

8. Recreio green corridor



Type: top-down (government initiative)

Region: southeast

State: Rio de Janeiro

Biome: Atlantic Rainforest

City of Rio de Janeiro

Population: 6 520 266 (2017 ⁹³)

Area: 1 264.2 Km² ⁹⁴

Elevation: from 2 m to 1 024 m high at the Pedra Branca peak

Coordinates: 22.902778 S / 43.207500 W

MHDI: 0.799 (2010) ⁹⁵

Context

Rio de Janeiro is a coastal city that ranges from around 2 m above sea level in the lower areas to forested massifs ⁹⁶ that divide the city into zones: central, north, south and west. The highest peak is Pedra Branca (White Rock), 1 024 metres high. The city has significant forested areas that cover most of the mountains. The landscape has been highly altered during the urbanisation process, with massive dismount of hills and creation of land over wetlands, mangroves, the Guanabara Bay and along the coast of Copacabana. Most of the 267 rivers and creeks ⁹⁷ have been canalised or are buried underground. The city has suffered massive landslides and floods, and the coastal areas are prone to erosion caused by storm surges and rises in sea level.

The west area of the city, where the Recreio green corridor is located, has undergone rapid urbanisation with the eradication of ecosystems caused by urban sprawl, after a modernist urbanisation with gated communities and informal occupation of lowlands due the lack of proper social housing planning.

93. <https://agenciadenoticias.ibge.gov.br/agencia-sala-de-imprensa/2013-agencia-de-noticias/releases/16131-ibge-divulga-as-estimativas-populacionais-dos-municipios-para-2017>

94. <https://www.geografos.com.br/cidades-rio-de-janeiro/rio-de-janeiro.php>

95. <https://cidades.ibge.gov.br/brasil/rj/rio-de-janeiro/pesquisa/37/0?tipo=grafico>

96. <https://ceciliaherzog.files.wordpress.com/2011/01/sumc3a1rio-relatc3b3rio-vulnerabilidades-rmrj.pdf>

97. <https://oglobo.globo.com/rio/bairros/rios-cariocas-entre-esquecimento-o-futuro-15652879>

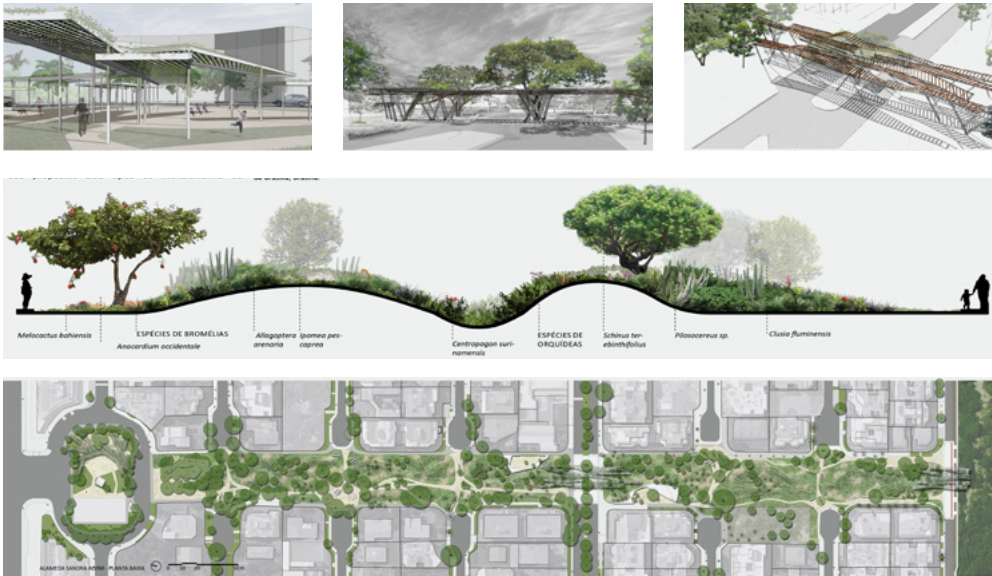


Figure 55. Partial view of the awarded project — the green street with restinga landscape design and ecological features to connect people and biodiversity.

Objectives

The city of Rio de Janeiro has significant national, state and municipal protected areas. However, these fragments are disconnected and threatened by sprawling formal and informal urbanisation.

The city has therefore decided to map 11 priority areas to connect important ecosystem remnants as part of its programme, Carioca mosaic of protected areas ⁹⁸. The Carioca mosaic was one of the objectives of the municipal plan to conserve and restore the Atlantic Forest of the city of Rio de Janeiro, developed by the Municipal Secretary of the Environment in 2015. The approach was based on the landscape ecology of the city to identify the potential connectivity corridors and buffer zones.

The first green corridor that was implemented is located in the west zone, in the lagoon system of Jacarepaguá and Sernambetiba Fields (Campos de Sernambetiba). One of the components of this project is the Recreio green corridor, which connects the natural parks of Marapendi, Chico Mendes and

Prainha, including the Rangel Hill (an Inepac Designated Cultural Area ⁹⁹). The area is in the Jacarepaguá lowlands, with a rich mosaic of Atlantic Forest ecosystems and water bodies (lagoons and canals). The plan is multiscale, ranging from the lagoon system water catchments to local interventions.

The main objective is to protect and enhance the rich biodiversity to maintain the ecosystem services that give sustainability and resilience to the region. There are many ecological and social challenges that the project has addressed since the beginning of its implementation in 2012 ¹⁰⁰.

98. http://mosaico-carioca.blogspot.com/p/pnt_04.html

99. State Institute for Cultural Heritage, <http://www.inepac.rj.gov.br/>

100. Grupo de Trabalho — Corredores Verdes — Resolução SMAC P nº183 de 7.11.2011 18/4/2012.

Actions

The Recreio green corridor project was designed to preserve and connect 320.76 ha of protected areas and add 60.73 ha of open public spaces and squares. The parks are connected by the das Tachas canal that flows from the Marapendi lagoon to Lagoinha lagoon and continues west, where locally endangered species such as caimans ¹⁰¹, capybaras ¹⁰², and the beach butterfly ¹⁰³ live. The corridor has managed invasive species, introduced native vegetation along the canal. The strategy was based on local urban ecology, with three main elements:

preserve:

- existent biodiversity core areas;

connect:

- the core areas that present less human use,
- green streets, considered buffer zones of the core and connection areas,
- multifunctional streets, collector roads with 'green islands' in the middle as corridors of biodiversity and connectors with the urban tissue;

expand:

- green neighbourhoods — all urban areas that can have more native trees in public or private open spaces —, including green roofs and walls.



Figure 56. Capuchin monkey.

The project also provides for clean mobility, with comfortable and safe bike lanes and walkways, and the enhancement of public transportation with green bus stops.

Environmental education programmes have been developed and implemented to engage and educate the residents, and also raise awareness about the role of biodiversity and ecosystem services for quality of life and well-being.

Stakeholder involvement

The plan of the green corridors was developed by an interdepartmental study done by several city departments ¹⁰⁴, with the participation of external experts.

The city commissioned a landscape design studio and an urban planning company to design the

green corridor. They worked on projects that address local issues, understanding the role of each part in the whole project — an inter-scale and multifunctional approach.

101. Caiman latirostris — Jacaré-do-Papo-Amarelo.

102. Hydrochoerus hydrochaeris — Capybara.

103. Parides ascanius — Borboleta da Praia.

104. SMAC, SMU, SMH, SubPC, FPJ, CAU, RIO- RIO-, FPJ, CAU, R.

Implementation

The working group delivered the report to orient policies and practices in 2012 ¹⁰⁵. Actions started to be designed and implement after that. They are not yet fully implemented.

There have been many public events to present the plan for the green corridor to various audiences and in different formats throughout the years since 2012.

Environmental compensation was the main source of financial resources. The Olympic Games in 2016

meant that many developments had to comply with legislation on the eradication of natural areas.

The personal efforts of public servants must be highlighted. Some are responsible for pushing forward the green corridors along the lagoons until the present.



Figure 57. A view of a lagoon with a mangrove forest in the Recreio Green Corridor.

105. Resolu CA SMAC P nU, RIO- RIO-, FPJ.

Outcomes

The Recreio green corridor has achieved the protection of many core areas, removed invasive species and introduced native vegetation.

Some interventions have provided more space for caimans and capybara populations, at the same time allowing for people to observe these animals

(with no physical contact). All core areas are protected by fences to avoid the transit of animals out of the protected areas and to limit the circulation of people in those areas.

Limiting factors and risks

- The city administration has no real interest in the restoration project.
- There is a slum that occupies the borders of the canal.
- Some parts of Recreio green corridor are dominated by militia, and they occupy vulnerable and biodiversity-rich areas without public control.
- The area receives raw sewage in the waters, and the eutrophication is destroying the underwater life. Caimans are mostly male, because the eggs of females don't hatch due to the high temperature caused by excessive organic matter in the environment.
- There are conflicting issues with wildlife: caimans must be separated from people; capybaras are vectors of the tick that transmit Lyme disease.

Lessons learnt

It is extremely challenging to work on the enhancement of green areas with NBS projects when there is no political will to introduce them or to protect ecological areas.

Partnerships between public and private institutions and the involvement of qualified professionals and engaged citizens to protect and enhance nature in

urban areas are very important.

There is a need to educate people from all areas so they can understand the need to introduce NBS and protect and improve native biodiversity in urbanised areas.

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Recreio green corridor, <http://landscapeasurbanismamericas.net/recreio-green-corridor/>, accessed: 18.12.2018.

