

ECOSYSTEM SERVICES IN THE LAKE BOSOMTWE BIOSPHERE RESERVE

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INTRODUCTION

- Lake Bosomtwe is the largest natural Lake in West Africa and is the only natural Lake in Ghana
- It is located in the west central part of Ghana's Ashanti Region, 35 km south-east of Kumasi — Ghana's second Largest city
- The lake, with a rim diameter of about 10.5 km and a maximum depth of 78m, can be described as a closed hydrological basin



- Meteorite impact - 1.3 million years ago
- Total Surface Area – 28,699ha
- UNESCO BR -2016, 3rd in Ghana
- 22 Fringe Communities – 50,000
- Farming and Fishing
- Collaborative System of Management

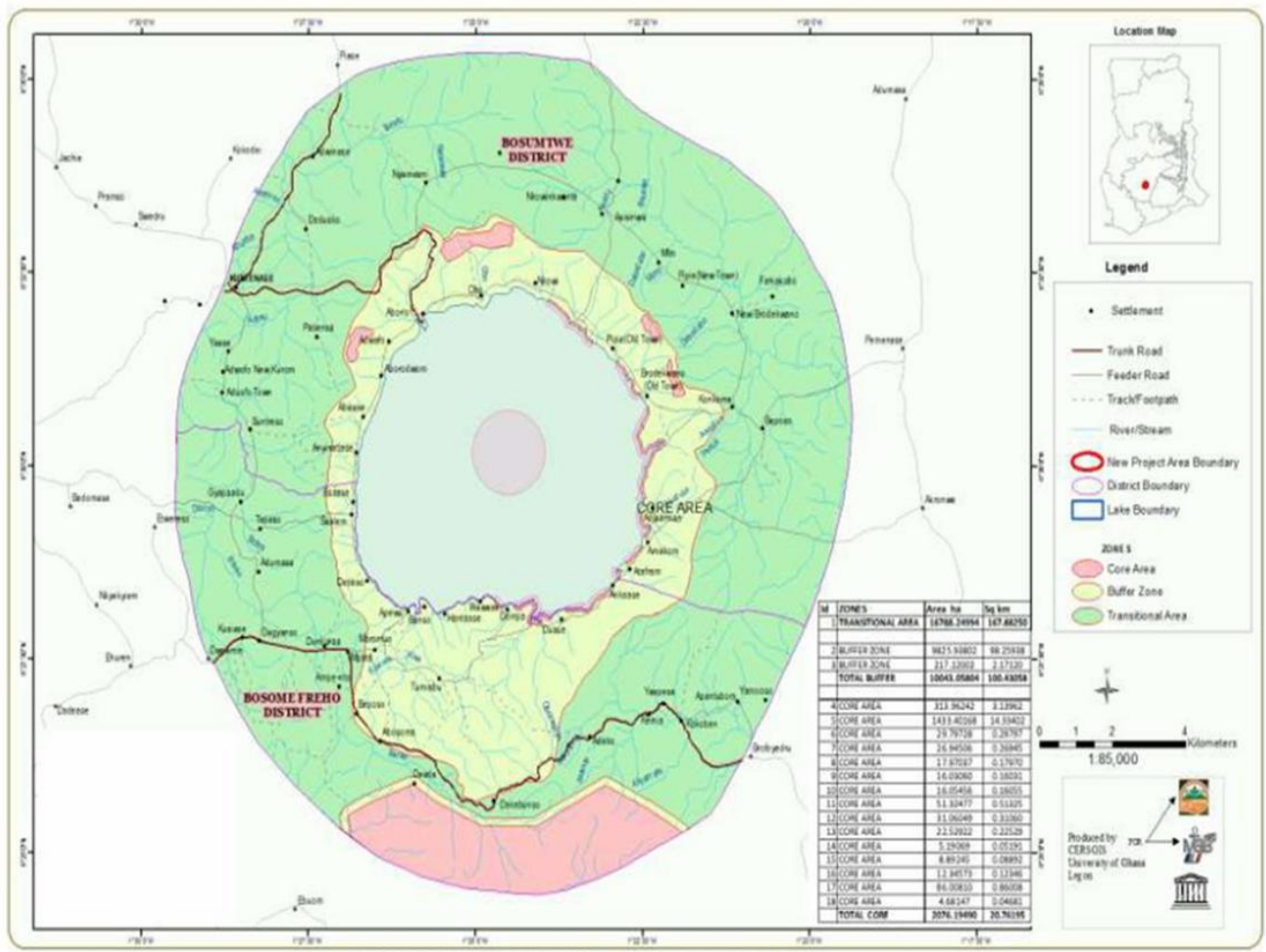


- Falls within two District Assemblies (BDA and BFDA)
- Designated as Lake Bosomtwe Community Resource Management Area (CREMA)
- Category V - IUCN system of protected area classification, appropriately called Protected Landscape
- A CREMA is “a geographically defined area which is endowed with sufficient natural resources, and the communities have organized themselves for the purpose of sustainable natural resource management.”



Ghana Showing Location of Lake Bosomtwe





ZONATION MAP OF THE LAKE BOSUMTWE STUDY AREA

LBBR has *three* Zones:

1. Core,
2. Buffer and
3. Transition.



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KEY FEATURES

- The Biosphere reserve is located in the deciduous forest zone of Ghana consisting of a mixture of three basic types of ecosystems: forests, wetlands and mountains.

Forest Ecosystem

- Bosomtwe Range Forest Reserve - endemics
- Scarlet Star species, Red Star species, Pink Star species and Green Star species (*Khaya ivorensis* and *Triplochiton scleroxylon*).
- The forest also hosts various species of butterflies, reptiles, amphibians, birds and mammals of conservation interests



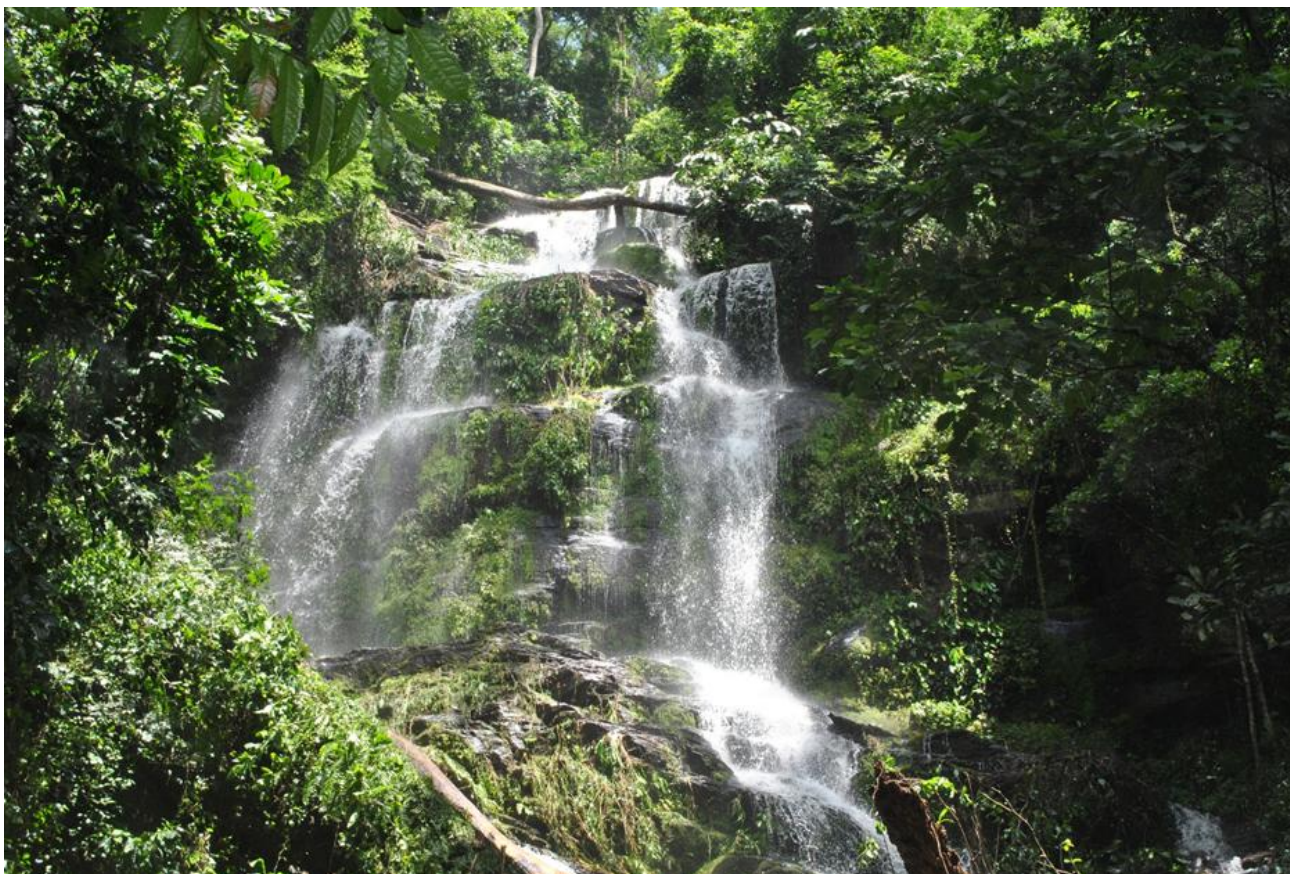
Wetland Ecosystem

- Only natural lake in Ghana and one of six meteoritic lakes in the world
- Home to the endemics *Hemichromis frempongi*, *Tilapia discolor* and *Tilapia busumana* – Vulnerable (IUCN)
- Abrewa Stream – Sacred Grove



Mountain Ecosystem

- The Bosomtwe Range constitutes a vital system, which influences the hydrology, climate and geology of the area. The mountains have the forest reserve hosting a significant number of endemic species.



ABREWA WATERFALL



STRONG CULTURAL PRESENCE



TRADITIONAL FISHING METHODS

MANAGEMENT OF THE LBBR & ECOSYSTEM SERVICES

- Collaborative system of Management and the CREMA Approach
- Management plan for the BR, Bye-Laws & The Ghana Action Plan for Implementation of UNESCO MAB Programme
- Examples;
- Development of sustainable ecotourism
- Promoting and documenting Research in the BR
- Improving the quality and quantity of Ecosystem Services in the BR
- Promoting programs targeted at improving the ecological, economic and cultural values of the BR
- Implement mechanisms for equitable payment for ecosystem services



EXAMPLES FROM THE BYE-LAWS

Within the Lake, no person shall at any time;

- Fish with under-size nets (size below 50mm) as prescribed by the Fisheries Commission Act
- Catch juvenile fish for any purpose
- Wash cloths or cooking utensils in the lake
- Bath with soap in the lake, however recreational swimming is permitted
- Catch juvenile fish within the core area in the lake
- Pollute any water in the Biosphere Reserve.
- Use chemicals, poison or explosives for fishing in the lake.



Outside the lake, no person shall at any time

- Hunt, capture or destroy any animals within areas designated as core zones.
- Dump refuse close (within 100 meters) to the banks of the lake or along water ways to the lake.
- Hunt during the close season(1st August – 1st December).
- Undertake illegal mining popularly known as “galamsey”.
- Fell trees along banks of lake.
- Burn bush along banks of lake.
- Erect new structures within 60 meters from the banks of the lake.



CHALLENGES

- Compliance with Laws and Regulations – CREMA Bye-Laws, Buffer Zone Policy, Water Use Regulations, Environmental Laws
- Overexploitation and degradation of available resources
- Inadequate Ecotourism Structures that give direct benefits to the communities
- Sustaining awareness creation
- Financing CREMA Activities



NEEDS

- Continuous Awareness Raising
- Proper enforcement of Laws – control overexploitation
- Develop Infrastructures to promote sustainable Ecotourism
- Placing more economic value on the resources in the reserve
- Ensuring the communities get more social and economic benefits from the BR



THANK YOU

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