

Barbados' Overlooked Endemic: The Bullfinch

The **Barbados Bullfinch** (*Loxigilla barbadensis*), sometimes called Sparky or Sparrow, is the only endemic bird species found on the Caribbean Island of Barbados, making it a true local avian treasure. Characterized by its small, stocky build and distinctive brown-black plumage, complemented by a solid black, cone-shaped bill, the Barbados Bullfinch plays a crucial role in the island's ecosystems and biodiversity. As a seed disperser and pollinator, this bird contributes to maintaining native plant populations and the overall health of the island's flora.

The Barbados Bullfinch has demonstrated remarkable adaptability to human presence, thriving in both urban and rural environments across the island. This adaptability has led to a unique co-evolution between species and the local human population. The bird's ability to exploit human food sources and nest in man-made structures has enabled it to maintain a strong presence in populated areas, resulting in frequent interactions between humans and wildlife. On many occasions, this shrewd bird enters a building, eats its fill, and safely exits, all while memorizing entrance and exit points for future feasts.



*The adaptable female Barbados Bullfinch (*Loxigilla barbadensis*) exhibits its flexible feeding habits by searching for human food scraps along the coastline of the Folkstone Marine Reserve (Scientific Zone), Holetown, Saint James, Barbados, West Indies.*

While the Barbados Bullfinch's adaptation to human environments has contributed to its survival in urban areas, it has also presented challenges to its survival. The reliance on human food sources is NOT known and needs to be researched, as the dependency on artificial food can lead to major nutritional deficiencies and the loss of natural foraging skills. At the moment, there seems to be no adverse impact on the birds, indicating they are supplementing these artificial diets with sufficient natural food. The potential spread of diseases (via the bird's droppings) within human dwellings is another concern not fully understood. However, this close association with humans also offers benefits, including increased public awareness and appreciation of the island's unique biodiversity, along with important contributions as a pollinator and native plant disperser. The complex relationship between the Barbados Bullfinch and the human population underscores the need for balanced conservation strategies that consider both the ecological significance of the species and its impact on human activities.



*The Barbados Bullfinch exhibits a diverse foraging behaviour, utilizing various food sources. During the dry season, it primarily consumes seeds and insects, while in the wet season, its diet shifts to include leaves, buds, fruits, and flowers. In this instance, the Bullfinch is observed feeding on nectar of the Yellow Bamboo Palm (*Chrysalidocarpus lutescens*) or on insects that feed on the nectar.*

The Barbados Bullfinch is a small (approximately 15 cm) passerine bird. Both sexes generally have similar plumage: dark olive upperparts with brownish wings, while juveniles are brown. The bird has a stout; conical beak adapted for cracking seeds and fruits. The species communicates using chirps, whistles, and trills and is often seen in small flocks outside of breeding season. This bird is also an opportunistic feeder, but main diet includes seeds, fruits, insects, and nectar, allowing it to thrive in most (if not all) of the diverse environments across the island, from coastal areas to forests and agricultural lands, showing particular adaptability to human-modified landscapes like gardens and parks.



It is commonly believed that each house in Barbados hosts its own Barbados Bullfinch, leading to numerous interactions and occasional conflicts between homeowners and the birds. Here, a homeowner is seen holding a Bullfinch in their hands, illustrating the species' remarkable tameness, as in some instances, Bullfinches will even feed directly from a person's hands.

Anecdotal evidence from many Barbadians suggests an increasing frequency of Bullfinches entering human dwellings in pursuit of sustenance. Indeed, it is commonly believed that each house hosts its own Bullfinch, which visits daily as part of its foraging routine. Such close proximity between the species and human populations presents a nexus of potential risks for both parties, including the potential for zoonotic disease transmission via avian excreta. Additionally, the continued loss of natural foraging ecosystems for the bird may lead to an elevated incidence of accidental injury within human-inhabited environments, especially in areas where domestic cats are present.

Even though Barbados Bullfinches are ubiquitous across most ecosystems on the island, habitat loss and fragmentation due to urban development and agricultural expansion pose significant threats to the Bullfinch. With the ever-increasing conversion of the bird's natural habitats for anthropogenic purposes, the species may encounter increased limitations in accessing suitable nesting locations and natural foraging opportunities, potentially compelling dietary shifts that, in some instances, could lead to damaging their gastrointestinal tract. Additionally, the impacts of climate change, including altered precipitation patterns and increased frequency of extreme weather events, could affect the availability of food resources and overall habitat quality for the Bullfinch.



A perched Barbados Bullfinch in its natural forested ecosystem, on a Bursera simaruba (Tourist Tree) branch in Sandy Lane, St. James, north-west Barbados, possibly pausing to inspect its environment before continuing to feed on the ripe berries.

The main threats to the Barbados Bullfinch are the pervasive impacts of introduced predators. The Green Monkey (*Chlorocebus sabaeus*) and the Indian Mongoose (*Urva auropunctata*) are major concerns, both exerting considerable pressure through direct predation and intense competition for limited resources. These introduced species are predicted to impact the reproductive success and overall survival of the bird. Compounding these threats is the widespread presence of feral and free-roaming domestic cats (*Felis catus*) in urban and peri-urban areas. These highly effective hunters cause significant direct mortality to native birds. Finally, brood parasites (i.e., animals that rely on another animal to raise their young, often by laying eggs in the host's nest), such as the Shiny Cowbird (*Molothrus bonariensis*), are known to reduce their host's reproductive success and hence can threaten the Bullfinch's survival in certain environments.

Another potential concern is the possibility of a disease outbreak, especially those that can spread rapidly in dense urban bird populations, which poses a threat to the species' long-term health and survival. Due to the close connectivity's of the species on the island, a disease can easy spread. Monitoring and managing various threats will be crucial for ensuring the continued presence of this unique endemic species on Barbados.



While the loss of the endemic Barbados Bullfinch might seem an unlikely scenario, the ongoing threats to biodiversity underscore the necessity for proactive conservation initiatives to secure the preservation and persistence of this unique species.

Creating bird-friendly environments through native plantings and appropriate feeding practices is essential for human-bullfinch coexistence. Public education and awareness campaigns, including citizen science initiatives, design guidelines for bird-friendly commercial buildings, and highlighting the cultural significance of conservation efforts, play a crucial role in fostering appreciation and promoting conservation. Developing

educational programs in schools and communities will further cultivate a sense of stewardship and promote harmonious coexistence on the island.

Long-term conservation of the Barbados Bullfinch requires a focus on habitat protection through initiatives like protected areas (for example, the Turner's Hall Woods is the only remaining natural forest on the island and does not have any official form of protection). Additionally, forest restoration, wildlife corridors, and collaboration between various stakeholders alongside gully landscapes should be encouraged. Government and NGOs play crucial roles through legislation, resource allocation, research, conservation projects, and public awareness. A coordinated and sustained effort from all sectors of society, including ongoing research, citizen monitoring, and responsible tourism, is necessary to safeguard future generations of the only endemic bird species in Barbados.



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