



Seli Hydropower

Biodiversity Action Plan (BAP)

October 2020

Agenda

- 1. Background to biodiversity planning**
- 2. Overall structure of the BAP**
- 3. Offset Strategy**
- 4. Next steps**
- 5. Questions / clarifications on BAP document**



Several documents support the development of the BAP

Document	Purpose of the document
Biodiversity strategy	▶ To outline the Projects overarching goals, principles and approaches to achieving net gain for Critical Habitat and no net loss for Natural Habitat (a high-level document developed prior to this BAP)
Critical Habitat assessment	▶ To identify Natural Habitat and Critical Habitat-qualifying biodiversity associated with the Project as per the guidance notes of the IFC Performance Standard 6 from 2012 (IFC 2012a).
Risk-based prioritisation report	▶ To identify priority biodiversity from the suite of Critical Habitat-qualifying biodiversity to be a focus of mitigation and monitoring actions for the Project
Residual impact assessment	▶ To quantify the residual direct and indirect impacts of the Project, after the application of mitigation actions, and enable offset planning
Offset strategy	▶ To identify the suite of offset sites and actions required to enable the Project to achieve no net loss and net gain goals
Bumbuna I legacy memo	▶ To summarise the lessons learnt from the development and implementation of mitigation and offset actions for BBI for Bumbuna II (the Project).

Recent and forthcoming developments

- ▶ Lender's due diligence concluded the biodiversity work including the 2017 Critical Habitat Assessment is of high quality
- ▶ Forthcoming:
 - BMEP (Biodiversity Monitoring and Evaluation Plan)
 - Biodiversity Offset Plan, with clear and implementable actions, timescale, responsibilities, funding mechanisms, long-term governance / management, agreements in principle with third parties etc

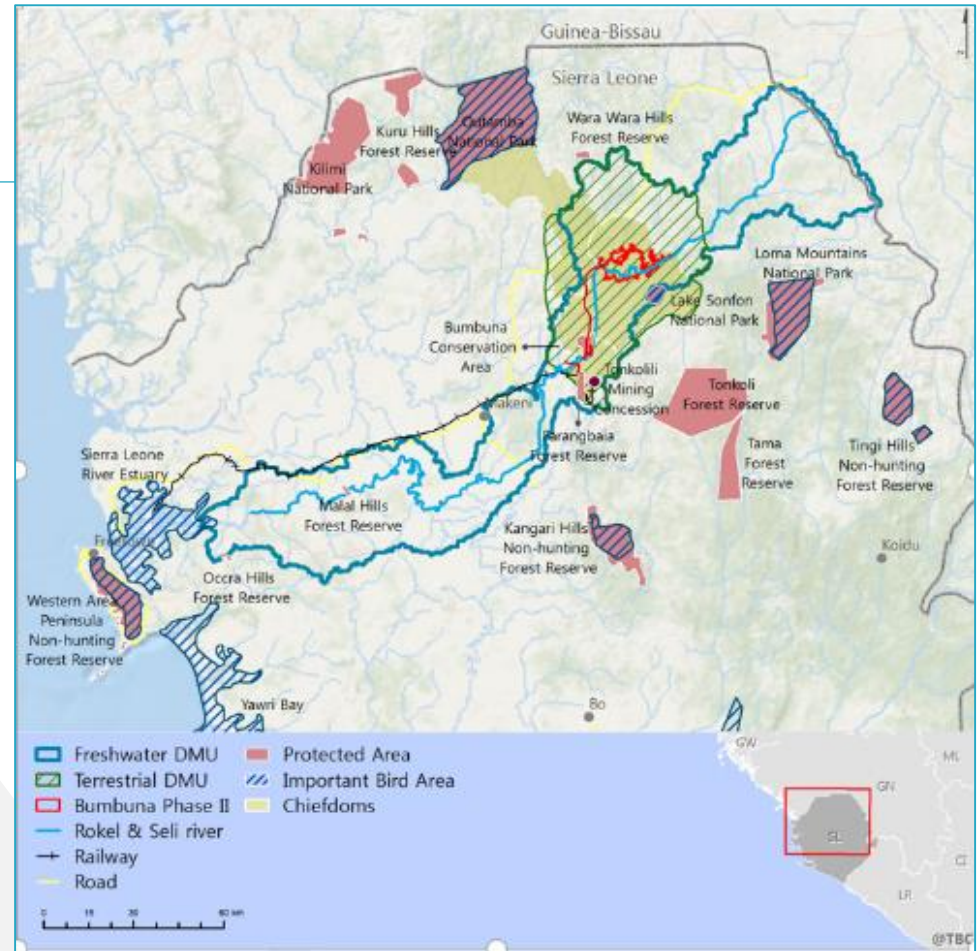
Context and Priorities

Critical Habitat Analysis was based on the definition of terrestrial and aquatic areas

Priorities for action:

Three species – the Western Chimpanzee, *Enteromius* (a fish species), and *Ledermanniella yiben*

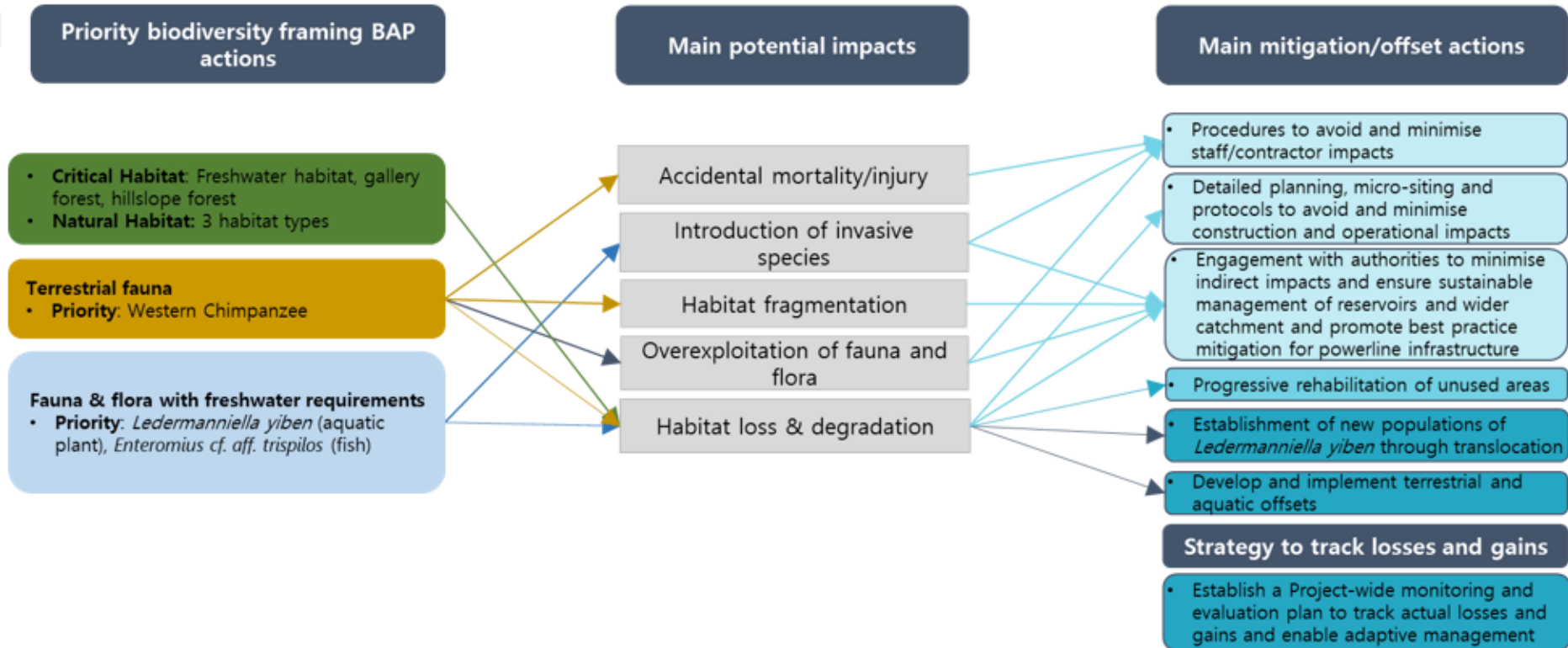
Three habitats - freshwater habitats, gallery forest, and hill slope forest



Action Categories

Action Category (AC)	Priority biodiversity	Mitigation and monitoring approach
AC 1 - High priority for habitat mitigation and/or species-specific measures	Western Chimpanzee (<i>Pan troglodytes verus</i>)	Highest priority for both species-specific and habitat-focused mitigation and offset actions in order to achieve net gain (offset targets)
	<i>Ledermaniella yiben</i>	
	<i>Enteromius</i> cf. aff. <i>trispilos</i> , <i>Chiloglanis</i> sp. OTU3	
	Galley forest, hillslope forest and freshwater habitat	
	Bumbuna Conservation Area	
AC 2 - Contingency planning	No significant impacts likely but would be significant if they occur. Implement good-practice mitigation at a broad level. If impacts are detected, elevate to Category 1 and develop species-specific measures.	
AC 3 - General habitat mitigation measures	Non-significant impacts anticipated. Implement good-practice, tailored habitat mitigation. Use habitat or, if necessary, species-specific monitoring to check scale of impact. If monitoring suggests significant impacts are likely, elevate to Category 1.	
AC 4 - Remain aware	No significant impacts likely. Implement good-practice mitigation at a broad level. Use habitat monitoring as a proxy to check scale of impact.	

Mitigation measures in the BAP are being developed for the priority biodiversity



What does the BAP contain?

Introduction

- Project description
- Purpose and scope
- Biodiversity management within Seli Hydropower
- Stakeholder engagement during BAP development
- Documents supporting the BAP

Biodiversity context

- Critical Habitat-qualifying biodiversity

Summary of potential impacts and mitigation overview

- Technical rationale for mitigation actions

General mitigation actions

Species-specific actions

Residual impact assessment

Offset strategy

Monitoring and evaluation strategy

- Thresholds and adaptive management
- *Ledermanniella yiben* monitoring

General Management Actions (GMAs)

Procedures to avoid and minimise staff/contractor impacts

GMA1	<u>Avoidance through staff and contractor awareness</u> Ensure staff and contractors abide by procedures to prevent biodiversity impacts
GMA2	<u>Avoidance and minimisation through implementation of construction and operational protocols, detailed planning and micro-siting</u> Ensure staff and contractors comply with construction and operational protocols to avoid and minimise biodiversity impacts

Engagement with authorities to reduce indirect impacts

GMA3	<u>Minimisation through negotiated and agreed actions with stakeholders including communities, Chieftom authorities, local and regional Government authorities</u> Ensure indirect impact risks to biodiversity are addressed in social management plans and third-party management plans
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General Management Actions (continued)

Progressive rehabilitation of unused areas

GMA4 Rehabilitate areas disturbed during construction

Undertake technical and biological rehabilitation to enable the natural restoration process based on effective techniques

Adaptive management of mitigation and offset actions

GMA5 Track and adaptively manage progress towards no net loss and net gain targets

Develop and implement an overarching biodiversity monitoring and evaluation plan to track losses and gains and enable adaptive management

Species-specific Actions

Ledermanniella yiben

SSA1	<p><u>Search for and secure new wild populations of <i>Ledermanniella yiben</i></u></p> <p>Undertake further surveys in priority sites that have the potential to support the growth of <i>Ledermanniella yiben</i></p>
SSA2	<p><u>Establish and maintain a mini seed bank in Sierra Leone and build capacity of national botanists to store and manage seeds of rare species, including <i>Ledermanniella yiben</i></u></p>
SSA3	<p><u>Establish new locations of <i>Ledermanniella yiben</i> through translocation (assisted colonisation)</u></p>
SSA4	<p><u>Monitor translocation sites to meet completion criteria</u></p> <p>Track changes to translocated populations to identify if completion criteria for a self-sustaining population are met</p>
SSA5	<p><u>Trial ex-situ propagation</u></p> <p>Support Kew Gardens to trial the propagation and growth of <i>Ledermanniella yiben</i> seeds to provide an insurance mechanism if problems are encountered with translocation.</p>

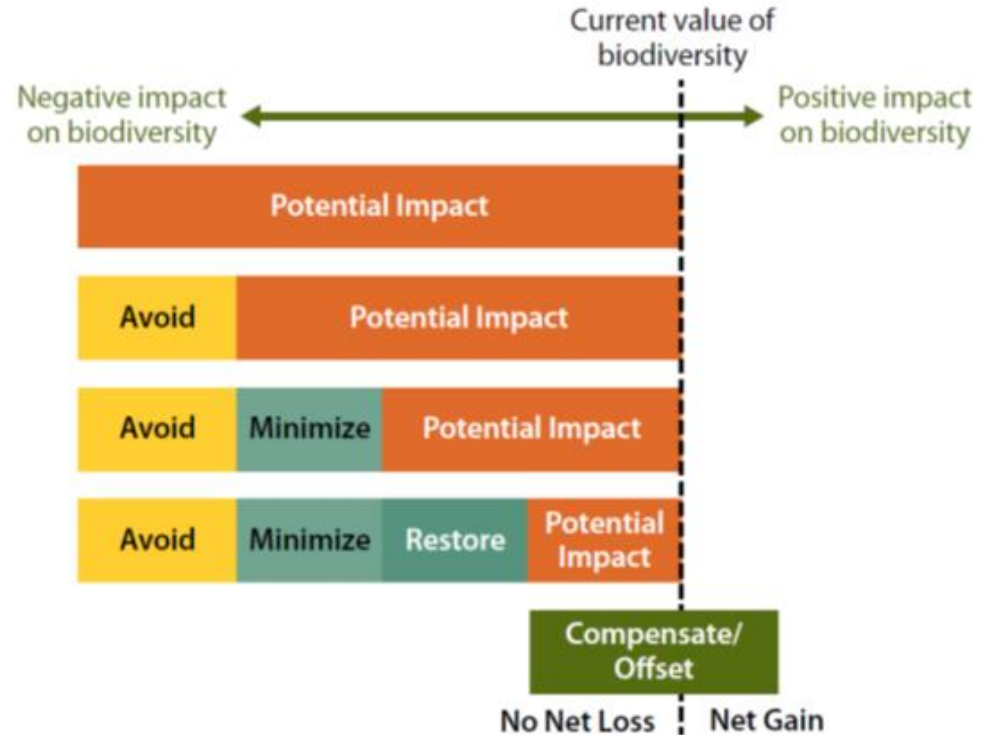
Species-specific Actions

Western Chimpanzee

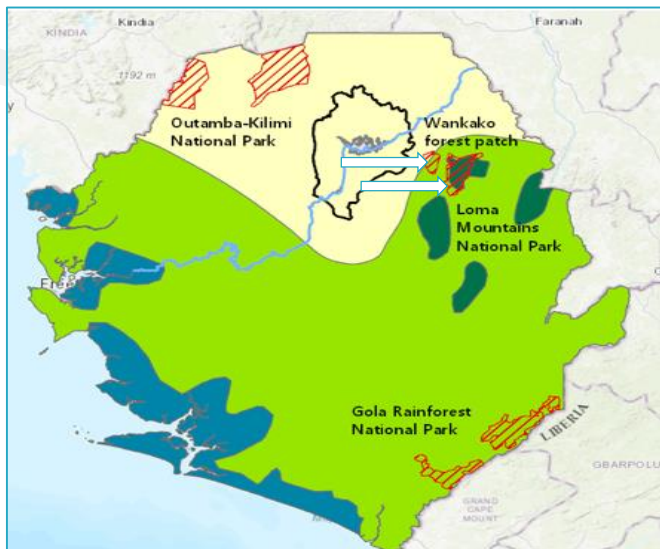
SSA6	<u>Ensure staff and contractor codes of conduct highlight requirements to avoid and minimise impacts to Western Chimpanzee (GMA1)</u>
SSA7	<u>Monitor chimpanzee communities in Important Sites for Biodiversity in the Project area of influence and implement adaptive management actions if threats increase (GMA3.1 and 3.2)</u>

Offset Principles

- Aim for an overall positive impact on biodiversity in the Project area, achieving a net gain for Critical Habitat qualifying biodiversity and no net loss of natural habitat.



Net gain planned for Critical terrestrial and aquatic habitat



Aquatic Offset

Target biodiversity	<ul style="list-style-type: none"> • 1 Critical Habitat (freshwater) • <i>Enteromius</i> sp. aff. <i>trispilos</i> (fish) 	<ul style="list-style-type: none"> • <i>Ledermanniella yiben</i> (plant)
Approach	Targeted sustainable development activities	Species-specific activities to translocate and protect locations

Aquatic Net Gain approach:

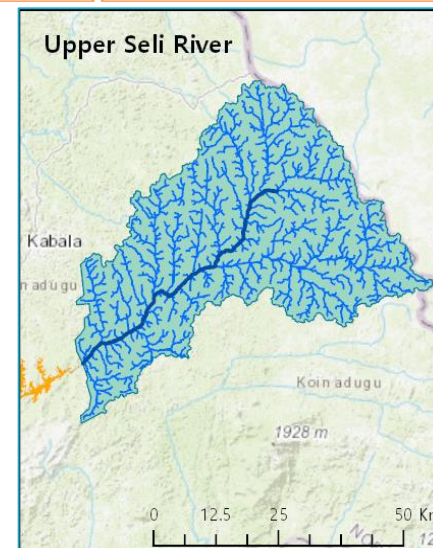
- ▶ Activities with artisanal miners to restore and maintain freshwater quality.
- ▶ Establish new populations of the river weed through translocation.

Terrestrial Net Gain approach:

- ▶ Conservation management activities to avert loss of forest habitat and species and restore degraded habitat.

Terrestrial Offset

Target biodiversity	<ul style="list-style-type: none"> • 2 Critical Habitats (gallery forest, hillslope forest) • 1 Natural Habitat (wooded savannah) • Western Chimpanzee 	
Approach	Site-based conservation management	Community-based conservation management



Offset Requirements

Table 1: Summary of estimated residual impacts

Biodiversity	Direct impacts		Indirect impact	TOTAL
	Footprint	Resettlement	Influx	
Terrestrial Critical Habitat	1,659 ha	446 ha	1,705 ha	3,800 ha**
Terrestrial Natural Habitat	1,584 ha	406 ha	1,552 ha	3,550 ha**
Freshwater Critical Habitat (also used as a proxy for <i>Enteromius sp. aff. trispilos</i> and <i>Chiloglanis sp. OTU3</i>)	39 km of main stem 123 km of tributaries	Not yet known*	Not yet known*	> 39 km of main stem > 123 km of tributaries
Western Chimpanzee	~25 individuals ²	4 to 9 individuals	15 to 36 individuals	44 to 70 individuals
<i>Ledermanniella yiben</i>	c. 250 m ²			c. 250 m ²

* Impacts of resettlement and in-migration on freshwater habitats cannot yet be estimated as the locations of these activities are not yet known.

Two Steps Applied

1. Desk-top screening: Identification of a short-list of potential offset sites that can theoretically meet Project offset targets
2. Engagement with Government: Selection of the sites from the short-list that align with national conservation priorities.

Two area have **provisionally** been selected for Bumbuna II offset (subject to regulatory approval)



Separate strategy for *Ledermanniella yiben*



Plan A

Look for new populations
(Action 1)

Plan B

- Establish:
1. Ex-situ populations
 2. New wild populations