

WOODED TRAILS THAT WEAVE THE CITY

Planning for landscape and functional connectivity in the north of Bogotá

COMMITMENTS

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BOGOTÁ,
COLOMBIA

Pop. 7,181,000

1,775 km²

2,640 m.a.s.l.



KEY
CONCEPTS

SOCIO-ECOLOGICAL FUNCTIONALITY

URBAN ECOLOGY

PUBLIC SPACE

The Conejera Hills Green Corridor project has proposed a system of wooded pedestrian trails, with a total length of about 6 km, which will provide an ecological and social connection to the city's north. The project hopes to generate landscape-functional connectivity at the ecosystemic level between two peri-urban protected areas of Bogotá.

Lagos de Torca is a mega urban expansion project comprised of 34 urban projects that seek to solve, to a large extent, the housing deficit that Bogotá faces today. To this end, it has been proposed to offer a model capable of pro-

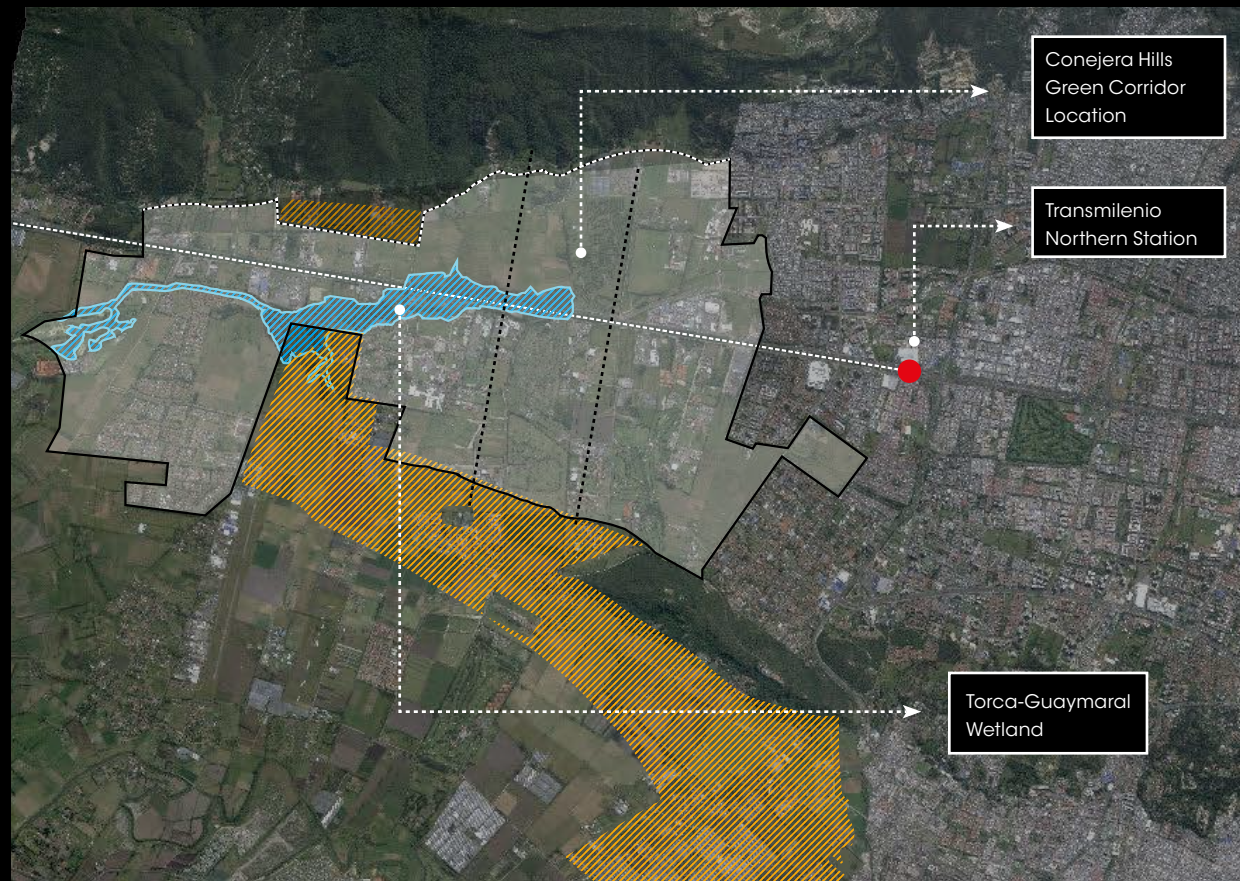
viding housing for different socioeconomic sectors of the population while guaranteeing the ecological conditions necessary to ensure their wellbeing and quality of life.

The project plans the reconfiguration and functional recovery of various ecosystems considered strategic for their importance in providing ecosystem services in northern Bogotá. The Conejera Hills Green Corridor (CHGC) a system of pedestrian paths connecting the Cerros Orientales (Eastern Hills) Forest Reserve and the Thomas van der Hammen Reserve. They go from east to west through parks and other facilities that are part of the green infrastructure present in that sector.

The CHGC was born from the meeting between the projects Lagos de Torca and "Low Carbon Cities in Colombia - An integrated urban modeling approach for policy analysis." The latter, developed by the Universidad de Los Andes de Colombia, Colombia UKPact, and the Colombian Sustainable Construction Council, started by defining an integral methodological approach that relates the primary sectors that make up an urban development to each other and to the territorial space in which they are located. It also implemented indicators to model, control, and monitor urban management processes and their contribution to the planning of ecosystem-sensitive urban environments.

The concept of "sensitivity to ecosystems" was analyzed and weighted in the UKPact-Uniandes project for six main urban sectors or components: water, **urban ecology**, energy, mobility and transportation, constructions, and solid waste. In the specific case of urban ecology, this sensitivity was estimated as the result of the evaluation of the social and ecological functionality of each of the urban spaces, both public and private, on their susceptibility to generate contributions to the socio-ecological wellbeing of the city. The project thus included validating its methodological approach and calibrating the indicators in actual cases, one of which was Lagos de Torca.





CONNECTIVITY OF THE FUTURA ECOSYSTEM

Source: Lagos de Torca Trust



Main roads

Thomas van der Hammen Reserve

Water bodies

The Torca-Guaymaral Wetland expands from 34 to 75 hectares in rainy season.

Guaymaral Metropolitan Park is 1.3 times larger than Simon Bolívar Metropolitan Park in Bogotá.

CONCEPTUAL AND METHODOLOGICAL APPROACH

The project has been addressing biological, urban-architectural, regulatory, and social aspects simultaneously and in a complementary manner. This has involved pinpointing identifying characteristics of the spaces that will make up the corridor and its trails. To this end, criteria were established that would govern the **socio-ecological functionality** of the system. Such as that the paths will be a new type of public pedestrian space that, without being avenues or ecological corridors, share characteristics and functions that complement the functionality of the urban green system.

Thus, the specific characteristics of these trails seek a balance between ecological and social function, including controlled public accessibility, moderate lev-

els of activity, medium to low direct social purpose, and moderate to high levels of naturalness and **ecological functionality**. In summary, the CHGC is proposed to be an "urban forest" trail system around the corner every day, an urban forest that will grow with and for the city's children.

Likewise, to meet the criteria of ecological functionality, various vegetation options were analyzed, taking their biological characteristics into account. Creeping, low, medium, and high species were selected to achieve the diversity and spatiality of the forest, as well as its spatial and temporal variability. In addition, in the architectural design, specifications were selected to ensure construction efficiency, spatial quality, and accessibility for people while respecting the ecological functionality of the trails.



FEATURES OF THE PROPOSED TRAIL SYSTEM

Source: Lagos de Torca Trust and Gestión Urbana y Tecnológica S.A.S.



Diverse vegetation (native and naturalized) that constitutes a wildlife corridor of different strata (plants, shrubs, trees) on both sides of the trail.

Daytime space to experience a relationship with nature in the middle of the city and close to home or work.

Eco-friendly and filtering materials that adapt to the soil and contribute to water management.

IMPLEMENTATION STRATEGY

The designed trail system was fully approved by the Torca Lakes Project and the city's administrative authorities in terms of planning. It has a detailed design for each section, including construction details and urban furnishings of the walkways and rest areas, as well as definition, quantification, and specific location of every one of the low, medium, and high species that make up the respective section.

In this way, it is expected that this system of wooded pedestrian trails:

- 1 Enhances the supply of biodiversity and ecosystem services provided by green spaces and public and private facilities.
- 2 Integrates these spaces through interventions that facilitate their connection and landscape, environmental and functional articulation.
- 3 Increases these spaces' environmental, social, and landscape offer, strengthening the resilience and adaptability of the city's north.

In the face of this implementation, it is worth highlighting the joint work with the city administration, as this was key to having a financial model conducive to pub-

lic infrastructure works executed with private resources and supervised by the city government.

KEY LESSONS

➔ Public-private management offers advantages when implementing interventions seeking to recover an urban ecological structure's landscape and functional connectivity. In this sense, the effectiveness derived from shared information, concerted decisions, synchronized schedules, and efficiency in the use of resources stand out.

➔ There should be more profound transformations in how urban environments have been managed in Bogotá. Still, the project demonstrates that within the framework of processes already underway, and without the need to modify the rules of the game substantially, it is possible to advance highly sensitive interventions in the face of climate change, the re-naturalization of cities and the physical, mental, and social wellbeing of the inhabitants.

➔ The science-policy-society interface used as a methodological approach is a valuable alternative to effectively link a global concern such as climate change with local management to solve challenges such as climate variability and its effects.