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ENVIRONMENTAL



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## Natural Habitats (SL) Oil Palm Concession

### HCV Assessment: Public Summary Report

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**Date:**

7<sup>th</sup> April 2016

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## COVER PAGE

HCV Assessment Details	
Date of Report:	7 <sup>th</sup> April 2016
Lead Assessor:	Philip Patton
Licence Type:	Provisional registration: ALS15041PP
Contact No.:	Tel: (011) 789 9495
Location of Assessment:	Zimmi town, Makpele Chiefdom, Sierra Leone
Organisation commissioning HCV Assessment	<p>Natural Habitats                      Organic Products Grown In a Sustainable Habitat                      Heemraadssingel 188, 3021 DM, Rotterdam                        The Netherlands                      M: +31-6-30 632 967  E: janhein@natural-habitats.com</p>
Size of Assessment Area:	41,218ha
Total Area Designated as HCVMA	25 293.13ha
Current Land Use of Assessment Area:	<p>Subsistence farming and oil palm.                      Planned oil palm plantation for Natural Habitats                      intended for RSPO certification.</p>
Certification Scheme:	RSPO NPP certification.
Tier Rating	<p>Tier 1</p> <p>A total of 25 293.13ha of HCV area was identified on site, including HCV1-6. It is recommended that 15925.32ha of shrubland (not HCV) remains as plantable area. The site is located adjacent to a protected area, namely the Gola Rainforest National Park and human settlements are present on site. Due to these factors, a peer review was conducted.</p>

## TABLE OF CONTENTS

1	Introduction .....	1
1.1	Description of assessment area .....	1
1.2	Assessment Team.....	4
2	Methods .....	5
2.1	Vegetation Survey and Ecosystem Services .....	6
2.2	Faunal Survey .....	6
2.2.1	<i>Avifauna</i> .....	7
2.2.2	<i>Mammals</i> .....	7
2.2.3	<i>Aquatic Ecology Assessment</i> .....	8
2.3	Stakeholder engagement .....	8
3	Findings.....	8
3.1	National, regional and landscape context .....	8
3.2	HCV outcomes .....	13
3.2.1	<i>HCV 1: Species diversity</i> .....	15
3.2.2	<i>HCV 2: Landscape-level ecosystems and mosaics</i> .....	18
3.2.3	<i>HCV 3: Ecosystems and habitats</i> .....	18
3.2.4	<i>HCV 4: Ecosystem services</i> .....	18
3.2.5	<i>HCV 5: Community needs</i> .....	18
3.2.6	<i>HCV 6: Cultural values</i> .....	19
3.2.7	<i>Stakeholder engagement</i> .....	19
4	HCV Management and Monitoring.....	19
4.1	Threat Assessment .....	19
4.2	Management and Monitoring.....	20
5	References.....	22

## LIST OF FIGURES

Figure 2-1: Regional locality.....	2
Figure 2-2: Local Setting .....	3
Figure 3-1: All HCV areas in the Natural Habitats Concession .....	14

## LIST OF TABLES

Table 1-1: HCV Project Team .....	4
Table 1-1: ESIA team.....	5
Table 2-1: Major events in assessment chronology.....	5
Table 3-1: HCV Areas in the Natural Habitats Concession Area .....	13
Table 3-2: Mammal Red Data Species.....	15
Table 3-3: Avifaunal Red Data Species.....	16
Table 3-4: Fish Red Data Species.....	16
Table 4-1: Main current threats to HCV identified in the project area.....	19

## 1 Introduction

Natural Habitats (SL) Ltd (hereafter Natural Habitats) has commissioned Digby Wells Environmental (hereafter Digby Wells) to conduct a High Conservation Value (HCV) assessment for the proposed concession area for an Oil Palm Project in the Makpele Chiefdom, Sierra Leone.

Natural Habitats is a sustainable producer of organic and fairly traded palm oil; who work with small farm holders in Equador and Sierra Leone. The contact person for Natural Habitats is the Country Manager at Natural Habitats Sierra Leone Ltd., Peter Pijpers: [peter@natural-habitats.com](mailto:peter@natural-habitats.com). Natural Habitats intend to apply for certification with the Roundtable of Sustainable Palm Oil (RSPO) New Planting Procedure (NPP).

The field investigations for the HCV assessment took place from the 19<sup>th</sup> to the 23<sup>rd</sup> of November 2015, following a screening assessment on the 19<sup>th</sup> to the 21<sup>st</sup> of October 2015. Additional information was obtained from the Environmental and Social Impacts Assessment (ESIA), compiled by Integems (2016).

The following reference documents were used to identify HCV areas:

- Brown, E., N. Dudley, A. Lindhe, D.R. Muhtaman, C. Stewart, and T. Synnott (eds.). 2013 (October). Common guidance for the identification of High Conservation Values. HCV Resource Network.
- HCV Resource Network 2015. Accessed at: <https://www.hcvnetwork.org/about-hcvf-on-2016-04-07> at 12:36pm SATZ.
- ZSL, 2011. A Practical Handbook for Conserving High Conservation Value (HCV) Species and Habitats within Oil Palm Landscapes in West and Central Africa

## 1.1 Description of assessment area

Natural Habitats has acquired a land lease concession for 99 years (the land lease is 50 years with an option to extend for 21 years + 21 years + 7 years) in the Makpele Chiefdom, with an aim to develop an organic oil palm plantation. The total land size under land lease is 41,218ha. A further 115ha will be planted as an outgrowers' scheme outside the Project (concession) area from the Gendema nursery, which is located in the adjoining Sorogbema Chiefdom. Due to the large undertaking required for the full development of the Project, Natural Habitats requires the following:

- Nursery development - seedlings are prepared for field planting and the nursery and related infrastructure are established;
- Plantation development; and
- Palm oil mill (POM) installation and operation.

The concession area is located on the border of the Gola Rainforest National Park (GRNP), south-east. A buffer of 4km has been placed around this area, which is referred to as the leakage belt. The dominant landuse in the area is subsistence agriculture, which is the basis for the livelihoods of the majority of forest edge communities (Bulte *et al.* 2013). The regional and local setting are presented in Figure 1-1 and Figure 1-2 respectively.

Agriculture is a common occupation within the project area, as was revealed by the farmers during the ESIA studies. Further to this, livestock are reared within the project area and fishing is mainly carried out in the rivers adjacent to settlements. Artisanal mining is not common but diamond mining does take place on the banks of the rivers Mahoi and Mano. Unlicensed logging currently takes place within forested areas of the concession.



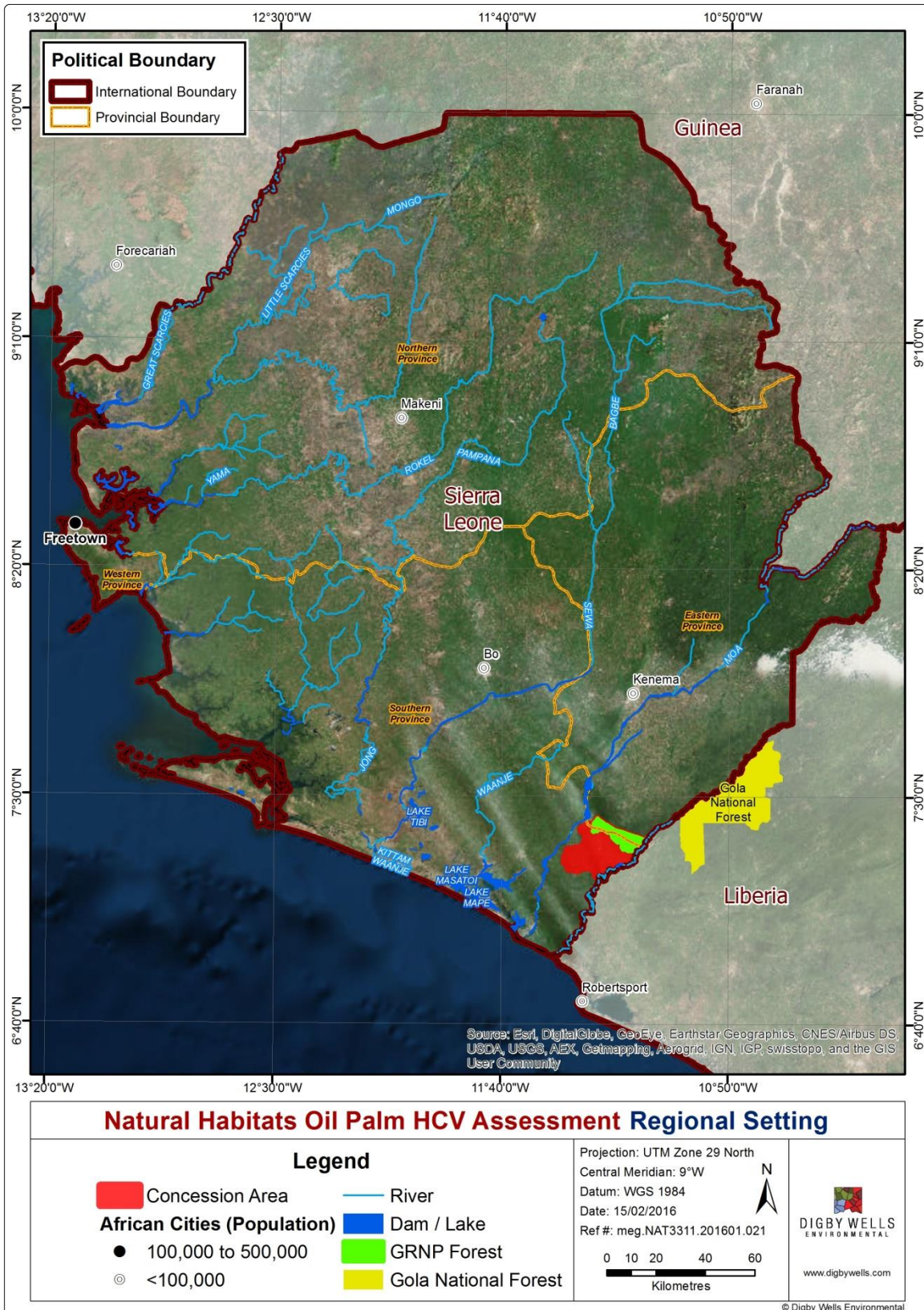
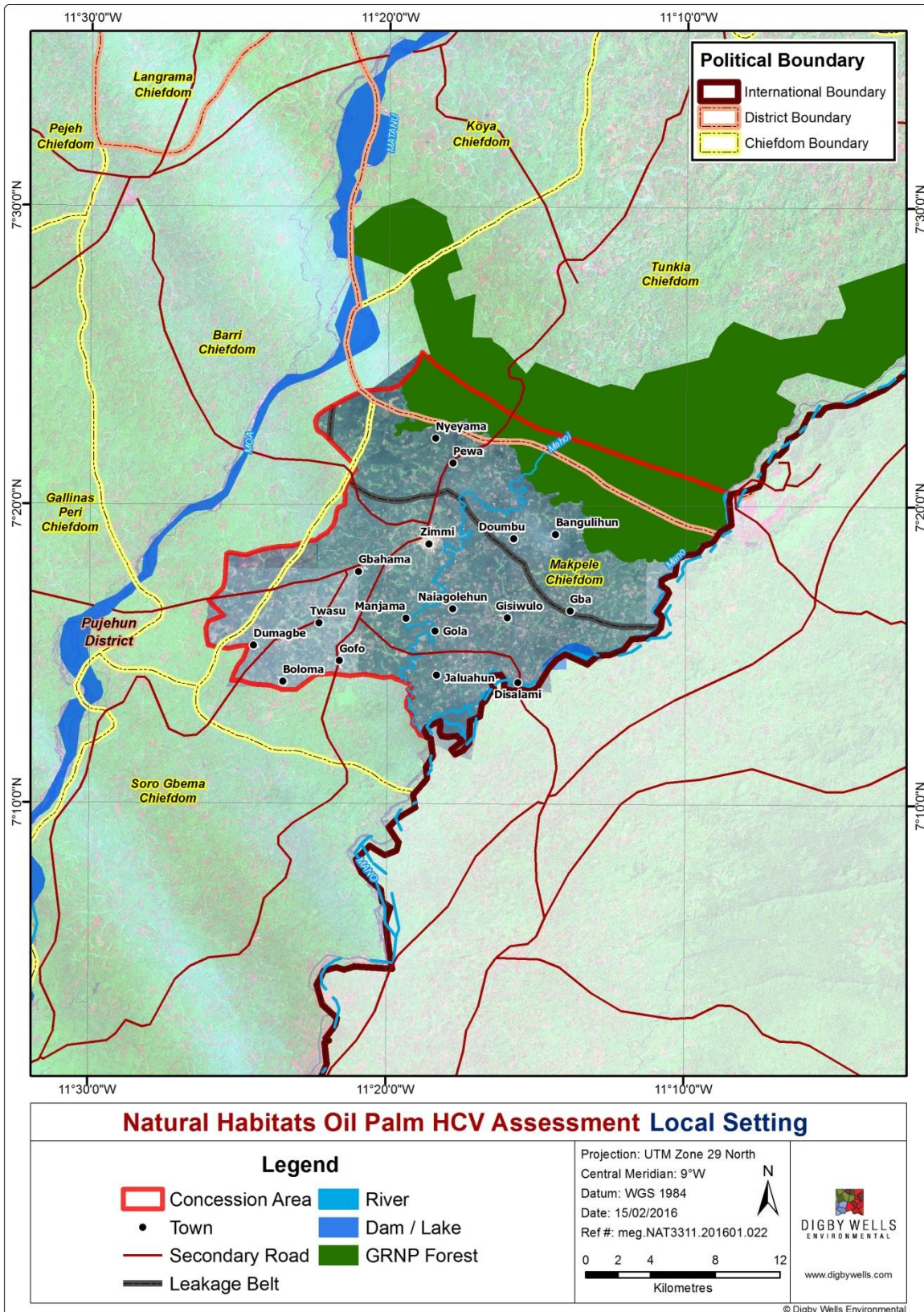


Figure 1-1: Regional locality





**Figure 1-2: Local Setting**



## 1.2 Assessment Team

The project team involved in the fieldwork and compilation of this report are listed their relevant qualifications and experience. The members involved in the Social Impact Assessment (ESIA) are listed in

Table 1-2.

**Table 1-1: HCV Project Team**

<b>Name</b>	<b>Role</b>	<b>Expertise</b>	<b>Bio</b>
Philip Patton	Terrestrial Fauna and Lead Assessor	Ecologist and Ornithologist	Phil Patton is the Manager of the Biophysical Department at Digby Wells and is an accredited HCV Assessor (ALS15041PP). He holds a BSc Hons (Environmental Science) from the University of Cape Town, and a BSc (Geology and Geography & Environmental Management) from the University of Port Elizabeth. He is an experienced ornithologist, and has been registered as a Professional Natural Scientist since 2012. Phil has over 17 years of consulting experience in ecological assessments and environmental auditing. He has ecological and environmental working experience across Africa, Europe and the Middle East and is a registered professional natural scientist in South Africa (Reg.No. 400029/14).
Russell Tate	Aquatic Ecology	Aquatic Ecologist	Russell Tate holds a Master's degree in aquatic health from the University of Johannesburg (South Africa). Russell has completed aquatic ecological assessments in several African countries including: Botswana, Democratic Republic of Congo (DRC), Mali, Senegal, Ivory Coast, South Africa, and Mozambique with focused tropical assessments in Cameroon, Liberia and Ghana and is a registered professional natural scientist in South Africa (400089/15.).
Crystal Rowe	Vegetation and Wetland Ecology	Flora and Wetland Ecologist	Crystal Rowe specialises in flora and wetland ecology. She achieved a BSc in Botany and Geology and a BSc Hons in Botany at Nelson Mandela Metropolitan University (NMMU). Key experience includes ecological impact assessments, baseline vegetation assessments, estuarine ecological state assessments and wetland health assessments. Project experience includes various countries such as: the DRC, Ethiopia, the Ivory Coast, Mali, Mozambique, Sierra Leone and extensively within South Africa. Crystal is competent in plant identification and is experienced in IFC compliant assessments. She is also certified to complete wetland Ecosystem Services and is a registered professional natural scientist in South Africa (reg. no.: 400090/15).

**Table 1-2: ESIA team**

Name	Role
Julius Mattai	Principal Consultant
Professor A.M. Alghadi	Associate Principal Consultant
Josephine Scott-Manga	Senior Consultant
Edward Aruna	Associate Senior Consultant
Alpha Mansaray	Senior Consultant
Jusufu Moiwa	Consultant
Ibrahim S. Kamara	Consultant
Sylvester Tucker	Consultant

## 2 Methods

A number of specialist assessments were conducted and used to complete this HCV assessment:

- Flora and Fauna;
- Aquatic Ecology and;
- Ecosystem Services.

In addition, information from the ESIA (Integems, 2016) was used for the social component of the HCV assessment (refer to Table 2-1) for activities timeline.

**Table 2-1: Major events in assessment chronology**

Activity	2015			2016		
	Oct	Nov	Dec	Jan	Feb	Mar
Desktop Assessment						
Field investigations for biodiversity and ecosystem services						
Field investigations for ESIA including stakeholder engagement						

Compilation of HCV report						
Peer review						
Submission to HCVRN						

## 2.1 Vegetation Survey and Ecosystem Services

Owing to the brevity of the site visit, target areas were identified during a screening survey in October 2015 and from aerial imagery prior to the site visit for representative sampling. The focus areas were chosen based on the presence of intact habitat and the propensity to harbour species diversity and included the following:

- The GRNP area adjacent to the concession area;
- Areas of fragmented natural forest in the concession area;
- Riparian zones and wetlands.

For the actual sample technique, a modified Rapid Botanical Survey (RBS) technique was employed. RBS is usually used to study plant communities and describe vegetation (Hawthorne, 2012) and allows for the elucidation of several aspects of vegetation including:

- Plant distribution, including that of Species of Special Concern (SSC) and invasive species;
- Trends in vegetation distribution including variation following on from environmental variables; and
- Conservation priority of vegetation.

Random plots were taken throughout the focus areas to record species encountered, vegetation composition, species dominance and the presence of alien plant species. The purpose of the vegetation assessment was to ascertain the presence of HCV triggers from a vegetation and flora perspective.

The following literature was used to identify plants:

- Botanical training and investigation of a botanical survey in Gola for Gola Forest Project/RSPB (Hawthorne, 2011);
- Trees of Sierra Leone (Saville and Fox, 1967);
- Woody plants of Western African forests: A guide to the forest trees, shrubs and lianes from Senegal to Ghana (Hawthorne and Jongkind, 2006);

## 2.2 Faunal Survey

Desktop studies and a site assessment were undertaken for mammals and birds, herpetofauna information was provided by survey results from the ESIA (Integems, 2016).

Species encountered were identified, recorded and listed. Faunal species encountered by local people on site have also been noted, and photographs have been used where possible. In order to undertake the HCV assessment for fauna, a number of steps were undertaken during the desktop survey for the Makpele Chiefdom:

- Analysis of aerial photography with regards to habitat types with an emphasis on riverine systems, swamp areas and intact forested areas;
- Review of as many GRNP related reports and studies undertaken close to the study area as possible; and
- Species lists were obtained using the following resources:
  - World Wildlife Fund (WWF), the IUCN, Gola Red Project and African Bird Club online species distribution maps were used to obtain data for the distribution of mammals and birds within the greater study area;
  - The potential occurrence of mammals was supplemented by the species distribution maps in the IUCN and the Field Guide to African Mammals, Jonathan Kingdon (2007); and
  - Lists of birds found in the study area were determined by an experienced Ornithologist and confirmed using a number of field guide publications including Birds of Western Africa (Demey and Barrow, 2006), Birds of Western and Central Africa (Van Perlo, 2002), and Birds of Africa South of the Sahara (Sinclair and Ryan, 2012).

### 2.2.1 Avifauna

The principle ornithological field survey technique is transect surveys. For the site assessment, transect surveys were planned based on the different types of avifauna habitat, such as closed forest (thick canopy and gallery forest), open secondary forest, riverine habitat, swamps and farmed areas including villages. Transect procedures involve slow attentive walks along specific transect areas during which any bird seen or heard is identified and recorded. Point sampling was also conducted for a period of one hour at several localities throughout the site when opportunities arose including the boundary area of the GRNP and specific points along the Mahoi and Mano rivers. Bird species observed during the vegetation transect surveys were also recorded.

The following were recorded:

- All birds encountered or noted during the survey;
- A list of all species previously recorded in the area including those found in the GRNP; and
- A list of rare and endangered species that were encountered.



## 2.2.2 Mammals

Sightings and ecological indicators were used to identify the mammal inhabitants of the study area; this included scats, tracks and habitat such as burrows and dens. Where found, scats were collected and photographed (with a scale) to assist identification if necessary. Any tracks observed were used to identify species and density. Field guides were used to confirm identification. The following were recorded:

- All mammals encountered, noted or captured during the survey;
- Animals listed in previous studies;
- Discussions with local villagers and hunters to confirm certain species;
- A list of the most prominent mammal species; and
- A list of threatened or protected species encountered during the survey.

## 2.2.3 Aquatic Ecology Assessment

A single survey was completed for this study. Water quality was measured using a calibrated Extech DO 700 multimeter. *In situ* constituents considered in this study included temperature (°C), pH, dissolved oxygen (mg/l) and conductivity (µS/cm).

The availability and diversity of habitat is important to consider in assessments due to the reliance and adaptations of aquatic biota to specific habitats (Barbour *et al.* 1996). Habitat quality and availability assessments are usually conducted alongside biological assessments that utilise fish and macroinvertebrates. Aquatic habitat was assessed through observations on each river system considered. The methods used for the assessment are set out by Bain and Stevenson (1990), Vannote *et al.* (1980), and Gerber and Gabriel (2002). The assessment and description of the habitat in this study has been used to ascertain the potential presence of HCV/Rare, Threatened and Endangered (RTE) taxa. Furthermore, in order to determine the conservation value of the considered river systems, an assessment for the potential of “natural conditions” was completed (Brown *et al.* 2013).

## 2.3 Stakeholder engagement

A social assessment was conducted as part of the Environmental Social Impact Assessment (ESIA) conducted by Integems (2016) and included the collection of data and information from focus group discussions with selected communities/groups and Natural Habitats staff. A scoping (stakeholder consultation) workshop was held on the 7<sup>th</sup> of November 2015 in Zimmi Town, Makpele Chiefdom; to engage and consult the local communities and other key stakeholders to determine social impacts of the proposed development. The workshop also assisted in identifying key issues of relevance to ensure that these are assessed at a level of detail appropriate to the scale of the project.

Natural Habitats have mapped the locations of cultivated fields, sacred sites and settlements to supplement the findings of the ESIA.

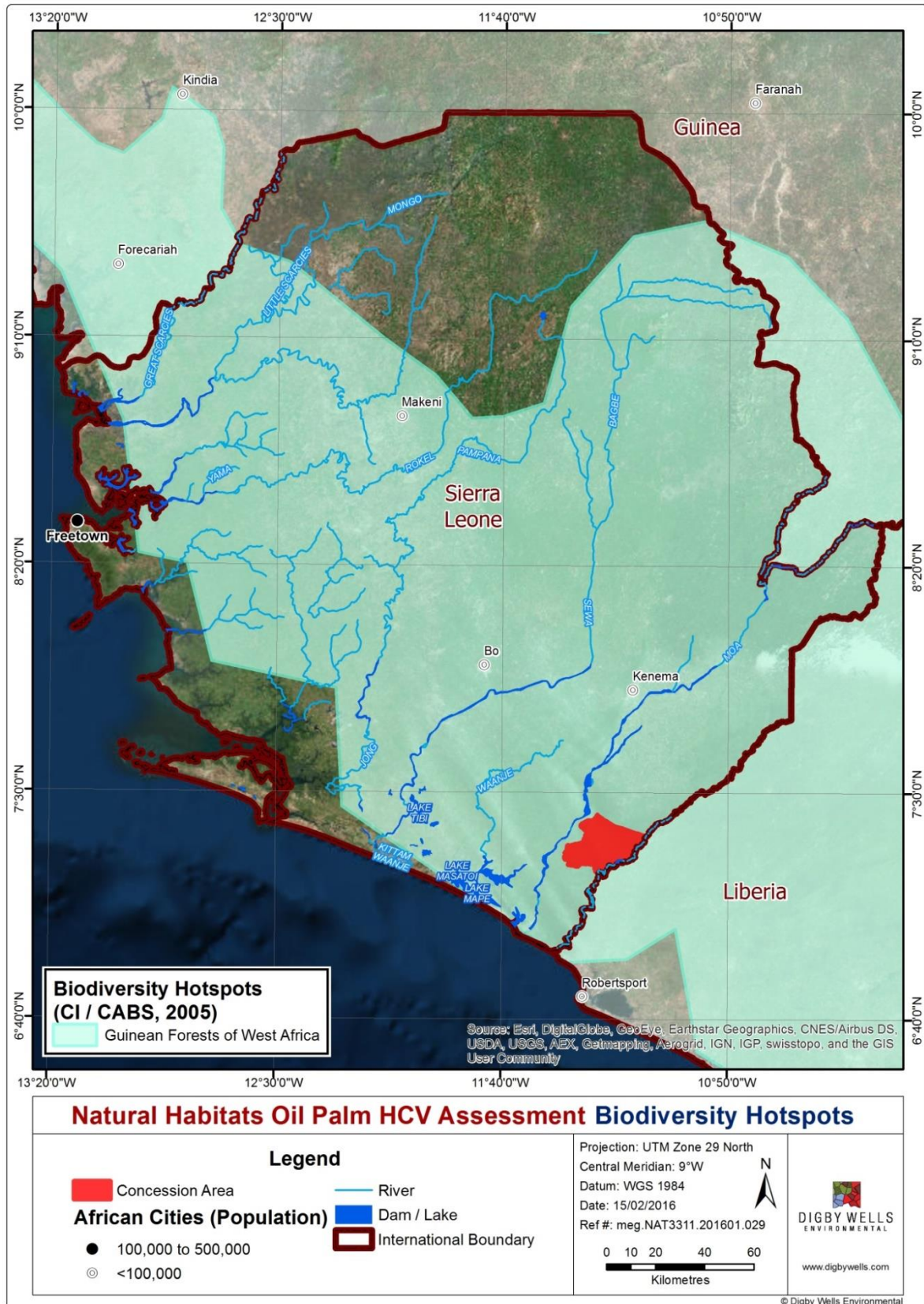
## 3 Findings

### 3.1 National, regional and landscape context

On a global and regional scale, the Natural Habitats area of influence is situated in a biodiversity hotspot (Myers, 2000), namely, the Upper Guinean Rainforest; which places conservation significance of the site from an international perspective (Figure 3-1). Further to this, the concession falls within a global ecoregion according to the WWF, namely the: Tropical and Subtropical Moist Broadleaf Forests (Figure 3-2); which highlights the ecological sensitivity of the site for large vertebrates, water resources and forest flora. The site also falls within the Gola Forest Reserve IBA (Figure 3-3), which places conservation significance on the site from an avifaunal perspective.

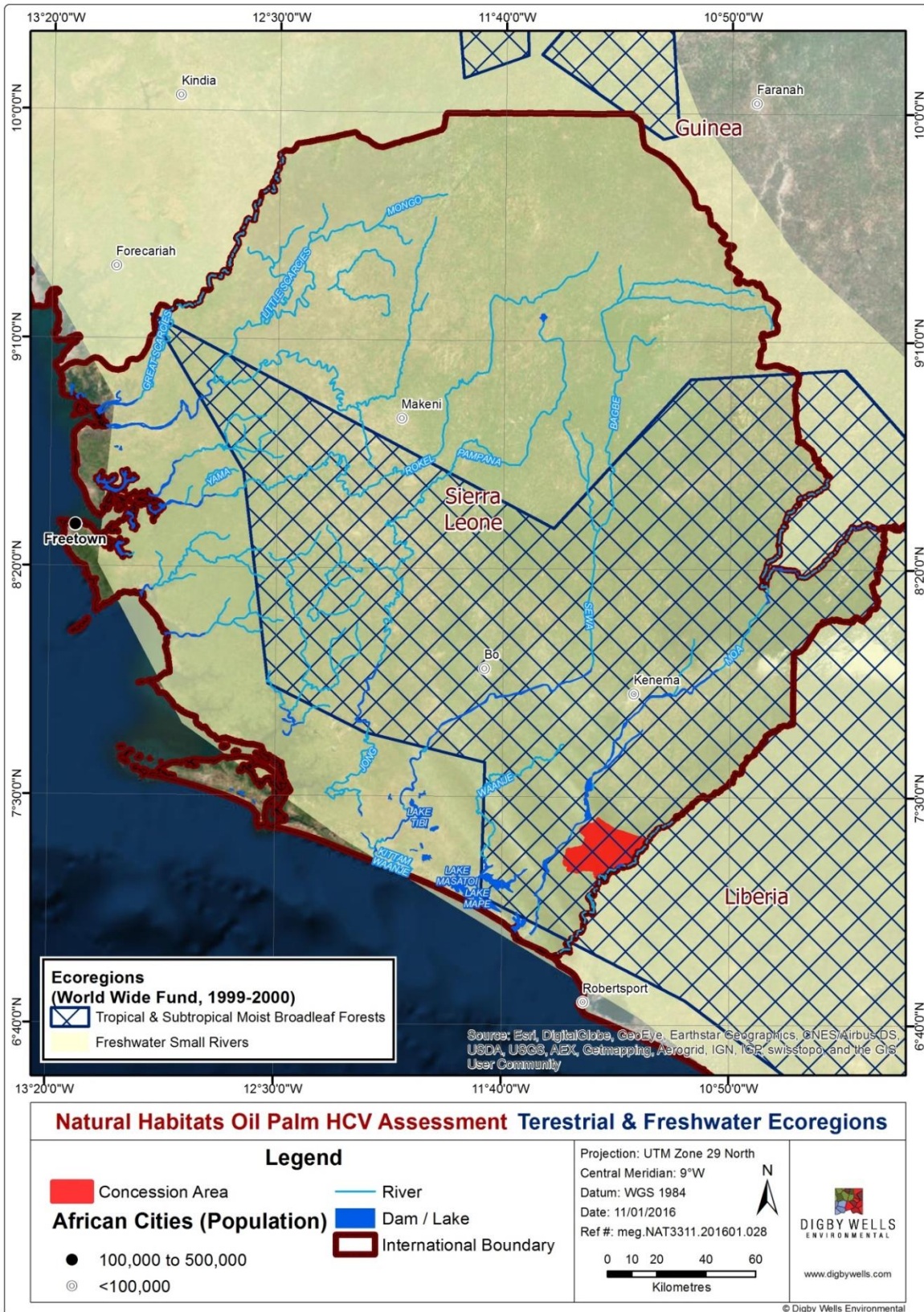
On a national scale, the GRNP serves as a critical biodiversity resource for Sierra Leone, conserving numerous endemic and Red Data species and supporting exceptional biodiversity. The GRNP has also been identified as a Key Biodiversity Area (KBA) by the IUCN (Kouame *et al.* 2012). On a local scale, the forest and associated habitat provides immeasurable ecosystem services to the local communities on the forest edge that are dependent on the forest for basic needs.

The concession is considered as part of the wider landscape as per HCV requirements (Brown *et al.*, 2013). As such, protected areas, regional biogeography and other aspects have been taken into account. The area of influence of the project is that area that may be affected by the project, including activities such the development of roads, displacement of resource use by local communities, or areas affected by hydrology. The area of influence was deemed to be the concession area, as well as the immediate area surrounding it; to include the southern boundary of the GRNP and the leakage belt. The so-called leakage belt is referred to as the buffer area stretching over 4km around each block of the GRNP and includes forested and non-forested areas (excluding the eastern border which is traversed by the Sierra Leone-Liberian border. Where natural forest has been cleared in the leakage belt, the land use is usually intercrop subsistence farming of rice and vegetables for 1-2 years before being left unplanted for an average of seven years (RSPB, 2013).



**Figure 3-1: Biodiversity Hotspots in relation to the Natural Habitats Concession**





**Figure 3-2: Ecoregions in relation to the Natural Habitats concession area**



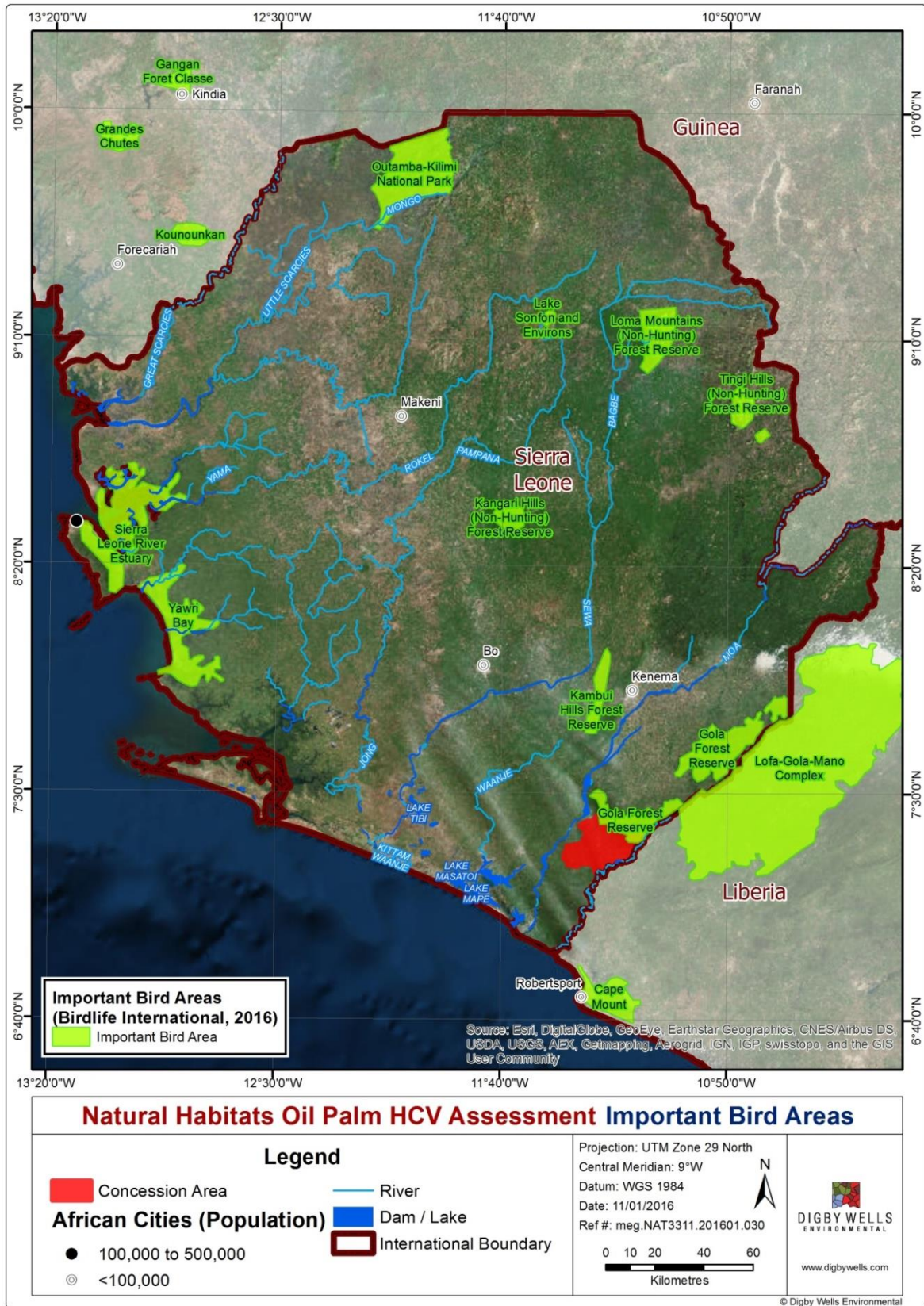


Figure 3-3: Important Bird Areas

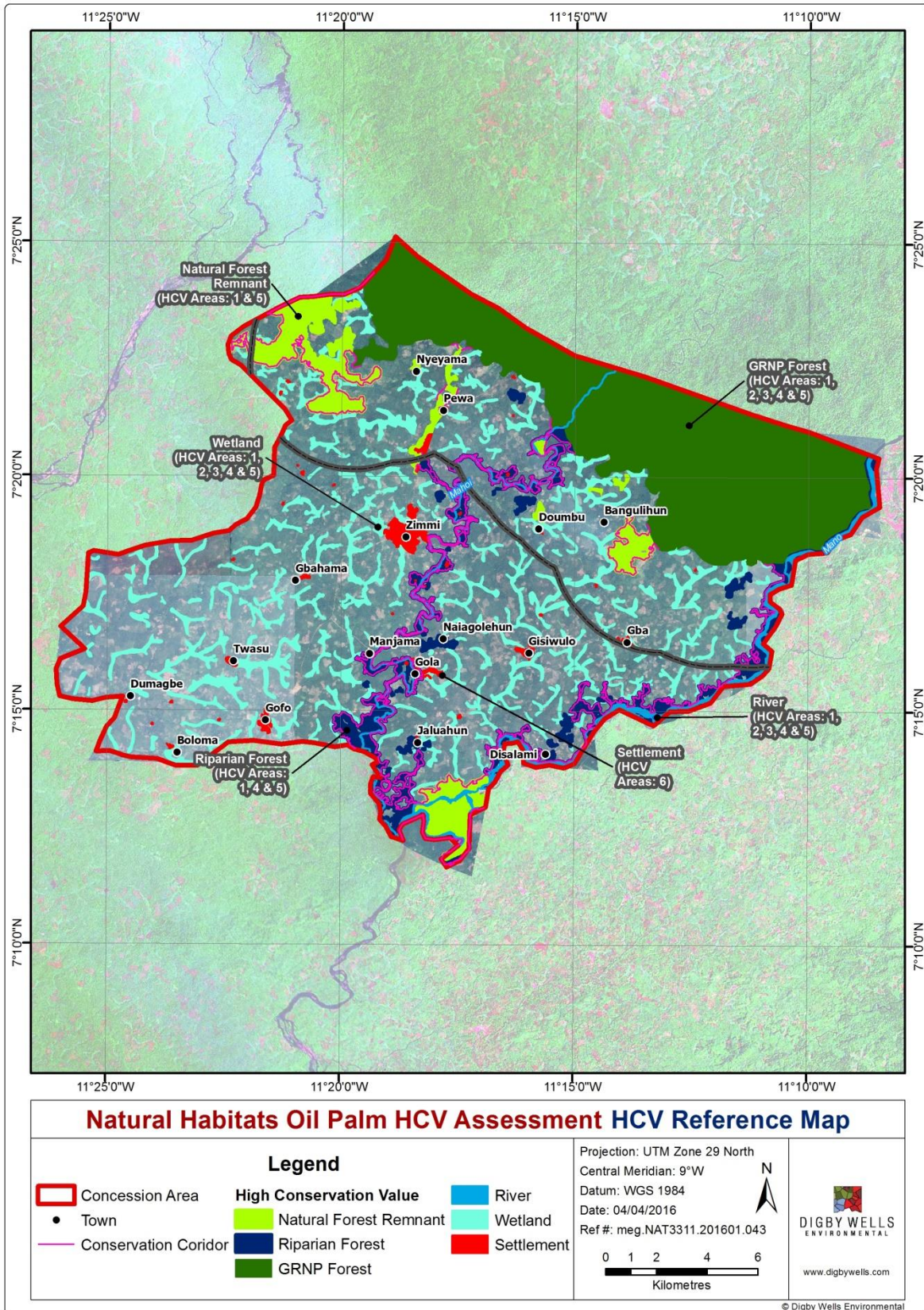
### 3.2 HCV outcomes

All six of the HCV criteria were triggered within the concession area, largely associated with the riparian forests linked to the GRNP, remnant forests and the wetlands associated with the Mano and Mahoi Rivers. A total of 25 293.13of HCV area (without overlap) was mapped, representing 61% of the concession area, including buffers and the leakage belt. Table 3-1 lists HCV areas recorded on site and Figure 3-4 shows the distribution of these areas.

**Table 3-1: HCV Areas in the Natural Habitats Concession Area**

HCV class	Area (ha)	Habitats
HCV1	15213.55	GRNP, wetlands and rivers, natural forest remnants, riparian forest
HCV2	4003.81	GRNP, wetlands and rivers, natural forest remnants
HCV3	23267.16 <sup>1</sup>	GRNP and leakage belt, wetlands, rivers and buffers.
	10941.84 <sup>2</sup>	
HCV4	13527.31	GRNP, wetlands and rivers, riparian forest
HCV5	15273.16	GRNP, wetlands and rivers, forest remnants, riparian forest, cultivated areas
HCV6	305.93	Gravesites within the concession
<b>Total HCV Area</b>	<b>25293.13</b>	<b>All HCVs, leakage belt and buffers</b>
<b>Total Plantable Area</b>	<b>15 925.32 (39%)*</b>	<b>Remaining area</b>





**Figure 3-4: All HCV areas in the Natural Habitats Concession**

### 3.2.1 HCV 1: Species diversity

Forested areas associated with the site, including remnant forest patches, riparian forest along the rivers and the GRNP showed exceptional plant diversity. Six species of Red Data status were recorded during the field visits for the ESIA (Integems, 2016) and include the following: *Azelia africana*, *Copaifera salikunda*, *Fleroya stipulosa*, *Lophira alata*, *Nauclea diderrichii* and *Terminalia ivorensis*; all of which are Vulnerable.

Examples of observed mammal species include the endangered Western Chimpanzee (*Pan troglodytes verus*) that was located in a patch remnant forest near Kana village. An estimated population of 300 Western chimpanzees exist in the GRNP (The Gola Project 2012), it is uncertain whether the family that is located within the leakage belt has been previously surveyed by the GRNP due to the location being outside the park. Red Data mammals recorded are listed in Table 3-2.

The project area, including the Makpele Chiefdom and the southern portion of the GRNP, is located close to an International IBA (Fishpool & Evans 2001) and holds a high number of the threatened and endemic species of the region. Many of these species are also present in the fragmented forests and riparian zones of the proposed project area. Recent bird surveys (Klop et al 2010, Demey 2011) recorded 294 species in the GRNP bringing the total to 327, which is amongst the highest of the Upper Guinean Forests. 132 species of birds were found within the Makpele Chiefdom area (including the southern boundary of the GRNP), of which 6 species are Afro-Palaearctic migrants. Red Data birds are listed in

Table 3-3.

The fish fauna of the Upper Guinea freshwater ecoregion is diverse and endemic with about 28% of the 160 fish species that are endemic. The endemic taxa are dominated by small bodied fish adapted to swift currents and clear waters such as those belonging to family Rivulidae (Brown *et al.* 2015). A diverse and large percentage of the fish community is regionally endemic (40%) and 2 species (4%) of locally endemic species were captured on the concession. Red Data and endemic fish species are listed in

Table 3-4. HCV 1 areas are represented in Figure 3-5

**Table 3-2: Mammal Red Data Species**

Species Name	Threat Status	Threat Status	Habitat
Western Chimpanzee	<i>Pan troglodytes</i>	Endangered	GRNP, forest remnant
Olive Colobus	<i>Procolobus verus</i>	Near threatened	GRNP
Western Pied Colobus	<i>Colobus polykomos</i>	Near threatened	GRNP leakage belt
Sooty Mangabey	<i>Cercocebus atys</i>	Near threatened	Concession
Diana Monkey	<i>Cercopithecus Diana</i>	Endangered	GRNP, forest remnant
African Straw-coloured	<i>Eidolon helvum</i>	Near threatened	Mano River



Fruit-bat			
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**Table 3-3: Avifaunal Red Data Species**

Common Name	Species Name	Threat Status	Habitat
Hooded Vulture	<i>Necrosyrtes monachus</i>	Critically Endangered	Zimmi town
Red-fronted Antpecker	<i>Parmoptila rubrifrons</i>	Near Threatened	GRNP/Leakage belt
Yellow-casqued Hornbill	<i>Ceratogymna elata</i>	Vulnerable	Forest Remnant
Timneh Grey Parrot	<i>Psittacus timneh</i>	Vulnerable	Forest Remnant

**Table 3-4: Fish Red Data Species**

Species Name	Threat Status	Habitat
<i>Doumea chappuisi</i>	Vulnerable	Mahoi and Mano rivers and all wetlands and watercourses in the concession area
<i>Kribia cf. leonensis</i>	Endangered	Mahoi and Mano rivers and all wetlands and watercourses in the concession area
<i>Epiplatys fasciolatus zimiensis</i>	Endangered	Mahoi and Mano rivers and all wetlands and watercourses in the concession area

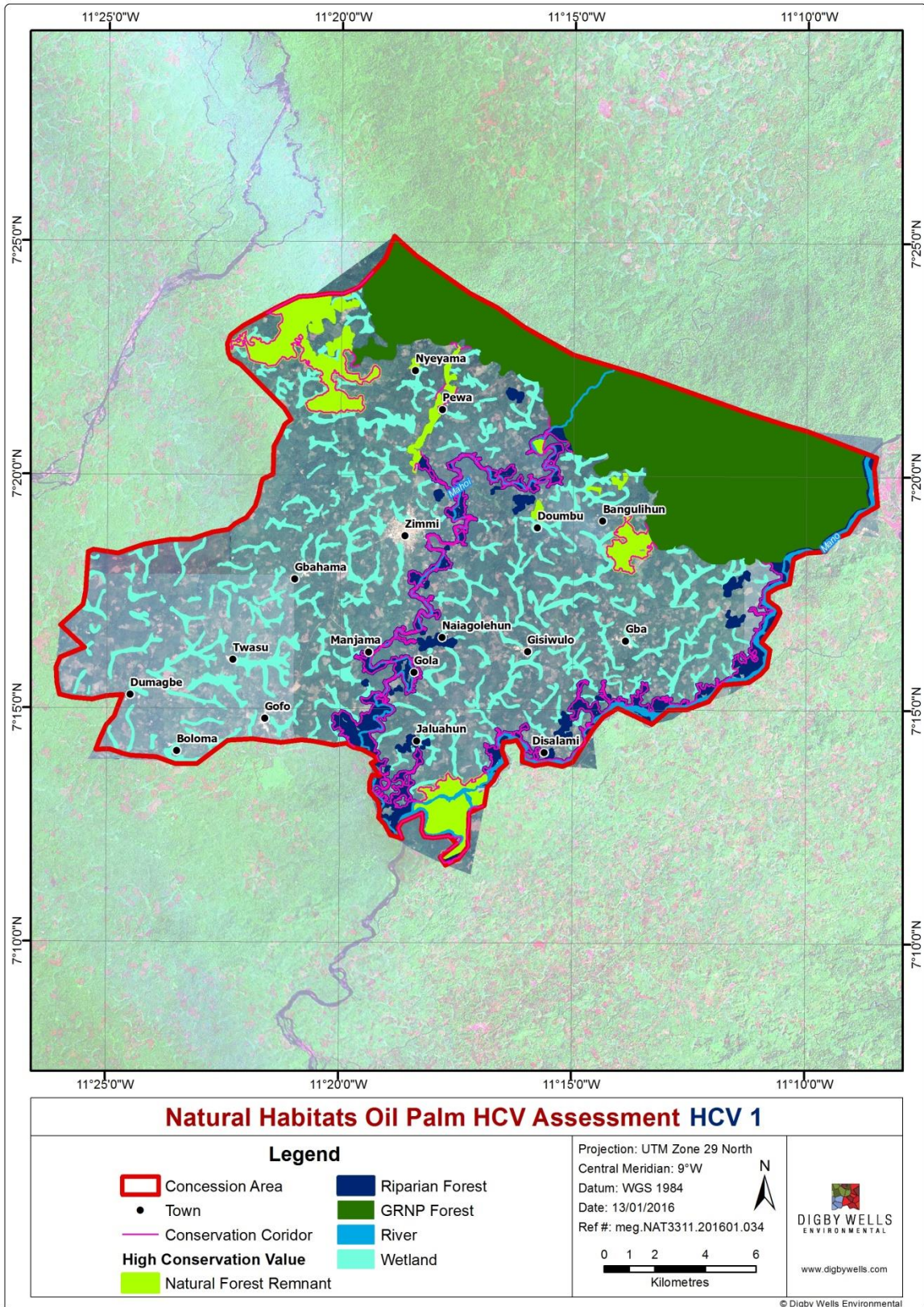


Figure 3-5: HCV 1 areas on site

### 3.2.2 HCV 2: Landscape-level ecosystems and mosaics

All unmodified rivers and wetlands on site have triggered HCV2 due to the absence of invasive taxa and the unmodified thermal, flow, nutrient, sediment and thermal regimes. These rivers were also found to be critical dispersal routes for fish and contained rare, threatened or endangered species.

### 3.2.3 HCV 3: Ecosystems and habitats

Since the GRNP has been identified as an international biodiversity hotspot (Myers, 2000), the forest has been assigned HCV3 status (RSPB, 2015). Further to this, the GRNP has been listed as an IBA. Only 4% of the country's landmass is protected and intact forest landscapes are poorly represented. Remnant forests were assigned HCV 3.

### 3.2.4 HCV 4: Ecosystem services

Wetlands naturally allow for slow infiltration and removal of suspended solids by filtering pollutants (Kotze, 2000) and high capacity to purify water through various chemical and biological processes and this is a critical ecosystem service. Wetland swamps are a dominant feature of the landscape associated with the Natural Habitats concession area and have been identified as HCV 4. In addition, the Mahoi and Mano Rivers, as well as the GRNP have been identified as HCV 4.

### 3.2.5 HCV 5: Community needs

Based on the information available from the social baseline study (Integems, 2016) and the other desktop data available for the area, HCV 5 is present within the area of influence. This is based primarily on the following key findings:

- The reliance of the local people on the natural water sources;
- The reliance of the local people on timber forest products for income (logging, building materials and the sale of firewood) as well as for subsistence use (building materials, firewood); and
- Reliance of local people on non-timber forest products (NTFP) for food and medicines.

Farming is prevalent in the concession area for both subsistence and commercial purposes (Integems, 2016). As much as 77% of households in the project area manage subsistence farms as a major source for their food security and livelihood. One of the major crops species harvested is oil palm and the majority of households have plantations covering an area of under 3ha.



### 3.2.6 HCV 6: Cultural values

The GRNP is a UNESCO world heritage site, which assigns global significance to the area. From a local significance perspective, gravesites and sacred areas, which are of cultural value and should be avoided during development, cover an area of 305.93ha.

### 3.2.7 Stakeholder engagement

Stakeholders consulted during the HCV and ESIA process are listed in Appendix A. The details of the concerns and recommendations of each member are presented in the ESIA report (Integems, 2016). Major concerns included:

- Employment for local community members;
- Details of the project commencement should be properly communicated with each community;
- Members of the leakage belt communities should be considered;
- The GRNP expressed interest in a mutual cooperation between the GRNP and Natural Habitats for management of HCVs and monitoring.

## 4 HCV Management and Monitoring

### 4.1 Threat Assessment

Current threats to HCVs on site are listed in Table 4-1. The proposed oil palm plantation is anticipated to result in a loss of habitat, including HCV areas. When an area has been identified to hold outstanding significance or critical importance by the HCV assessment, management measures should be implemented to secure its value. This does not necessarily preclude development, however and three primary management options are prescribed (Jennings, 2004):

- Protection of the area (through reserves ,zones and ;
- Modifications or constraints on operations (mitigation measures will be provided to reduce the overall impact on natural areas) and
- Restoration activities (forest integrity can be restored with rehabilitation interventions or removal of alien plants).

**Table 4-1: Main current threats to HCV identified in the project area**

Stressor	Potential Impact	Source	Notes
Loss of forest remnant habitat	Very high	Illegal logging	Remnant forest area is reducing due to illegal logging. This results in loss of Red Data trees, as well

			as habitat for threatened fauna.
Loss of riparian forest	High	Expansion of communities into natural areas	Natural areas have been cleared for local villages, often on the edge of forests and wetlands.
		Expansion of cultivation into natural areas	Clearing for cultivation of Sorghum, Cacao and other crops was observed.
Loss of wetland area	Very high	Conversion of wetlands to rice paddies	Rice paddies were found to be planted in some wetland areas and this is likely to increase.
Loss of faunal diversity	High	Hunting for bushmeat	Red Data fauna were recorded at the local markets and in captivity in villages
Degradation of water quality (threat to HCV 5 and 6)	Medium	Water contamination from local household use	Sewerage effluent is released into wetlands.  Locals make use of rivers to bathe and wash clothing/general household items.

## 4.2 Management and Monitoring

No additional areas have been included as HCVMA's other than the HCV areas identified on site, covering 25 293.13ha. If the HCV areas outside of the leakage belt are preserved, the link to the GRNP will be maintained.

The following recommendations were made for monitoring and management:

- Maintain and manage the buffer (leakage belt) at the interface between the Natural Habitats concession and the GRNP. The decision by Natural Habitats to establish a 4km buffer zone across the northern boundary bordering the GRNP is commendable and should mitigate any direct and indirect ecological impact on the GRNP;
- The Mano River represents the border between Sierra Leone and Liberia and the 50m buffer along the banks of the river needs to be appropriately managed;
- More people are expected to move into the Makpele Chiefdom due to the expectation of emerging employment opportunities from the proposed oil palm project. Appropriate educational programmes should be defined with local government authorities, to provide adequate social infrastructure and services to make people less dependent on the natural resources of the area;

- All remnant forest patches such as the pocket of forest adjacent to Kaina village and other ecologically sensitive areas such as wetlands, riparian vegetation should be left untouched within the concession. Those areas that are not suitable for the planting of oil palm and must remain undeveloped to serve as biodiversity plots which must be managed as integral part of the plantation. Biodiversity corridors serve as suitable habitat for remnant fauna and flora and are important for local biodiversity on the concession. All forms of habitat degrading activities such as hunting, farming and logging must be prohibited from the biodiversity management areas (MA's) and corridors;
- It is recommended that fauna and flora monitoring with a focus on habitat, vegetation, large and small mammals, birds, reptiles, fish and amphibians be facilitated on an annual basis. Results of these studies will provide site specific mitigation and management for the biodiversity within the concession for Natural Habitats;
- It is recommended that roads be carefully maintained with appropriate drainage ditches. Gabions and other erosion mitigation measures may be applied wherever necessary.
- Recommendations to manage illegal bushmeat hunting:
  - Hunting for bushmeat by outsiders will need strong measures to limit this;
  - Using gates or booms on forest roads where people enter with vehicles;
  - Using forest guards to patrol the area;
  - Information and education about the most endangered species;
  - Working with government Wildlife Departments and the GRNP to report incidents and help ensure unlawful hunting does not occur; and
  - Signs warning against illegal activities.

In terms of meeting RSPO requirements, Natural Habitats is required to adhere to the following:

- Identify specific MAs within the concession area;
- Develop and implement a management plan and associated maps for each of the MAs that can be easily applied by staff working on the ground;
- Develop and implement a monitoring plan for each of the MAs; and
- Do not expand into areas of natural forest as per RSPO regulations.

When the site is audited for RSPO accreditation, this HCV document is required along with associated maps and plans.



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## Appendix A: Stakeholder engagement

<b>Name</b>	<b>Address/Organisation</b>	<b>Designation</b>
Sadiq Sillah	Pujehun District Council	Chairman
Annika Ciliers	Gola Rainforest National Park	Conservation Scientist
Mohamed Maluway	Kengo Section and Makpele Chiefdom	Section Chief and Chiefdom Speaker
Limamu Koroma	Selimeh Section	Section Chief
Saffa Kanneh	Zimmi Town	Town Chief
Foday Ansumana	Seitua Section	Section Chief
Ernest Rogers	Ward 321	Councillor
Saffa Monya Tamu	Makpele Chiefdom	Paramount Chief
Sidi Tunis	Constituency 91	Member of Parliament
Jitta Kanneh	Makpele Chiefdom	Chiefdom Mammy Queen
Momoh J. Kawa	Council	PRO
Mohamed Jalloh	Zimmi	Community member
Jenkins Seitua	NH	Staff
Emmurana Kamara	Zimmi	Community Member
Juanan Marrah	Zimmi	Member/Carpenter
Ahmed Kanneh	Zimmi	Okada/Bike Rider
Alhaji Feika	Zimmi	Farmer
Laminu Kawa	G.C.D.C	Chairman
Hassan Njallay	Zimmi Traders Union	Chairman
Foday Sannoh	Makpele Chiefdom	Chiefdom Imam
Mohamed J. Kawa	Zimmi	Section Chief
Momoh M. Kamara	Miners Group, Makpele Chiefdom	Chairman
Brima Kamara	Gola Rainforest/Zimmi	P.C Representative



Sgt Yayah Konneh	Zimmi Police Station	Sgt/Officer
Sylvester Massaquoi	Zimmi Town	Sanitary Inspector
Samuel Frazer	Pujehun Town	Concern Citizen
Saidu Swarray	NH/Zimmi	Staff
Denis Maekelbergh	NH/Zimmi	Sustainability Manager
Bockarie Samba	Zimmi	Court Clerk
Mohamed Mansaray	NH	NN Ass. Plantation Manager
Alhassan Kanneh	Zimmi Town	Farmer/ Community Member
Kabba zoker	Kengo Section	Youths Leader
Chevai Jalloh	SSD/Zmiim	Member
Musa S. Seitua	Tuasu	Community Member
Chief Sam Sesay	Tuasu	Town Chief
Chief Brima Konneh	Tuasu	Town Chief
Chief Mambu Massaquoi	Kengo	Town Chief
Dominic S. Konneh	Zimmi	Secretary, Land Owners Committee
Max A.L. Konneh	Zimmi	Secretary to the SSD, Sensitization and Demarcation Committee
James M. Konneh	Makpele Chiefdom	Chairman, Community Development
Jebbeh Kposowa	Zimmi	Deputy Chiefdom Mammy Queen
Hassan Njallay	Gbeyamagubla	Town Chief
Adama Konneh	Zimmi	Chair Lady, SLTU
Edwin S. Feika	Manjama	Community Member

Sao Seitua	Gbahama	Community Member/Farmer
Osman Koroma	Gbahama	Community Member/Farmer
Ibrahim Kallon	Madina	Community Member/Farmer
Kabbah Zoker	Gofor	Community Member/Farmer
Momodu Nyallay	Zimmi	Community Member/Miner
Masssah Muana	Zimmi	Community Member/Petty Trader
Jenneh Barrie	Zimmi	Community Member Seamstress
Keima Sheriff	Zimmi	Community Member/Petty Trader
George Kpaka	Gbahama	Community Member/Farmer
Mohamed Shaw	Zimmi	Community Member/Petty Trader
Jeffa Kuyateh	Zimmi	Community Member/Miner
Michael Johnny	Zimmi	Custom Representative
S. R. Gbenda	Zimmi	O.C. Immigration
Anointing Ganawa	Zimmi	Community member/Pastor
Vandy M. Kamara	Zimmi	Councillor Ward 322
Gabriel Jusu	Zimmi	Community Bank Manager
Mohamed Massaquoi	Gofor	Former Court Chairman
Moiwa Marrah	Kengo Section	Youths Leader
Abdulai Kuyateh	Samagbeh	Community Member/Farmer
Mustapha Borsua	Selimeh	Teacher
Mustapha Seitua	Gbahama	Community Member/Farmer
Abdulai Conteh	Gofor	Community Member/Miner
Hawa Koroma	Selimeh	Community Member

Mariama Mansaray	Selimeh	Community Member
Aminata Koroma	Samagbeh	Youth Chair Lady
Alusine Mansaray	Makpele Chiefdom	Quarter Chief
Hawa Sesay	Gbangu	Youth Chair Lady
Mustapha Fallon	Samagbeh	Youth Chairman
Mohamed Sillah	Selimeh	Community Member/Petty Trader
Vandy Swarray	Zimmi	Community Member/Miner
Junior Kuyateh	Makpele Chiefdom	Youths Leader
Sgt Musa Momoh	Zimmi Police Station	Sgt
Munda Konneh	Selimeh	Youth Representative
Cpt Kabineh Sillah	Zimmi	Zimmi FPB
Augustine Conteh	Zimmi	Zimmi Police Station
Jusu Seitua	Zimmi	Community Member
Vandi Seitua	Kengo	Community Member/Farmer
Gbessay Massaquoi	Gibima	Town Chief
Musa Kanneh	Gombu	Youth Leader
Ansu Jalloh	Zimmi	Community Member
Jayah Mansaray	Kengo	Community Member/Farmer
Laminu Sheriff	Gibima	Youth Leader
Mariama Koroma	Segbehun	Women's Chair Lady
Lahai Maluway	Selimeh	Imam
Mustapha Sannoh	Seitua Section	Youth Leader
Mulana Konneh	Seitua Section	Quarter Chief
Lahai Kanneh	Samagbeh	Community Member

Olmeh Dagorseh	Samagbeh	Youth Leader
Sallu B. Kanneh	Gba CHC	Health Worker
Ibrahim Kamara	Zimmi	Community Member
Lanson F. Fofanah	Zimmi	Community Member
Mohamed Koroma	Zimmi	Community Member