Avian Population Status and Diversity at Emilio Wilson Estate, St. Maarten

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Environmental Protection in the Caribbean (EPIC) has monitored bird populations on St. Maarten for the previous 11 years. Our research has focused primarily on the relationships between birds and their habitats. Therefore, we have focused on a wide diversity of land types including offshore rocky habitats, mangroves, salt ponds, xerophytic, and dry forest. Our research findings have been published in numerous peer-reviewed journals worldwide. Additionally, we have provided our data locally for land managers, government officials, and the public.

Emilio Wilson Estate, located in the foothills above the Freshwater Pond of St. Maarten, hosts a variety of habitats, most notably lowland scrub and lowland dry forest. Both of these habitats play considerable roles in the ecology of both migratory and resident birds on St. Maarten.

Herein, we will focus on the population status and diversity of avian populations in xerophytic forest and dry forest, the primary habitat types that make up Emilio Wilson Estate. Over our 11-year study period, within these two habitat types, we have banded >7,500 birds and observed >21,000 birds.

The dry forest habitat consists primarily of broad leaf trees that are >5m in height creating a mostly closed canopy. Typical species encountered within this habitat include mahogany (*Swietenia mahagonia*), cedar (*Cedrela odorata*), mango (*Mangifera indica*), and fig (*Ficus aurea*). Most notably, this habitat is critically important for migratory landbirds on St. Maarten. Within this habitat, we recorded nearly 85% of all migratory landbirds banded on St. Maarten. Notably, 29 of the 35 migratory songbird species encountered on St. Maarten were banded in dry forest habitat. Furthermore, 21 of the 35 migratory birds encountered during our study were only encountered within dry forest habitat. Additionally, we encountered 16 of the 24 resident songbird species, within this habitat. Bridled Quail Dove, a regionally unique species due to its restricted range, was only detected within this habitat.

Xerophytic habitat consisted primarily of small-leafed species that are <5m in height, creating a mostly open or partially open canopy. Typical species encountered within this habitat include acacia (*Acacia tortuosa*), fig (*Ficus aurea*), and cactus (*Cactaceae*). This habitat is critical for resident songbird species on the island. Over the 11 years of our avian research, we have encountered greater numbers for 19 of the 24 resident songbird species encountered on St. Maarten within xerophytic habitat. Of the 24 resident songbird species, eight of those species were found only within xerophytic habitat. Additionally, we regularly encountered migratory species within this habitat, overall recording 14 migratory species.

Both of dry forest and xerophytic habitat play a critical role in the ecology of songbirds on St. Maarten and should be protected from habitat removal at all costs.