

Networking as a crucial step towards sustainability in biosphere reserves: 1st symposium *Biosphere Reserves in Transition Towards Sustainability*, Pucón (Chile), 20 October 2017

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Abstract

Biosphere Reserves (BRs) have proliferated around the world in response to the huge challenges imposed by human impacts in the Anthropocene. One way to face these challenges has been the consolidation of regional networks for sharing lessons learned in recent decades. Current challenges include adaptation to global changes and adoption of SDG UNESCO goals. National networks for countries with a significant number of BRs are crucial for consolidating regional networks. This is a pending issue for the Chilean BRs network, which still lacks a public-private governance scheme that would ensure adequate consensus on advancing sustainability in all the units. Chilean BRs encompass a diversity of ecoregions, from high-altitude desert to magellanic moorlands, including offshore islands and a diversity of landscapes and seascapes. The symposium held in Pucón, southern Chile, at La Frontera University, brought together scientists and private managers working on different aspects of the BRs, within the framework of the XXXVIII National Congress of Geography. The meeting saw scientists and private institutions exploring the different geographic, social and economic aspects for transiting towards sustainability. The network formed there agreed to enhance management of the BRs and support the conformation of local, regional and the national Committee of Chilean BRs, along recommendations from the Lima 4th World Congress.



Figure 1 – Announcement of the symposium. Designed by Priscilla Muñoz

This first symposium held in Pucón and the creation act of the Network of Chilean Biosphere Reserves (BRs) offered an opportunity to discuss the

past, present and future of the country's network (see Figure 1 & 2). The network is composed nowadays by 10 BRs that occupy the whole latitudinal range, from the northern Altiplano towards Cape Horn, with a diversity of biogeocultural landscapes (Gregg 1992). The first Chilean Reserves were created in 1977: Fray Jorge fog forest and Juan Fernández archipelago; while the newest one is Corredor Biológico Nevados de Chillán-Laguna del Laja, created in 2011 (Moreira-Muñoz & Borsdorf 2014).

These 10 units, which occupy a total area of ca. 115000 km², have tremendous potential to complement the national protected areas system (SNASPE), with the explicit mandate to help manage the surrounding area of the public protected areas. Nevertheless, the Chilean BRs system has been neglected for decades; in the 40 years since the first declaration, the precarious governance actions and strategies have not been based in local, regional or a National MAB Committee. The mainly public organism that has taken care of the BRs since their creation is the Forest Service (Corporación Nacional Forestal, CONAF) and its focal point. This situation has slowed down the potential advance of every Chilean BR, so that nowadays several of them are in danger of entering an *exit strategy*, since they do not fulfil the Seville criteria and Statutory Framework. These criteria include a zonation scheme, standardized protocols and methodologies for data acquisition and exchange; *in situ* conservation plans and sustainable development plans. Today, BRs face the challenge to fulfill the SDG UNESCO goals, as outlined in the Lima Action Plan 2016–2025 (MAB-UNESCO 2015). The aims of this first scientific symposium on Chilean BRs were to build the framework



Figure 2 – Participants at the Pucón campus of the University La Frontera, hosting the symposium. © Francisca Carvajal

for a National BRs Network; promote the formation of local, regional and the National MAB Committee; make the problems and opportunities of the BRs more visible to a wider public; and discuss ideas and challenges for future applied research in the Chilean BRs. The presentations were organized in three main modules:

1. Principles of conservation, development and adaptation to global change

Within this module, presentations and discussions centred on current challenges for conservation biogeography, ecosystem representativeness of the BRs, and resilience and adaptation of the reserves to global change. Some of the revised themes were: Research advances in the northern portion of the BR Bosques Templados Lluviosos de los Andes Australes, by Andrea Pino and collaborators; or Conservation of Pewén (*Araucaria araucana*): threats and challenges within the framework of the BR Araucarias (Figure 3 & 4), by Manuel Gedda.

2. Tools and instruments for spatial planning and management in biosphere reserves

Here we discussed current territorial planning instruments, representation and monitoring techniques, and practices in the collective territory. Presentations included *Conservation priorities in Lauca BR*, by Mauricio Lea del Valle; *BR La Campana-Peñuelas: new destinations for special interests' tourism and new tourism routes*, by Rodrigo Figueroa; or *Productive activities in the periurban area of Quillota: transitional membrane of BR La Campana-Peñuelas* by Francisca Carvajal and Carlos Doerr; and *Estación Patagonia UC for scientific research on the edge of the BR Laguna San Rafael*, by Alejandro Salazar.

3. Governance and research in a Network of Biosphere Reserves of Chile

Themes of interest were the diversity of knowledge and research in Chilean BRs, conservation in action and ecological restoration, and strategies and progress in the creation of a Chilean BRs Network. Presentations included: *Participatory Zoning in private lands of the BR Lauca*, by Alejandro Tapia and collaborators; *The Subantarctic Biocultural Conservation Program in the BR Cabo de Hornos*, by Eduardo Barros; *Experience of*



Figure 3 & 4 – Aspects of the natural corridor within the Araucarias Biosphere Reserve. © Francisca Carvajal

the Araucaria Ancestral Routes, RB Araucarias, by Romá Martí; *Actors' network in the BR Bosques Templados Lluviosos de los Andes Australes*, by Gonzalo Mardones.

The workshop included a joint evening at the traditional environmental meeting point Ecole hostel. On the second day we made an excursion to the private Namuncay conservation community, which is building a natural corridor in the mountains by putting together public and private areas under a common conservation goal (Figure 1–4).

The main conclusion of the symposium was to reinforce the necessity for creating a Network of Chilean BRs and the urgent necessity to support the creation of local and regional research and management committees, as well as a National MAB Committee, according to the Lima Action Plan 2016–2025 (MAB-UNESCO 2015). The symposium finished with the Declaration

of Pucón, and the proposal of a second symposium to be held in Nevados de Chillán in October 2018. More information about the Chilean BRs and the symposium can be found at www.biogeolab.org.

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