



▶ GESTION FORETS DE MANGROVE DU SENEGAL AU BENIN

COMITE DE PILOTAGE N°3

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THE STATUS OF MANGROVE ECOLOGY IN THE YAWRI BAY SIERRA LEONE

RESULT OF ECOLOGICAL AND BIODIVERSITY SURVEY

PLAN DE PRESENTATION

1. INTRODUCTION
2. OBJECTIVES
3. METHODS USED IN THE STUDY
4. RESULTS
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INTRODUCTION

Funding source: **PAPBio (Wetlands International)**
Amount of funds: **40,000 Euros**
Implementers: **Institute of Marine Biology and Oceanography, Fourah Bay College, University of Sierra Leone**
Project Manager: **Komba Konoyima**

Presentation by Dr. Arnold Okoni-Williams on behalf of the project manager

Objective of the study

- To evaluate and better understand the status of the biodiversity of the mangrove ecosystem in the Yawri Bay
- To provide the basis for education and awareness among local communities, government and other stakeholder on the need to develop robust management system for the bay





INTRODUCTION



SENEGAL, GAMBIE, GUINEE-BISSAU, GUINEE, SIERRA LEONE, LIBERIA, GHANA, TOGO, BENIN



INTRODUCTION The Yawri Bay

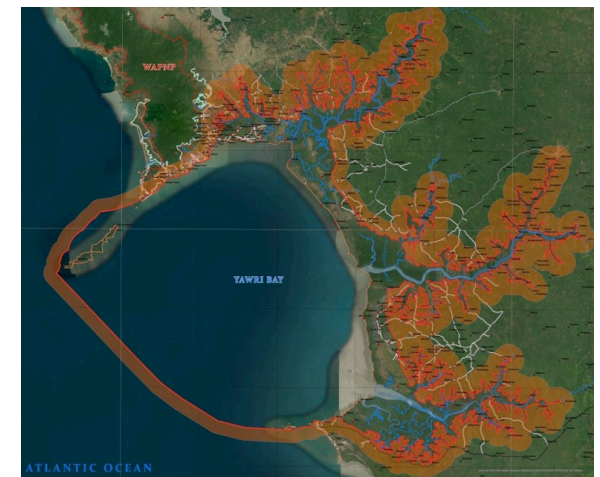
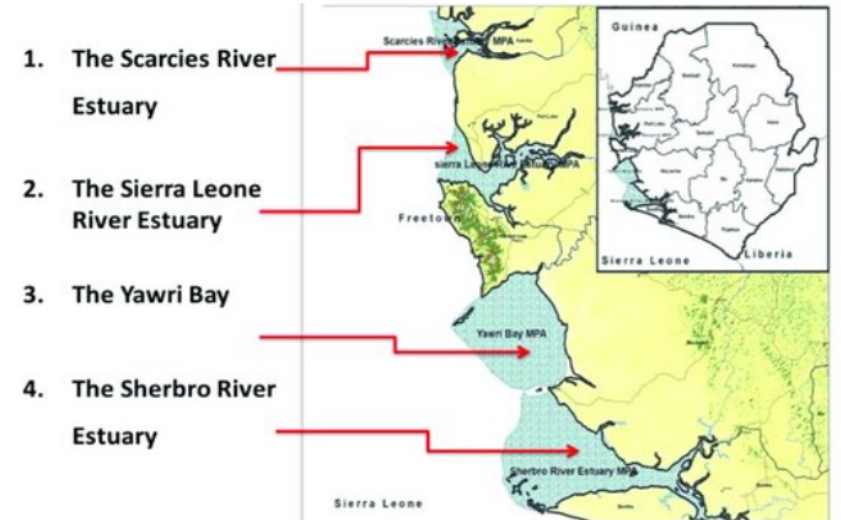
Location – west southwestern Sierra Leone

Legal status – Marine Protected Area

Administrative body – The National Protected Area Authority and the Ministry of Fisheries & Marine Resources

Management Status – A Management Plan prepared in 2021 by Conservation Society of Sierra Leone

International Status – An Important Bird Area, Proposed Ramsar site





METHODOLOGY

- Review of existing literature
- Actual field surveys and sampling
 - Vegetation
 - Other flora
 - Fauna – invertebrates, fish, reptiles, birds mammals
- Socio-economic and cultural assessment



Results

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MANGROVE STATUS

- Mangrove cover – 29,202 ha (Chong 1987); 24,505 ha (Tzarkat et al, 2017) accounting for 14.8% of the mangrove estate in Sierra Leone
- Mangrove Diversity – six (6) species of three (3) Families

Family	Species	Distribution
Avicenniaceae ~ 50%	<i>Avicennia africana</i>	Widespread and very common, mainly proximate to the shoreline
Rhizophoraceae ~ 35%	<i>Rhizophora racemose</i>	Widespread and very common among the shoreline
	<i>Rhizophora mangle</i>	Widespread and very common among the shoreline
	<i>Rhizophora harrisonii</i>	Not widespread (found at Ribbi and Kargbo creeks)
Combretaceae ~ 15%	<i>Laguncularia racemosa</i>	Widespread, but in not common, mostly in the interior
	<i>Conocarpus erectus</i>	Widespread, but common and found in the interior



Results

FISH DIVERSITY - over 150 species of fish, of both demersal and pelagic stocks, 12 of which are of globally conservation concerns, including two critically endangered, six vulnerable, three near threatened and one data deficient.

English name	Local name	Scientific names	IUCN Status
Common Guitarfish	Shobel nose	<i>Rhinobatos rhinobatos</i>	CR
Smalltooth Sawfish	Sawfish	<i>Pristis pectinata</i>	CR
Royal threadfin	Beard	<i>Pentanemus quinquarius</i>	VU
<u>Madeiran sardinella</u>	Herring	<i>Sardinella maderiensis.</i>	VU
Atlantic horse mackerel	Pollock	<i>Trachurus trachurus</i>	VU
Marlins or Atlantic sailfish	Sailfish	<i>Istiophorus platypterus</i>	VU
Grey triggerfish	Sea fowl	<i>Balistes capriscus</i>	VU
Common dentex	Snapper (red)	<i>Dentex dentex</i>	VU
Bigeye grunt	Big yaye fish	<i>Brachydeuterus auritus</i>	NT
Guinea tonguesole	Sole	<i>Cynoglossus monodi.</i>	NT
Bonefish	Tenny	<i>Albula vulpes</i>	NT
Red Snapper	Snapper	<i>Lutjanus agennes</i>	DD



Results

- The bay support about 70 species of rocky shores and edge fauna (e.g. limpets, cockles, oysters and barnacles). Those shown in the photos have high economic value, including oysters (not shown)

<p><i>Triplofusus giganteus</i> (Horse cronch) Family - <u>Faciolaridae</u></p>		<p><i>Macrobrachium vollenhoveni</i> African River prawn Family - <u>Palaemonidae</u></p>	
<p><i>Senilia senilis</i> (Clam) Family - <u>Veneridae</u></p>		<p><i>Penaeus notialis</i> Pink shrimp prawn Family - <u>Penaeidae</u></p>	
<p><i>Lissochlamys</i> sp (Scallop) Family - <u>Pectinidae</u></p>		<p><i>Penaeus monodon</i> Tiger shrimp Family - <u>Penaeidae</u></p>	
<p><i>Cerastoderma edule</i> Cockle Family - <u>Cardiidae</u></p>		<p><i>Callinectes marginatus</i> Sharptooth swimcrab Family - <u>Portunidae</u></p>	



Results

- **TURTLES** – 4 Species of Marine Turtles, 2 species of freshwater turtles – all of global conservation concern

Common name	Scientific name	IUCN Status	Habitat
Green Turtle	<i>Chelonia mydas</i>	Endangered	Marine
Olive ridley	<i>Lepidochelys olivacea</i>	Vulnerable	Marine
Loggerhead	<i>Caretta caretta</i>	Vulnerable	Marine
Leatherback	<i>Dermochelys coriacea</i>	Vulnerable	Marine
African softshell turtle	<i>Trionyx triunguis</i>	Vulnerable	Freshwater
Senegal flapshell turtle	<i>Cyclanorbis senegalensis</i>	Near Threatened	Freshwater



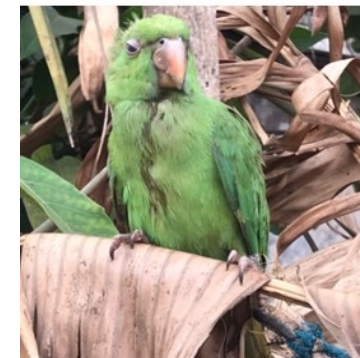
Results

AVIFAUNA

- There are 219 species of birds,
- 82 species of migratory birds (33 Afrotropical and 49 Palearctic species) – three near threatened: bar-tailed Godwit, black-tailed godwit and lesser flamingo
- 137 Passerine species two (2) of which are threatened species [*Necrosytes monochas* (CR) and *Psittacus timneh* (VU)].

Populations of IBA trigger species 2019 assessment

Species	Current IUCN Red List Category	Season	Population at site (no. of individuals)	IBA criteria triggered
Timneh Parrot <i>Psittacus timneh</i>	EN	resident	4 (update higher)	A1
Lesser Flamingo <i>Phoeniconaias minor</i>	NT	non-breeding	26-37	B1a
Eurasian Curlew <i>Numenius arquata</i>	NT	winter	139-535	B1a
Eurasian Oystercatcher <i>Haematopus ostralegus</i>	NT	winter	60-111	B1a
Bar-tailed Godwit <i>Limosa lapponica</i>	NT	winter	723-1,354	B1a
Black-tailed Godwit <i>Limosa limosa</i>	NT	winter	391-1,147	B1a
Red Knot <i>Calidris canutus</i>	NT	winter	26-108	B1a
Curlew Sandpiper <i>Calidris ferruginea</i>	NT	winter	1,684-4,023	B1a





Results

MAMMALIAN DIVERSITY –

- Twenty-one (21) species of mammals
- Two (2) threatened primates species and one threatened marine mammal

Common Name/Family	Scientific Name	IUCN	Habitat
Homonidae			
Chimpanzee	<i>Pan troglodytes</i>	CR	Gallery forests
Cercopithecidae			
Sooty Mangabey	<i>Cercocebus atys</i>	VU	Gallery forest
Trichechidae			
West African Manatee	<i>Trichechus senegalensis</i>	VU	Marine and Estuarine waters





Results

Threats to the biodiversity of the Yawri Bay

- Mangrove cutting for provision of wood for fish preservation and domestic energy needs
- Mangrove clearing to provide farmlands for rice cultivation – rice is the staple food and supports the fishing activities.
- Overfishing – the problem of unsustainable and unregulated fishing), particularly with the use of unsuitable size of nets. The bay supports the two largest fishing settlements in Sierra Leone providing livelihood for nearly 100,000 people
- Sea level rise suspected to be caused by climate change is increasing coastal erosion and destruction of coastal habitats





Recommendations

- Encourage increased local community involvement in mangrove restoration
- Intesify education and awareness among local communities, traditional leaders and government agencies
- **Promote innovations into alternative sources of livelihood in coastal communities especially on non-destructive mangrove based production of economic resources, based on experiences and lessons learnt from other countries**

