIRENAS are local volunteer groups who are trained and organised to participate in activities for the protection of natural resources. By accompanying ACOSA officials, or acting independently, these groups have developed a great capacity to understand the logic behind the extractive processes in the protected areas of Osa, and can therefore participate in monitoring these.

The Coalition's participation in bodies such as the Conservation Area's Regional Council and the support it provides to local organisations that administer the aqueducts are other examples of the ways in which it contributes to effective capacity building for local management of natural resources in the OBC area.

Equally important is its participation in the Local Peninsular Council, responsible for overseeing the management of the RFGD, and the Local Council of Corcovado, the body that supports the management of the PNC.



Fig. 5: Environmental Drawing Contest among children of the communities of the corridor, organized by Corcovado Foundation. Photo: Corcovado Foundation.

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Stapfia](#)

Jahr/Year: 2008

Band/Volume: [0088](#)

Autor(en)/Author(s): Garcia Renan

Artikel/Article: [The Osa biological corridor in the context of the mesoamerican biological corridor 701-705](#)