

## Public Summary Report: High Conservation Value Assessment of Presco's Sakponba Concession in Orhionmwon LGA, Edo State, Nigeria

Full HCV assessment

Final | Version | February 2017



## HCV COVER PAGE

**Dates of assessment (Month/year):** Oct 2015 – Dec 2016  
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**Location of assessment:** Sakponba, Orogho/Obagie N'Unuamen,  
Orhionmwon Local Government Area, Edo  
State Nigeria

**Size of assessment area (ha):** 14,436 ha  
**Total HCV management area:** 136 ha  
**Peer reviewed:** Dr Betsy Yaap, Email: [betsy.yaap@gmail.com](mailto:betsy.yaap@gmail.com)  
**Planned land use for assessment area:** Oil Palm plantations  
**Certification scheme:** RSPO  
**ALS Tier rating:** Tier 1

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SUMMARY

## 1 List of acronyms and abbreviations

CBD	Convention on Biodiversity
CEPF	Critical Ecosystem Partnership Fund
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
ES	Endangered Species
FAO	Food and Agriculture Organisation of the United Nations
FGD	Focus Group Discussion
FR	Forest Reserve
HCV	High Conservation Value
HCV RN	High Conservation Value Resource Network
IUCN	International Union for Conservation of Nature
LGA	Local Government Area
NT	Near Threatened
NTFP	Non-Timber Forest Product
P & C	Principles and Criteria
PA	Protected Areas
RSPO	Roundtable on Sustainable Palm Oil
RTE	Rare, Threatened and Endangered Species
SOP	Standard Operating Procedure
VU	Vulnerable

SUMMARY

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## 4 Introduction and background

Presco Plc is one of the subsidiaries of SIAT Group, a Belgian agro-industrial company specialized in industrial as well as smallholder plantations of tree crops, mainly oil palm and rubber, and allied processing industries such as palm oil mills, palm oil refining / fractionation, soap making and crumb rubber factories. The company was incorporated as a limited liability company in Nigeria on September 24, 1991, and with its head office at Obaretin Estate in the Edo State of Nigeria. SIAT became a member of Roundtable on Sustainable Palm Oil (RSPO) on 2<sup>nd</sup> August 2004. As a member of RSPO SIAT and its subsidiaries are required to comply with all RSPO requirements including the New Planting Procedure (NPP) which are contained in Principle 7.3 of the RSPO Principles and Criteria. In line with its commitments, Presco requested Proforest to carry out a full High Conservation Value (HCV) assessment as part of the overall impact assessments of its newly acquired Sakponba concession in Orogho/Obagie N'Unuamen traditional area in the Orhionmwon Local Government Area (LGA) in the Edo State of Nigeria.

This report is a Summary of the full HCV assessment commissioned by Presco Plc for the company's recently acquired 14,436 ha Sakponba concession. The HCV assessment is part of Presco's commitments under RSPO and its own environmental and social responsibility best practice requirement, including compliance with statutory legal requirements in Nigeria at both the Federal and State levels. The purpose of this HCV assessment which was carried out within the context of the RSPO certification, is to undertake a comprehensive and participatory assessment of HCVs in the Presco Sakponba concession and the adjoining landscape, with a view to identifying any area(s) required to maintain or enhance one or more of the six categories of HCVs and local people's land that may be located within the concession. This report describes the presence of HCVs and the management areas required to maintain those HCV values contained in the proposed oil palm concession.

The process steps and activities conducted for this HCV assessment lasted for six (6) months starting from October 2015 to November 2015 with scoping studies and for the field surveys and stakeholder consultations (October-December 2016), analysis and drafting of reports (January 2017), peer review and finalisation of report (January-March 2017).

In the absence of an HCV National Interpretation for Nigeria, the process to identify HCVs and subsequent analysis and reporting have relied heavily on the following guidance documents:

- 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. <https://www.hcvnetwork.org/resources/cg-identification-sep-2014-english>
- Brown, E. and M.J.M. Senior. 2014 (September). Common Guidance for the Management and Monitoring of HCVs. HCV Resource Network. <https://www.hcvnetwork.org/resources/cg-management-and-monitoring-2014-english>
- The HCV Assessment Manual prepared by Proforest for the HCV-RN

## 4.1 Description of the assessment area

### 4.1.1 Site description



Image 1: Fulani herdsman and cattle in Sakponba concession  
Credit: Michael Abedi-Lartey

Presco's Sakponba concession is located ~ 55 km southeast of Benin City, in Edo State of Nigeria (Figure 1). The four boundary corners of the concession are: NW (Long 5° 54'E, Lat 5°49' N), NE (Long 6°03'E, Lat 5° 50'N); SE (Long 6°05'E, Lat 5°48'N) and SW (Long 5° 55' E, Lat 5° 45' N). The concession is bordered by the heavily degraded Urhionigbe Forest Reserve in the north, to the south and west by the Ethiopie River and to the east by the Ehinmwin stream. The concession was acquired by Presco Plc through a Deed of Assignment from His Royal Majesty Omo N' Oba N' Edo Uku Akpolokpolo, Oba Erediauwa, CFR (The Oba of Benin) on 19<sup>th</sup> December 2011. The Oba of Benin (The Assignor) acquired the said land for a lease period of 99-years through Customary Right of Occupancy (CRO) granted him by the Orhionmwon Local Government Council of the Edo State on 14<sup>th</sup> Sept 1990. The land was originally acquired for farming purposes. The newly acquired concession is predominantly grassland (typical of savanna grassland) with gallery forests and woodlands albeit located in the forest zone of Nigeria. It is a highly modified habitat consisting of extensive grassland dominated by beardgrass (*Andropogon gayanus*), elephant grass (*Pennisetum purpureum*), Bermuda grass (*Cynodon dactylon*), and thatch grass (*Hyparrhenia dissolute*) which altogether constitutes about 60% of the total land area and is predominantly used for grazing of cattle by Fulani herdsmen (Image 1). The remaining 40% of the concession is farmlands and bush fallows, with limited patches of degraded secondary and riparian forests. There is the general believe that the area including the grassland areas were forested several decades ago prior to the Biafran War of 1967 to 1970 but no one seems to know when and how the extensive grassland appeared in the area. Most of the stakeholders consulted including government officials intimated that the area was a Military Base during the Biafra War and they believe that it was the military who cleared the vegetation and introduced the grass species whose rapid spread over time has been facilitated by the annual burning of the Fulani herdsmen to facilitate growth of green grass for grazing of their cattle.



Image 2: Extensive grassland in Sakponba concession  
Credit: Michael Abedi-Lartey

The extensive grassland vegetation (which the local communities such as Obanakhoro refer to savanna) extends from the north-western part of the concession through to the south, central and the middle belt. The north-eastern part of the concession is characterised by highly degraded secondary forest, fallow lands and farms. Ecologically, the Sakponba concession is located in the forest zone of Nigeria. The vegetation cover in addition to the grassland includes degraded secondary forests, farmlands, fallow lands, and pockets of swamp vegetation all of which are scattered within the concession in patches. The only water bodies draining the concession are the Nyanchia stream and a small unnamed stream. The two streams are both tributaries of the major Ethiopie River which serves as the border between the Edo and the Delta States. Besides being used as Military Camp in the late 1960s, the non-grassland areas of the concession has undergone significant modification predominantly from farming activities by the population of the communities located within and bordering the concession namely Obagie, Orogho, Owuo, Obanakhoro, Iwevbo, Ekgibe and Igbigun (Figure 2).

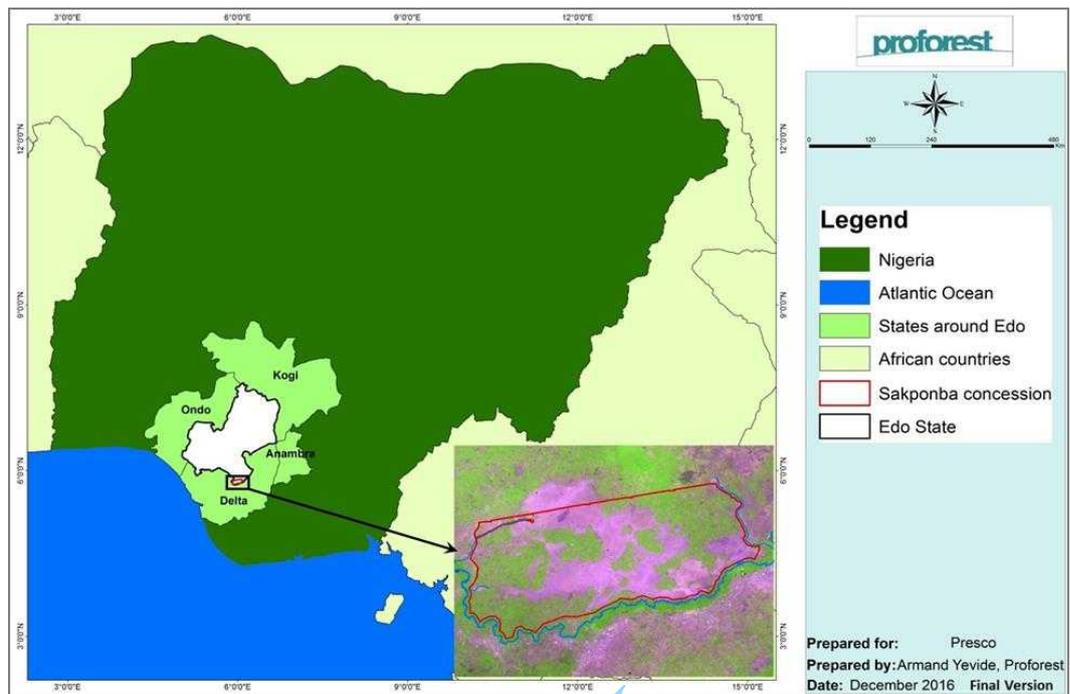


Figure 1. Location of the concession (red outline, pink is grassland or no vegetated land and green is farmlands and degraded forests) within the Edo State and national context

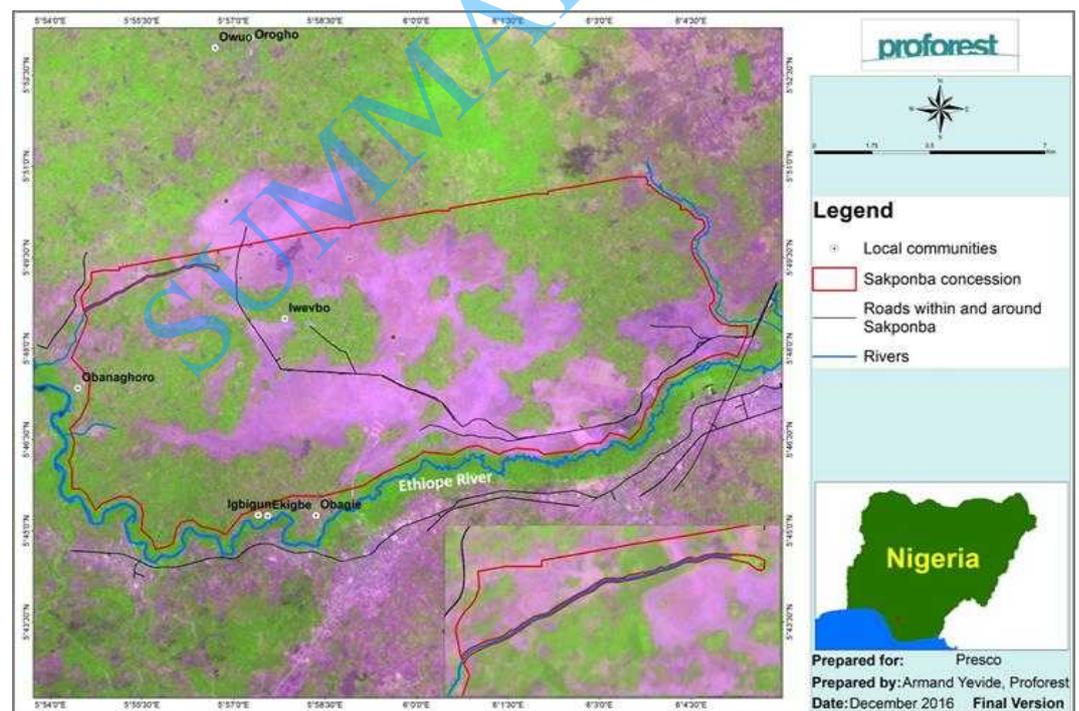


Figure 2. Map of Sakponba concession showing locations of communities that will be impacted

#### 4.2 HCV assessment team, roles and qualifications

The HCV assessment process was led by an HCVRN ALS Fully Licensed Assessor from Proforest, working together with a team of international and local experts in Nigeria. Table 1 below outlines the key team members and their respective roles in the assessment process.

Table 1: The HCV assessment team members

Name	ALS License	Institution	Role	Expertise
Abraham Baffoe	Fully Licensed ALS15006AB	Proforest	Team Leader	Forest Ecology, and social expert
Dr. Michael Abedi-Lartey	-	Proforest	Team member	Fauna expert, Forest Ecology, GIS/mapping
Dr. Emmanuel Danquah	-	KNUST	Team member	Ornithologist and mammal expert
Dr. Armand Yevide	-	Proforest	Team member	GIS/Mapping/ Hydrology
Aristotle Boaitey	-	Proforest	Team member	Social expert, stakeholder engagement, participatory mapping
Joseph Ugbe	-	Independent Consultant	Team member	Forest inventory, botanical survey
Akomaye Ashikem	-	Independent Consultant	Team member	Forest inventory, botanical survey
Dr. Adesoji A. Adeyemi	-	Independent Consultant	Team member	Forest inventory, botanical survey
Gabriel Teye-Ali	-	Independent Consultant	Team member	Community mapping and engagement social expert

## 5 Methods

The assessment methods were structured in two phases: the pre-assessment phase and full HCV assessment phase. The pre-assessment included activities such as desk and web-based research, review of documents and licensed areas and a scoping exercise (including stakeholder consultation and rapid reconnaissance of the assessment area). Similar methods were employed for the full assessment but these were much more detailed in their application, including biological surveys, stakeholder consultation and participatory mapping.

### Scoping

In October 2015, Proforest carried out a scoping study of the Presco Sakponba concession. Much of the desk-based information and key stakeholders to engage as well as most of the baseline socio-economic information was generated during this exercise.

Table 2: The HCV assessment timeline

Process steps	Main activities	Timeline					
		Oct 2015	Nov 2015	Oct 2016	Nov 2016	Dec 2016	Jan, Feb 2017
Pre-assessment	Review of data and information from Presco and other sources						
	Scoping study						

	Analysis of information including feedback to client						
	Preparation of Full HCV assessment proposal and contracting						
Field assessment	Botanical and fauna survey including ecosystem typing						
	Participatory mapping and identification of social HCVs						
Communities and stakeholder consultations	Communities consultations						
	Consultations with state and local government agencies, experts and NGOs						
Analysis drafting of report	Analysis of field data and drafting of report						
Peer Review of reports	Peer and Quality Panel reviews						
Finalization of report	Finalization and submission of report						

### Desk-based literature review

A desk-based study was conducted to gather and analyse available relevant literature on the geo-physical landscape setting, fauna and flora studies, and on the socio-economic setting of the assessment area to support the identification of potential social HCV values. The team also reviewed reports and papers on the wider landscape, the concession maps and the Customary Right of Occupancy and the Deed of Assignment. The team also reviewed the Memorandum of Understanding that the company has signed with the people of Obagie community.

### Consultation with government institutions and other stakeholders

State level institutions and organisations consulted include the Ministry of Environment and Public Utilities, the Forestry, Agriculture, the Lands Commission and the Local Government of the Orhionmwon LGA. The NGO, Environmental Rights Action/Friends of the Earth Nigeria were also consulted. Discussions were also held with the director of Foremost Development Associates, the consulting firm which carried out the assessment of environmental and social impacts. The local communities were consulted throughout the assessment process to help in the identification and mapping of HCV 5 and 6 that were identified in the concession.

### Local community consultations

Communities' consultations aimed at identifying what the local population perceived as the potential impacts of the Presco's Sakponba operations on them and their communities were carried out during the field work of this assessment. A variety of approaches were used including public meetings which were held in all the seven communities (Orogho, Obagie, Obanakhoro, Iwevbo, Igbigun, Ekigbe and Owuo). The public meetings involved a cross-section of all stakeholder groups including traditional



Image 3: Public consultation meeting at Obagie  
Credit: Aristotle Boaitey

leaders, elders, women, youth groups, farmers, fishermen, hunters and other identifiable groups.

### Participatory mapping

In order to assess local communities' use of resources from the assessment area, participatory mapping (Image 5) was done as part of the consultative meetings in each of the seven communities to determine the nature and distribution of utilised resources. The mapping approach was to present a map of the area with all the major landmark including villages, roads etc at a Focus Group Discussion (FGD) or a wider community meetings (led by persons who are able to understand the map) to indicate the location of the particular resources mentioned during the meeting. The participatory mapping was extremely useful as it provided clarity to the local communities on the concession boundaries and also part of the concession that Presco has agreed with the communities for their use for farming.



Image 4: Fauna team surveying at Nyanchia stream  
Credit: Aristotle Boaitey

### Assessment of fauna and flora/Biological survey

In carrying out the field verification of flora and fauna, vegetation maps of the area were analysed as part of the planning process for the field verification. The field assessments of flora and fauna in the concession were undertaken to:

- Obtain a better understanding of vegetation cover of the concession
- Assess the presence of fauna species in the concessions, their distribution and their conservation importance
- Identify rare, threatened and endangered ecosystems
- Assess floristic composition of the vegetation of the area with focus on presence and abundance of species of conservation concern; and
- Identify areas with reasonable forest cover, with high carbon stock or special habitat of interest that should be set aside and excluded from conversion to oil palm plantation.

The field data obtained from the survey were analysed to identify the different biological HCVs as well as rare, threatened and endangered ecosystems present in the concession.

#### 5.1.1.1 Faunal Surveys

Field survey and sampling were conducted in October 2016. The sampled fauna environment included mammals, avifauna, amphibians and herpetofauna. A grid consisting of survey plots, each 2 km x 2 km, was superimposed on a map of the concession using GIS applications. Seventeen (17) plots (Figure 3) were systematically selected (50%) and fauna surveyed from the major vegetation types along paths of least resistance (existing trails) within each plot. A minimum of one kilometre of trails and paths was randomly sampled in each plot. An average of one 500m trail or footpath per square km was maintained in order to ensure a uniform distribution of survey trails within plots. This plan conformed to a *systematic* design. As much as possible, trails and paths were networked to cross drainage lines of the area to incorporate many land cover types (Norton-Griffiths 1978).



Image 5: Participatory mapping at Obanakhoro  
Credit: Michael Abedi-Lartey

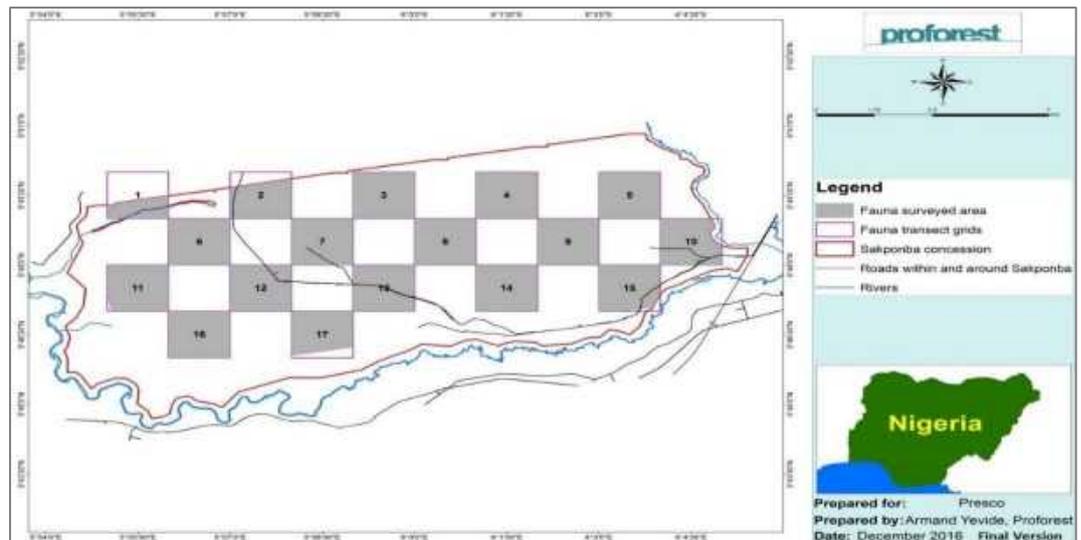


Figure 3 Map of Sakponba Concession showing distribution of fauna survey plots (grey squares)

### 5.1.1.2 Sampling design for flora surveys

Given that there was an existing MoU with the local communities that 2,500 ha of the original 14,436 ha concession would be ceded for farming, a total of 119 plots were laid in the remaining 11,936 ha of the concession. Because the extensive grassland covers about 6,300 ha which contain no trees, about 63 plots were not surveyed, limiting the flora survey to the fallow land, farmlands, riparian vegetation and degraded patches of forests. Plots survey in the savanna area was limited to plots with trees. 100% grassland plots were not surveyed for tree species. Using a stratified systematic random sampling approach, a total of 56 out of the 119 plots were laid using a systematic random sampling approach, applying sampling intensity of 1%. This is because about 63 plots fell in the grassland areas without trees. The sample plots were laid in three main vegetation strata: forest, farmlands and riparian zones (figure 4).

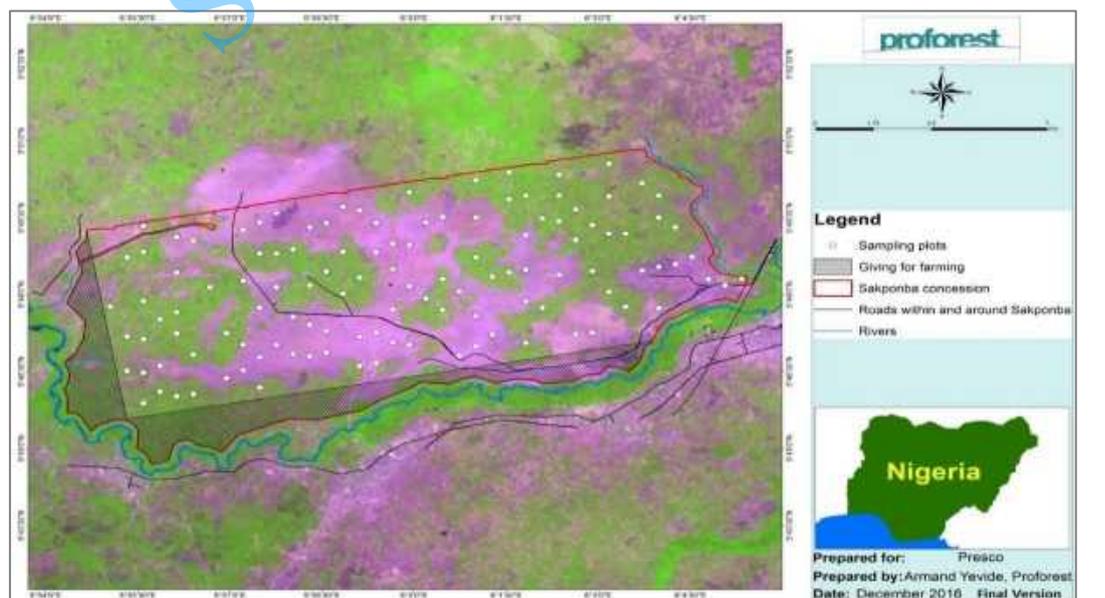


Figure 4 Distribution of botanical sample plots (white dots) in areas with trees (green) and areas without trees (pink).



Image 6: Flora team surveying fallow land in concession  
Credit: Michael Abedi-Lartey

Using mostly existing road and trails as baselines, 500m x 20m (i.e. 1 ha) sample plots (Figure 5) were placed at 500 m intervals and in a south-north direction with the aid of GPS and a compass. Data and information on trees within 10m from both sides of the 500m transect within the plot were recorded for each plot.

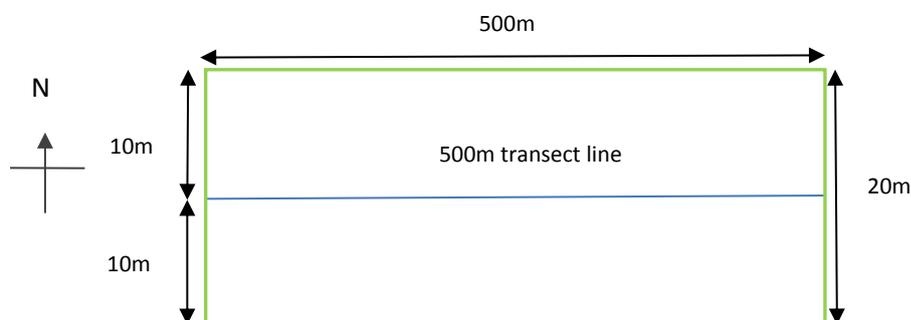


Figure 5. Layout of flora survey sample plot and transect line.

### 3 Assessment findings/results

#### 3.1 National and/or regional context

The rainforests of Nigeria within which the concession is located lies within the Lower Guinean Forest eco-region which is part of the Guinean Forest of West Africa. The Guinean Forests of West Africa extends across the southern part of West Africa and into Central Africa north of the Republic of Congo. Together, the Upper and Lower Guinean Forest Ecosystems of this region constitute the Guinean High Forest Hotspot which is home to some 9,000 vascular plant species, (20% of which are considered to be endemic), over 785 bird species (of which 78 are known to be endemic) and some 320 mammal species (of which more than sixty are known endemics, including 18 primates). The Lower Guinea Forests are a centre of primate diversity, supporting 9 endemic primate species and IUCN Red Listed species such as African forest elephant (*Loxodonta africana cyclotis*), Chimpanzee (*Pan troglodytes ellioti*) and Nigerian white-throated guenon (*Cercopithecus erythrogaster*). However, the extent of the Guinean High forest has been reduced from an estimated 1,265,000 km<sup>2</sup> to 141,000 km<sup>2</sup>, representing an estimated 85% loss during the last century (CEPF, 2000).

Nigeria is a diverse country with many different natural habitats, including savannas, tropical forests, wetlands, lakes, rivers and coastal areas. This diversity, coupled with diversity in landscapes and climatic conditions results in a corresponding diversity in the plants and animals. According to the National Biodiversity Strategy Report (2010), there are about 5,000 species of plants, 22,090 species of animals including insects and 889 species of birds. The report further indicates the presence of over 135 reptilian species, 109 amphibian species, and 648 fish species with the forests of Cross River State being considered as a hotspot for amphibian biodiversity. Threats to biodiversity and tropical forests in Nigeria result primarily from habitat degradation and unsustainable use, with the FAO reporting in 2005 that Nigeria had the highest deforestation rate in the world (FAO, 2005). Subsequently, there are no intact forest outside of protected areas. There are five types of protected area in Nigeria (Kalu and Izeke, 2006). These are the Forest Reserves, National Parks, Biosphere and Strict Nature Reserves, Game Reserves and Special Ecosystems and Habitats. The network of protected areas in Nigeria include the famous Cross River National Park (400,000 ha) in the Cross River State and the Okomu National (20,000 ha) located in Okomu Forest Reserve in the Edo State.

The Cross River National Park has one of the oldest rainforests in Africa, and has been identified as a biodiversity hot spot. Sixteen primate species have been recorded in the park including rare primates such as the common chimpanzees, drills and Cross River gorillas. The Okomu National Park is known to contain a viable population of the one of the African most threatened primates and one of the two monkeys endemic to Nigeria, the Nigerian White-throated monkey. It is known to host a population of the rare Red-capped mangabey and at the same time one of the last refuge of Chimpanzees in Nigeria. It also serves as a home to two other primates, Mona Monkey and putty-nose monkey. Besides, the National Park is home to several species of importance including the Buffalo, Red River Hog, Forest elephant, Yellow-backed duikers, Africa dwarf crocodile, Red river hog and impressive variety of birdlife and butterflies.

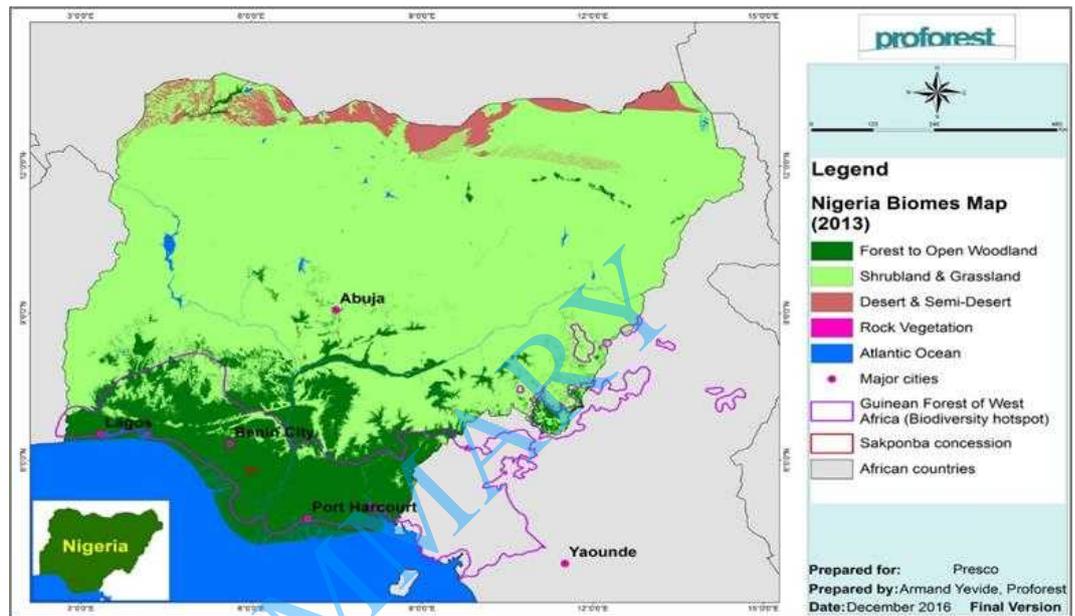


Figure 6. Map of Nigeria showing the different land cover types (CI, 2011). Biodiversity Hotspots. [http://sp10.conservation.org/where/priority\\_areas/hotspots/Pages/hotspots\\_main.aspx](http://sp10.conservation.org/where/priority_areas/hotspots/Pages/hotspots_main.aspx)

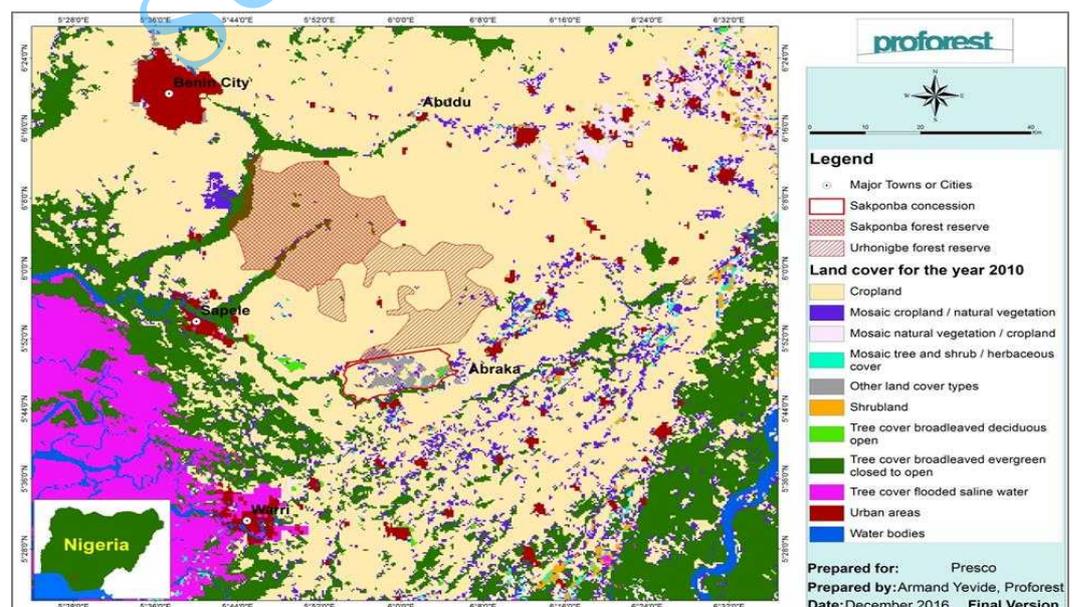


Figure 7. Location of the concession, the Sakponba and Urhoniye Forest Reserves in the landscape. Land cover for the year 2010. Collected field data; Land cover data is at a spatial resolution of 300 m and is taken from the ESA's 2010 global land cover map (<http://maps.elie.ucl.ac.be/CCI/viewer/download.php>).

### 3.2 Landscape context

#### Demography and socio-economic context

Edo State is located south-central in Nigeria bordered in the south by Delta State, East by Anambra State, north by the Kogi State and in the west by Ondo State. The state has a total land area of 1,900,000 ha and had a population of 3.4 million and population density of 184 people/sq km according to the official National Population Census of 2006. Benin City is the capital of the state. The state is made up of three major native ethnic groups; namely the Binis, Esan and Afemai. However, the state has a high presence of residents from across the country and the world because of its cosmopolitan tendencies. The main ethnic groups in State is the Edo or Bini people. The Bini people are now found in several states including the Delta, Ondo and Rivers states in Nigeria. They speak the Edo language and are the descendants of the founders of the Benin Empire. They are closely related to other ethnic groups that speak Edo languages, such as the Esan, the Afemai and the Owan. Virtually all the groups traced their origin to Benin City hence the dialects of the groups vary with their distance from Benin City. The Bini speaking people who occupy seven out of the 18 Local Government Areas of the state constitute 57.54%, Esan (17.14%) Afemai including the Etsako (12.19%), Owan (7.43%), and Akoko Edo (5.70%).

Population and demographic information for the communities in the landscape within which the concession is located are not readily available. The most recent population and Housing Census conducted by Nigeria was in 2006. However, the population of the Orhionmwon LGA from the 2006 Population and Housing Census was 206,717 persons with a density of 88.4 inhabitants per km<sup>2</sup> and a growth rate of 2.74%.

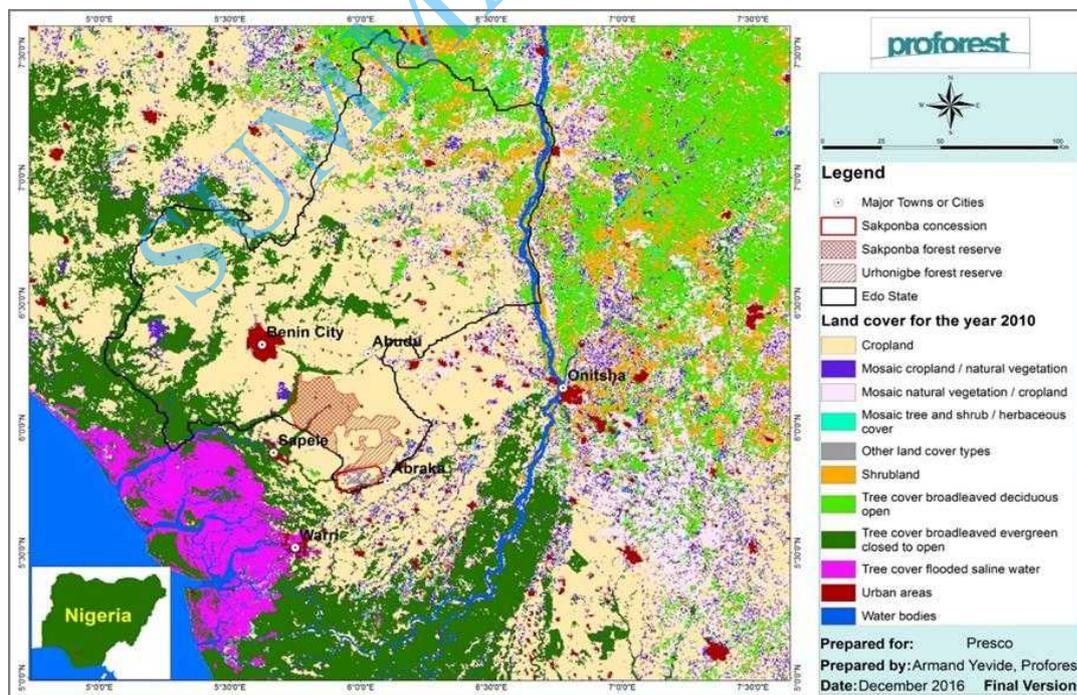


Figure 8. Figure 5. Wider landscape map showing the concession, Forest Reserves and major settlements

There are a total of nine towns and villages within the wider catchment area of the Sakponba concession. However, the communities within its immediate catchment and would be impacted by the proposed development and their population estimates from the ESIA report submitted by Foremost are Obagie (2,000), Orogho (1,000), Owuo (2,500), Iwevbo (1000), Ugbigun (720), Ekigbe (550) and Obanakhoro (4,400). The

traditional leadership of the surrounding villages is well-structured with the Odionwere (the oldest man in the village) in charge of each village supported by a council of elders who oversee the affairs of each village. Agriculture is the mainstay of the population within the landscape and it is the most common land-use activity. Apart from agriculture, other important industries in Edo State and particularly in the landscape include petroleum and gas extraction, timber processing and small-scale garri processing.

Land tenure in the State is governed by the Nigerian Land Use Act of 1978 which vests all land comprised in the territory of each State (except land vested in the Federal government or its agencies) solely in the Governor of the State, who holds such land in trust for the people and would henceforth be responsible for allocation of land in all urban areas to individual residents in the State and to organisations for residential, agriculture, commercial and other purposes. Similar powers with respect to non-urban lands is conferred on Local Governments. Thus, the State Governor and the Local Government administer lands in accordance with the Land Use Act.

### Protected and key biodiversity areas in the landscape

The closest conservation areas to the concession are the Permanent Sample Plot and the Strict Nature Reserve in the Urhoniḡbe Forest Reserve which is 9.54 Km away from the closest boundary of the concession. In terms of conservation area of national and global importance, the Okomu National Park which is located 74 km to the north-east of the concession is the closest. The area between the Strict Nature Reserve of the Urhoniḡbe Forest Reserve and the northern boundary of the concession has been converted into large-scale industrial cassava plantation.

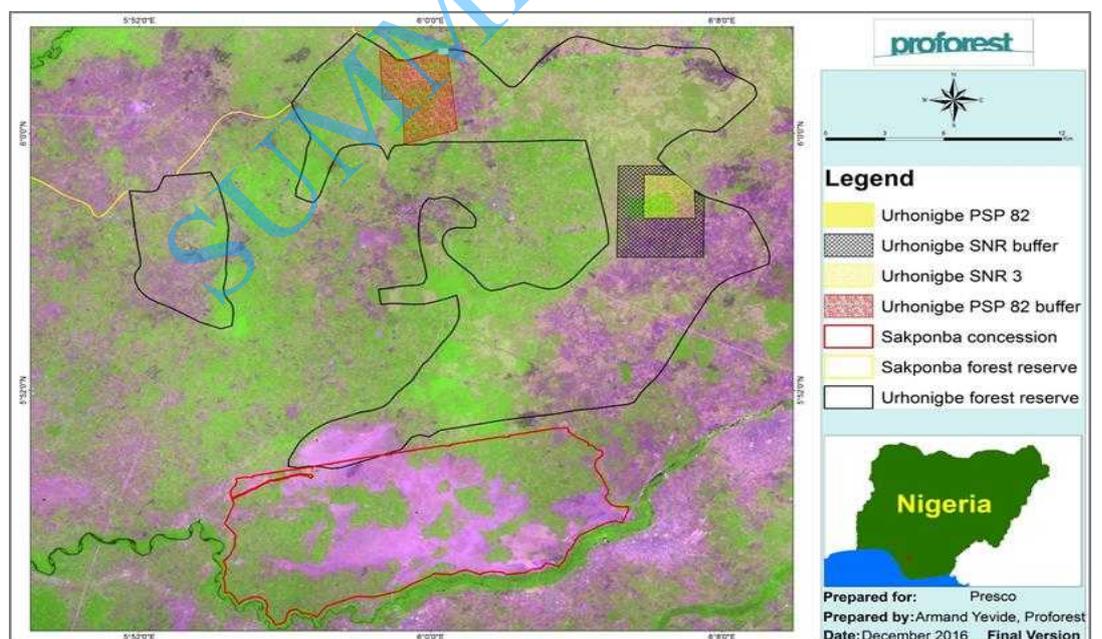


Figure 9. Map Sakponba concession showing the Urhoniḡbe Forest Reserve, the PSP, SNR and their Buffers (Edo State Forestry Department)

### Physical features in the landscape

The topography of the landscape is generally low-lying except towards the north axis where the Northern and Esan plateaus range from 183 metres of the Kukuruku Hills and 672 metres of the Somorika Hills. The topography of other areas outside these hills range from about -30 to 75 meters above sea level, with rarely noticeable hills or high

slopes. Swamps and streams are quite prominent in the landscape, with few major rivers including the famous Ethiope River which serves as the border between the Edo and Delta States. Located in the high forest zone of Nigeria, rainfall is heavy for about nine months of the year from March to November with mean annual rainfall of about 2,100 mm with the period February to November being the main rainy period with peak in June, July and September. The driest months of the area are the months of December and January. The annual high temperature occurs in March/April while the annual low occurs in November/December. Mean monthly temperature value ranges between a minimum of 25.3°C and maximum of 28.2°C, while relative humidity is high throughout the year, with cloud cover. The high relative humidity is due to the proximity of the area to the ocean. The major soil type is sandy loam; the texture of the soil is responsible for its high permeability and high base-leaching.

The closest industrial oil palm plantation in the landscape is the Presco Obaretin plantations which is located 41.25 km in beeline from the Sakponba concession.

### 3.3 HCV outcomes and justification

This section presents an overview of the HCVs identified in the Presco Sakponba concession. Table 2 below indicates presence and absence of HCVs

Table 3: Summary of HCV assessment findings

HCV	Definition	Present	Potentially present	Absent
1	<b>Species diversity.</b> Concentrations of biological diversity including endemic species, and rare, threatened or endangered (RTE) species that are significant at global, regional or national levels.	Present		
2	<b>Intact Forest Landscape and landscape-level ecosystems and mosaics.</b> Large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.			Absent
3	<b>Ecosystems and habitats.</b> Rare, threatened, or endangered ecosystems, habitats or refugia.	Present		
4	<b>Ecosystem services.</b> Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.	Present		
5	<b>Community needs.</b> Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples.	Present		
6	<b>Cultural values.</b> Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.	Present		

#### HCV 1 Species diversity

HCV	Key question	Finding
HCV 1	<b>Species diversity.</b> Concentrations of biological diversity including endemic species, and rare, threatened or endangered (RTE) species that are significant at global, regional or national levels	<b>PRESENT</b>

Assessment of HCV 1 has been based on field surveys, literature review and consultations with national experts and other stakeholders. Biodiversity surveys were conducted in all the representative samples of the different vegetation classification (the grassland, farmlands, fallowland and degraded forest areas) within the concession. Anecdotal evidence suggests that although anthropogenic activities causing deforestation forests pre-dates the Biafran War of 1967-1970, the landscape within which the concession is located suffered unprecedented deforestation during the war when the forest in the concession area was believed to have been cleared by the military who used the concession area as a Military Camp. The grassland has since been spreading due to annual burn to facilitate grazing by the Fulani herdsmen. Besides, the non-grassland vegetation areas within the concession have been cultivated by the local farmers over several decades that these areas no longer contain their original vegetation cover. The only forest vegetation in the concession and the adjacent landscape are the degraded forest along the Nyanchia stream and the Ethiopie River and the patches of severely degraded regenerating forests in-between farms to the north-east of the concession.

#### Discussion and justification

Of the 74 plant species recorded, only two species (representing 2.7%) are listed on the IUCN Red List 2016 as Rare, Threatened or Endangered. These are *Cola nigerica* locally called Nigerian Cola Tree (CE); *Gossweilerodendron balsamiferum* (commonly called *Agba Tola*) (EN). These two species are considered HCV1. The HCV 1 species such as the *C. nigerica* is of high cultural and commercial value because of the use of its nuts for chewing (fasting) and ceremonial purposes. Consequently, although sometimes felled for fuelwood, this species is typically preserved in the farmlands and forest pockets, along with retention of undergrowth, which benefits other species such as liptenine butterfly species (Lycaenidae) (Forest, 1992). Other species of conservation concern are the *Entandrophragma utile* (commonly called mufumbi mahogany or African cedar) and *Nauclea diderrichii* (commonly called African peach) are both (VU), *Irvingia gabonensis* (commonly called Wild or Bush Mango) and *Milicia excelsa* (commonly called Obeche or Odum) (NT). *Baphia nitida* (Camwood) and *Uvariastrum eliotianum* were classified as Least Concern (LC). These species are very few in the concession and although not HCV 1 species by themselves, were found within the vegetation along the Nyanchia stream which has been recommended for set-aside for protection.

Riparian vegetation ranked highest with a record of 45 fauna species, followed by forest (31 species), grassland (24 species), cropland (22 species) and shrubland (20 species). Eight of the species encountered (White stork, Palm-nut vulture, Malachite kingfisher, African civet, Flat-headed cusimanse, Red river hog, Bush buck and Maxwell's duiker) are listed as either nationally Rare, Threatened or Endangered in the Nigerian CBD 4<sup>th</sup> National Report of 2010 submitted to the Convention of Biodiversity. However, all these species are listed as Least Concern in the IUCN Red List. Given that these species are nationally rare, threatened and endangered, they are considered as HCV 1 species. A combined list of IUCN RTE species and the RTE species based on the Nigerian CBD 4<sup>th</sup> National Report of 2010 and potential presence of these species in the Sakponba can be found at Annex 7 of this report. For avifauna, riparian vegetation had the most

distinctive avifauna of all the land use types, represented by a variety of water-dependent birds including families of Anatidae (ducks) and Alcedinidae (kingfishers). Two non-resident migrant stork species of family Ciconiidae (White Stork, *Ciconia ciconia* and Woolly-necked Stork) were also recorded around the Nyanchia riparian. These species were not encountered around the ponds but both stork species are known to seasonally visit freshwater marshes in open areas within the concession. In terms of birds of conservation interest, the Woolly-necked Stork is of international concern as it is listed on Appendix II of CITES and described as Vulnerable on the IUCN Red List. Migration stop-over sites such as in those in the concession are particularly important for storks (*Ciconia* spp), as the presence and condition of such migratory sites greatly influences the survival of such species (Chevallier *et al*, 2011; Sanderson *et al*, 2006).

Most of the species listed as being of conservation importance are habitat generalists – capable of surviving in both mature forest and degraded and highly fragmented habitat, with none exclusively dependent on primary or mature forest cover. However, the assessment team concluded that HCV 1 is present in Sakponba based on the presence of two species of flora, *Cola nigerica* and *Gossweilerodendron balsamiferum* which are critically endangered and endangered respectively at the global level but are present in the degraded forest along the Nyanchia stream. Additionally, the nationally rare, threatened and endangered fauna species (White stork, African civet, Flat-headed cusimanse, Red river hog, Bush buck and Maxwell's duiker) were also found in the Nyanchia riparian forest. All these species are considered HCV 1 based on their rarity at the global and national levels. Other globally important species listed on the IUCN Red List such as the Near Threatened Allen's River Frog (*Phrynobatrachus alleni*) and two Vulnerable species, the Wolly-necked stork (*Ciconia episcopus* and the Dwarf crocodile (*Osteolaemus tetraspis*) were also found in this same area although not necessarily HCV 1 species. Given that globally and nationally rare, threatened and endangered species in significant concentrations qualify as HCV 1 and the fact that the assessment was based on sampling, the entire forest areas along the Nyanchia stream where the HCV 1 species were encountered has been considered as HCV 1 area. These same forested areas have been identified to contain HCV 4, 5 and 6 by this assessment. The assessment team has therefore provided strong recommendations for setting aside and protection of the entire riparian forest vegetation along the Nyanchia stream. This includes setting aside the entire forest and protecting it as HCV 1 management area. Figure 12 below shows the Nyanchia riparian forest areas within the concession where HCV 1 species were encountered. The HCV 1 management forest area along Nyanchia stream is 109.9 ha. This includes the degraded forest habitats capable of natural regeneration to a good forest cover and a 10 m buffer between the forest and the proposed plantation. The extent of the HCV 1 set-aside area is 50 to 160 m from the stream and therefore exceeds the recommended 25 m buffer on either side of the stream even at the narrowest section of the HCV 1 forest along the river. The recommended HCV 1 management area is sufficient to maintain or enhance the 10 species (2 plants, 5 birds and 3 mammals) which are HCV 1 values because most of them are birds and plants. Besides, the remaining grassland vegetation is not their preferred habitat. However, the most important measure to maintain values is the protection of *Cola nigerica* and *Gossweilerodendron balsamiferum* from being felled/burnt and reduction/elimination of hunting pressure on mammalian species in the set-aside area.

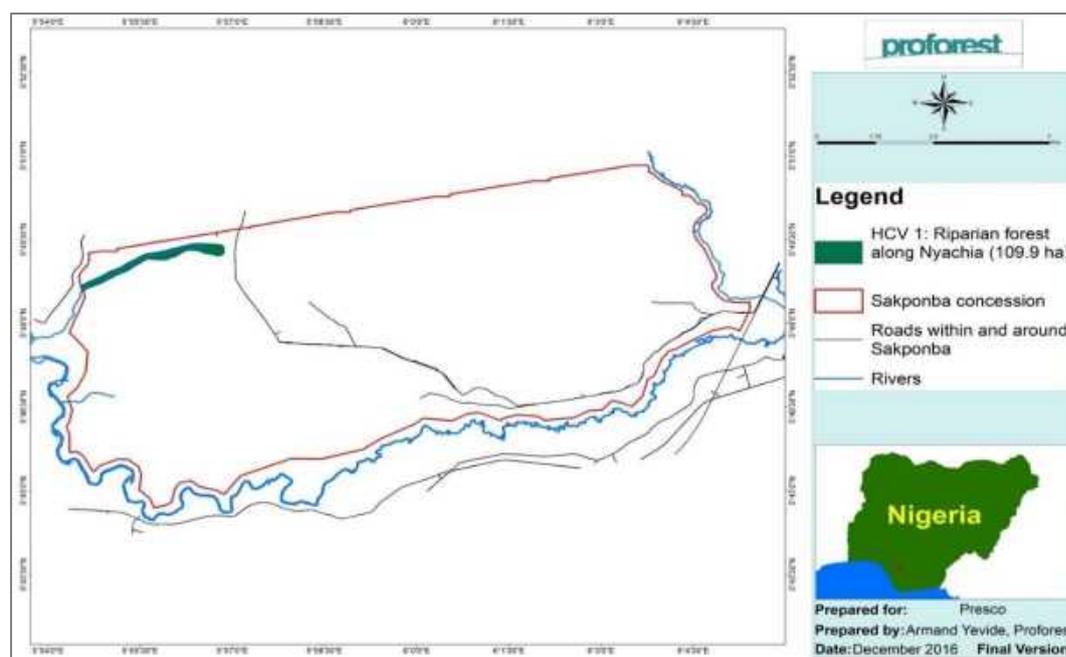


Figure 10. Locations of HCV 1 and the management areas in the Sakponba concession

## HCV 2 Globally, regionally or nationally significant large landscape level forest, landscape level ecosystem and ecosystem mosaics

HCV	Key question	Finding
2	Does the concession contain or form part of a regionally or nationally significant Intact Forest Landscapes and large landscape forest or ecosystem, or does it serve as a linkage joining two such forests or ecosystems?	<b>ABSENT</b>

### Discussions and justification

HCV 2 generally encompasses ecosystems and ecosystem mosaics that are sufficiently large (greater than 50,000 ha) and relatively undisturbed enough to support viable populations of the great majority of the naturally occurring species and (implicitly) the great majority of other environmental values occurring in such ecosystems.

HCV 2 refers mainly to large landscape level forests or ecosystems that are generally intact and where ecological processes and ecosystem functioning are largely unaffected by recent anthropogenic activities. In assessing the presence of HCV 2, the following questions were posed:

- Is the concession contained within or adjoin Intact Forest Landscape?
- Does the dominant forest block or the ecosystem within the concession represent a reasonably unfragmented block of forest or ecosystem of at least 50,000 hectares?
- Are the forest or ecosystem types of the concession connected to an adjacent large landscape level forest/ecosystem or contained within a large landscape forest or ecosystem?

- What is the status and distribution of the dominant habitat types within the concession connected with the adjacent large landscape level forest or ecosystem?
- Will the loss or severe degradation of the connected forest or ecosystem areas significantly impact habitat or ecosystem function of the adjacent large landscape level forest? As indicated earlier, the Sakponba concession is in a highly-fragmented mosaic of agricultural and other land uses. Large and intact natural ecosystems are extremely rare within the landscape. The nearby Urhonigbe Forest Reserve became badly degraded decades ago and has therefore been de-gazetted and converted into agricultural land of which a large part (areas bordering the Sakponba concession) has recently been converted into industrial cassava plantations.

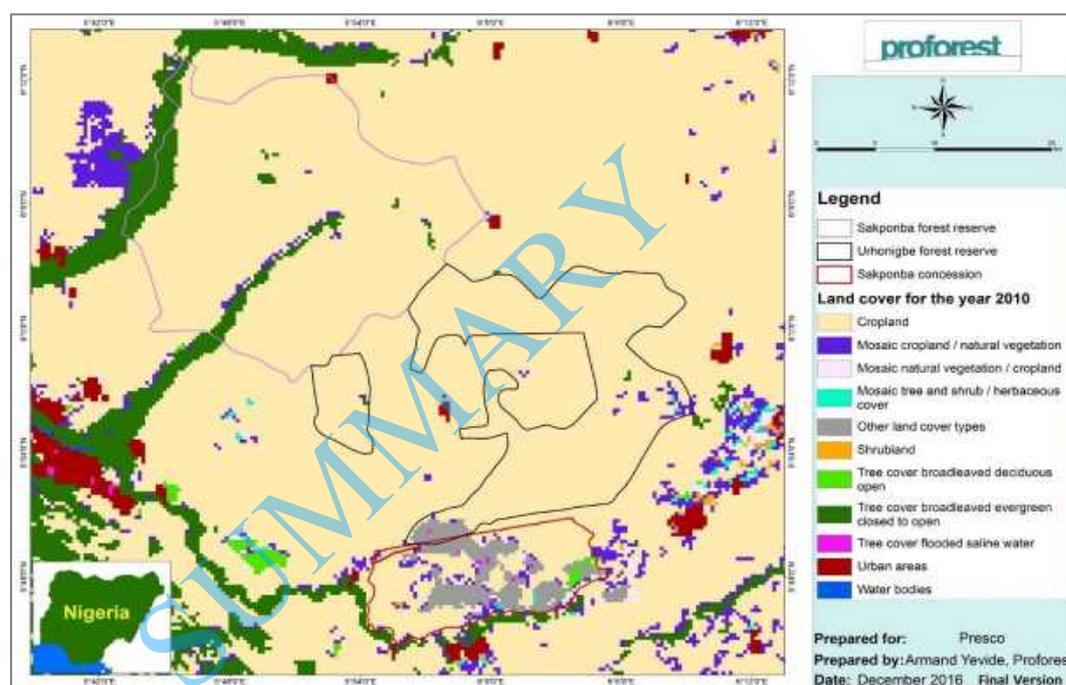


Figure 11. Land cover map of the Sakponba concession and the two forest reserves in the landscape

The landscape and most parts of the Sakponba concession (except for small patches of forest and riparian vegetation) are severely degraded. The existing forest cover is very highly fragmented throughout the landscape. The patches of forests within the landscape and in the concession are very isolated and diffused with no connection to the Okomu National Park or any forest area of conservation importance. The Sakponba therefore, neither contained in nor adjacent to any contiguous block of forest of greater than 50,000 ha. It is not also in any intact forest landscape that contain viable proportions of naturally occurring species in natural patterns and distribution. It is therefore unlikely that HCV 2 is present. The assessment therefore conclude that **HCV 2 is ABSENT**.

### HCV 3: Areas that are in or contain rare, threatened and endangered ecosystems

HCV	Key Question	Finding
3	Does the concession fall within or contain an ecosystem or habitat that is considered rare, threatened or endangered?	<b>PRESENT</b>

#### Discussion and justification

There are two main types of vegetation in the concession: riparian forests and extensive grassland. These are in the following parts of the concession:

- Less degraded strip of riparian forests along the Nyanchia stream in the northwest which falls within the recommended buffer zone
- Mosaics of very degraded forests within farming areas to the north-east
- Extensive areas of grassland, mostly in the southeast through to the north and northwest.

The riparian forests along the Nyanchia stream does not necessarily qualify as HCV 3, given the level of degradation and the fact similar strips of forests are not rare in the landscape. For example, the forest cover of the Strict Nature Reserve and the associated buffer in the Urhonigbe Forest Reserve and those along the Ethiopie River are much bigger and in good condition than the degraded and small strip of forest along the stream. Also, the vegetation to the north-east does not qualify as HCV 3 because it is predominantly farms with trees and few patches of forest vegetation in-between farms. It cannot be considered as HCV 3 given the level of farming activities in that area. This is supported by the fact that the carbon stock assessment suggests that none of the vegetation categories in the concession has carbon stock of more than 10 tons per ha. Thus, no vegetation class in the concession can be considered as High Carbon Stock (HCS).

A few swamps and ponds are in the Sakponba concession. Swampland ecosystems are increasingly becoming rare at various scales due largely to drainage for agriculture and other purposes, and constitute a highly-threatened habitat type. The swamps are very small ranging from 0.4ha to about 3 ha but could be larger during the peak of the rainy season. They are mainly located in the savannah-like grassland with the major ones such as Ezenugbegbe being sacred sites or shrines for the fringe communities such as Obagie and Orogho. The swamps provide a refuge to a variety of wildlife species (mostly birds) as was evident from the results of the fauna survey carried out during this assessment although no HCV 1 bird species was encountered at the swamps.

Given the high deforestation rates in the past and the increasing area under cultivation, lowland swamp forests with natural species composition are rare in the country. This means that any swamp area and the forest vegetation around it would almost certainly qualify as HCV because the ecosystem has become so rare due to anthropogenic activities. Thus, all the small pockets of swamps and ponds in the concession have been identified as HCV 3 areas. A 30 metre buffer from the edge of the inundated area during peak wet season is recommended for the three small swamps and ponds in the concession.

HCV 3 is thus confirmed present in the concession. Thus, the Ezenugbegbe and Iwevbo swamp areas and the Army Base pond (referred to as “Lake” by the local people) that are in the concession are considered HCV 3. The total area of HCV 3 in the concession are approximately **10.8 ha**.

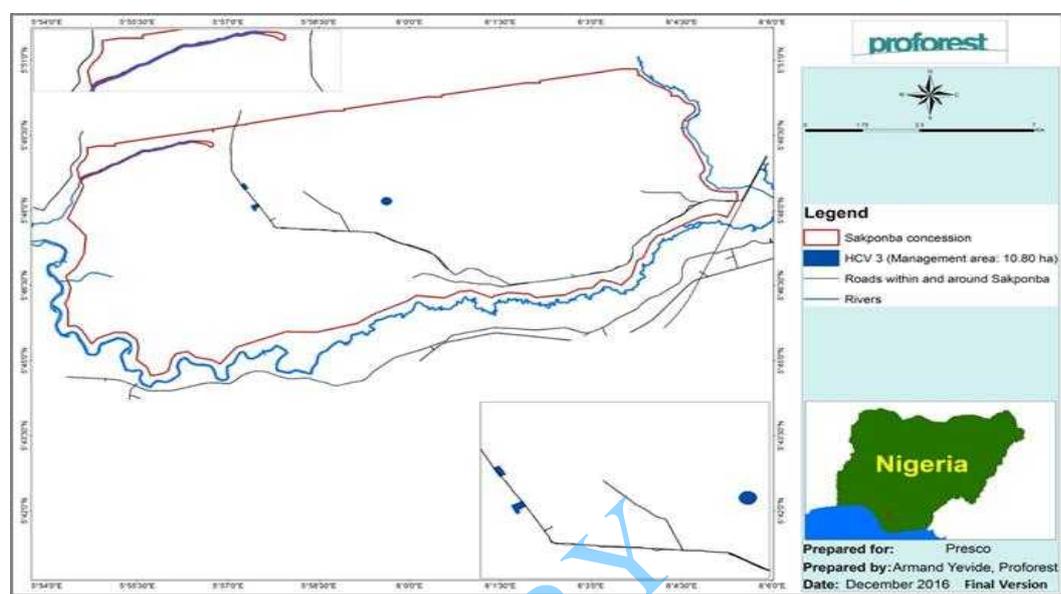


Figure 12: Map of Sakponba concession with HCV3 areas, the Ethiope River and its tributaries

#### HCV 4: Areas that provide basic services of nature in critical situations

HCV	Key question	Finding
	<b>Ecosystem services.</b> Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.	<b>PRESENT</b>

#### Discussion and justification

There is potential risk of pollution of rivers and streams that run through the concession area if the riparian vegetation protecting these rivers and streams are cleared and replaced with oil palm. The forest along the rivers and streams particularly the Nyanchia stream provides stabilising effect and protects the river from erosion and run-off. Therefore, the following factors were considered in the identification of HCV 4:

- Protecting watersheds, regulate streamflow and prevent potentially catastrophic floods,
- Preventing the spread of fires, or
- Controlling erosion of vulnerable soils and slopes.

#### Control of erosion and slopes

Although the soil in the concession area is predominantly sandy, the risk of critical soil erosion due to steep slopes in and around the Sakponba concession appears low mainly because the area is low-lying and the topography is generally flat. For example, the elevation at the Sakponba concession ranges between 30 and 75 m above sea level. However, the extensive grassland in the concession, and the predominantly sandy soil could expose the area to risk of erosion during the onset of the rainy season around

April if bushfire is not controlled. This is because a combination of wildfires and dead grass could expose the soil to flash flooding. However, there was no historical evidence of erosion or signs of erosional problems in the concession area based on the existing cassava plantations to the north of the concession.



Image 7: Grassland near Nyanchia riparian forest burnt by Fulani cattle herdsman  
Credit: Michael Abedi-Lartey

#### *Prevention of spread of fires*

Although the risk of destructive wildfires in the concession is very high in the dry season due to the extensiveness of the grassland vegetation throughout the concession itself which dries in the dry season. Evidence (Image 7) from this assessment was that Fulani cattle herdsman routinely set fires to the grassland vegetation just at the beginning of the dry season to facilitate fodder from grass regrowth at this time of the year for their cattle to graze. Discussions with the local communities suggests that wildfire has not posed any challenges in the past because they are usually confined in the savanna grassland areas which are largely not used for farming or any major livelihood activity.

#### *Provision of clean water and protection of riparian vegetation*

Riparian vegetation protects water quality by trapping sediments and pollutants associated with run-off, helping recharge underground aquifers, dissipating stream energy during floods, and providing detritus for aquatic organisms. A reduction in the vegetation cover of riparian areas can thus lead to increased sedimentation and nutrient loading of streams which will result in a marked decrease in the quality of the water bodies. By supporting aquifer recharge and maintaining stream flow, the riparian vegetation also ensures water quantity (and quality) is maintained.

Therefore, the streams and rivers in the concession (Figure 14) and their riparian vegetation play important role in supporting and regulating ecosystem services including flood regulation/buffering and water purification. Additionally, the people of Obanakhoro intimated during the communities' consultations that the Nyanchia stream is a source of drinking water whiles on their farms. They also explain that the Nyanchia stream is a major source of protein during the dry season because according to them, the stream produces large quantities of fish during the dry season which the people of the community collect. No other river exists in the concession apart from the swamps and ponds. The assessment team has recommended that all the swamp areas be protected, a recommendation which the management of Presco has confirmed that it was their original intention to exclude all swamp areas from conversion and protecting them from all plantation activities. The area within the set buffer for the Nyanchia stream is 50 metres on each side of the Nyanchia stream at the narrowest part and 160 metres on either side at widest part of the river where it spreads wider in the forest vegetation. The area contained within this set buffer is the HCV management areas has been recommended for set-aside and for protection. These have been clearly mapped. Nigeria does not have a Buffer Zone Policy that have recommendations and set limits for buffer zones. Therefore the 50 to 160 metre recommended buffer for the Nyanchia stream was based on the Buffer Zone Policy for Ghana which has buffer zone recommendations based on the width of the river, the topography and the landuse. The recommended buffer for the small unnamed stream below Nyanchia is 25 metres on either side of the river. This is also based on buffer zone recommendations from the Ghana Buffer Zone Policy.

Based on the above, HCV 4 is confirmed **PRESENT**. Given the presence of the very few perennial swamps, several seasonal ponds, and the only two riparian forests that serve as waterbodies on which local communities depend for household consumption, the **Nyanchia stream and its riparian forest and the riparian forest of the unnamed small**

stream are considered as HCV 4. Total HCV 4 management areas which comprises 25 m on either side of both streams is 27.35 ha. Please note that the recommended buffer of 25 m is less than the width of riparian forest along the Nyanchia stream. The recommended buffer for the unnamed stream is also slightly higher the width of the riparian forest although some areas contain farms. Therefore, the assessment team have made recommendations for rehabilitation of riparian buffer of the small unnamed stream.

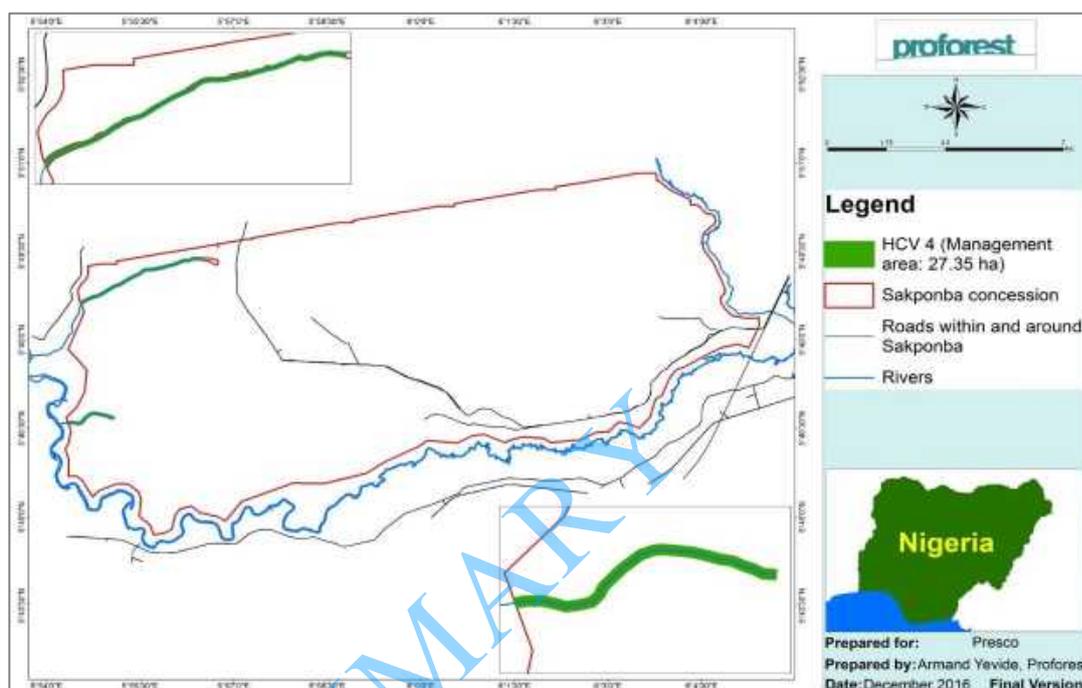


Figure 13 Map of Sakponba concession with HCV4 areas of the Nyanchia stream and a small stream (both tributaries of the Ethiope River)

## HCV 5: Areas fundamental to meeting basic needs of communities

HCV	Key question	Finding
5	Does the concession contain areas that are fundamental to meeting the basic necessities of the local communities, e.g. (livelihood, nutrition, water, health etc)?	<b>PRESENT</b>

### Discussion and justification

#### Water resources and fisheries

An area or a resource is considered as HCV 5 when it is the source of basic needs in a situation where the majority of the local people or the poorest populations have no realistic alternative. This include areas that are of essential for local communities as substantial and irreplaceable sources of food, medicines, fuel, household water and other basic needs. The people of Obanakhoro explained during the community consultations that the people of Obanakhoro collect fish from the Nyanchia stream during the dry season to supplement household protein. In addition to this, the Nyanchia stream is a source of drinking water for downstream communities and farmers on their farms.

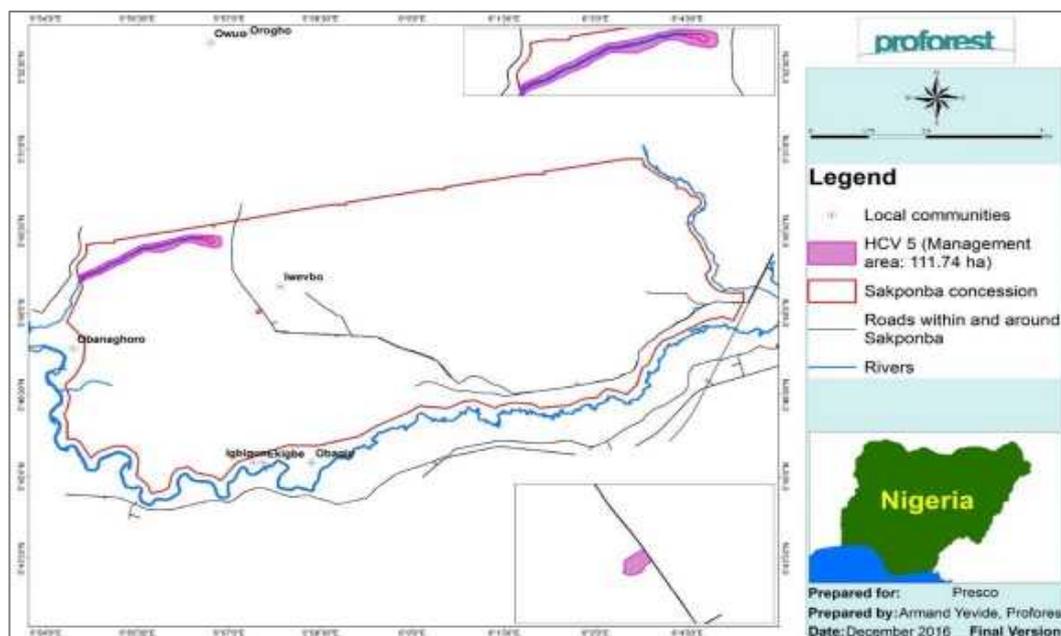


Figure 14 Map of Sakponba concession with the location of HCV5 areas around the Nyanchia stream

### Hunting

Hunting remains an important source of protein but hunting in the concession is largely limited to the riparian vegetation along river Nyanchia and the Ethiope particularly along the Ezenuwor area. The riparian forests along these two rivers are evidently hunting spots but this is considered not to be an indispensable source of protein and/or livelihoods. Local hunters also indicated that the species of animals they hunt are dispersed throughout the landscape, and that there are neither target species of animal they hunt nor a specific hunting spot in the area where the species are concentrated although the riparian forest at Ezenuwor and Nyanchia stream are the hunting spots



Image 8: Hunter with catch from Nyanchia riparian forest  
Credit: Michael Abedi-Lartey

### Gathering of food, medicines and construction materials

It was revealed during public meetings and focus group discussions that certain leaves and herbs are collected from nearby bushes. However, NTFPs were generally not considered as critical sources of livelihoods. Additionally, the NTFPs are diffused in the landscape and were noted not to be collected mainly from the concession although they do occasionally collect from the Nyanchia forest. However, the people of Orogho indicated that they collect trees and herbs locally called Ehieme and Itakoma which have medicinal properties and are used to heal several sicknesses and are important for meeting their healthcare needs. They indicated these are collected from two small shrub area called Ekukusu. During HCV mapping, the assessment team found one of the Ekukusu area in the concession near the Ezenugbegbe shrine while the second one is located outside of the concession (north of the concession). The Ezenuwor for Obagie: Forest rich in wildlife such as tortoise, porcupine, snails etc and fish from the pond which the people collect to supplement their protein requirements. This forest is located close to the Ethiope River outside the concession. The small Ekukusu (about 1 ha) in the concession which is closed to the only road through the concession is considered as HCV 5. Total HCV management area and the associated buffer of 30 m is 1.84 ha.

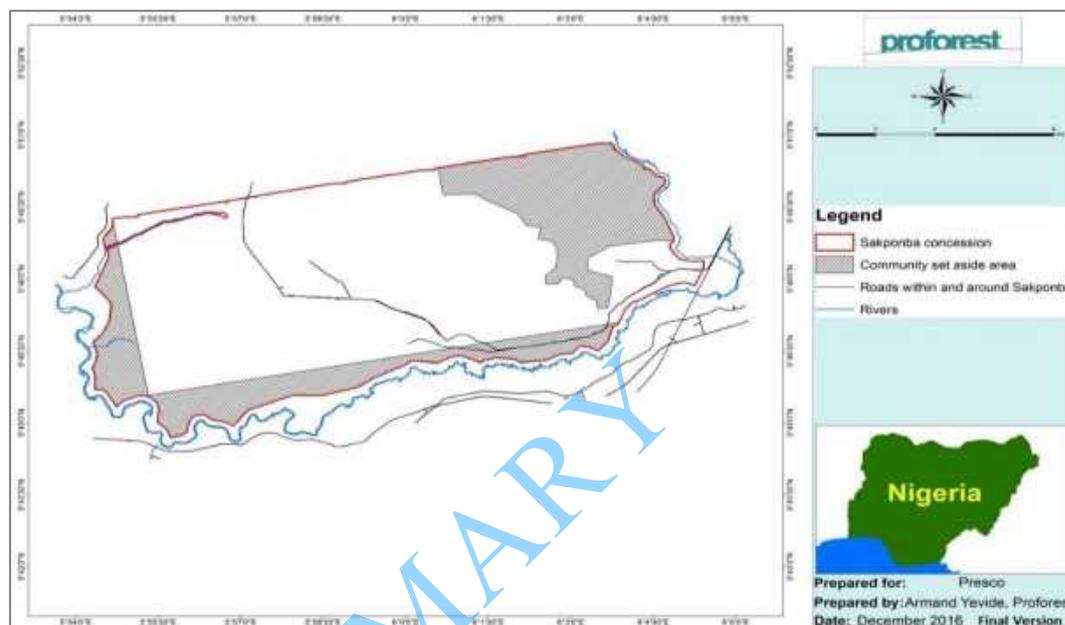


Image 9: Farmland adjoining fallow land in the concession  
Credit: Michael Abedi-Lartey

### Farmland

The communities around the concession areas are predominantly agrarian and several local people have their farms in the concession. However, the local population have

agreed to accept compensations and move their farms to adjacent lands. They also confirmed that the Ministry of Agriculture has started crop enumeration and compensation processes. This notwithstanding, the communities have agreed with Presco to set-aside 4,500 ha of the concession in areas considered as fertile for farming for future farming purposes (the hash ash areas of Figure 14 below) and the company has agreed to preclude the agreed areas from any conversion activities for oil palm plantation development. Although farmlands are not necessarily HCV 5, this understanding agreed with local communities during the FPIC process will help address



any potential shortage of future farmland for the local communities in the landscape.

Figure 15. Map of Sakponba concessions showing set-aside farmlands of approximately 4,500 ha

Most NTFP collection sites including the famous Ezenuwor area are located outside of the concession. However, given the myriad of livelihood services provided by the Nyanchia stream including as a source of drinking water and collection of NTFPs in the riparian forest along the river, the assessment team concluded that the Nyanchia stream and its associated buffer and the small Ekukusu in the concession are HCV 5 and therefore HCV 5 is confirmed **PRESENT** (Figure 16). Total management area of these two HCV 5 areas (Nyanchia 109.9 ha and Ekukusu 1.84 ha) is approximately **111.74 ha**. The 109.9 ha of the HCV management area along Nyanchia also overlap with HCVs 4 and 6 given that Nyanchia shrine is located within the buffer zone of the Nyanchia stream.

### HCV 6 Areas critical to local communities' traditional cultural identity

HCV	Key question	Finding
6	Cultural values. Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.	Present

## Discussion and justification

### Sites of national or global importance

This includes archaeological, UNESCO World Heritage and cultural heritage sites and all other similar sites of global or national importance. There is no such site within or adjacent to the concession as confirmed from the stakeholder interviews and extensive literature search.

### Sites of cultural, religious or traditional importance to local communities

All the communities surveyed indicated that they have shrines or sacred sites located within the concession or closed to the community, except Obanakhoro which indicated that the community is Christian community and therefore does not have a shrine. Four of the six sacred sites identified (Ezenugbegbe, Arousa, Nyanchia and Egon-gougou) are located in the concession while the remaining two (Ezenubie and Izabouwen) are located outside of the concession (Fig 15).

HCV6 is thus confirmed as **PRESENT** (HCV 6 and their total management areas as requested and agreed with local communities is **7.51 ha**).

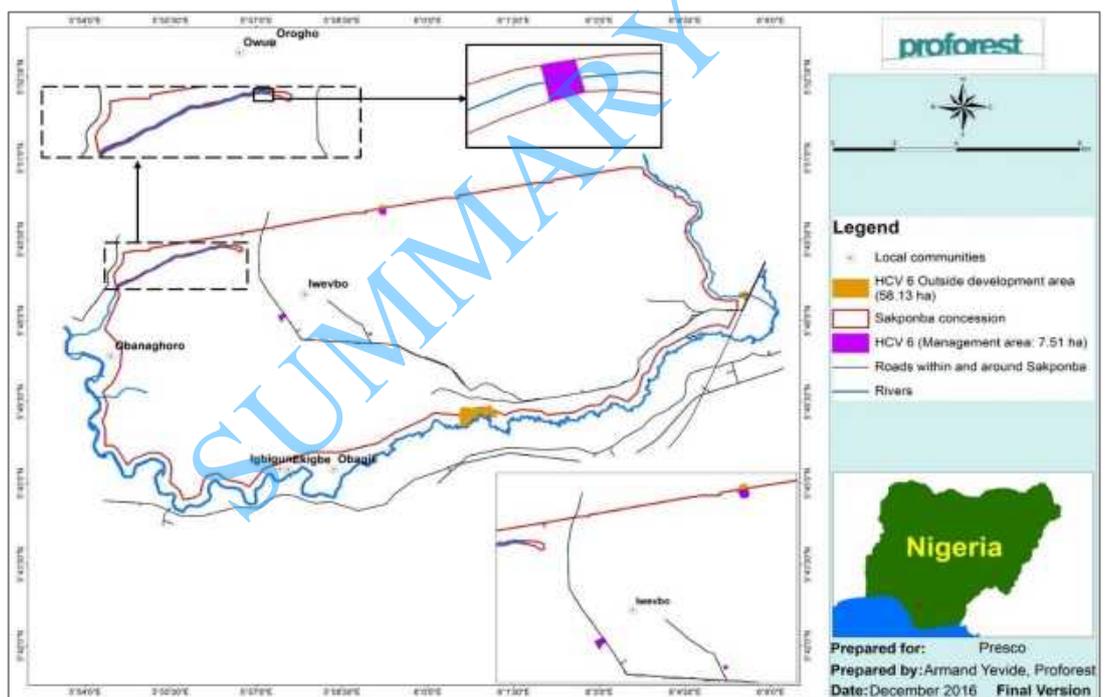


Figure 16. Map showing HCV 6 areas in the Sakponba concession. Total area 7.51 ha.

Details of the four HCV 6 areas located within the concession are:

**Ezenugbegbe:** This shrine consists of a deep pond which is believed to have its own Princess from the Obagie community who serviced the gods of the pond. The annual ritual is performed in December of each year and the specific date is announced by the Oba of Benin. The people believe that the gods of this spiritual site provides protection for the community and its inhabitants. They believe that the gods also support food production and makes barren women to have children. According to the people of Obagie, the shrine and its required management area should be 1 ha but the team added a buffer to make it **2.9 ha**.

**Nyanchia:** This is a shrine where the founder of the Obagie community first settled to bless the establishment of the community. Physical things present at this shrine are iron, cowries, native chalk and red clothes. Although most of the headwaters of the Nyanchia stream is considered a shrine, the actual HCV 6 and its management area as agreed with the local population is **0.21 ha**.

**Aruosa:** This shrine is a pond surrounded by Bamboo stands. This shrine is serviced in October of each year and it is believed that the people of the area can only eat the new yam after the performance of the rituals in October. The Arousa shrine and its management area as agreed by the people of Obagie is **0.4 ha**.

**Egbon-ogiougo:** This is a historical site. The people believe that during war with the Benin people against one Benin Chief, called Ogiougo, the Ogiougo dropped his beads at the site and the beads germinated to become a tree. They therefore consider the place sacred and perform rituals there when the Oba of Benin visits the community. A local cow is slaughtered each time the ritual is performed. The shrine and its management area as agreed with the people of Orogho is **4 ha**.

### 3.4 Stakeholder consultation outcomes

Government officials and experts were interviewed to share any comments and/or concerns they may have in respect of Presco's Sakponba concession being used for oil palm development in general and specific matters relating to HCVs. The Table 4 below summarises outcomes from stakeholder consultations.

#### 3.3.1 Community consultations

The assessment team carried out broad community-level consultations as an important part of this assessment. Community meetings were held in all the communities located in the landscape and adjoining the concession. The communities' consultative meetings involved cross-sections of all stakeholder groups including the chief who are usually the Odionweres (Enogie for Orogho) and their elders, youth, women, farmers, fishermen, hunters and other identifiable groups.

Although the people of the various communities were generally happy that Presco intends to establish oil palm plantations in the area, they also raised a number concerns including potential of the project to cause scarcity of land for food crop farming, destruction of sacred sites, restrictions on movement of local people on the main road which passes through the acquired land, pollution of water bodies among others. All issues and concerns raised have been addressed to the extent possible. The communities also agreed to and subsequently validated the assessment team's recommendations for set-aside areas along the Nyanchia as HCV 5 area. Although the people of Obagie's request for Presco to cede about 4,436 ha of the land to the local communities as future food crop farmland, was initially a challenge, the management of Presco has decided to commence the use of 10,000 ha out of the 14,436 ha for the oil palm plantation development while the request for 4,436 ha is being considered for a mutually acceptable resolution through the FPIC process.

Table 4. Outcome of stakeholder consultations

Name of stakeholder	Date of consultation	Major comments/concerns raised	Assessors response
Mrs R. O. Irefo, Head of Local Government Administration, Orhionmwon Local Government Area	9 <sup>th</sup> Dec 2016	No major concern except to express concerns that Presco has not engaged the Local Government sufficiently in the acquisition of the land and subsequent engagement with the communities and local population. She also advised that Presco should ensure the acquired land is properly surveyed and pillared to avoid encroachment which could bring conflict. On the Delta and Edo state boundary dispute, Mrs Irefo intimated that the National Land Boundary Commission and the Boundary Dispute Commission are addressing this at the national level but was also quick to explain that this dispute will not have any effect on Sakponba which lies to the north of the Ethiopie River	The assessment team explained that the land has been surveyed and pillaring of boundaries is currently ongoing. The team also informed her that the Local Government's concern on weak engagement by Presco will be communicated to the management of Presco. The concerns have since been communicated to Presco.
Mr. V. O. Igbini, Director of Administration, Orhionmwon Local Government Area	9 <sup>th</sup> Dec 2016	No major concern except to advise that Presco should ensure all those who deserve compensations are duly compensated. He also advised that the company should ensure the project benefits the communities and the local peoples by way of offering employment and contribution to local development. Requested information on RSPO.	The team thanked him for the advice and explained that compensation process is being handled by the Ministry of Agric as required by law. Information on RSPO including the website were provided. His advice on compensation was communicated to the management of Presco.
Dr Godwin Ojo, Director of Environmental Rights Action (FOE-Nigeria) and 8 of ERA staff	13 <sup>th</sup> Dec 2016	The ERA team did not have any major comments for this specific project except to explain that they are generally concern and are against land grabbing by plantation companies in Nigeria. They also explain that they are aware that Presco is not one of those companies replacing forests with oil palm but the organisation is yet to ascertain this through its own research on Presco.	No major response.
Mr M. I. Anogie (Director of Agric) & Mr Omorie A. R. (Assistant Director), Min of Agriculture	1 <sup>st</sup> Dec 2016	The two directors explained that the Ministry of Agric is carrying out census of crops and other properties which will form the basis of valuation of farms and properties for the payment of compensations. The Ministry of Lands is the statutory body mandated by the Lands Use Act to determine compensation rates for different crops. They explained that the policy is that compensation payments are made immediately after evaluation and that	The assessment team thanked them for the information and informed them that the company is in the process completing payment of compensations for areas earmarked for conversion and for oil palm development in 2017.

		they would like to advise Presco to respect this important requirement.	
Mrs Igbinigie Lygie (Acting Director of Lands)	1 <sup>st</sup> Dec 2016	No major comment except to explain that under the Lands Use Act of 1978, all lands in the state are vested in the State Governor who has the right to appropriate lands in the state. She explained that Presco has secured title over the land and that Presco is known to be a responsible company at the Lands Commission because the company complies with all statutory laws. Wanted to learn more about RSPO. She explained that the National Land Boundary Commission is working to address the state boundary dispute between Edo and Delta States	No major response except to thank her for the information provided. Information on RSPO was provided including the website.
Mr Friday Oriakhi (Director of Forestry) Min. of Environment and Public Utilities		The director did not raise any major concern except to explain that, by the state laws, Presco was expected to pay for all economic trees on the land prior to development, a requirement which the company has complied with. No major concern with this project which is yet to start since the company has paid for the economic trees and have met all statutory requirements on land acquisition.	No major response.

### 3.3.2 Participatory Mapping

Preliminary interactions with the local communities indicated that some of the local communities use natural resources from the concession area. This made participatory mapping an essential part of this assessment. This was aimed at helping in determining the nature and location of the resources commonly used by the local people. The exercise was carried out in all the communities surveyed. The approach was to present a map of the area where participants of the community consultative meetings or the wider community groups indicated the location of the particular resource they collect from the concession area. All the communities consulted except Obanakhoro indicated that they have a shrine or sacred site in the assessment area. Obanakhoro however, indicated that they collect NTFPs from the Nyanchia stream. Farmers from the various communities particularly Obagie, Obanakhoro and Orogho indicated that they have farms in the assessment area. The first day of consultative meetings with each community was used to discuss and agree on social HCV areas and a date for physical mapping of HCVs agreed with each community. The social and GIS expert of the assessment team followed with each community to map all social HCVs and their management areas during the second meeting with each community. The Table 8 below summarises outcomes from participatory mapping process.

Table 5 Summary outcome from participatory mapping and consultation record

Name of community	Name of Local Government	GPS Coordinate of community	Meeting attendance	Participatory mapping (Yes/No) and summary of outcome
Obagie	Orhionmwon	6.19409 N; 5.72095 E	59	<b>{Yes}, Ezenugbegbe:</b> This is a deep pond which is believed to have its own Princess from the community who serviced the gods. The gods of this spiritual site provide protection for the community and the people in the community. They believe that the gods also support food production and makes barren women to have children. They also believe that the pond provides abundant fish for the people of the community in July of every year. <b>Nyanchia:</b> This shrine where the founder of the Obagie community first settled to bless the establishment of the community. Physical things present at this shrine are iron, cowries, native chalk and red clothes.
Orogbo	Orhionmwon	5.88528 N; 5.95471 E	21	<b>{Yes}, Ezenugbegbe and Nyanchia</b> (same as above).
Obanakhoro	Orhionmwon	5.789131 N 5.907553 E	68	<b>{Yes}, Nyanchia</b> as above.
Owuo	Orhionmwon	5.882493 N 5.945017 E	47	<b>{Yes} Ezenugbegbe and Nyanchia (same as above) and Ekukusu</b> which is a small area with shrubs surrounded by grass. The trees and herbs it harbours are said to have medicinal properties.
Ekigbe	Orhionmwon	5.754118 N 5.95938 E	8	<b>{No}:</b> No use of resources from assessment site.
Iwevbo	Orhionmwon	5.808193 N 5.964036 E	12	<b>{No}:</b> No shrine, sacred site or traditional use areas in the concession except for farming.
Igbigun		5.9568 N 5.7543 E		<b>{No}:</b> No shrine, sacred site or traditional use areas in the concession except for farms

### Summary from the community consultations

The outcome of the desk-based studies was complimented with broad consultations with local communities and other stakeholders which were conducted during the field work. Public meetings were held in all the communities located within and adjacent to the concession including focus group discussions with hunters, youth, farmers etc. Although the local population are generally excited about the project because they think it will bring jobs and development to their communities, they also raised a number of concerns. The concerns relate to setting-aside as future farmlands, potential conversion of NTFP collection areas, crop compensations, pollution of rivers and streams, destruction of HCV areas and deprivation of public use of existing access road through the concession. However, all comments and issues raised by the communities were discussed and addressed while they have also agreed to continue the discussions with Presco on allocation of part of the concession for future farmlands through the ongoing

FPIC process. Their concerns on potential conversion of their sacred and spiritual sites were also addressed through the consultations and the participatory mapping process and the endorsement of the final HCV maps.

## 4 HCV management and monitoring

### 4.1 Threat assessment

Threats to identified HCVs have been assessed through observations in the field and consultations with stakeholders including communities with due consideration for the extent of area, the severity and duration of the impact on the HCV in estimating the importance of the threat. For external threats, an attempt is made to identify indirect causes where feasible. Table 5 below details threats to identified HCVs.

Table 6 Threats to identified HCVs in the concession

HCV	Brief description of value present in assessment area	Main threats
1	<p><b>Species diversity</b></p> <ul style="list-style-type: none"> <li>• Presence of two species of plants (<i>Gossweilerodendron balsamiferum</i> and <i>Cola nigerica</i>) listed by IUCN as Endangered and Critically Endangered.</li> <li>• Presence of population of species listed as rare, threatened and endangered species at national level including Red River Hog, Bush buck and Maxwell's duiker.</li> </ul>	<p><b>Existing threats</b></p> <ul style="list-style-type: none"> <li>• Potential clearing and burning of Nyachia riparian forest for food crop farming</li> <li>• Cutting of <i>Cola nigerica</i> for fuelwood and destruction of <i>Gossweilerodendron balsamiferum</i></li> <li>• Current pressure from hunting on species listed nationally as rare, threatened and endangered fauna species such as the Red river hog, Maxwell's duiker and Bush buck.</li> <li>• Destruction of the habitats of the species listed nationally as rare, threatened and endangered.</li> </ul> <p><b>Potential threats from the palm oil plantation</b></p> <ul style="list-style-type: none"> <li>• Potential conversion of Nyachia riparian forest could lead to cutting/felling and destruction of the two endangered and critically endangered plant species</li> <li>• Potential conversion and destruction of the habitats of the fauna species listed nationally as rare, threatened and endangered.</li> <li>• Hunting pressure due to influx of plantation workers</li> <li>• Potential conversion of the forest for farming by influx of plantation workers and demands for farm lands.</li> </ul>
3	<p>Rare, threatened or endangered ecosystems: The Ezenugbegbe swamp which is also a spiritual site for the people of Obagie and Orogho and other smaller swamps in the concession.</p>	<p><b>Existing threat</b></p> <p>Conversion of this swamp and other swamp areas for food crop farming by the local population is unlikely since it hosts the most significant shrine of all the communities fringing the concession. Besides, swamps are located within the extensive grassland areas of the concession which is generally not suitable for food crop farming and the local population are generally not farming in the grassland areas.</p> <p><b>Potential</b></p> <ul style="list-style-type: none"> <li>• Potential draining of ponds for oil palm development</li> </ul>

		<ul style="list-style-type: none"> <li>• Clearance of vegetation around ponds and wetland</li> <li>• Potential contamination of ponds and wetlands. The threat of converting fully or part of the swamp areas is even high given that water levels of the swamp areas recedes during the dry season which is also the land preparation period. This makes it crucial for reasonable buffers to be set-aside for the swamps</li> <li>• Potential threat of erosion from conversion given that the terrain is generally flat and low-lying. However, conversion using bulldozers and heavy machines closed to the swamp could create a risk of run-off from the plantation into the swamp area which could lead to sedimentation.</li> <li>• Potential contamination from agrochemical use: The swamp area could be at risk of pollution by agro-chemicals.</li> </ul>
4	<p><b>Basic ecosystem services</b></p> <ul style="list-style-type: none"> <li>• Maintaining the hydrological and functionalities of water bodies in the concession</li> <li>• Critical water catchment areas required to maintain continuous flow of water to serve local communities including the Nyanchia watershed area in the concession</li> </ul>	<p><b>Existing threat</b></p> <ul style="list-style-type: none"> <li>• Logging</li> <li>• Forest cover loss due to clearing for farming</li> </ul> <p><b>Potential threats</b></p> <ul style="list-style-type: none"> <li>• Loss of riparian forest from land conversion activities</li> <li>• Water pollution due to fertilizer and agrochemical use</li> <li>• Water pollution from domestic and field waste disposal</li> <li>• Reduction in fish and other aquatic life forms population due to pollution</li> </ul>
5	<p><b>Local community basic needs:</b></p> <ul style="list-style-type: none"> <li>• NTFP gathering from the forest along the Nyanchia and Ekukusu shrub areas</li> <li>• Fishing and collection fish from pockets of water in the Nyanchia stream during dry season</li> <li>• Water supply for household use</li> </ul>	<p><b>Existing threat</b></p> <ul style="list-style-type: none"> <li>• Excessive hunting</li> <li>• Over-harvesting of NTFPs</li> </ul> <p><b>Potential from oil palm development</b></p> <ul style="list-style-type: none"> <li>• Loss of forest land and NTFP areas to oil palm plantation</li> <li>• Loss of access to hunting grounds</li> <li>• Loss of Ekukusu shrub</li> <li>• Loss of water sources for household use</li> <li>• Potential reduction of fish stock from Nyanchia due to pollution and clearing of riparian buffer</li> </ul> <p><b>Existing threat</b></p> <ul style="list-style-type: none"> <li>• Excessive hunting</li> </ul> <p><b>Potential from oil palm development</b></p> <ul style="list-style-type: none"> <li>• Loss of forest land and NTFP areas to oil palm plantation</li> <li>• Loss of access to hunting grounds</li> <li>• Loss of water sources for household use</li> <li>• Potential reduction of fish stock from Nyanchia due to pollution and clearing of riparian buffer</li> </ul>

6	<p>Areas critical to local communities' traditional cultural identity: This includes the many shrines primarily the Ezenugbegbe, Nyanchia, Arousa etc which are in the concession</p>	<p><b>Exiting threats</b> None</p> <p><b>Potential threats</b> The main threats to the identified shrines is the potential conversion of them or conversion of part of the required management areas. Given that the shrines are all located either along a river or in a pond/swamp area, conversion of the riparian vegetation or any activity that could cause drying of the water in the stream or in the swamp could be a risk to the shrines. Again, the attitude and practices by migrant workers of the future plantation might also be offensive to the traditional authorities and for this reason, it may be useful for the company to implement proactive additional measures to maintain the integrity of the shrine.</p>
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#### 4.2 HCV Management Recommendations

This section presents recommendations for managing the identified high conservation values in the concession. Table 6 below provides an outline of HCV management and monitoring recommendations that Presco must adopt and implement in addition to the HCV maps. All categories of HCVs except HCV 2 have been confirmed present in the concession.

Table 7 HCV management recommendations

HCV ref	Threats	Management recommendations	Monitoring recommendations
1	<ul style="list-style-type: none"> <li>• Over-hunting and potential increase in hunting pressure with influx of plantation workers</li> <li>• Loss of the riparian forest/destruction of habitat</li> <li>• Pollution of rivers to deny rare, endangered and threatened fauna species access to water</li> </ul>	<ul style="list-style-type: none"> <li>• A full survey should be carried to identify and assess the population of all rare, threatened and endangered species of fauna and flora at both national and global level. The outcome of this study should inform a revision of the HCV management and monitoring recommendations</li> <li>• Conservation and sustainable management of the entire Nyanchia riparian forest</li> <li>• Presco should collaborate with local communities and appropriate authorities to implement measures to reduce or address hunting in the Nyanchia forest area.</li> <li>• Presco should ensure that the Nyanchia riparian forests and the HCV management areas are appropriately mapped and clearly demarcated on the ground prior to land preparation.</li> <li>• Presco should ensure POME and other waste products including domestic</li> </ul>	<ul style="list-style-type: none"> <li>• Regular monitoring of population of rare, threatened and endangered population of flora and fauna</li> <li>• Regular monitoring of management areas of Nyanchia riparian forests, swamps which have been identified as HCV 1 area.</li> <li>• A regular monitoring system needs to be established to ensure that forest cover is maintained and hunting pressure is kept at a minimal level in the forest along Nyanchia stream.</li> <li>• Regular monitoring of water quality</li> </ul>

		wastes are disposed of appropriately and afar from water bodies.	
3	<p>Conversion of the Ezenugbegbe swamp</p> <p>Pollution of the swamp</p>	<ul style="list-style-type: none"> <li>Clearly demarcate the swamp and its management area to avoid being mistakenly converted by land preparation team. Exclude the swamp area from all conversion activities and ensure it is adequately buffered as recommended.</li> <li>Avoid application of agrochemicals close to the swamp and ponds and their buffer zones</li> <li>Presco to develop appropriate SOPs in consultation and input from community leaders for effective management of the swamp area.</li> <li>Education and sensitization of field workers on the importance of the swamp and the need to stay away from the swamp area.</li> </ul>	<ul style="list-style-type: none"> <li>Swamp area demarcated and regular monitoring of the area</li> <li>Ensure yearly review of effectiveness of SOPs</li> <li>Periodic review of effectiveness of workers' sensitization and awareness of the swamp area including complaints filed and community inputs on effectiveness.</li> </ul>
4 & 5	<ul style="list-style-type: none"> <li>Loss of riparian forest during land clearing</li> <li>Loss of water quality and quantity due to conversion of watersheds and riparian vegetation</li> <li>Loss of potable water supply downstream</li> <li>Pollution from agrochemicals</li> <li>Clearing of Ekukusu shrub</li> <li>Inability of rivers, particularly Nyanchia, to produce fish for the people of Obanakhoro</li> </ul>	<ul style="list-style-type: none"> <li>Delineate and demarcate on the ground the buffer zone recommendations for all rivers, streams and ponds particularly the Nyanchia stream. A minimum buffer of 25 metres on both sides is recommended for the Nyanchia and the unnamed stream.</li> <li>Rehabilitation of all areas within the 25 m buffer of the small unnamed stream through artificial regeneration eg tree planting</li> <li>Respect the recommended set-aside for the Ekukusu shrub</li> <li>Prepare SOPs that recognise all set-aside areas including riparian vegetation areas and ensure those areas are precluded from conversion activities</li> <li>Provide and set-aside appropriate buffering of all rivers and streams as recommended by this assessment.</li> <li>All other water bodies particularly ponds in the concession must be precluded from conversion activities</li> <li>Work with the communities to agree and implement measures to control illegal logging in riparian vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Regular sampling of rivers and streams for testing as part of a water quality monitoring system. The system should use a Before – After / Control – Impact design whereby upstream sampling sites are established above the area of impact and downstream sites below the area of impact, with samples collected before plantation activities begin and ongoing after development.</li> <li>Regular on-site monitoring of riparian vegetation and Ekukusu areas to identify gain or reduction of vegetation cover.</li> <li>Review of effectiveness of SOPs at least quarterly from the first year and thereafter once a year. This should include regular monitoring of riparian vegetation.</li> <li>Regular patrols to check illegal logging in the riparian zones</li> </ul>

		<ul style="list-style-type: none"> <li>• Avoid application of agrochemicals within the recommended riparian vegetation, buffer zones and watershed areas. Have an SOP in place to support this.</li> <li>• No planting and oil palm activities within 100 m from the Ethiope River</li> </ul>	
6	<ul style="list-style-type: none"> <li>• Clearing of sacred and shrine sites</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative management of HCV 6 areas with local communities</li> <li>• Prepare SOPs that ensure HCV 6 and their management areas in the plantation are set-aside and protected. Presco may want to ensure the presence of community leaders during land clearing around HCV 6 areas</li> <li>• Raising notification and/or warning sign-posts such as 'do not shout or make noise, do not urinate here etc.</li> <li>• Include evaluation of local population's satisfaction of the management of HCV 6 areas during major periodic meetings.</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of collaborative management and monitoring of its effectiveness.</li> <li>• A simplified HCV monitoring system/protocols in collaboration with local communities</li> <li>• Include evaluation</li> <li>• Regulation review of local population's satisfaction of HCV 6 management areas</li> </ul>

## 5 Synthesis

### 5.1 HCV management areas

HCV management areas, totaling approximately 136 ha, have been recommended as set-aside areas for the Sakponba concession (Figure 17).

HCV 1: The entire degraded forest along Nyanchia stream is HCV 1. The degraded forest is considered as HCV 1 management area and should be maintained for protection of both globally and nationally rare, threatened and endangered species which were encountered in that area of the concession. Total HCV 1 management area is 109.9 ha

HCV 3: The total HCV 3 areas including all swamps and Ponds together with the recommended buffer of 30 m is 10.8 ha. These areas have been recommended to be set-aside as HCV 3 to ensure their maintenance and functionality.

HCV 4: The Nyanchia and the unnamed stream below it are very small streams which dry up during the dry season. An HCV buffer of 25 m has been recommended for set-aside on each side of the streams. Total HCV management area for both streams is 27.35 ha. The HCV 4 management area for Nyanchia stream falls within the HCV 1 and 5.

HCV 5: This is the entire slightly to moderately degraded forest along the Nyanchia stream which has a total area of 111.74 ha

HCV 6: The four HCV 6 areas in the concession and their agreed management areas with the local population is approximately 7.51 ha. This area is being recommended for set-aside to enable the local people continue to perform their spiritual and religious rites.

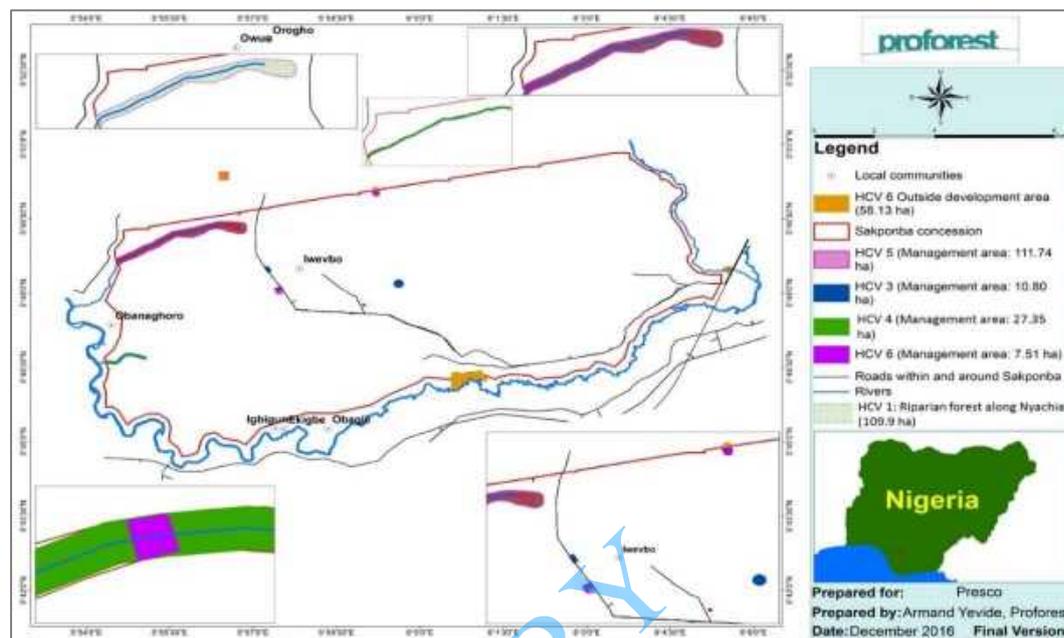


Figure 17 Map showing HCV management areas in the Sakponba concession. Total area is about 136 ha.

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