

A reflection on mangroves within Brazilian Protected Areas

Dale Marina Vieitas¹ and Cunha-Lignon Marília²

¹ Biology Department, Universidade de São Paulo, Rua do Matão, 321, 05508-090 São Paulo - SP, Brazil
E-mail: marinavdale@gmail.com

² Fishing Engineering Department, Universidade Estadual Paulista, Registro Campus, Avenida Nelson Brihi Badur, 430, 11900-000 Registro - SP, Brazil

Of the 17 coastal states of Brazil, 16 have mangrove forests, which extend from 04° 20'N to 28° 30'S, for about 6,000 km of the country's 7,408 km coastline¹, and represent 7% of all mangrove cover worldwide². Due to its socio-environmental importance, the entire ecosystem is under permanent protection and more than 87% of its extension is within any of the following types of Protected Areas (PAs): Indigenous Lands (ILs), Ramsar Sites (RSs), or Conservation Units (CUs). Brazilian PAs play a very important role in the protection of mangroves by, among other reasons, ensuring the conservation of their biodiversity in situ and demonstrating its importance and functioning, through environmental education and associated activities, such as ecotourism.

This research aims to survey the mangroves in PAs, showing data on their distribution and emphasizing their importance. There is not much information about mangroves protected by ILs, but at least six of them, considering only the delimited and regularized ones, present the ecosystem, which is linked to the subsistence of part of the populations living in these areas³. CUs, on the other hand, targeted by a bigger amount of research on mangroves, protect 87% of its area of distribution in the country, of which 83% (distributed between 85 CUs) belong to the "Sustainable Use" category, which allows sustainable use of its natural resources (making it compatible with nature's conservation), while the remainder belongs to 35 areas in the "Full Protection" category, which presupposes the indirect use of resources, not allowing their consumption, collection or damage¹. The seven Brazilian RSs that contain mangroves in their interior, although they overlap with many CUs, are extremely important for the conservation of this ecosystem, as they guarantee international visibility, facilitate the obtaining of financial support for protection projects and oblige the signatory country to preserve those areas⁴. Mangroves extend for about 14,000 km² of the Brazilian coast, with the northern region of the country presenting 44% of this area, which is protected by 16 CUs, two RSs and one IL, distributed through only two states (Amapá 2° 20'N and Pará 0° 25'S)¹. The northeast region (08° 03'S) shelters around 50% of the country's mangrove area, with Maranhão state alone accounting for 36%, and has 49 CUs, 3 ILs and 3 RSs. One of the 3 northeastern RSs, known as "Amazon Estuary and its mangroves", also covers the northern region and is composed by 23 CUs, constituting the world's largest continuous portion of mangroves under legal protection, extending over 700 km of the coastline, and protecting nearly 70% of the country's ecosystem⁴. The southeast region (20° 29'S), like the southern (28° 30'S), presents about 3% of mangroves' distribution area, with the first one presenting 41 CUs, one IL, and one RS, and the second presenting 14 CUs, one IL, and two RSs.

Even though many strategies seek the conservation of mangroves, placing them inside of PAs, factors such as institutional deficiencies and lack of financial resources present themselves as limitations to mangroves' protection, resulting in a scenario where its occurrence areas are still threatened by aquaculture, coastal development (tied to the advancement of the real estate market), super-exploitation of its resources, pollution, etc⁵. In this context, it is crucial to collect data on the current situation of mangroves within different categories of PAs, reinforcing their importance and understanding how they are managed.

References

1. ICMBio. Atlas dos Manguezais do Brasil / ICMBio - Brasília, 2018.
2. UNEP. The Importance of Mangroves to People: A Call to Action. van Bochove, J., Sullivan, E., Nakamura, T. (Eds). UNEP World Conservation Monitoring Centre, Cambridge, 2014.
3. FUNAI. Situação Fundiária das Terras Indígenas do Brasil, 2020. Available at .
4. Ramsar Website. Available at .

5. Gasparinetti *et al.* Os valores dos serviços ecossistêmicos dos manguezais brasileiros, instrumentos econômicos para a sua conservação e o estudo de caso do Salgado Paraense. Brasília: Funbio, 2018.

Keywords: Mangrove distribution; Indigenous lands; Ramsar sites; Conservation units; Impacts; Management