Wildlife and Fauna of Bahrain

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Introduction

Bahrain, a small archipelago in the heart of the Arabian Gulf, harbors a wealth of natural diversity that belies its modest size and arid climate. Nestled between the Arabian Peninsula and the Gulf's expansive waters, Bahrain serves as an ecological crossroads where land, sea, and sky converge to support a mosaic of unique habitats and species. While much of the landscape is dominated by desert and the realities of limited freshwater, this island nation surprises with pockets of vibrant life, from the delicate blossoms that emerge after desert rains to the bustling underwater cities of its coral reefs.

The interplay between Bahrain's environmental extremes has fostered an array of adaptations among its flora and fauna. From the heat-resistant sand gazelle roaming the dunes to the salt-tolerant mangroves that fringe its coasts, the wildlife of Bahrain tells a story of resilience, evolution, and coexistence in one of the world's most challenging climates. Traditional human activities, such as pearl diving and agriculture, have long shaped the land and its ecosystems, drawing on the nation's natural wealth while leaving lasting imprints on the environment.

Today, Bahrain's biodiversity possesses value that extends beyond mere curiosity. Its unique ecosystems support vital services—from fisheries that sustain livelihoods to wetlands that host multitudes of migratory birds. However, this natural heritage stands at a crucial crossroads, facing escalating pressures from rapid urban development, industrialization, and the relentless march of climate change. Natural springs that once nurtured lush palm groves now dwindle, and the expansion of city and sea alike threatens many of the country's most valuable habitats.

Amidst these challenges, Bahrain has taken meaningful steps to safeguard its environmental legacy. The establishment of the Al Areen Wildlife Park and multiple marine reserves reflects a growing recognition of the importance of conservation. National policies and international commitments underscore the country's resolve, while research and monitoring lay the groundwork for informed stewardship of both terrestrial and marine resources.

This book offers a comprehensive guide to the wildlife and fauna of Bahrain, exploring its landscapes, inhabitants, and the delicate ecological balances that sustain them. Through detailed chapters, readers will be introduced to the wonders of Bahrain's deserts, coasts, and seas, encountering iconic animals like the Arabian oryx, Socotra cormorant, and dugong, as well as the lesser-known yet equally intriguing insects, reptiles, and plants that share these habitats. The chapters ahead trace not only the richness of life in Bahrain, but also the ongoing efforts and urgent need to ensure its

persistence for future generations.

By shedding light on the Kingdom’s environmental treasures and the intricate web of life they support, this guide invites a deeper appreciation for Bahrain’s natural heritage. It encourages a renewed commitment to its protection, so that Bahrain may continue to thrive as an oasis of biodiversity in the Arabian Gulf.

CHAPTER ONE: The Geography and Climate of Bahrain

The Kingdom of Bahrain emerges from the shallow waters of the Arabian Gulf as a collection of islands, a subtle rise from the vast expanse of the sea between the prominent landmass of Saudi Arabia to the west and the assertive peninsula of Qatar to the east. Its very name, "Bahrain," is an Arabic term meaning "two seas," a poetic nod to the mix of fresh and saltwater springs found both beneath the islands and bubbling up in the surrounding marine environment – a phenomenon that historically contributed to the quality of its famed pearls. Situated roughly 24 kilometers (15 miles) off the Saudi coast and 28 kilometers (17 miles) from Qatar, Bahrain occupies a strategic position in a region defined by maritime trade and, in modern times, significant petroleum reserves. While it lies close to these larger neighbors, Bahrain maintains its distinct identity as an island nation.

The country is an archipelago, often cited as comprising 33 natural islands, though extensive land reclamation projects have increased the total number to significantly more, with some sources suggesting over 84 islands when accounting for artificial additions. At the heart of this island group lies Bahrain Island itself, the largest and most populated landmass, accounting for the vast majority of the kingdom's territory, around 78% to 83% of the total land area. This main island stretches approximately 48 kilometers (30 miles) from north to south and about 16 kilometers (10 miles) at its widest point from east to west.

Beyond the principal island, the archipelago includes several other islands of note. Muharraq Island, historically significant and home to the former capital, lies just northeast of Bahrain Island and is connected to it by causeways. Sitra, another substantial island, is located to the east and is also linked to the main island by a bridge. To the west of Bahrain Island lies Umm an Nasan, a privately owned island, while to the north are islands like Jidda Island and Umm as Sabaan. The Hawar Islands, a group situated near the coast of Qatar to the southeast, are particularly significant for their biodiversity and were the subject of a territorial dispute settled in Bahrain's favor in 2001. These islands, both natural and man-made, collectively form the geographic stage upon which Bahrain's diverse wildlife plays out its existence.

The topography of Bahrain is predominantly low-lying and generally flat, a characteristic desert plain that doesn't offer dramatic elevation changes across most of its surface. While much of the landscape is subtle, the land does rise gently towards the center of Bahrain Island, culminating in a low escarpment. This central elevated area is home to Jabal ad Dukhan, or the "Mountain of Smoke," which, at 134 or 135

meters (around 440 feet) above sea level, represents the highest point in the country. The name "Mountain of Smoke" is said to derive from the mists or dust haze that often gather around its summit, adding a touch of atmospheric mystery to an otherwise understated landscape. Outcroppings of limestone contribute to the varied, albeit gentle, terrain, forming low rolling hills, small cliffs, and shallow ravines in places.

Geologically, Bahrain's formation is linked to its position on the Arabian Shelf, near the edge of what was once the ancient Tethys Ocean geosynclinal belt, now represented by the Arabian Gulf. The islands are primarily composed of gently folded layers of sedimentary rocks, including limestones, sandstones, and marls, laid down during the Cretaceous, Paleogene, and Neogene periods, spanning a vast stretch of geological time from about 145 to 2.6 million years ago. The principal rocks exposed on the surface of Bahrain Island and the Hawar Islands largely date to the Eocene epoch. A prominent geological feature is the Bahrain anticline, a fold in the rock layers that is clearly visible in the rimrock encircling the central part of the main island. The porous nature of the Eocene limestone in the northern part of Bahrain Island has historically been crucial, as it is the source of many of the island's natural freshwater springs. These springs, some even bubbling up from the seabed, were vital for early settlement and the development of agriculture on the islands.

Moving from the solid ground beneath our feet to the air above, Bahrain's climate is best described as arid, falling under the BWh classification, indicative of a hot desert environment. This means the country experiences two primary seasons: a markedly hot and prolonged summer and a relatively mild and brief winter. This climatic pattern dictates the rhythms of life for both humans and wildlife across the islands.

The summer season typically grips Bahrain from April through October. During these months, temperatures soar, often averaging around 40°C (104°F) in the afternoons and frequently exceeding this. The mercury can climb even higher, sometimes reaching 46°C (114.8°F) or more during the peak months of May, June, and July. This intense heat is often accompanied by high humidity, especially in coastal areas and at night, creating conditions that can feel particularly oppressive and uncomfortable. The shallow nature of the surrounding Gulf waters means they heat up quickly in the summer, contributing significantly to the high humidity. During the summer, a hot and dry southwest wind, known locally as the *qaws*, can occasionally blow across the islands, sometimes carrying sand and dust, particularly affecting the southern desert areas.

In stark contrast, Bahrain's winter arrives from November to March, offering a welcome respite from the intense heat. Temperatures during these months are considerably milder, generally ranging between 10°C and 20°C (50°F and 68°F). While much more pleasant for outdoor activities, humidity levels can remain quite high, sometimes rising above 90% during this season, especially in the mornings. The prevailing wind during winter is often the *shamal*, a northwesterly wind that brings

cooler, sometimes damp, air across the islands. This wind can also occasionally stir up dust, leading to reduced visibility.

Rainfall in Bahrain is a relatively rare event, a fact that profoundly shapes the terrestrial environment. The country receives very little precipitation throughout the year, with the average annual rainfall typically less than 80 millimeters (about 3 inches). What little rain does fall is mostly concentrated in the winter months, from November to March. These rains often occur as brief, torrential downpours rather than prolonged periods of steady precipitation. While these downpours can sometimes flood the shallow, dry riverbeds known as wadis, little of this rainwater is effectively captured for irrigation or drinking water, highlighting the scarcity of this vital resource. Consequently, there are no permanent rivers or streams flowing across the islands.

Humidity is a significant factor in Bahrain's climate, influencing how the temperatures are perceived throughout the year. While it can drop to relatively low levels in the hottest summer months, particularly in July, the combination of high temperatures and even moderate humidity can feel quite oppressive. As the year progresses, humidity levels tend to increase, peaking in the later autumn and winter months. Coastal areas, as one might expect, experience higher humidity levels than inland regions. This high humidity, particularly noticeable during the winter, can make even milder temperatures feel cooler than they are and contributes to the occasional formation of mist or fog.

Wind patterns also play a role in shaping the climate and environment. The *shamal* wind, a northwesterly breeze, is prevalent throughout the year but is particularly notable in the summer months when it can bring some relief from the heat, though it is also responsible for transporting dust from the deserts of Iraq and Saudi Arabia. The *qaws*, the less frequent hot and dry southwesterly wind, can significantly raise temperatures and decrease humidity when it blows, sometimes causing sandstorms. These winds influence not only the human experience but also play a role in shaping the landscape through erosion and affecting the distribution of airborne particles, which can impact vegetation and air quality.

The waters surrounding Bahrain, part of the Arabian Gulf, are relatively shallow, especially in the Gulf of Bahrain inlet. This shallowness means the sea temperature fluctuates significantly with the seasons, heating up considerably in the summer and becoming cooler in winter. Average water temperatures can exceed 30°C (86°F) in the summer, sometimes reaching around 33°C (91°F) or higher, while dropping to around 18°C (64°F) in the winter. The salinity of the water also varies across the region. The northern parts of Bahrain's waters are more connected to the open Gulf, while the southern areas, particularly the Gulf of Salwa, are more restricted, leading to higher salinity and temperature in these enclosed waters. These variations in water temperature and salinity are critical environmental factors that shape the marine ecosystems and the types of species that can thrive in different areas.

In recent decades, like many parts of the world, Bahrain's climate has shown signs of change. Data indicates an overall increase in annual average temperatures. This trend, coupled with the arid nature of the climate, raises concerns about increased frequency of extreme heat events, potential droughts, and continued pressure on already scarce freshwater resources. Rising sea levels, a consequence of global climate change, also pose a significant threat to this low-lying island nation, potentially impacting coastal habitats and infrastructure. These climatic realities provide the fundamental environmental context for the wildlife and fauna that call Bahrain home, presenting both challenges and unique conditions to which species must adapt.

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