Wildlife and Fauna of Kiribati

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Table of Contents

- **Introduction**
- **Chapter 1** The Geography and Climate of Kiribati
- **Chapter 2** Geological History and Island Formation
- **Chapter 3** Ecological Regions of Kiribati
- **Chapter 4** Historical Human Impact on Kiribati’s Fauna
- **Chapter 5** Terrestrial Ecosystems: Forests, Scrub, and Grassland
- **Chapter 6** Indigenous and Introduced Land Mammals
- **Chapter 7** The Role of Marine Mammals in Kiribati Waters
- **Chapter 8** Avifauna: An Overview of Birdlife in Kiribati
- **Chapter 9** Endemic and Endangered Bird Species
- **Chapter 10** Seabird Sanctuaries and Breeding Colonies
- **Chapter 11** Migratory Birds and Seasonal Visitors
- **Chapter 12** Reptiles: Turtles and Lizards of Kiribati
- **Chapter 13** Terrestrial Invertebrates: Insects, Land Crabs, and More
- **Chapter 14** Land Use, Agriculture, and Impact on Terrestrial Fauna
- **Chapter 15** Marine Ecosystems: Coral Reefs, Mangroves, and Seagrass
- **Chapter 16** Fish Diversity: Inshore and Pelagic Species
- **Chapter 17** Endemic and Economically Important Fish
- **Chapter 18** Marine Invertebrate Diversity: Shellfish, Crustaceans, and Coral
- **Chapter 19** Seaweed Farming and Economic Marine Activities
- **Chapter 20** Conservation Challenges: Climate Change and Environmental Threats
- **Chapter 21** Marine Conservation Initiatives and Protected Areas
- **Chapter 22** Terrestrial Conservation and Wildlife Management
- **Chapter 23** Community Engagement and Traditional Knowledge
- **Chapter 24** Legal Frameworks and International Cooperation
- **Chapter 25** The Future of Wildlife and Fauna in Kiribati

Introduction

Kiribati, a breathtaking nation set amidst the vast expanse of the central Pacific Ocean, is an archipelago of remarkable geographic diversity and ecological significance. Composed of 32 low-lying atolls and a single raised coral island, Banaba, the nation's minuscule land area stands in sharp contrast to its enormous marine territory. Although it faces natural limitations such as high soil salination and young geological formations, Kiribati’s isolation and oceanic setting have fostered a unique blend of wildlife, particularly in its surrounding waters.

The story of Kiribati’s fauna is one shaped by its distinctive environment. Terrestrial animal life is comparatively sparse and heavily influenced by human presence, with no truly indigenous land mammals and a terrestrial flora restricted by nutrient-poor soils. Even so, the islands support populations of introduced mammals, an array of invertebrates including land crabs and insects, remarkable reptiles such as marine turtles, and a vibrant diversity of birdlife. The nation serves as a critical haven for breeding and migratory seabirds, housing several threatened, endemic, and migratory species—some of which are unique to these remote islands.

If Kiribati’s land seems modest, its marine riches more than compensate. The coral reefs, seagrass beds, and open ocean habitats that surround the islands harbor an astounding abundance of life. From hundreds of finfish species—some found nowhere else—to an array of crustaceans, shellfish, and corals, the marine biodiversity here is both ecologically and economically vital. The extensive Phoenix Islands Protected Area stands as a global model for large-scale marine conservation, protecting critical habitats and species while balancing the needs of local communities.

Yet Kiribati’s wildlife faces formidable challenges. Rising sea levels, climate change, invasive species, and localized pressures like overfishing and habitat loss all threaten the delicate balance of its ecosystems. Conservation efforts led by the government, local communities, and international partners have grown in response, emphasizing habitat protection, the control of invasive species, the creation of protected areas, and the integration of traditional knowledge with modern scientific management.

This book, "Wildlife and Fauna of Kiribati: A Guide to the Wildlife and Fauna of Kiribati," seeks to capture the breadth and wonder of the nation’s biodiversity. Each chapter explores a facet of Kiribati’s natural heritage, highlighting both its resilience and vulnerability. Through careful examination of terrestrial and marine life, conservation efforts, and the interplay of culture and ecology, the guide aims to foster greater understanding and appreciation—for the benefit of both present and future generations.

CHAPTER ONE: The Geography and Climate of Kiribati

Imagine a nation where the land is a scattering of pearls across an immense blue canvas. This is Kiribati, a country that redefines the concept of landmass in relation to oceanic territory. Comprising 32 atolls and one raised coral island, Banaba, this island nation is spread across a staggering 3.5 million square kilometers of the central Pacific. Yet, the total land area is a mere 811 square kilometers. This extraordinary geographical arrangement means that Kiribati's story is inextricably linked to the ocean that surrounds and shapes it.

The islands themselves are generally low-lying, with most of the land sitting just a few meters above sea level. Banaba, a raised coral island, stands apart as the highest point, reaching a modest 81 meters (265 feet) above the waves. This low elevation, while creating stunning vistas of endless ocean and sky, also presents significant challenges, particularly in the face of rising sea levels. The atolls are typically ring-shaped coral reefs enclosing a lagoon, their formation a testament to the interplay of volcanic activity, coral growth, and the slow dance of geological time.

Kiribati's islands are spread across a vast distance, extending about 3,900 kilometers from east to west and 2,100 kilometers from north to south. This expansive distribution places the nation within three distinct island groups: the Gilbert Islands, the Phoenix Islands, and the Line Islands. The Gilbert Islands are the most westerly group, where the majority of the population resides. To the east lie the Phoenix Islands, a largely uninhabited archipelago, and further east still, the Line Islands, which include Kiritimati (Christmas Island), the world's largest coral atoll by land area. Kiritimati alone accounts for nearly half of Kiribati's total land.

The climate of Kiribati is, perhaps unsurprisingly, a tropical marine one. It's characterized by consistent warmth and high humidity throughout the year. The average temperature hovers around 28°C (82°F), with very little variation from season to season – typically no more than a degree Celsius. This means you won't find dramatic swings between summer and winter; the warmth is a constant companion. The surrounding ocean plays a significant role in moderating temperatures, keeping them within a comfortable range, generally between 26°C and 32°C (79°F and 90°F).

While temperatures remain relatively stable, rainfall in Kiribati is more variable, both seasonally and from year to year. The country experiences two main seasons: the wet season and the dry season. The timing of these seasons can differ slightly depending on the island group, influenced by the movement of large weather systems like the

Intertropical Convergence Zone (ITCZ) and the South Pacific Convergence Zone (SPCZ). These convergence zones are essentially bands of low pressure where winds meet, causing air to rise and leading to significant rainfall.

In the western Gilbert Islands, including the capital Tarawa, the wet season generally runs from November to April, with the heaviest rainfall occurring from January to March. The dry season in this region is from June to November, with October typically being the driest month. Further east, on islands like Kiritimati in the Line Islands, the wet season shifts to January through June. The average annual rainfall in Kiribati is around 2,100 mm in Tarawa, but this can vary dramatically across the archipelago and from one year to the next.

The amount of rainfall an island receives is crucial, as freshwater is a precious resource on these low-lying atolls. The porous coral and sandy soils mean that rainwater quickly seeps away, and there are virtually no surface freshwater sources. The availability of freshwater is directly linked to rainfall and the thin layer of fresh groundwater that sits atop the denser saltwater, known as the freshwater lens. Periods of drought, often associated with La Niña events, can be severe, impacting water supplies and vegetation.

The El Niño-Southern Oscillation (ENSO) is a major climate pattern that significantly influences Kiribati's weather from year to year. El Niño events tend to bring wetter and warmer conditions, while La Niña is often associated with drought. This natural variability in rainfall poses a challenge for agriculture and freshwater management across the islands.

Given its geography and climate, Kiribati is particularly vulnerable to the impacts of climate change. Rising sea levels, driven by global warming, are a major concern, threatening to inundate low-lying areas, increase coastal erosion, and contaminate freshwater lenses with saltwater. Changes in rainfall patterns and the potential for more intense extreme weather events also add to the challenges faced by this island nation. Understanding these geographical and climatic realities is fundamental to appreciating the unique wildlife and fauna that call Kiribati home, and the conservation efforts required to protect them in a changing world.

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