

# EVALUATING LANDSCAPE CONNECTIVITY FOR PRIORITIZING CONSERVATION OPPORTUNITIES IN THE SAN JUAN BAY ESTUARY

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Urban sprawl has changed Puerto Rico's coastal lowlands resulting in landscapes dominated by humans. As a result, this has caused habitat fragmentation within the landscape, decreasing habitat connectivity within it. In coastal lowlands, high landscape connectivity facilitates the movement of birds through habitat patches, from lowlands to uplands. Today, this movement has been altered by intensively constructed and fragmented landscape. This study aims to contribute solutions to this problem by evaluating the landscape connectivity of the San Juan Bay Estuary watershed where landscape connectivity has been disrupted, and establish corridors where conservation work must be implemented to facilitate movement of birds through the landscape. The project includes habitat modelling for birds and identifies stepping stones and important patches for population and breeding within the landscape. A graph theory model was generated with a total of 66 corridors at 2% of threshold. A resulting total of 46% of the landscape was considered as nonhabitat or avoided zones by birds. An estuary's corridor management conservation plan should be taken in order to assist the development of new management strategies for the estuary, which is currently underway but not focused on terrestrial wildlife.