Assessing the performance of least cost path modelling in defining ecological corridors for birds in urban landscapes

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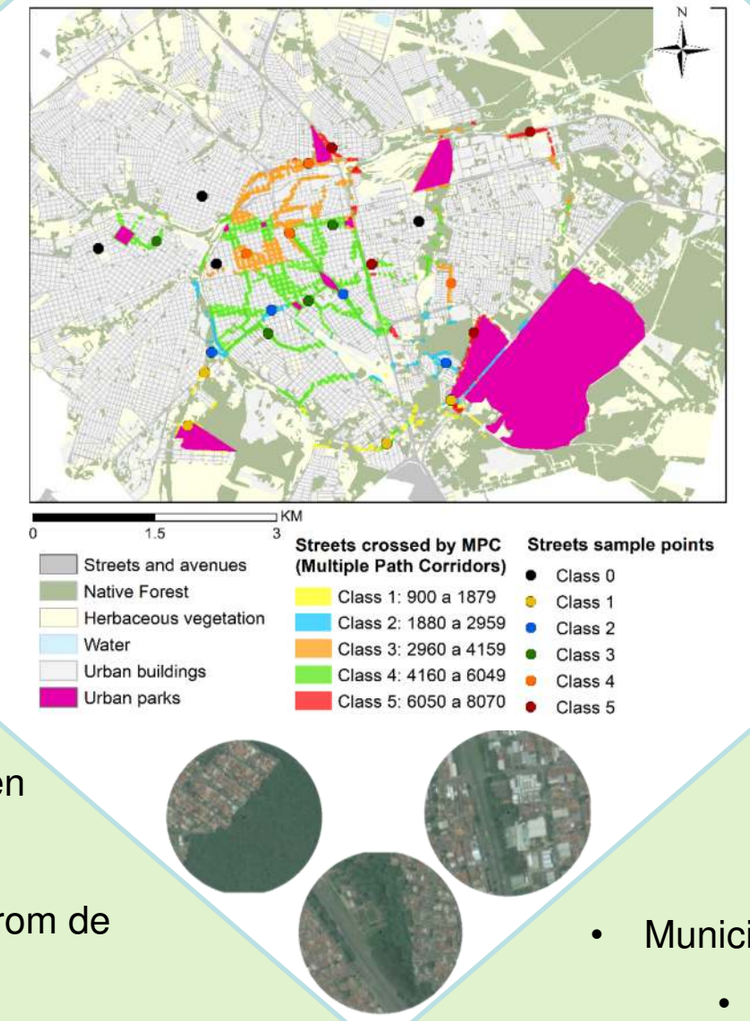
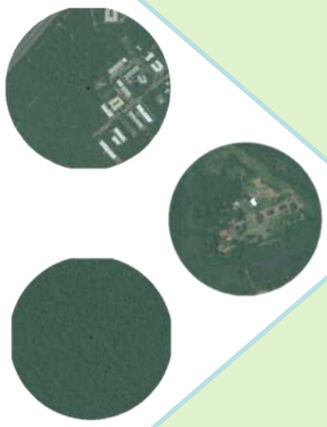
INTRODUCTION

- Urban sprawl
- Green spaces, natural habitat (forest or non-forest ones) and street trees are potential promising alternatives for guarantee the maintenance of biodiversity, as well as to promote healthy conditions for human populations.





OBJECTIVE

This project aims to verify the accuracy of Multiple Path Corridors (MPC) modeling in finding the best routes for birds between urban parks inhabiting a Neotropical city (Bauru, São Paulo, Brazil).

MATERIAL AND METHODS

1. Production of a land use/land cover map to characterize the urban landscape structure.
2. Simulation of Multiple Path Corridors (MPC) between 12 urban parks using the LSCorridors software.
3. Classification of the routes in a range of 5 classes from de lower to the higher number of pixels chosen.
4. Selection of 4 streets of each classes and 4 streets that weren't crossed by any Multiple Path Corridors (MPC), totalizing 24 streets.
5. Bird surveys from November 2018 to March 2019 using the *point count* method in these 24 streets and 12 parks (36 sampling points). We repeated the bird surveys 3 times in each sampling point.
6. Data Analysis

PRELIMINARY RESULTS

We observed that streets considered as preferential routes by MPC routes presented higher species richness.

- Municipality of Bauru has 270 species registered
- We found 79 species in urban area (29%)

EXPECTATIONS

With these results, we expect to suggest guidelines for urban planning in order to create multifunctional ecological urban parks and management strategies to assist in the conservation of bird species inhabiting Neotropical cities.

THE SPECIES FOUND

Most frequent species in urban parks ans streets:

1. **Zenaida auriculata (66)**
2. **Pygochelidon cyanoleuca (65)**
3. **Pitangus sulphuratus (64)**
4. **Passer domesticus (58)**
5. **Psittacara leucophthalmus (55)**

Photos: Gabriela Rosa

A PROJECT FOR MULTIFUNCTIONAL ECOLOGICAL URBAN PARK

SOURCES

FAPESP SÃO PAULO RESEARCH FOUNDATION

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