

Chapter 1

An ecological, socio-economic and conservation overview of Northwestern Guinea

Heather E. Wright and Jennifer McCullough

INTRODUCTION

Originally, the Upper Guinea Forest ecosystem is estimated to have covered approximately 420,000 km², but centuries of human activity have resulted in a loss of more than 70% of the original forest cover (Bakarr et al. 2001). This forest ecosystem extends from Guinea into Sierra Leone and eastward through Liberia, Côte d'Ivoire and Ghana into western Togo. In addition to its high concentration of biodiversity, the Upper Guinea Forest provides West Africa with essential ecosystem services, including regulation and maintenance of air quality, contributions to the formation of rainfall and other weather patterns, storage of carbon dioxide, and prevention of soil erosion. The remaining Upper Guinea Forest is highly fragmented and restricted to a number of isolated patches acting as refugia for the region's unique species of flora and fauna. Though fragmented, these remaining forest 'islands' contain exceptionally diverse biological communities, distinctive flora and fauna (including endemic species) and a mosaic of habitat types.

Adjacent to the Upper Guinea Forest ecosystem, the Guinean mangroves are part of a stretch of mangrove forest that extends intermittently along the West African coast from Senegal to Nigeria and Cameroon, forming bands as wide as 50 km in some places and extending far inland along many rivers. Guinean mangroves, influenced by a large tidal range and high inputs of freshwater, contain stands that are more than 25 m in height and extend as far as 160 km inland. The West African coast has the most extensive mangroves in Africa with the best-developed areas being found in Guinea and Guinea-Bissau (Hughes and Hughes 1992). As the best developed mangroves in western Africa, the Guinean mangrove zone provides important habitat for migratory birds and endangered species such as the West African manatee and the pygmy hippopotamus (WWF 2004) as well as critical habitat for a wide variety of fishes and invertebrates.

The underlying causes of biodiversity loss in the Upper Guinea Forest and adjacent coastal and marine ecosystems include extreme poverty, growing human population densities and weak environmental governance (Bakarr et al. 2001). The Guinean mangrove habitat has been affected by poor rainfall over the entire region during the past three decades. Despite the importance of this region for mangroves, relatively few are protected although the Parc National Delta du Saloum was created specifically to protect mangroves in Senegal, and Guinea has begun to develop a mangrove management program (CEC 1992).

Guinea's various ecosystems have not been well studied and the associated biodiversity is poorly documented. While the Upper Guinea Forest harbors a unique assemblage of ecosystems, it also holds significant geological wealth, including one third of the global bauxite reserves and large reserves of iron, diamonds, gold, uranium, and limestone (GEF 2004). Guinea is the world's second largest bauxite producer. Biological data are needed to determine how to best safeguard these natural resources to the advantage of local communities and regional biodiversity.