Wildlife and Fauna of Nauru

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Introduction

Nauru, the world’s smallest island nation, sits alone in the vastness of the central Pacific Ocean, its 21 square kilometers home to a surprising wealth of natural history. Despite its diminutive size and past environmental disruptions, Nauru boasts a unique array of wildlife and fauna shaped by millennia of isolation. This book serves as a comprehensive guide to understanding, appreciating, and protecting the natural treasures of Nauru. By delving into its terrestrial, avian, marine, and invertebrate fauna, readers will discover the resilience and significance of life on this remote Pacific atoll.

The story of Nauru’s biodiversity is one deeply intertwined with the island’s geography and history. Much of the original habitat has been altered by extensive phosphate mining, which devastated the central plateau and strained both land and marine ecosystems. Yet, the island’s remaining fragments of forest, coastal fringes, and rich surrounding reefs are still havens for a select group of plants and animals. While Nauru does not boast the biological abundance of larger Pacific islands, its species are nonetheless fascinating, resilient, and in some cases, unique to the island.

Within these pages, you will explore the lives of the Nauru reed warbler—endemic and emblematic of the island’s fragile ecosystems—and other native birds, reptiles such as the Micronesia black skink, immense coconut crabs roaming the forest floor, and marine marvels like sea turtles and coral reef fish. The book delves into the challenges these species face, from invasive animals and habitat destruction to the effects of climate change and overfishing. Though some species, such as the zebra finch, have been lost locally, conservationists and communities continue to seek innovative solutions for preservation and renewal.

Marine life is a particular highlight of Nauru’s natural environment. The coral reefs enveloping the island are considered among the healthiest in the region and are home to a vibrant diversity of fish, invertebrates, and larger creatures like sharks and marine turtles. For both scientists and enthusiasts, Nauru’s surrounding seas offer remarkable opportunities to observe the ongoing dance of life in its most pristine state—despite ongoing pressures from over-exploitation and pollution.

Protecting Nauru’s wildlife requires a partnership between local knowledge, community engagement, national strategy, and international collaboration. Efforts such as the National Biodiversity Strategy and Action Plan, habitat restoration projects, and sustainable management initiatives demonstrate the island’s commitment to preserving its natural heritage. Throughout this guide, practical tips and insights are provided for those wishing to observe, research, or participate in the

conservation of Nauru’s fauna.

This book invites readers, whether residents or visitors, students or scientists, to explore the wonders and realities of Nauru’s natural world. In celebrating the island’s biodiversity and understanding its fragility, we not only honor the past and present of Nauru’s ecosystems but also help to ensure their survival for generations to come.

CHAPTER ONE: The Island in the Blue Expanse

Nauru, a speck of land in the vast Pacific, sits just 53 kilometers (about 33 miles) south of the Equator, giving it a perpetually warm and humid tropical climate. It is an island of modest dimensions, a mere 21 square kilometers (8.1 square miles) in total area, making it one of the smallest independent republics on Earth. To get a sense of its size, imagine it's roughly one-tenth the size of Washington, D.C. Its nearest neighbor is Banaba, also known as Ocean Island, part of Kiribati, lying about 300 kilometers (190 miles) to the east. This isolation has played a significant role in shaping the island's unique, if limited, array of life.

The island itself is an oval-shaped raised coral atoll. It's essentially a coral cap sitting atop a submerged ancient volcano that rises dramatically from the ocean floor, some 4300 meters below. The coral structure reaches about 30 meters above sea level in places. Over eons, the original limestone has been transformed into dolomite, a harder form of limestone, and then sculpted by erosion into a rugged landscape of jagged pinnacles, some reaching up to 20 meters (about 65 feet) high.

This unique topography is a direct result of Nauru's geological history. The island was formed on a part of the Pacific Plate that was created at a mid-oceanic ridge a staggering 132 million years ago. Around 35 million years ago, in the mid-Eocene to Oligocene epochs, a submarine volcano began to build up over a hotspot, eventually forming the seamount that Nauru sits on today. This volcanic activity coincided with a significant reorganization of the Pacific Plate.

After the volcano was eroded down to sea level, a coral atoll began to grow on top of it, reaching a thickness of about 500 meters. The coral closer to the surface is much younger, dated between 5 million and 300,000 years old. The island was then uplifted, exposing the coral reef and leading to the formation of the raised plateau we see today.

Nauru has a coastline of about 30 kilometers (19 miles). The island is encircled by a fringing coral reef, which becomes exposed at low tide and is dotted with coral pinnacles. This reef, while a haven for marine life, also means that Nauru lacks natural harbors, although channels do allow smaller boats to access the island.

Moving inland from the beach, there's a fertile coastal strip, typically 150 to 300 meters (490 to 980 feet) wide. This area, sometimes referred to as the "bottom side," is where the majority of the population resides and where most of the remaining fertile land can be found. Here, you'll find coconut palms flourishing, along with pandanus trees and some native hardwoods like the tamanu tree.

Beyond the coastal strip, coral cliffs rise to the central plateau. This "Topside" area is the highest part of the island, reaching an elevation of about 65 to 70 meters (213 to 233 feet) above sea level at Command Ridge. The landscape here has been dramatically altered by extensive phosphate mining, leaving behind a barren and rugged terrain of exposed coral pinnacles.

Anibare Bay, on the east side of the island, is a prominent feature, formed by the underwater collapse of the east side of the ancient volcano. This collapse created an amphitheater-like shape with the arc-shaped block rotating outwards.

Nauru has no natural rivers or streams. Freshwater is a precious resource, historically collected from roof catchment systems or brought to the island as ballast on ships. There is a brackish water lens beneath the island, averaging about 5 meters thick, but it's underlain by a much thicker mixing zone of brackish water. The high permeability of the karstified limestone contributes to the significant thickness of this mixing zone.

Despite the lack of rivers, there is one significant permanent freshwater resource: Buada Lagoon. Located in the central plateau, this landlocked basin was formed by the dissolution and collapse of limestone when sea levels were lower. The area around the lagoon is one of the few fertile spots on the island, supporting the cultivation of bananas, pineapples, and some vegetables. There are also some brackish ponds near the base of the escarpment in the northeast, in Ijuw and Anabar Districts, and an underground lake called Moqua Well in the Moqua Caves in the southeast.

Nauru's climate is, as you'd expect for an island near the equator, hot and very humid year-round. Average temperatures are quite stable, with lows around 25-26°C (77-79°F) and highs around 31-31.5°C (88-89°F), although temperatures can occasionally reach higher. The island experiences a monsoon rainy season, typically from November to February. However, annual rainfall can be highly variable and is strongly influenced by the El Niño-Southern Oscillation (ENSO). El Niño events tend to bring warmer, wetter conditions, while La Niña events can lead to delayed wet seasons and drier conditions, sometimes resulting in extended droughts. While rainfall is generally higher from December to April, with a peak from December to February, there is a drier period from May to November. Even during the drier season, though, showers and thunderstorms can occur. Fortunately, Nauru is not typically affected by tropical cyclones due to its proximity to the equator.

The island's geology and climate have created a challenging environment for life to establish and diversify. The lack of permanent surface freshwater, coupled with the relatively small land area and isolation, limits the types of habitats available. However, the tropical warmth and humidity, combined with the surrounding rich marine environment, still allow for a fascinating, albeit specialized, collection of wildlife to call Nauru home.

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