

Conservation Leadership Programme: Final Report

Project title: Reconciling the expansion of oil palm plantations and the conservation of Endangered Grey parrots.

CLP project ID: 7386

Host country, site location, and the dates in the field: Nigeria, Southern Nigeria, August 17th – September 17th, 2022; November 03rd - 30th, 2022; January 15th – February 11, 2023; May 5th – June 3rd, 2023

Institutions: University of Nigeria Nsukka; World Parrot Trust, University of Cape Town.

Overall aim: Adopt evidence-based, stakeholder-endorsed oil palm cultivation in Nigeria that aligns with Grey parrot conservation.

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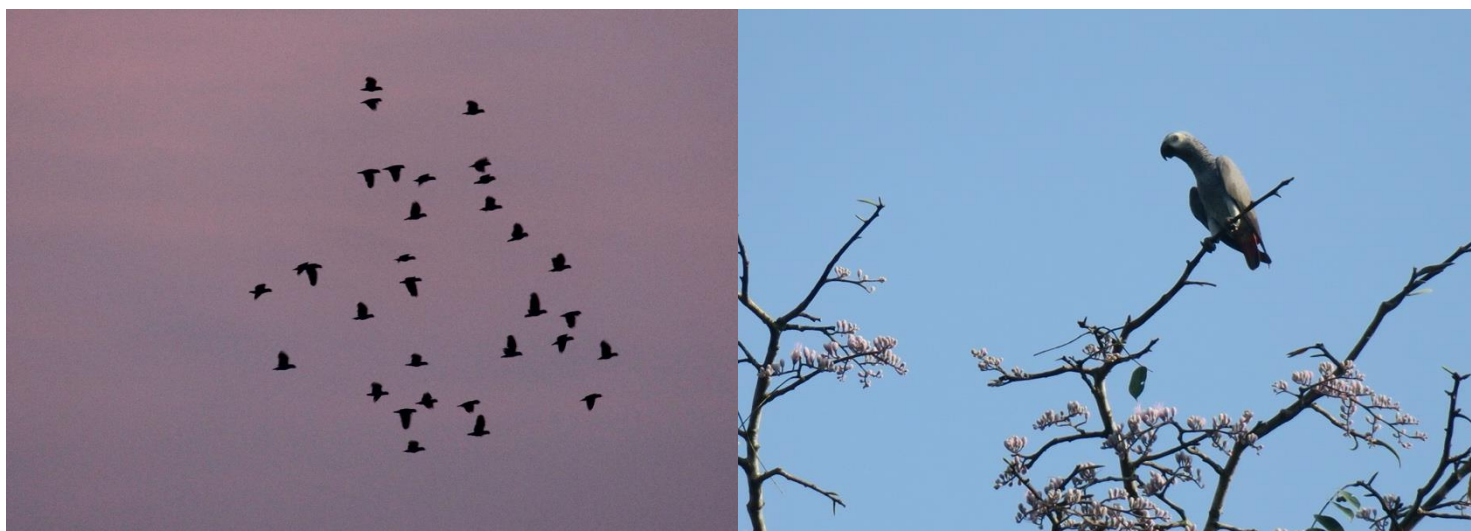


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List of Acronyms

AGP - African Grey Parrot

ANI – Africa Nature Investors

APOI - Africa Palm Oil Initiative

ASCI - Africa Sustainable Commodities Initiative

CLP - Conservation Leadership Programme

GPS - Global Positioning System

HCV: High Conservation Value

IBA – Important Bird Area

IUCN - International Union for Conservation of Nature

NGO - Non-Governmental Organization

OOPCP - Okomu Oil Palm Company PLC

PLC - Public Limited Company

RSPO - Roundtable on Sustainable Palm Oil

SCB – Society for Conservation Biology

SEEC - Centre for Statistics in Ecology, Environment and Conservation

UNFCCC - United Nations Framework Convention on Climate Change

USFWS - United States Fish and Wildlife Service

WAT - West Africa Time

Project Partners & Collaborators

Project Partners & Collaborators	Contribution(s)
Wilmar International	Granted permission to conduct surveys in the plantations managed by Wilmar International – Nigeria Operation and provided operational support for field work including accommodation, transport.
Presco PLC	Granted permission to conduct surveys in the plantation managed by Presco PLC and provided operational support for field work including accommodation, transport.
Okomu Oil Palm Company PLC	Granted permission to conduct surveys in the plantations managed by Okomu Oil Palm Company PLC and provided operational support for field work including accommodation, transport.
National Park Service	Granted permission to conduct surveys within the Okomu National Park, assigned rangers that guarded the team during the surveys.
Federal Ministry of Environment	The ministry is one of the vendors to communicate the research findings to federal government. It is influential in environmental policy formulation, and implementation to various tier of government.
Ministry of Environment Cross River State	The ministry is one of the vendors that communicated the research findings to Cross River State government. Also, it plays critical role in environmental policy formulation and dissemination within the state.
Edo State Forestry Commission	Advised on various processes/programme of Edo State government to ensure the sustainable management of forest resources at the state level.
Edo State Oil Palm Programme Independent Implementation Office	Advised on existing mechanisms within Edo State for implementation of the Tropical Forest Alliance's Africa Palm Oil Initiative, which is now expanded as the Africa Sustainable Commodities Initiative (ASCI)
Oil Palm Growers' Association of Nigeria	Provided information on concession processes of oil palm plantation in Nigeria.
University of Nigeria Nsukka (UNN)	Provided permission for team members who were staff and students at UNN the permission to visit field for surveys, provided desk space
Centre for Statistics in Ecology, Environment and Conservation, (SEEC) University of Cape Town, South Africa	Provided a desk space and assisted with training and technical support with spatial analyses and development of habitat suitability models.
World Parrot Trust	Advised on project design and implementation, assisted with procurement of equipment, participated in stakeholder meetings mentorship of project team leader, assisted with write-up of project outputs.
Wildlife Conservation Society (WCS)	Facilitated connections with relevant persons in Cross River State.
Nigerian Conservation Foundation (NCF)	Facilitated connections with relevant government stakeholders, advised and assisted with preparation of the stakeholder workshop and made a presentation

Section 1:

1.1 Summary

Plans to dramatically expand commercial oil palm cultivation in Nigeria pose potential threats to already imperilled populations of globally Endangered African Grey parrots (AGPs), *Psittacus erithacus*. This project aimed to build knowledge of the relationship between AGPs and oil palm plantations and co-develop, alongside stakeholders, recommendations for improving the design and management of oil palm plantations that minimise negative impacts on AGPs. We conducted surveys, including line transects and interviews with plantation workers, to assess activities of AGPs across six commercial oil palm plantations and three adjacent forest areas. AGPs were regularly encountered in some, but not all, plantations where AGPs made use of resources including food and secure overnight roost sites. However, within plantations, they were highly dependent on trees and forest patches designated as High Conservation Value areas (HCVs). We used habitat suitability models to map suitability for AGPs and oil palm cultivation under varying input systems to identify areas with greatest room for compromise between AGP conservation and oil palm cultivation. This information was considered at a workshop which brought together stakeholders across conservation, government and industry to produce a set of recommendations for oil palm expansion and management. Ongoing work is supporting adoption and implementation of these recommendations, building on the recent adoption by Nigeria of the African Sustainable Commodities Initiative.

1.2 Introduction

African Grey parrots have undergone rapid declines, primarily due to the combined threats of habitat loss and capture for the pet trade. They are categorised globally as Endangered on the IUCN Red List of Threatened Species and recent surveys indicate declines throughout their range in Nigeria. Grey parrots are vulnerable to forest loss due to their reliance on secondary cavities which are largely found in mature trees, for nesting and mature trees are also important sources of food and sites for overnight communal roosting.

In Nigeria, habitat loss is driven by various factors such as unsustainable logging practices for timber production, urbanization, and the conversion of land for subsistence and commercial agriculture. The expansion of oil palm (*Elaeis guineensis*) production is an important driver of land conversion, as it offers a higher yield at a lower cost of production compared to other vegetable oils (Hannah, 2021). The expansion of oil palm cultivation, driven by the Nigerian government's aim to create an additional 3 million hectares of oil palm estate by 2027 (Butler, 2019), poses a potential threat to the forest habitats where endangered AGPs are found, compounding population declines due to capture for the pet trade and habitat loss.

However, previous observations and studies indicate that oil palm plantations may provide some resources for AGPs and suggest that careful development of oil palm plantations could mitigate some of the negative impacts on parrots. A study in Cameroon recorded higher encounter rates within oil palm plantations than nearby forest (Dueker et al 2019) and African Grey parrots are known to commonly feed on oil palm fruit throughout their range (Collar, 1997). Furthermore, rapid assessments of the distribution and abundance of Grey parrots revealed the existence of a roosting site for a large number of Grey parrots within an oil palm plantation (Ezenwa and Martin, 2021).

This project “Reconciling the expansion of oil palm plantations and the conservation of Endangered Grey parrots” worked with a range of government ministries, departments and agencies involved in policy formulation and regulation (ministries of environment and agriculture, Edo State Forestry Commission, Ministry of Environment Cross River State, National Park Service), non-government organisations pioneering advocacy for conservation of wildlife and sustainable human activities (Nigerian Conservation Foundation, ANI Foundation, Oil Palm Growers’ Association of Nigeria and World Parrot Trust) and business stakeholders directly involved in development and cultivation of plantations (Okomu Oil Palm Company PLC, Presco PLC, and Wilmar International) to research how AGPs use existing commercial oil palm plantations in Nigeria, map the degree of conflict between palm oil production and AGP conservation and co-develop evidence-based approaches to ensure that the expansion of commercial palm oil production in Nigeria minimally affects AGPs.

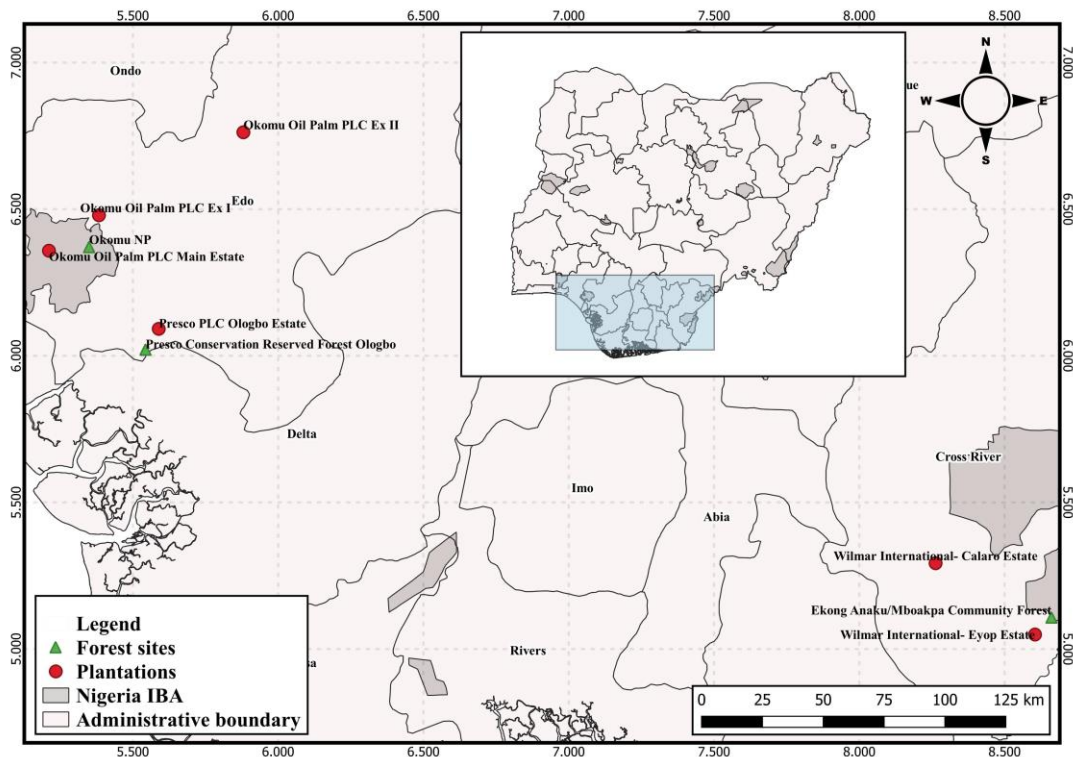


Figure I: Map showing the study locations in Nigeria.

1.3 Project members



Photo 1: The team: Left to right – Chioma Okechukwu, Chike Ebido, Chinemerem Orakwelu and Ifeanyi (team leader)

Chioma Okechukwu: Undergraduate student, Department of Zoology and Environmental Biology, University of Nigeria Nsukka, Enugu State Nigeria.

Main roles in the project: First aid officer and field data entry into spreadsheet.

Chike Ebido (Ph.D): Chike has a PhD in Environmental Management from Fudan University Shanghai, China. His PhD research on environmental management was focused on the valuation of cultural ecosystem services. He works as a lecturer at the University of Nigeria Nsukka where he is engaged in research and teaching of both postgraduate and undergraduate courses. His transdisciplinary and interdisciplinary approaches to problem-solving can be applied to conservation, environmental toxicology, environmental justice and ecosystem management.

Main roles in the project: Media coordinator, collection of video and picture data, design, testing and application of questionnaires in the study, facilitator in stakeholder workshop. Also involve in all aspects of data collection methods and writing of manuscript.

Chinemerem Orakwelu: Chinemerem has a Master's Degree in Entomology from University of Nigeria Nsukka where he works as a lecturer and engages in research and teaching of undergraduate courses.

Main roles in the project: Coordination of field logistics, coordination of stakeholder workshop, assistance with field data collection including roost population count using night version binoculars, contributed to writing of manuscript.

Ifeanyi Ezenwa: Team leader, PhD student at Department of Zoology and Environmental Biology, University of Nigeria Nsukka, Enugu State Nigeria; Nigeria Coordinator of Africa Conservation Program, World Parrot Trust. Ifeanyi works as a lecturer in University of Nigeria Nsukka where he engages in research, community services and teaching of undergraduate courses. He has skills in project design and management and analytical skills in processing of ecological data with over three years of experience conducting field research for AGPs in Nigeria.

Main roles in the project: Oversight and coordination of all project activities, led field work and data collection, development of habitat suitability models, led meetings and discussions with stakeholders, organising the workshop, writing of the various communications including articles/manuscripts, and reporting of the project.

Section 2:

2.1 Aim and objectives

The aim of this project was to achieve approaches to oil palm cultivation supported by relevant stakeholders (including government, civil society, commercial producers and certification systems for sustainably produced palm oil) that are informed by evidence and compatible with or benefit the conservation of Endangered Grey parrots in Nigeria throughout the species' range.

Specific objectives were:

- 1) Describe the seasonal patterns of use (feeding, roosting, and nesting) by African Grey parrots within oil palm plantations and adjoining forest areas in at least four locations,
- 2) Map areas of high conservation value for African Grey parrots and suitability for oil palm cultivation in Nigeria to identify areas where negative impacts of oil palm cultivation on Grey parrots can be minimised.
- 3) Describe the knowledge and attitudes of managers of oil palm plantations towards African Grey parrot conservation, including retaining or enhancing key resources, for at least four plantations.
- 4) Determine opportunities for integration of parrot-friendly management into sustainable palm oil certification systems.

2.2 Changes to original project plan

1) The number of plantations visited was increased from 4 to 6. This was possible because of the support of the plantation operators who provided accommodation for the team at no cost and access to additional plantations; 2) Due to security issues including herders' attack and kidnapping in some forest areas, which we were unaware of during the project design phase, we were unable to conduct surveys in adjoining forest site at 2 of the plantations and as a result we were unable to compare AGP activity between forest and plantations at these sites. 3) In November 2023, Nigeria became a signatory to the Africa Sustainable Commodities Initiative (ASCI) at CoP27 of the UNFCCC. This replaced the Africa Palm Oil Initiative (APOI) and importantly encapsulates other agro commodities. In response, we have included other crops (rubber and coffee) in the draft of policy brief which is at the final stage of review for possible publication by SCB African Chapter. 3) The workshop to share the results of the project was delayed due to transition in the national government in Nigeria, following the general election in 2023. Additional time was allowed for the incoming government to consolidate staff and processes within government ministries, department and agencies prior to the workshop.

2.3 Methodology

2.3.1 Patterns of AGP activity

Line transects

Surveys were conducted within six oil palm plantations (Extension I, II and Main Estate of Okomu Oil Palm Company PLC (OOPCP), Ologbo Estate Presco PLC, Eyop Estate and Calaro Estates of Wilmar International- Nigeria Operation) and three adjoining forest areas (Okomu National Park, Presco Conservation Reserved Forest Ologbo, Ekong Anaku/Mbo Akpa community forest) on a quarterly basis between August 2022 and July 2023. In total 840km of surveys were conducted totalling 395 hours of survey time. Line transects were identified within plantations and the adjoining forest sites and walked by the team between the hours of 7.00 and 11.00 am (WAT), the period when parrots and other large frugivorous birds were most active. Transects were walked at a speed of approximately 2 kmh^{-1} and birds detected through a combination of visual and acoustic cues, although most were detected from the latter, adopting a similar survey technique to Dueker et al., (2019). When an individual or group of parrots was encountered, data were recorded on the group size, behaviour (feeding, perching, flying, nesting), time of day and the habitat (age category). Within plantations, transects were positioned so that survey time was stratified across areas of palms of different ages (“young palm” = ≤ 8 years; “middle-age palm” = 8 - 20 years; “old palm” = >20 years) and High Conservation Value areas (HCV).



Photo 2: The team at Extension I of OOPC: Left to right – Ifeanyi (team leader), Foluso (IBA Desk Officer Okomu National Park), Chike, Chioma and Chinemerem.

Roost counts

The roosting behaviour and number of parrots using an overnight communal roosting site identified at one the plantation were observed and counted after dusk between the hours of 7:30-9:00 pm (WAT) using night vision binoculars.



Photo 3: The team counting the overnight roosting AGPs at Main Estate of OOPC PLC

Interviews

Standardised questionnaire and participatory deliberative methods were used to elicit the knowledge, perception and shared values of the plantation workers regarding parrot activities at the plantations, including roosting, nesting and feeding (Meijaard et al., 2011; Odii et al., 2019). Descriptive statistics were used to describe abundance (encounter rate) and parrot activities within oil palm plantations, adjoining forest areas and seasonal variation in these activities. Responses of interviewees were summarized and synthesized with information generated through direct observation.



Photo 4: Interview of a plantation worker at Ologbo Estate Presco PLC by Chike



Photo 5: Interviews of a plantation worker at Ologbo Estate Presco PLC by Chinemerem



Photo 6: Conducting surveys in Okomu Oil Palm Company PLC . Left to right – Dr. Rowan Martin (project advisor), Chike, Ifeanyi, Chinamerem

2.3.2 Areas of AGP and oil palm suitability

Habitat suitability models for AGPs were derived using maximum entropy models (Phillips et al., 2006) using AGP occurrence data collected during surveys along with data collected during previous field research by the mean and records available within the Global Biodiversity Information Facility (<https://www.gbif.org>). The model was parameterised using environmental data sets remotely sensed data on vegetation classification, vegetation density, net primary productivity, altitude and climate access from <https://forobs.jrc.ec.europa.eu/TMF/data.php>, <https://land.copernicus.eu/global/products/lai>, <https://lpdaac.usgs.gov/products/mod17a3hgf061/>, <https://www.worldclim.org/data/worldclim21.html> http://thredds.northwestknowledge.net:8080/thredds/terraclimate_aggregated.html. Oil palm suitability data layers, based on three different input systems, were obtained from Global Agro Ecological Zones, version 3.0 database (<http://webarchive.iiasa.ac.at/Research/LUC/GAEZv3.0/>). The AGP habitat suitability layer and the oil palm suitability layer were overlain to identify areas of greatest and least conflict and the potential impact on AGPs under oil palm production based on different input scenarios.

2.3.3 Attitudes and knowledge of plantation managers

Interviews were conducted with company staff involved in management from the three companies that managed the six oil palm estates where surveys took place. A total of four persons were interviewed from the Okomu Oil Palm Company Plc. (OOPCP) including the Agric. coordinator, sustainability manager at Main Estate and individual plantation managers at Extension I and II. Three staff of health, safety and environment department were interviewed at Presco PLC. At Wilmar International- Nigeria Operation, the sustainability manager responded on behalf of the company. The interview with the representative of Wilmar International was held virtually while all others were conducted online using video calls. Through the interviews we also gathered information on sustainability measures the plantation management has put in place to ensure conservation of wildlife in general while focusing on those measures relevant to the conservation of AGPs.

2.3.4 Opportunities for parrot friendly management

The criteria and principles for sustainable oil palm production certification system(s) and existing government policy processes in Nigeria, and regional initiatives were reviewed to identify opportunities and limitations to integrating parrot-friendly practices into systems in Nigeria. 1) We interacted with governments at the different ministries, departments and agencies via in-person meetings and the Oil Palm Growers' Association of Nigeria via email communications to understand the criteria for concession of land to investors and developers and measures to ensure sustainability among existing plantations; 2) We reviewed the regional initiatives including APOI and ASCI, and Nigeria National Interpretation of the RSPO Principles and Criteria that ensure sustainability of plantation management. The research findings were discussed via a multi-stakeholder workshop with the stakeholders enumerated above through a virtual meeting which further elicited the development of recommendations.



Photo 7: A meeting with the Commissioner and members of Cross River State Ministry of Environment to present the project and discuss strategy for concession of oil palm plantation in the state during the project advisor field visit.



Plate 8: The team leader in a consultation meeting with the members of Edo State Oil Palm Programme Independent Implementation Office discussing plantation concession processes



Plate 9: Interviews of a plantation manager at Calaro Estates of Wilmar International- Nigeria Operation by Chike and Ifeanyi

2.4 Outputs and Results

2.4.1 Seasonal patterns of AGP activity

During line transect surveys, AGPs were encountered on 376 occasions. Mean group size encountered was 6.06 ± 5.57 parrots. AGP encounter rates varied considerably between and within plantations and adjoining forest ranging between 0 in Ologbo Estate Presco PLC and Presco Conservation Reserved Forest to 1.55 ± 2.23 and 3.54 ± 2.09 groups/hour in OOPCP Main Estate and ONP respectively (Fig. 2). Although encounter rates varied across seasons within sites there were no consistent seasonal patterns in abundance of AGPs within plantations (Fig. 3 A & B). The majority of encounters were of parrots in flight (69.15% of encounters) and the proportion of parrots in flight was particularly high in plantations (70.54% of encounters) compared with adjoining forest sites (29.46% of encounters). Within plantations, the majority of sightings of perched parrots were within forest patches designated as High Conservation Value (HCV) areas (Fig. 4). These results suggest that while parrots are commonly sighted in some plantations they are not regularly feeding, nesting or roosting within them - with the exception of Okomu Oil Palm PLC where a large parrot roost was observed. Despite oil palm fruit being recorded previously as a common food source for AGPs, our observations rarely captured them feeding on it, only 3 instances of such out of 376 encounters were recorded. Of the 135 plantation workers interviewed, 72% had sighted AGPs within plantations, mostly during the dry season—either in flight, perching on trees within HCV, nesting in tree cavities, foraging on old oil palm fruits near HCV, or roosting overnight. 17.04% reported having observed AGPs feeding on cultivated oil palm fruit. Counts of parrots using a communal overnight roost site identified within Okomu oil palm plantation ranged between 464 (August, 2022) to 921 (May, 2023) individuals depending on the time of year.

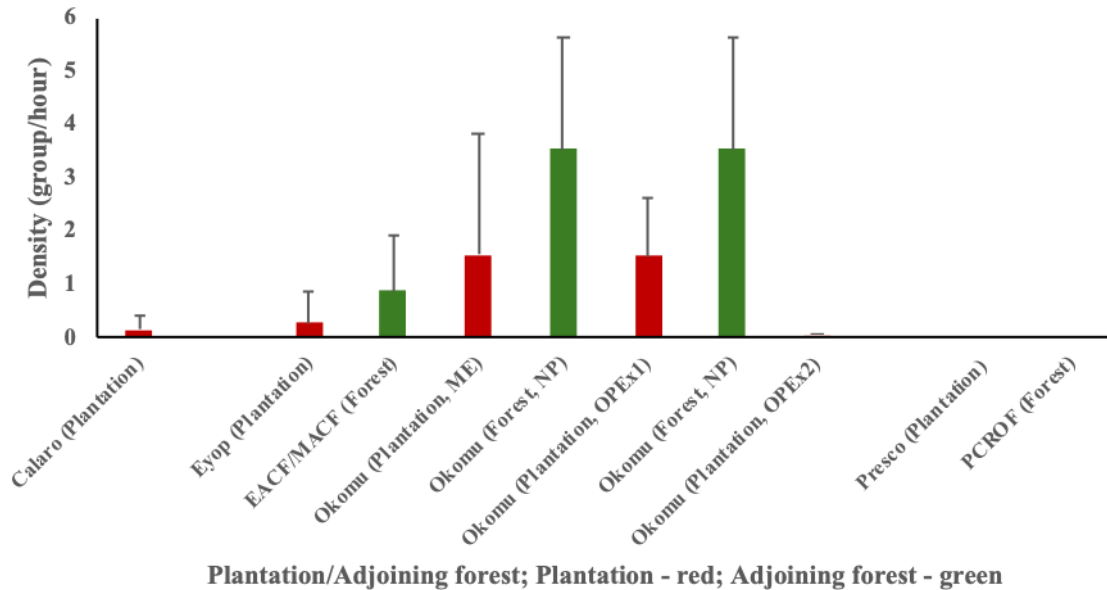
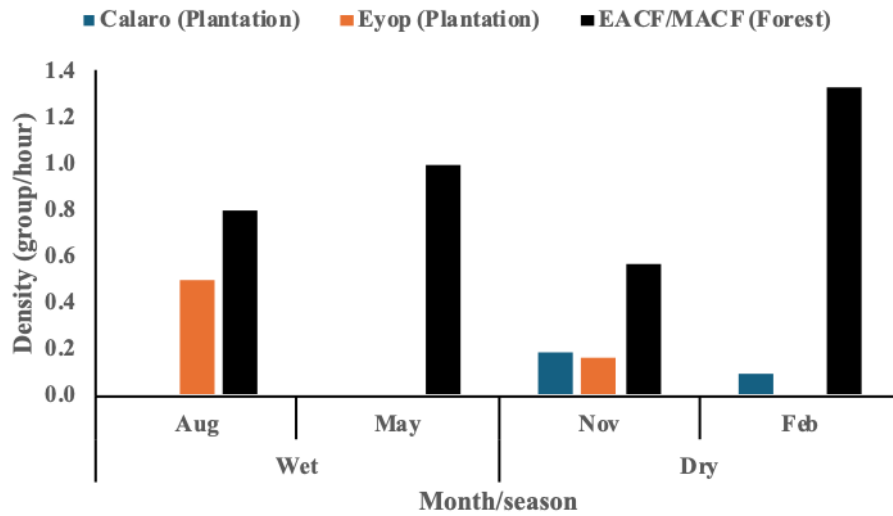


Figure 2: Density (ecnounter rate) of AGPs across the plantations and the adjoining forest. No survey was conducted for adjoining forest to Calaro and OOPEX2

A



B

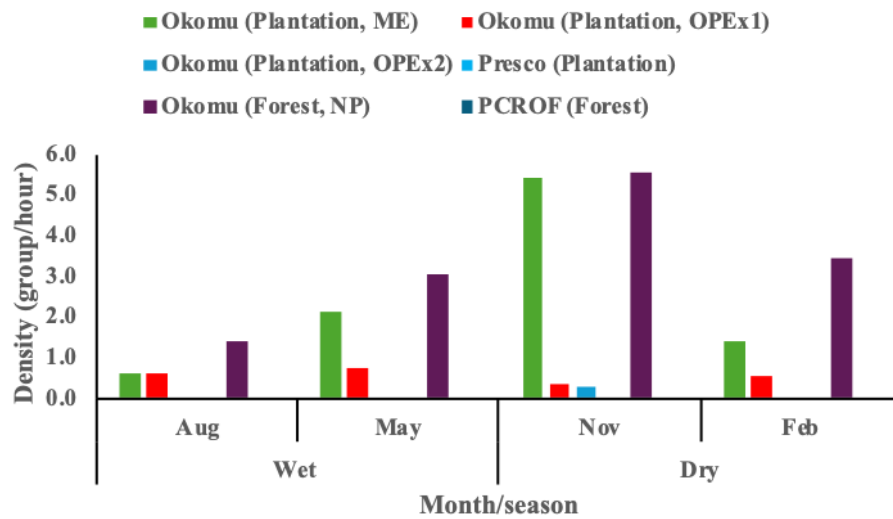


Figure 3. A) Seasonal variations in density of AGP across the plantations and the adjoining forest at Cross River State; B) Seasonal variations in density of AGP across the plantations and the adjoining forest at Cross Edo State

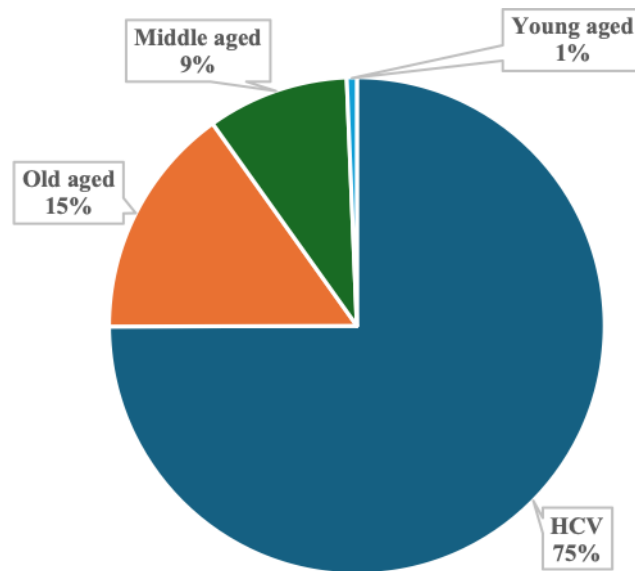
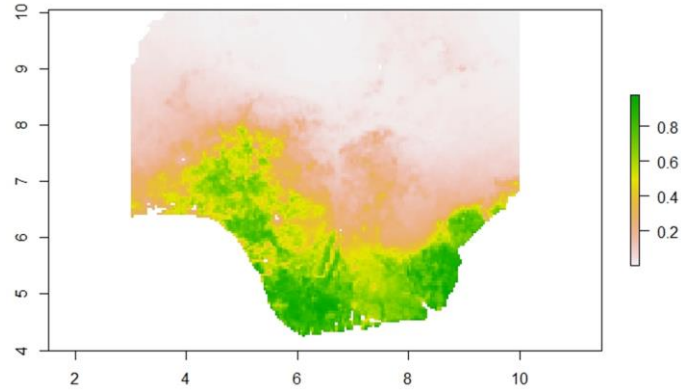


Figure 4: Percentage of AGP encounters within the different areas in the oil palm plantation

2.4.2 Areas of AGP and oil palm suitability

Between 21st March and 26th April 2023, the team leader visited the project collaborator at centre for Statistics in Ecology, Environment and Conservation, (SEEC) at the University of Cape Town, South Africa, for training and assistance in the spatial analysis. This facilitated the production of habitat suitability maps for AGPs (Figure 5A) and over lay it oil palm production suitability map based on multiple input scenarios (Figure 5B-D). There was generally a high degree of overlap between areas suitable for AGPs and oil palm cultivation although the extent of this overlap varied depending on the input system. Greater room for compromise (i.e. reduced overlap in suitability) was identified for high input production systems compared with intermediate systems (Figure 6).

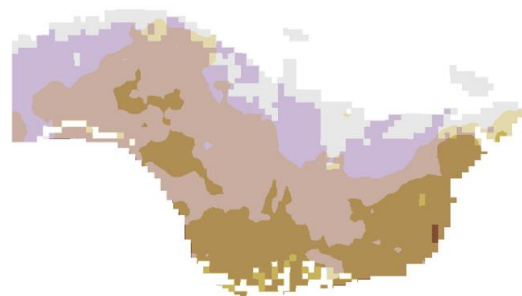
A



B



C



D

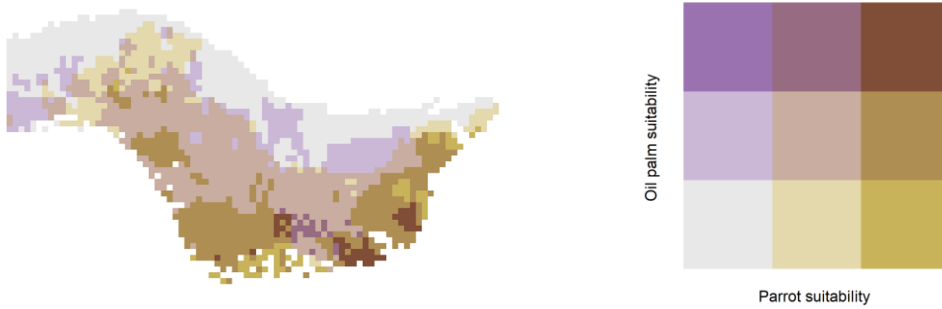


Figure 5: A) Habitat suitability model of African Grey Parrots in Nigeria; B-D) Overlap between habitat suitability for AGPs and suitability for oil palm cultivation under multiple input scenarios: B) Low-level input C) intermediate-level input and D) High-level input on the AGP suitable habitats in Nigeria

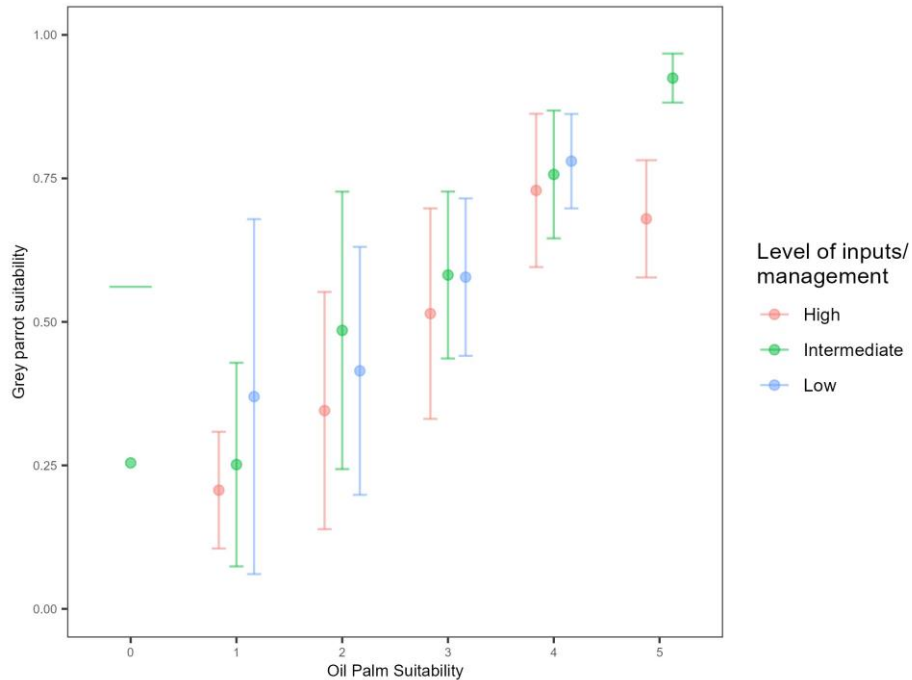


Figure 6: Comparison of habitat suitability model outputs of AGP with suitability for oil palm production under low, medium and high input systems of oil palm cultivation.

2.4.3 Attitudes and knowledge of plantation managers

Eight plantation managers were interviewed. All the plantations we visited have sustainability policies which include policies to protect biodiversity. Reviewing certification processes for oil palm plantations in Nigeria revealed state-granted concessions following mandatory federal government Environmental Impact Assessment requirements. Edo State requires adherence to Roundtable on Sustainable Palm Oil (RSPO) Principles and Criteria, which is overseen by the Edo State Oil Palm Programme Independent Implementation Office. This aligns with efforts to ensure the state's membership in the Tropical Forest Alliance's Africa Palm Oil Initiative, which is now expanded as the Africa Sustainable Commodities Initiative (ASCI). However, Cross River State lacks a comparable scheme. The Nigerian Government, during CoP27 on November 9, 2022, signed ASCI, which is a single set of principles for the responsible production of agricultural commodities in Africa. Our findings have the potential to inform the implementation of ASCI across Nigeria including in Cross River State.

2.4.4 Opportunities for parrot friendly management

We identified multiple opportunities to integrate parrot-friendly practices into the management and design of plantations including the protection and retention of natural forest areas, especially those hosting important populations of AGPs, the protection of AGP roost sites and nesting areas and the afforestation of degraded areas.

2.5. Communication & Application of results

The findings of research conducted during this project were disseminated to a range of stakeholders through a virtual workshop held on 24th of August, 2024 (https://drive.google.com/file/d/1-2q0FQHumA83ygq2XqN3FHj0XhjZ0F_T/view?usp=drive_link). The main output of this

workshop was a joint communique (see 4.4 in Appendices) agreed upon by all stakeholders who participated in the workshop. The communique included a number of observations regarding the relationship between parrots and oil palms and recommendations for parrot-friendly practices in plantation management. The final version of the communique, incorporating stakeholder feedback, can be found (https://docs.google.com/document/d/1hgwbDxAf9WKLvVv9kdjAidbeO8qds_17unYDU5rTkjc/edit?usp=sharing). Our observations revealed the absence of standardised certification schemes for oil palm plantations at a national level in Nigeria with states adopting differing approaches. The communique was shared with RSPO and ASCI and RSPO has expressed an interest in broader recommendations aligning with their Principles and Criteria for biodiversity conservation in oil palm plantations, as their standards focus on overall biodiversity rather than individual species protection. We acknowledge Edo State's success in sustainable oil palm plantation management through ASCI and are in the process of facilitating dialogue between Cross River and Edo State to share and exchange knowledge and practices. To further inform these efforts, we have initiated discussion with ASCI for guidance on integrating our research and offering support for ASCI implementation.

To support this communication we have drafted a policy statement which we anticipate will be published by the African Chapter of Society for Conservation Biology. At the time of submission of this report this statement has not been finalised and is currently under review by collaborators. The production of this deliverable has been delayed as we decided to re-orient it to include other agro-commodities following Nigeria's signing of the ASCI and account for changes to the policy landscape in Nigeria.

The team is in the process of drafting multiple scientific papers to disseminate the results of the research. To the best of our knowledge, our use of night vision binoculars for counting parrots using communal overnight roosts is a novel application of this technology and considerably increases the accuracy of counts. A manuscript describing a novel methodology for counting parrots at communal overnight roosts has been submitted to the Journal of Ornithology.

2.6 Monitoring and Evaluation

Progress towards delivering project results was monitored and evaluated through the collection of OVIs (Objectively Verifiable Indicators) for each project activity. In addition, there were unanticipated outcomes that could be used for evaluating effectiveness of activities.

Result	Indicators
393 hours of surveys conducted in total and 135 plantation workers interviewed to record the on AGP abundance and behaviour across 6 plantation and 3 adjoining forest.	GPS track records, field data entry sheet, and Epicollect records
Multi-stakeholder workshop	Workshop communique including list of participants
Habitat suitability models produced for high conservation value sites for AGPs and areas of minimal conflict between oil palm expansion identified and disseminated to stakeholders.	Figures 5&6
Interviews conducted with 8 managerial staff of plantation that evaluated their	Email correspondence; Virtual recordings of the interviews and hard copies of completed

knowledge and attitudes to AGP conservation conducted in 6 plantations visited	questionnaire.
Review of the regional initiatives including APOI and ASCI, on sustainability of agro-commodity and Nigeria National Interpretation of the RSPO Principles and Criteria identified opportunities for integration of parrot-friendly practices into oil palm cultivation in Nigeria and virtual workshop to disseminate findings.	Report of the review, email correspondents, workshop invitations, and the workshop-generated from communiqué
Policy Statement providing recommendations for policies regarding expansion of oil palm cultivation in Nigeria	Draft policy statement

Unanticipated outcomes.

Result	Indicators
Analyses of data led to documentation of a manuscript that described a new method for count of roosting parrots	Draft manuscript and Email correspondents with editor of Journal of Ornithology.
The overnight communal roost in Main Estate of OOPCP was designated as an HCV (site of High Conservation Value) and regulations established to ensure agricultural activities minimised disturbance	Photo 10.



Photo 10: Overnight communal roost area in Main Estate of OOPCP designated as an HCV

2.7 Achievements and Impacts

Design and management practices within commercial oil palm plantations can influence their conservation value to AGPs.

We observed that AGPs use habitats within oil palm plantations for various essential activities, including nesting, feeding, and roosting. The way this landscape is designed and managed holds significant implications for the sustenance of not only AGPs but also likely for other biodiversity where commercial cultivation of oil palms occurs. Using two lines of enquiry we found that AGPs feed on, or otherwise directly use, commercially cultivated oil palm infrequently. This means AGPs should not be considered significant pests by plantation managers and cultivated homogenous areas of oil palm should not be considered to provide significant resources to AGPs. Rather we found that forest patches within plantations are strongly preferred by AGPs and provide resources for AGPs. We also observed that within landscapes where AGPs are threatened by capture for the pet trade (a threat that is widespread in southern Nigeria) these patches could be important “safe havens” for parrots. Careful stewardship of these patches and trees by plantation managers to ensure they are preserved and safe from trappers would enhance the contribution of plantations to conservation.

Expansion of oil palm plantations threaten suitable AGP habitat in southern Nigeria: Comparisons of habitat suitability models developed for AGPs with maps of areas suitable for oil palm cultivation in Nigeria indicate substantial overlap in the areas that are most suitable. However, the degree of overlap (and therefore conflict) depends on the oil palm cultivation input system and areas with reduced conflict (i.e. areas most suitable for oil palm but less suitable for AGPs) have been identified and mapped. There is greater room for compromise between areas suitable for AGPs and oil palm cultivation with high input systems, but these may be less cost economical and have other implications for biodiversity conservation due to greater intensities of chemical inputs.

Governance of planning and management of oil palm plantations is inconsistent across Nigeria but opportunities exist to improve systems and processes: Our desk-based review and consultation with stakeholders revealed the absence of a dedicated agency in Nigeria responsible for the concession, certification and management of oil palm plantations. However, provisions for evaluating environmental impacts of developments exist within the Environment Impact Assessment Act. While a number of African countries signed up the Marrakesh Declaration of the APOI, committing to adherence to principles of the Roundtable on Sustainable Palm Oil, within Nigeria only Edo State signed this agreement. Edo State has accordingly implemented a number of measures providing a roadmap for replication in other states. On November 9, 2022, Nigeria signed the African Sustainable Commodities Initiative during CoP27 of the UNFCCC committing to improving the sustainability of agro-commodity production, including palm oil, and opening up timely opportunities to further key objectives of the project.

Consensus statement of key stakeholders on the role of oil palm plantations in the conservation of AGPs and recommendations for improving management and planning processes agreed. As a result of a multi-stakeholder workshop, a communique was published outlining multiple recommendations. This workshop and communique provide a foundation on which to achieve the systematic change needed in approaches to oil palm cultivation and will inform the implementation of the ASCI.

Key communal roost site for AGPs protected through designation as an HCV: Our research indicated that the roost site for AGPs is the largest documented roost site for AGPs in West Africa. The location of this roost has been designated by plantation management as an HCV, and policies enacted to minimise disturbance.

2.8 Capacity Development and Leadership capabilities

The successful execution of the project, complemented by Conservation Management and Leadership Workshop sessions and its subsequent relay to the team members, significantly enhanced the leadership capabilities of my team. Leadership responsibilities were not solely assigned to the team leader but rather every individual had the opportunity to take on a leadership role at different occasions, for instance in leading field work. This approach was instrumental in revealing the diverse strengths and capabilities possessed by each team member, showcasing their unique aptitudes in effectively navigating challenges. This adoption of an inclusive leadership model created a dynamic learning environment for all team members. It provided diverse opportunities to address individual barriers to effective leadership, fostering a collaborative atmosphere aimed at enhancing decision-making processes. We consciously acknowledged that decision-making was a collective effort, firmly believing that the incorporation of diverse perspectives leads to more effective problem-solving. Throughout the project duration, the team actively cultivated an environment where every opinion was respected in a constructive manner. After each field event, we proactively sought feedback, creating a space for improvement, and expressing gratitude for everyone's contributions. This collaborative and inclusive leadership approach not only fortified the overall capabilities of the team but also cultivated a culture of mutual respect and continuous improvement within our project endeavours. All team members gained experience of conducting surveys for birds, managing field work, conducting interviews, and organising and participating in workshops. Through a visit to SEEC, University of Cape Town, the team leader received training in spatial statistics and the development of species distribution models.

Section 3:

3.1 Conclusion

In conclusion, our project generated knowledge on the relationships between oil palm plantations and AGPs and how plantations can be designed and managed to minimise negative impacts on parrots and in some instances mitigate wider threats to this endangered parrot. Through meetings, reports and a multi-stakeholder workshop we shared this knowledge with key stakeholders and achieved consensus on recommendations acting as a “road map” for achieving parrot-friendly planning and management of oil palm plantations. Strong partnerships with plantation managers, national and state level government, industry bodies (including the RSPO) and NGOs have been formed and engagement with new processes including the African Sustainable Commodities Initiative have been established providing a strong foundation for ongoing efforts to ensure recommendations are adopted and operationalised by industry and government. Encouragingly, actions including the protection of the largest documented communal roost site for AGPs in West Africa have already been taken by plantation managers, indicating buy-in from key stakeholders. Importantly our project has helped to develop skills and capacity of a team of conservationists in Nigeria who continue to work towards the project's overall goals, as well as developing new conservation initiatives concerning Grey parrots. The project also leveraged a number of new opportunities including statistical training, development of a new technique for monitoring parrots at overnight communal roosts and collaboration on a USFWS-funded project developing forensic techniques to help tackle illegal trade.

3.2 Problems encountered and lessons.

1) My team surpassed our initial expectations in terms of plantation visits, and this achievement was made possible through the valuable in-kind support extended by the plantations. This support significantly contributed to a reduction in accommodation costs, allowing for a more efficient use

of resources. With the approval of CLP, I was able to reallocate a portion of the initially designated accommodation funds to transportation. This adjustment empowered my team to visit a greater number of plantations than originally proposed, enhancing the overall scope and effectiveness of our project.

2) The technical complexities involved in the spatial analyses turned out to be more challenging than initially anticipated. This was compounded by having to reduce the length of my training and capacity building visit to the University of Cape Town due to delays with obtaining my visa to South Africa. Consequently, the timeline for the development of the maps experienced setbacks. Despite these challenges, I was able to adapt and address the situation. Following my return to Nigeria, I remotely completed the analyses, utilizing technology and collaborative tools to ensure the progress of this crucial aspect of the project.

3) The 2023 general election in Nigeria, coupled with the subsequent change in government, resulted in significant delays that affected the scheduled workshop. The timeline had to be shifted by a month, deviating from the originally proposed timeframe. This adjustment was imperative to allow for the integration of the new government's perspective, ensuring their awareness and alignment with the project's results, which is crucial for its long-term sustainability. Also, this delay accommodated the need for the incoming administration to familiarize itself with the research findings and recommendations, fostering a seamless transition and enhancing the potential for the project's continued impact under the new government.

4) Our project faced unforeseen challenges related to the delivery of survey equipment, including binoculars, night vision binoculars, GPS devices, and a textbook (Field Guides, Birds of West Africa). These items were unexpectedly detained by the Nigeria Customs Service, demanding payment of an import duty along with a waiver for an end-user certificate. This unexpected delay not only posed challenges in terms of time but also resulted in additional expenses. In reflecting on this experience, we recognize the importance of conducting thorough verification regarding the importation of specific field equipment in the future. Ensuring the necessary authorizations and understanding any potential requirements for importing equipment are crucial steps to prevent similar delays or the risk of seizure.

3.3 In the future

The sustainability of the research outcomes has been communicated to pertinent stakeholders, including Federal and State Government Ministries. Additionally, the findings have been shared with RSPO, who has expressed their commitment to integrating the findings into their work. Our survey results indicate that Edo State is making significant process in sustainable oil palm plantation management. Currently, we are facilitating the exchange of best practices between Edo State and Cross River State, as the habitat suitability model shows the crucial role of Cross River State in the conservation of the AGP. An agreement has been established with Okomu Oil Palm PLC to monitor parrots at the overnight communal roost on a quarterly basis. The expansion of palm oil production is far from the only threat to AGPs in Nigeria and trapping for the pet trade and logging for timber are important threats at multiple sites. In many situations addressing these threats will require the development of community-based conservation initiatives and the implementation of diverse livelihood options that are compatible with AGP conservation. The team has begun developing such initiatives at a key site for AGPs.

3.4 Financial Report

Date	Phase	Budget line	Receipt Number	Description	Unit cost (local currency – Naira)	Quantity	Total price (local currency)	Exchange Rate	Total USD (\$)	Reason for Purchase
01/07/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG394175454793521210	AIRTIME/ MTN/08060523948	1500	1	1,500.00	415	3.61	Telephone call subscription
08/07/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG1006047017661424111	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
21/07/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG661128241792985201	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
22/07/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG543058919669176010	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
22/07/2022	B-Equipment	Photographic equipment	DS-ASE-INV-GB-2022-259533712	KEKOOL Night Vision Binoculars	178.59	2	357.18	0.922	387.40	The night vision binoculars will be used to count the parrot at the roosting sites at night
22/07/2022	B-Equipment	Photographic equipment	GB24K2B6QAEUI	Vanguard VEO ED 10x42 Binoculars	198.98	1	198.98	0.922	215.81	The binoculars are required to get a better view of the focus at some distance away
23/07/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	GB24KNHH6AEUI	Birds of Western Africa: 2nd Edition (Helm Field Guides)	25.55	1	25.55	0.922	27.71	The textbook will aid identification of other species by team members
27/07/2022	A-Phase 1 Project preparation	Insurance	52258	Medical supplies (First aid)	14700	2	29,400.00	415	70.84	Purchase of first aid items
27/07/2022	A-Phase 1 Project preparation	Insurance	3236	Medical supplies (Insect repellent cream)	342.5	8	2,740.00	415	6.60	Purchase of insect repellent cream
27/07/2022	B-Equipment	Scientific/field equipment and supplies	3387	AA batteries, handgloves, raincoat, nose mask, rainboot	-	-	283,660.00	415	683.52	Purchase of 24 packages AA batteries, 72 pairs handgloves, 12 pieces raincoat, 17 packs nose mask, 12 pairs rainboot
28/07/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG131837868205769401	Communication (Telephone)	500	1	500.00	415	1.20	Telephone call subscription
31/07/2022	A-Phase 1	Communications	NXG783300347083301611	Communication (Telephone)	1000	1		415		Telephone call

	Project preparation	(telephone/internet/postage)					1,000.00		2.41	subscription
01/08/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG631472587752750401	TRF/Internet subscription and call/FRM IFEANYI TO CHIOMA REBECCA OKECHUKWU		1	3,250.00	415	7.83	August communications (telephone/internet) for team member
02/08/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXGETZ-09FG220801163 2085375JFKDU	Data subscription for Chinemerem		1	3,250.00	415	7.83	August communications (telephone/internet) for team member
02/08/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG16761584391509070	TRF/Internet subscription /FRM IFEANYI TO EBIDO CHUKWUENYEM C		1	3,250.00	415	7.83	August communications (telephone/internet) for team member
03/08/2022	B-Equipment	Other (Equipment)	E610929	Shipping of the items purchased from UK	123.52	1	123.52	0.922	133.97	Cost for shipping the GPS, binoculars and textbook from UK to Nigeria
05/08/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG202206776877314111	AIRTIME/ MTN/08060523948		1	500.00	415	1.20	August ommunications (telephone/internet) for team leader
08/08/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG689107547955260910	AIRTIME/ MTN/08060523948		1	2,000.00	415	4.82	August ommunications (telephone/internet) for team leader
10/08/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG66338701339884711	AIRTIME/ MTN/08060523948		1	500.00	415	1.20	August ommunications (telephone/internet) for team leader
12/08/2022	B-Equipment	Other (Equipment)	NXG00001422081214383 0267671182247	Important Duty/Tax Payment Ezenwa Ifeany		1	138,068.25	415	332.69	Important Duty/Tax for the 3 binoculars, GPS
12/08/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG00001422081215111 3267407252395	Expenses for following up the custom detained items		1	20,000.00	415	48.19	Agent fee for follow-up on the custom detained items (3 binoculars, GPS)
16/08/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	2.02E+24	Communication (Telephone)		1	500.00	415	1.20	Telephone call subscription
16/08/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	2.02E+24	Communication (Telephone)		1	500.00	415	1.20	Telephone call subscription
17/08/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	3,4,5,6,8	Transportation (Nsukka-Benin City)	14500	5	72,500.00	415	174.70	Transportation cost for 5 passager sits from Nsukka to Benin City
17/08/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	11545	4 room Accommodation	52000	1	52,000.00	415	125.30	4 rooms accomodation for the team at Alpha hotel & suit
18/08/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	14655	Booking for 4 space camping for 3 days	375	12	4,500.00	415	10.84	Booking for 4 space for 3 days at Okomu NP

22/08/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	2.02E+20	Communication (Telephone)		1	500.00	415	1.20	Telephone call subscription
23/08/2022	C-Phase 2 Project implementation	Other (Phase 2)	A01	Field assistant stipend	2000	5 days	10,000.00	415	24.10	Stipend paid to Mr Emeka Oge being cost for 5 days assistance during surveys at Okomu NP and Extension I of Okomu Oil Palm Company PLC
25/08/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	2.02E+24	Communication (Telephone)		1	500.00	415	1.20	Telephone call subscription
28/08/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	2.02E+24	Communication (Telephone)		1	500.00	415	1.20	Telephone call subscription
29/08/2022	C-Phase 2 Project implementation	Other (Phase 2)	A02	Field assistant stipend	2000	1 day	2,000.00	415	4.82	Stipend paid to Uyi Efosa being cost for a day assistance during surveys at Extension II of Okomu Oil Palm Company PLC
30/08/2022	C-Phase 2 Project implementation	Other (Phase 2)	A03	Field assistant stipend	2000	1 day	2,000.00	415	4.82	Stipend paid to Uyi Efosa being cost for a day assistance during surveys at Extension II of Okomu Oil Palm Company PLC
02/09/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	2.02E+24	Communication (Telephone)		1	500.00	415	1.20	Telephone call subscription
02/09/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG222052899684499910	TRF/Internet subscription and call/FRM IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	September communications (telephone/internet) for team member (Chioma)
02/09/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXGETZ-09FG220902182715276WB5AIW	September data subscription Chinemerem	3250	1	3,250.00	415	7.83	September communications (telephone/internet) for team member (Chinemerem)
02/09/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG221931362885893301	TRF/Internet subscription /FRM IFEANYI TO EBIDO CHUKWUENYEM C	3250	1	3,250.00	415	7.83	September communications (telephone/internet) for team member (Chike)
02/09/2022	A-Phase 1 Project	Communications (telephone/internet/postage)	NXG222299663354252811	AIRTIME/ MTN/08060523948		1	2,000.00	415	4.82	September communications

	preparation									(telephone/internet) for team leader
04/09/2022	C-Phase 2 Project implementation	Other (Phase 2)	A04	Field assistant stipend	2500	2 days	5,000.00	415	12.05	Stipend paid to Umukoro Christopher being cost for 2 days assistance during surveys at Cowan Estate Presco PLC
05/09/2022	C-Phase 2 Project implementation	Other (Phase 2)	A05	Field assistant stipend	3000	17 days	51,000.00	415	122.89	Stipend paid to Mr Foluso Alege being cost for 17 days assistance during surveys at Okomu NP and Extensions I, II and Main Estate of Okomu Oil Palm Company PLC, Ologbo and Cowan Estate of Presco PLC.
06/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	A06	Transportation to the sites (plantations and forest)			98,000.00	415	236.14	Intra-state transportation cost to 5 plantations and 2 forest sites in Edo State paid Mr Igbinosa Ben
06/09/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	11598	4 room Accommodation	56000	1	56,000.00	415	134.94	4 rooms accomodation for the team at Alpha hotel & suit
06/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	A07	Charge for transporting field baggages	4000		4,000.00	415	9.64	Charges for translocation of baggages from Benin City to Nsukka
06/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)		Transportation (Benin City- Nsukka)	14500	4	58,000.00	415	139.76	Transportation cost from Nsukka to Benin City
08/09/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG270405440494209511	AIRTIME/ MTN/08060523948		1	500.00	415	1.20	August ommunications (telephone/internet) for team leader
08/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)		Transportation (Nsukka-PH- Calabar)	20500	2	41,000.00	415	98.80	Transportation cost for 2 passager sits from Nsukka to Calabar
08/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	A08	Charge for transporting field baggages	4500	1	4,500.00	415	10.84	Charges for translocation of baggages from Nsukka to Port Harcourt
08/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	A09	Charge for transporting field baggages	8000	1	8,000.00	415	19.28	Charges for translocation of baggages from Port Harcourt to Calabar
08/09/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	1101	Charge for 1 room accommodation	5000	1	5,000.00	415	12.05	Charge for 1 rooms accomodation at Real Home Hotel Ltd

11/09/2022	C-Phase 2 Project implementation	Other (Phase 2)	A10	Field assistant stipend	3000	2	6,000.00	415	14.46	Stipend paid to Christian being cost for 2 days assistance during surveys at Ekongnaku community forest.
11/09/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	A11	Charge for 2 nights accommodation	6000	2	12,000.00	415	28.92	Charges for two night accomodation at Ekongnaku
13/09/2022	C-Phase 2 Project implementation	Other (Phase 2)	A12	Field assistant stipend	2500	2	5,000.00	415	12.05	Stipend paid to Vicent Enaig being cost for 2 days assistance during surveys at Wilmar International Eyop
16/09/2022	C-Phase 2 Project implementation	Other (Phase 2)	A13	Field assistant stipend	5000	3	15,000.00	415	36.14	Stipend paid to Enima Effangene and Olory Isaac being cost for 3 days assistance during surveys at Wilmar International Calaro
16/09/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	2010	Charge for 1 room accommodation	6000	1	6,000.00	415	14.46	Charge for 1 rooms accomodation at Pride Garden hotel
17/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	A14	Transportation to the sites (plantations and forest)	52000	1	52,000.00	415	125.30	Intra-state transportation cost to 2 plantations and 1 forest site in Cross River State paid Mr Effiong Okpo
17/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	9, 12	Transportation (Calabar to Obollo)	16000	2	32,000.00	415	77.11	Transportation cost from Calabar to Obollo
17/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	A15	Charge for transportating field baggages	6000	1	6,000.00	415	14.46	Charges for translocation of baggages from Calabar to Obollo paid PMT 2377
17/09/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	A16	Taxi drop from Obollo to Nsukka	3000	1	3,000.00	415	7.23	Transportation cost from Obollo to Nsukka
17/09/2022	C-Phase 2 Project implementation	Food for team members and local guides		Sum of feeding costs for first phase of survey		1	448,200.00	415	1,080.00	Total cost of feeding during Augut/September survey activities
02/10/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG1323176831638039200	TRF/October data subscription and call/FRM IFEANYI TO EBIDO CHUKWUENYEM C.	3250	1	3,250.00	415	7.83	October communications (telephone/internet) for team member (Chike)
02/10/2022	A-Phase 1 Project	Communications (telephone/internet/postage)	NXG1163202782183123011	TRF/October data subscription and call/FRM	3250	1	3,250.00	415	7.83	October communications (telephone/internet) for

	preparation			IFEANYI TO CHIOMA REBECCA OKECHUKWU						team member (Chioma)
02/10/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	099MJKL2227519zB	TRF/October data subscription and call/FRM	3260.75	1	3,260.75	415	7.86	October communications (telephone/internet) for team member (Chioma)
13/10/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	099MJKL222861lsm/099MJ KL222861rEH	AIRTIME/ MTN/08060523948	3500	1	3,500.00	415	8.43	October communications (telephone/internet) for team leader (Ifeanyi)
19/10/2022	B-Equipment	Scientific/field equipment and supplies	04-09238-46519	Garmin etrex GPS tracker	79.99	1	79.99	0.922	86.76	GPS is required to keep tracks of the field locations
25/10/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG1362308405163483611	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
01/11/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG385175157836912100	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
02/11/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG390673737830763900	TRF/November data and calls subscription /FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C.	3250	1	3,250.00	415	7.83	November communications (telephone/internet) for team member (Chike)
02/11/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXGETZ-09FG221102051 127148V3AG4Z	November data and call subscription	3250	1	3,250.00	415	7.83	November communications (telephone/internet) for team member (Chinemerem)
02/11/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG80042198187064711	TRF/November data and call subscription /FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	November communications (telephone/internet) for team member (Chioma)
03/11/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	ABC 1,2,3,4,5	Transportation (Enugu to Calabar)	14650	5	73,250.00	415	176.51	Transportation cost for 5 passager sits from Enugu to Calabar
03/11/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	4107	Cost of 2 rooms for 1 night accommodation	5000	2	10,000.00	415	24.10	Cost of 2 rooms for 1 night accomodation at Marian hotel Calabar
04/11/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	4348	Cost of 2 rooms for 1 night accommodation	5000	2	10,000.00	415	24.10	Cost of 2 rooms for 1 night accomodation at Marian hotel Calabar (Booked and paid ahead of time)
04/11/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG1385421212244028901	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription

06/11/2022	C-Phase 2 Project implementation	Other (Phase 2)	B1	Field assistant stipends	3000	3	9,000.00	415	21.69	Stipend paid to Cliff Asuquo being cost for 3 days assistance during surveys at Mbotakpa
08/11/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG115462717298193100	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
08/11/2022	C-Phase 2 Project implementation	Other (Phase 2)	B2	Field assistant stipends	3000	2	6,000.00	415	14.46	Stipend paid to Samuel G. Okom being cost for 2 days assistance during surveys at Eyop industries
11/11/2022	C-Phase 2 Project implementation	Other (Phase 2)	B3	Field assistant stipends	5000	3	15,000.00	415	36.14	Stipend paid to Isaac Olory and Emmanuel Effangene being cost for 3 days assistance during surveys at Calaro estate.
11/11/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	B4	Transportation to the sites (plantations and forest)	54000	1	54,000.00	415	130.12	Intra-state transportation cost to 2 plantations and 1 forest site in Cross River State paid Mr Effiong Okpo
12/11/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG165786925205888410	AIRTIME/ MTN/08060523948	4000	1	4,000.00	415	9.64	November communications (telephone/internet) for team leader (Ifeanyi)
12/11/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	114748;114750;114747; 114746	Transportation (Calabar to Benin City)	28400	4	113,600.00	415	273.73	Transportation cost for 4 passenger sits from Benin City to Nsukka
12/11/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	11545	Charge for 3 room accommodation	42000	1	42,000.00	415	101.20	Charge for 3 rooms accomodation at Alpha hotel & Suites
16/11/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG1552387323747856811	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
16/11/2022	C-Phase 2 Project implementation	Other (Phase 2)	B5	Field assistant stipends	4500	4	18,000.00	415	43.37	Stipend paid to Eco guards at Presco being cost for 3 days assistance during surveys at Ologbe Estate
22/11/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG30114660006386300	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
22/11/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	14658	Payment for camping space	300	11	3,300.00	415	7.95	Payment for camping space at Okomu National Park

26/11/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG1641793889664411001	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
27/11/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	-	Transportation (Benin City to Nsukka)	15000	1	15,000.00	415	36.14	Transportation cost for 1 passenger sit from Benin City to Nsukka
29/11/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG1828800269352154810	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
29/11/2022	C-Phase 2 Project implementation	Other (Phase 2)	B6	Field assistant stipends	2500	11	27,500.00	415	66.27	Stipend paid to Foluso Alege being cost for 11 days assistance during surveys at Edo State
29/11/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	ABC 6	Transportation (Enugu to Calabar)	18250	5	18,250.00	415	43.98	Transportation cost for 1 passenger sits from Enugu to Calabar (Team leader)
30/11/2022	C-Phase 2 Project implementation	Other (Phase 2)	B7	Field assistant stipends	3000	3	9,000.00	415	21.69	Stipend paid to Foluso Uyi Efosa being cost for 3 days assistance during surveys at Okomu Extension II
30/11/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	11834	Charge for 3 room accommodation 2 nights	42000	2	84,000.00	415	202.41	Charge for 3 rooms accomodation at Alpha hotel & Suites for 2 nights
30/11/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	ABC 7,8,9	Transportation (Benin City to Nsukka)	15000	3	45,000.00	415	108.43	Transportation cost for 2 passenger sits from Benin City to Nsukka
30/11/2022	C-Phase 2 Project implementation	Food for team members and local guides		Sum of feeding costs for second phase of survey		1	356,900.00	415	860.00	Total cost of feeding during November survey activities
01/12/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	B8	Transportation to the sites (plantations and forest)	102000	1	102,000.00	415	245.78	Intra-state transportation cost to 4 plantations and 2 forest sites in Edo State paid Mr Johnson Erege
01/12/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	2119	Cost for 3 days accomodation	5000	3	15,000.00	415	36.14	Cost for 3 nights accommodation at Marian hotel during meeting with the stakeholders at Calabar
01/12/2022	C-Phase 2 Project implementation	Accommodation for team members and local guides	45531	Cost for 2 days accomodation	15000	4	60,000.00	415	144.58	Cost for 2 nights accommodation for two person at Presken during meeting with the stakeholders at Abuja

03/12/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	TH-60CB2490D3	Transportation (Abuja to Benin City)	16600	1	16,600.00	415	40.00	Transportation cost for 5 passenger sits from Enugu to Calabar
04/12/2022	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	1963	Transportation (Benin City to Enugu)	15000	1	15,000.00	415	36.14	Transportation cost for 1 passenger sit from Benin City to Nsukka
07/12/2022	A-Phase 1 Project preparation	Visas and permits	098WNV1223418UsZ	eVisa (POS/WEB PMT INTERFILE (PTY) LTD BRYANSTON)		1			24.64	Payment for eVisa application
23/12/2022	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	837	AA Battery RayMax	5800	1	5,800.00	415	13.98	Cost for 1 pack of RayMax Battery
08/12/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG164263142702157100	TRF/Data subscription and call allowance /FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C	3250	1	3,250.00	415	7.83	December communications (telephone/internet) for team member (Chike)
08/12/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG701074609279781400	TRF/Data subscription and call allowance /FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	December communications (telephone/internet) for team member (Chioma)
08/12/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXGETZ-09FG221208031759031EGNJFO	Data subscription and call allowance	3250	1	3,250.00	415	7.83	December communications (telephone/internet) for team member (Chinemerem)
12/12/2022	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG738088251436699610	AIRTIME/ MTN/08060523948	3500	1	3,500.00	415	8.43	December communications (telephone/internet) for team leader (Ifeanyi)
03/01/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG30983037292554800	TRF/January data and subscription allowance /FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	January communications (telephone/internet) for team member (Chioma)
03/01/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG30964600065849600	TRF/January data subscription allowance /FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C.	3250	1	3,250.00	415	7.83	January communications (telephone/internet) for team member (Chike)
03/01/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)		January data and subscription allowance	3250	1	3,250.00	415	7.83	January communications (telephone/internet) for team member (Chinemerem)

05/01/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG47043142703391600	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
11/01/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG2036430352365369901	AIRTIME/ MTN/08060523948	4000	1	4,000.00	415	9.64	January communications (telephone/internet) for team leader (Ifeanyi)
10/02/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	2274	Cost of 2 rooms for 1 night accomodation	6000	2	12,000.00	415	28.92	Cost of 2 rooms for 1 night accomodation at Marian hotel Calabar
16/01/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG140442134669958111	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
16/01/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG502634700744368311	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
14/01/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	1075444	First aid	3150	1	3,150.00	415	7.59	Purchase of first aid items
15/01/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	ABC 4,5,7,8,9	Transportation (Enugu to Benin City)	21100	5	105,500.00	415	254.22	Transportation cost for 5 passenger sits from Enugu to Benin City
15/01/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	12678	Charge for 3 room accommodation	42000	1	42,000.00	415	101.20	Charge for 3 rooms accomodation at Alpha hotel & Suites
19/01/2023	C-Phase 2 Project implementation	Other (Phase 2)	C1	Field assistant stipends	4500	4	18,000.00	415	43.37	Stipend paid to Eco guards at Presco being cost for 3 days assistance during surveys at Ologbe Estate
24/01/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG428464041441400	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
25/01/2023	C-Phase 2 Project implementation	Other (Phase 2)	C3	Field assistant stipend	2000	6 days	12,000.00	415	28.92	Stipend paid to Mr William Raik being cost for 6 days assistance during surveys at Okomu NP and Extensions I of Okomu Oil Palm Company PLC
27/01/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG27280832947818001	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
31/01/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG21463864772778270 01	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription

31/01/2023	C-Phase 2 Project implementation	Other (Phase 2)	C2	Field assistant stipend	2500	17 days	42,500.00	415	102.41	Stipend paid to Mr Foluso Alege being cost for 17 days assistance during surveys at Okomu NP and Extensions I, II and Main Estate of Okomu Oil Palm Company PLC, Ologbo and Cowan Estate of Presco PLC.
31/01/2023	C-Phase 2 Project implementation	Other (Phase 2)	C4	Field assistant stipend	2500	3 days	7,500.00	415	18.07	Stipend paid to Mr Ayuba Limandi being cost for 3 days assistance during surveys at Extensions II of Okomu Oil Palm Company PLC
31/01/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	7785	Transportation (Benin City to Onitsha)	3000	1	3,000.00	415	7.23	Transportation cost for 1 passenger sit from Benin City to Onitsha
31/01/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	114748;114750;114747; 114746	Transportation (Calabar to Benin City)	28400	4	113,600.00	415	273.73	Transportation cost for 4 passenger sits from Benin City to Nsukka
31/01/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	C5	Transportation to the sites (plantations and forest)	145000	1	145,000.00	415	349.40	Intra-state transportation cost to 4 plantations and 2 forest sites in Edo State paid Mr Godwin Edosa
01/02/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	16	Transportation (Onitsha to Calabar)	27500	1	27,500.00	415	66.27	Transportation cost for 1 passenger sit from Onitsha to Calabar
01/02/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	115897; 115888	Transportation (Benin City to Uyo)	29000	2	58,000.00	415	139.76	Transportation cost for 2 passenger sits from Benin City to Uyo
01/02/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	Vehicle No. 113	Transportation (Uyo to Calabar)	3100	1	6,200.00	415	14.94	Transportation cost for 2 passenger sits from Uyo to Calabar
01/02/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	2268	Cost of 2 rooms for 1 night accommodation	6000	2	12,000.00	415	28.92	Cost of 2 rooms for 1 night accommodation at Marian hotel Calabar
02/02/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	099MJKL23033G5hW	AIRTIME/ AIRTEL/09028649750	500	1	500.00	415	1.20	Telephone call subscription
05/02/2023	C-Phase 2 Project implementation	Other (Phase 2)	C6	Field assistant stipends	4000	3	12,000.00	415	28.92	Stipend paid to Cliff Asuquo being cost for 3 days assistance during surveys at Mbotakpa

07/02/2023	C-Phase 2 Project implementation	Other (Phase 2)	C7	Field assistant stipends	4000	2	8,000.00	415	19.28	Stipend paid to Samuel G. Okom being cost for 2 days assistance during surveys at Eyop industries
09/02/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	099MJKL230400hUP	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
09/02/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG136541974498036201	TRF/February data subscription /FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C	3250	1	3,250.00	415	7.83	February communications (telephone/internet) for team member (Chike)
09/02/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG135582642001414000	TRF/February data subscription /FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	February communications (telephone/internet) for team member (Chioma)
09/02/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXGETZ-09FG2302091447 39576QH600V	Data subscription for February	3250	1	3,250.00	415	7.83	February communications (telephone/internet) for team member (Chinemerem)
10/02/2023	C-Phase 2 Project implementation	Other (Phase 2)	C8	Field assistant stipends	4000	2	8,000.00	415	19.28	Stipend paid to Olory Isaac being cost for 3 days assistance during surveys at Calaro Estate
10/02/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG145455968343621700	AIRTIME/ MTN/08060523948	3500	1	3,500.00	415	8.43	February communications (telephone/internet) for team leader (Ifeanyi)
11/02/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	C9	Transportation to the sites (plantations and forest)	83000	1	83,000.00	415	200.00	Intra-state transportation cost to 2 plantations and 1 forest sites in Cross River State paid Uyaga Kwewa
11/02/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	ABC 1,7,8,9	Transportation (Calabar to Nsukka)	27000	4	108,000.00	415	260.24	Transportation cost for 4 passenger sits from Calabar to Nsukka
11/02/2023	C-Phase 2 Project implementation	Food for team members and local guides		Sum of feeding costs for third phase of survey		1	453,100.00	415	1,091.81	Total cost of feeding during January/February survey activities
15/02/2023	A-Phase 1 Project preparation	Visas and permits	098WNVII23046IySF	eVisa (POS/WEB PMT INTERFILE (PTY) LTD BRYANSTON)		1			24.64	Payment for eVisa application (Reapply)
04/03/2023	A-Phase 1 Project	Communications (telephone/internet/postage)	NXG2650953205687515100	TRF/March data and call subscription support/FRM	3250	1	3,250.00	415	7.83	March communications (telephone/internet) for

	preparation			EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C.						team member (Chike)
04/03/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	2.03E+09	March data and call subscription support	3250	1	3,250.00	415	7.83	March communications (telephone/internet) for team member (Chinemerem)
11/03/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG394512357924280110	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
14/03/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	7.12E+11	Return flight ticket (Nigeria to South Africa)	612909	1	612,909.00	415	1,476.89	Return flight ticket (Nigeria to South Africa) for training on species suitability modeling at University of Cape Town
19/03/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG00001423031907242 3243923534456	GIGM Nsukka to Abuja	17400	1	17,400.00	415	41.93	Transportation cost for 1 passenger sits from Nsukka to Abuja
19/03/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	4262	One night accommodation	10000	1	10,000.00	415	24.10	1 Night accommodation at Abuja before departure to South Africa
20/03/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	SA1	Taxi to NAI NAI Airport Abuja	8500	1	8,500.00	415	20.48	Taxi service from hotel to NAI Airpot Abuja
20/03/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG2557258273995843201	TRF/March data and call subscription support/FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	March communications (telephone/internet) for team member (Chioma)
27/03/2023	A-Phase 1 Project preparation	Visas and permits	098WNV1230866ZVI	eVisa(POS/WEB PMT HTTPS://VISA.VFSGLOBAL RIVONIA)	109.29	1			109.29	Payment for eVisa Renewal
01/04/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG109186659702712700	TRF/April data and call subscription support/FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	April communications (telephone/internet) for team member (Chioma)
01/04/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG109191548368792501	TRF/April data and call subscription support/FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C.	3250	1	3,250.00	415	7.83	April communications (telephone/internet) for team member (Chike)
01/04/2023	A-Phase 1 Project	Communications (telephone/internet/postage)	NXG00001423040115420 1280893588550	Call and data subscription for April	3250	1	3,250.00	415	7.83	April communications (telephone/internet) for

	preparation									team member (Chinemerem)
27/04/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	SA2	Taxi from NAI airport Abuja to hotel	8000	1	8,000.00	415	19.28	Taxi from NAI airport Abuja to hotel
27/04/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	4930	One night accommodation	11000	1	11,000.00	415	26.51	1 Night accommodation at Abuja before departure to Nsukka on arrival from South Africa
27/04/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG211785693373989800	AIRTIME/ MTN/08060523948	3700	1	3,700.00	415	8.92	April communications (telephone/internet) for team leader (Ifeanyi)
28/04/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	NXG225448273166020900	TRF/Transportation Abj to Nsk/FRM EZENWA MAXWELL IFEANYI TO CHUKWUKA KINGSLEY UGWUANYI	14000	1	14,000.00	415	33.73	Transportation cost for 1 passager sits from Abuja to Nsukka
02/05/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG3000486087992199801	TRF/May data and call subscription /FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	May communications (telephone/internet) for team member (Chioma)
02/05/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG265564976731731510	TRF/May data and call subscription /FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C.	3250	1	3,250.00	415	7.83	May communications (telephone/internet) for team member (Chike)
02/05/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXGETZ-09FG2305022113 201676QE02M	May data and call subscription	3250	1	3,250.00	415	7.83	May communications (telephone/internet) for team member (Chinemerem)
05/05/2023	A-Phase 1 Project preparation	Field guide books, maps, journal articles and other printed materials	42	3 pieces field note, 3 pieces file jacket, printing and photocopies	16290	1	16,290.00	415	39.25	Cost for stationaries and photocopies
06/05/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	PMT 2, 3, 6, 7, 11	Transportation (Nsukka to Benin City)	17500	5	87,500.00	415	210.84	Transportation cost for 5 passager sits from Nsukka to Benin City
06/05/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	11962	Charge for 3 room accommodation	45000	1	45,000.00	415	108.43	Charge for 3 rooms accomodation at Alpha hotel & Suites
08/05/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG13722188841367510	AIRTIME/ MTN/08060523948	500	1	500.00	415	1.20	Telephone call subscription
15/05/2023	A-Phase 1 Project	Communications (telephone/internet/postage)	NXG71555310281362311	AIRTIME/ MTN/08060523948	4000	1	4,000.00	415	9.64	May communications (telephone/internet) for

	preparation									team leader (Ifeanyi)
15/05/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	14661	3 night tent camping space	1000	3	3,000.00	415	7.23	Payment for 3 night tent camping space at OkomuNP
24/05/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	NXG150071206665087711	AIRTIME/ AIRTEL/09028649750	500	1	500.00	415	1.20	Telephone call subscription
24/05/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	D5	Transportation for relocation to 6 sites in Edo State during African Grey Parrot surveys paid Vicent Ohwou	110000	1	110,000.00	415	265.06	Intra-state transportation cost to 4 plantations and 2 forest sites in Edo State paid Mr Vicent Okwou
24/05/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	11745	Charge for 3 room accommodation for 2 nights	45000	2	90,000.00	415	216.87	Charge for 3 rooms accomodation at Alpha hotel & Suites
24/05/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	XX1A, XX2A, XX3A	Transportation (Benin City to Uyo)	29000	3	87,000.00	415	209.64	Transportation cost for 3 passager sits from Benin City to Uyo
24/05/2023	C-Phase 2 Project implementation	Travel and local transportation (including fuel)	XX1B, XX2B, XX3B	Transportation (Uyo to Calabar)	3000	3	9,000.00	415	21.69	Transportation cost for 3 passager sits from Uyo to Calabar
02/06/2023	C-Phase 2 Project implementation	Accommodation for team members and local guides	3904	Cost of 3 nights accomodation	7000	2	21,000.00	415	50.60	Cost of accomodation for 2 rooms for 1 night and a room for 1 night at Marian hotel Calabar
02/06/2023	C-Phase 2 Project implementation	Food for team members and local guides		Sum of feeding costs for fourth phase of survey		1	375,990.00	415	906.00	Total cost of feeding during May survey activities
03/06/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	D5	Relocation to 3 sites during surveys of African Grey Parrot at Cross River State paid Effiong Okpo	65000	1	65,000.00	415	156.63	Intra-state transportation cost to 4 plantations and 2 forest sites in Edo State paid Mr Vicent Okwou
03/06/2023	D-Phase 3 Post Fieldwork Expenses	Other (Phase 3)	PMT 7, 15, XX	Transportation (Calabar to Enugu)	18500	3	55,500.00	415	133.73	Transportation cost for 3 passager sits from Uyo to Calabar
02/06/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG226118610730230310	TRF/June data and call subscription /FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	June communications (telephone/internet) for team member (Chioma)
02/06/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG3262214416647658410	TRF/June data and call subscription /FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM	3250	1	3,250.00	415	7.83	June communications (telephone/internet) for team member (Chike)

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02/06/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG0000142306020427212 15607340170	June data and call support	3250	1	3,250.00	415	7.83	June communications (telephone/internet) for team member (Chinemerem)
15/06/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG3539196247957161811	AIRTIME/ MTN/08060523948	4000	1	4,000.00	415	9.64	June communications (telephone/internet) for team leader (Ifeanyi)
03/07/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG71064080396353201	TRF/Data/call subscription for July /FRM EZENWA MAXWELL IFEANYI TO CHIOMA REBECCA OKECHUKWU	3250	1	3,250.00	415	7.83	July communications (telephone/internet) for team member (Chioma)
03/07/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG72607573730648701	TRF/Data/call subscription for July /FRM EZENWA MAXWELL IFEANYI TO EBIDO CHUKWUENYEM C.	3250	1	3,250.00	415	7.83	July communications (telephone/internet) for team member (Chike)
03/07/2023	A-Phase 1 Project preparation	Communications (telephone/internet/postage)	NXG0000142307030921102 17544602927	Data/call subscription for July	3250	1	3,250.00	415	7.83	July communications (telephone/internet) for team member (Chinemerem)
09/08/2023	C-Phase 2 Project implementation	Workshops	NXG391817753879903710	Data/call subscription	4000	1	4,000.00	415	9.64	Communications (telephone/internet)
09/08/2023	C-Phase 2 Project implementation	Workshops	NXGUP0440332308161 15953000105	Grey parrot virtual workshop	15000	1	15,000.00	415	36.14	Payment to UNN ICT Centre for virtual meeting space and internet
12/12/2024	C-Phase 2 Project implementation			Printing of report	2300	2	4600	415	11.08	Printing for two copies of the report for NPS
Total									14,931.23	

Section 4:

4.1 CLP M&E measures

Output	Number	Additional Information
Number of CLP Partner Staff involved in mentoring the Project		
Number of species assessments contributed to (E.g. IUCN assessments)	1	
Number of site assessments contributed to (E.g. IBA assessments)	1	
Number of NGOs established		
Amount of extra funding leveraged (\$)	\$0.00	
Number of species discovered/rediscovered	0	
Number of sites designated as important for biodiversity (e.g. IBA/Ramsar designation)	0	
Number of species/sites legally protected for biodiversity	1	
Number of stakeholders actively engaged in species/site conservation management	13	
Number of species/site management plans/strategies developed	1	
Number of stakeholders reached	20	
Examples of stakeholder behaviour change brought about by the project.	Sustainable management of oil palm plantation; designation of AGP roost as HCV	
Examples of policy change brought about by the project	1	
Number of jobs created		
Number of academic papers published	0	
Number of conferences where project results have been presented	0	

4.2 Summary of the transect survey visits, characteristic of the landscape and group encounter rate (index of density) across the sites.

Period of visit	Sites	Oil palm age/HVC	Species	Groups encountered	Total	Survey duration (Hour)	Group encounter rate
1st	ONP	F	AGP	4	5	3.5	1.14
1st	ONP	F	AGP	3	4	3.5	0.86
1st	ONP	F	AGP	8	13	3.5	2.29
1st	OOPEx1	O	AGP	9	14	3.5	2.57
1st	OOPEx1	O	AGP	5	9	3.5	1.43
1st	OOPEx1	M	AGP	3	5	3	1.00
1st	OOPEx1	M	AGP	4	4	3	1.33
1st	OOPEx1	Y	AGP	8	14	3.5	2.29
1st	OOPEx1	Y	AGP	0	0	3.5	-
1st	OME	O	AGP	5	12	3.5	1.43
1st	OME	O	AGP	1	3	3.5	0.29
1st	OME	O	AGP	1	2	3.5	0.29
1st	OME	O	AGP	0	0	3.5	-
1st	OME	M	AGP	1	3	3.5	0.29
1st	OME	M	AGP	1	3	3.5	0.29
1st	OOPEx2	Y	AGP	0	0	3.5	-
1st	OOPEx2	Y	AGP	0	0	3.5	-
1st	OOPEx2	HCV	AGP	0	0	3.5	-
1st	OOPEx2	HCV	AGP	0	0	3.5	-
1st	POFR	F	AGP	0	0	3.5	-
1st	POFR	F	AGP	0	0	3.5	-
1st	Presco	Y	AGP	0	0	3.5	-
1st	Presco	M	AGP	0	0	3.5	-
1st	Presco	HCV	AGP	0	0	3.5	-
1st	EACF/MACF	F	AGP	2	4	2.5	0.80
1st	EACF/MACF	F	AGP	0	0	3.5	-
1st	Eyop	HCV	AGP	5	8	3	1.67
1st	Eyop	Y	AGP	0	0	3.5	-
1st	Calaro	Y	AGP	0	0	3.5	-
1st	Calaro	M	AGP	0	0	3.5	-
1st	Calaro	HCV	AGP	0	0	3.5	-
2nd	EACF/MACF	F	AGP	4	8	3.5	1.14
2nd	EACF/MACF	F	AGP	0	0	3.5	-
2nd	Eyop	HCV	AGP	1	1	3	0.33
2nd	Eyop	Y	AGP	0	0	3.5	-
2nd	Calaro	Y	AGP	0	0	3.5	-
2nd	Calaro	M	AGP	0	0	3.5	-

2nd	Calaro	HCV	AGP	2	2	3.5	0.57
2nd	POFR	F	AGP	0	0	3.5	-
2nd	POFR	F	AGP	0	0	3.5	-
2nd	Presco	Y	AGP	0	0	3.5	-
2nd	Presco	M	AGP	0	0	3.5	-
2nd	Presco	HCV	AGP	0	0	3.5	-
2nd	OOPEx1	O	AGP	5	10	3.5	1.43
2nd	OOPEx1	O	AGP	1	4	3.5	0.29
2nd	OOPEx1	M	AGP	1	1	3.5	0.29
2nd	OOPEx1	M	AGP	1	1	3.5	0.29
2nd	OOPEx1	Y	AGP	3	5	3.5	0.86
2nd	OOPEx1	Y	AGP	3	4	3.5	0.86
2nd	ONP	F	AGP	17	37	3.5	4.86
2nd	ONP	F	AGP	13	39	1.5	8.67
2nd	ONP	F	AGP	13	20	3.5	3.71
2nd	ONP	F	AGP	15	23	3	5.00
2nd	OME	HCV	AGP	19	49	3.5	5.43
2nd	OME	O	AGP	2	3	3.5	0.57
2nd	OOPEx2	HCV	AGP	1	3	3.5	0.29
2nd	OOPEx2	Y	AGP	0	0	3.5	-
2nd	OOPEx2	HCV	AGP	0	0	3.5	-
3rd	POFR	F	AGP	0	0	3.5	-
3rd	POFR	F	AGP	0	0	3.5	-
3rd	Presco	Y	AGP	0	0	3.5	-
3rd	Presco	M	AGP	0	0	3.5	-
3rd	Presco	HCV	AGP	0	0	3.5	-
3rd	ONP	F	AGP	13	38	3.5	3.71
3rd	ONP	F	AGP	11	18	3.5	3.14
3rd	OOPEx1	O	AGP	13	19	3.5	3.71
3rd	OOPEx1	M	AGP	4	7	3.5	1.14
3rd	OOPEx1	Y	AGP	3	3	3	1.00
3rd	OOPEx1	O	AGP	4	8	3.5	1.14
3rd	OOPEx1	M	AGP	8	17	3.5	2.29
3rd	OOPEx1	Y	AGP	5	6	3.5	1.43
3rd	OME	HCV	AGP	17	42	3.5	4.86
3rd	OME	O	AGP	5	9	3.5	1.43
3rd	OME	O	AGP	0	0	3.5	-
3rd	OME	M	AGP	3	5	3.5	0.86
3rd	OME	M	AGP	0	0	3.5	-
3rd	OOPEx2	Y	AGP	0	0	3.5	-
3rd	OOPEx2	Y	AGP	0	0	3.5	-

3rd	OOPEx2	HCV	AGP	0	0	3.5	-
3rd	OOPEx2	HCV	AGP	0	0	3.5	-
3rd	EACF/MACF	F	AGP	11	20	3.5	3.14
3rd	EACF/MACF	F	AGP	3	3	3.5	0.86
3rd	EACF/MACF	F	AGP	0	0	2.5	-
3rd	Eyop	HCV	AGP	0	0	3	-
3rd	Eyop	Y	AGP	0	0	3.5	-
3rd	Calaro	HCV	AGP	1	1	3.5	0.29
3rd	Calaro	HCV	AGP	2	12	3.5	0.57
3rd	Calaro	HCV	AGP	0	0	3.5	-
4th	POFR	F	AGP	0	0	3.5	-
4th	POFR	F	AGP	0	0	3.5	-
4th	Presco	Y	AGP	0	0	3.5	-
4th	Presco	M	AGP	0	0	3.5	-
4th	Presco	HCV	AGP	0	0	3.5	-
4th	ONP	F	AGP	15	22	3.5	4.29
4th	ONP	F	AGP	10	16	3.5	2.86
4th	ONP	F	AGP	3	4	3.5	0.86
4th	OOPEx1	O	AGP	4	8	3.5	1.14
4th	OOPEx1	O	AGP	2	2	3.5	0.57
4th	OOPEx1	M	AGP	13	24	3	4.33
4th	OOPEx1	Y	AGP	5	5	3	1.67
4th	OOPEx1	Y	AGP	4	4	3	1.33
4th	OME	HCV	AGP	27	70	3.5	7.71
4th	OME	M	AGP	4	11	3.5	1.14
4th	OME	M	AGP	6	13	3.5	1.71
4th	OME	O	AGP	6	13	3.5	1.71
4th	OOPEx2	Y	AGP	0	0	3.5	-
4th	OOPEx2	Y	AGP	0	0	3.5	-
4th	OOPEx2	HCV	AGP	0	0	3.5	-
4th	OOPEx2	HCV	AGP	0	0	3.5	-
4th	EACF/MACF	F	AGP	1	2	2.5	0.40
4th	EACF/MACF	F	AGP	4	7	2.5	1.60
4th	Eyop	Y	AGP	1	3	3.5	0.29
4th	Eyop	Y	AGP	0	0	3.5	-
4th	Calaro	M	AGP	2	3	3.5	0.57
4th	Calaro	HCV	AGP	0	0	3.5	-
4th	Calaro	HCV	AGP	0	0	3.5	-
Total				371	728	395	

ONP = Okomu National Park, PCROF = Presco Conservation Reserved Forest Ologbo, EACF/MACF = Ekongnaku/ Mboakpa Community Forest, OOPEx1 = Okomu Oil Palm Company PLC Extension 1, OME = Okomu Oil Palm Company PLC Main Estate, OOPEx2

= Okomu Oil Palm Company PLC Extension 2, Presco = Presco PLC Ologbo Estate, Eyop = Eyop Estate of Wilmar International- Nigeria Operation, Calaro = Calaro Estates of Wilmar International- Nigeria Operation; Y = young palm (>7years), M = Middle aged palm (7-20years), O = Old palm (<20 years), HCV = high conservation value area, F = forest; AGP = African Grey Parrot.

4.3 Bibliography

List all the sources that you used, highlighting the most important ones. Also include the publications and communication outputs from the project as well as papers being prepared for publication by project members.

Butler R (2019). Nigeria plans 8-fold increase in palm oil production (mongabay.com) <https://news.mongabay.com/author/rhettbutler/>

Collar, N. J. (1997). Family Psittacidae (parrots). In: del Hoyo J, Elliott A, Sargatal J (eds), Handbook of the birds of the world, vol. 4: Sandgrouse to cuckoos. Barcelona: Lynx Edicions. pp 280–477

Dueker, S., Kupsch, D., Waltert, M., Bobo, S. K. and Heymann, E. W. (2019). Congo Grey Parrot *Psittacus erithacus* densities in oil palm plantation, agroforestry mosaic and protected forest in Southwest Cameroon. Bird Conservation International, doi:10.1017/S0959270919000194

Ezenwa I, Martin RO. 2021. African Grey parrot conservation in Nigeria: Status, threats and priority actions. World Parrot Trust, March 2021.

Hannah, R. (2021). “Palm Oil” Published online at OurWorldInData.org. <https://ourworldindata.org/palm-oil>

Meijaard, E., Mengersen, K., Buchori, D., Nurcahyo, A., Ancrenaz, M., Wich, S., Atmoko, S. S. U., Tjiu, A. Prasetyo, D., Hadiprakarsa, N. Y., Christy, L., Wells, J. Albar, G., Marshall, A. J. (2011). Why don't we ask? A complementary method for assessing the status of great apes. PLoS ONE, 6(3), e18008. <http://dx.doi.org/10.1371/journal.pone.0018008>

Odi, E.C., Ebido, C.C., Harder, M.K. (2019). A values-based approach for generating localized social indicators for use in sustainability assessment and decision-making: test case of brownfield soft reuse in Nigeria, Science of the Total Environment, <https://doi.org/10.1016/j.scitotenv.2019.13504>

Phillips, S., Anderson, R.P. & Schapire, R.E. (2006) Maximum entropy modelling of species geographic distributions. Ecological Modelling, 190, 231–259.

4.4 Communication

A communique issued at the workshop on “reconciling the conservation of African Grey parrots and the commercial production of palm oil in Nigeria.” (https://docs.google.com/document/d/1hgwbDxAf9WKLyVv9kdjAidbeO8qds_l7unYDU5rTkjc/edit?usp=sharing)

A COMMUNIQUE ISSUED AT THE WORKSHOP ON “RECONCILING THE CONSERVATION OF AFRICAN GREY PARROTS AND THE COMMERCIAL PRODUCTION OF PALM OIL IN NIGERIA.”

PREAMBLE

During 2022-2023 a collaborative project led by researchers from the University of Nigeria, Nsukka, and the World Parrot Trust investigated how Endangered African Grey Parrots (*Psittacus erithacus*) use commercial oil palm plantations and the surrounding landscape with the aim of informing management practices and policies to mitigate the impact of industrial oil palm cultivation on biodiversity conservation. On the 24th of August 2023, a stakeholders workshop was held online to disseminate the findings of this research, and to identify opportunities and challenges for integrating “parrot-friendly” practices into sustainable palm oil production in Nigeria.

The workshop was attended by representatives of state and federal governments, private sectors and non-governmental organisations (Table 1) to interact and brainstorm on the most appropriate conservation approach for African Grey Parrots while considering the need for oil palm plantation expansion in Nigeria.

OBJECTIVES OF WORKSHOP

1. Present the results of recent research and consider the implications for conservation of African Grey Parrots in the context of existing and expanding commercial oil palm estates in Nigeria.
2. Explore the implications of government disposition to the implementation of African Sustainable Commodities Initiative (ASCI) with respect to expansion of oil palm estates in Nigeria.
3. Discuss various opportunities highlighted in the presentations that would enhance sustainable oil palm plantation management.

Technical presentations were made by the following:

- a. Ifeanyi Ezenwa (UNN/WPT leader of research team) on the findings of the research project including seasonal and landscape variations of the African Grey parrot activities and behaviour in oil palm estates and adjoining forests, areas of high habitat suitability for the bird, and opportunities for integration of parrot-friendly management in oil palm plantation landscape.
- b. Stella Egbe (Nigerian Conservation Foundation) on importance of birds as indicators of biodiversity conservation.
- c. Mr Emmanuel John-Onyijen (Okomu Oil Palm Co. Plc.) on strategies for sustainable biodiversity conservation in commercial oil palm plantation.

OBSERVATIONS

1. African Grey parrots are a globally Endangered species threatened by habitat loss and capture for trade with declining populations in Nigeria.
2. African Grey parrots use habitats within oil palm plantations for nesting, feeding, roosting. The way in which estates are managed and designed has implications for the survival of parrots and other biodiversity within landscapes where used for the large-scale cultivation of oil palms.
3. The conversion of forest habitat for palm oil production can negatively impact wild populations of African Grey parrots and other biodiversity.
4. The Federal government of Nigeria has stated an intention to increase the production of palm oil in Nigeria to reduce dependence on imports.
5. African Grey parrots are threatened by capture in the wild and there are indications that oil palm plantations can potentially act as safe havens for African Grey parrots, providing overnight roosting sites safe from capture, as well as food and nesting sites within HCV (High Conservation Value) forest patches.
6. African Grey parrots are highly mobile and move between plantations and adjoining forest areas. Landscape-scale approaches that emphasise the protection of forest habitats alongside the design and management of plantations that protected key resources for parrots, are needed.

7. Surveys indicates that African Grey parrots rarely feed or otherwise use the cultivated oil palm fruit in plantations. Cultivated oil palms within plantations do not provide important resources for African Grey parrots. The most important areas are forest patches designated as HCVs.
8. Our field surveys recorded an increasing number of roosting individuals of African Grey parrots at Okomu Oil Palm Co. Plc between 464 individuals [August, 2022] and 921 individuals [May, 2023]. The reason for this pattern is not clear and it could reflect seasonal variation in behaviour and abundance or a directional trend. Previous field observations by Mr Ezenwa and colleagues suggest that African Grey parrots avoid areas of high habitat disturbance and recent illegal logging in nearby forest areas may have displaced parrots seeking refuge in the plantation.
9. New GIS maps have been developed as part of the “parrots and palms project” identifying areas of habitat most important for African Grey parrots enabling government, industry, and civil society groups to identify areas where the expansion of oil palm cultivation, as well as other agricultural activities and logging would have the least impact on African Grey parrot conservation.
10. At UNFCCC CoP27 the Federal Government of Nigeria signed the expanded African Sustainable Commodities Declaration which commits Nigeria to implementing the principles of the African Sustainable Commodities Initiative (ASCI). The ASCI builds on the African Palm Oil Initiative (APOI) to work across multiple commodities to strengthen and scale positive impacts for people, nature, and climate. However, mechanisms for implementation of the ASCI are yet to be implemented in most states. Edo State Government through Edo State Oil Palm Programme Independent Implementation Office has put in place policies that regulate operation of oil palm companies within its administrative boundary by implementing (a) institutional and regulatory reforms leading to establishment of EdoGIS, Edo State Oil Palm Programme, a new Forestry Commission and a Forestry Bill to replace the 1968 Forestry law, (b) putting in place strategies achievable via Free, Prior and Informed Consent (FPIC) to protect human rights (c) integrate forest management and oil palm development by requiring that oil

palm companies contribute significantly to protection and rehabilitation of degraded forest ecosystem.

11. A National Forest policy was launched in 2022, aiming to improve governance of forest sites and coordination between activities at state and federal levels.

RECOMMENDATIONS

1. Key resources for African Grey parrots within existing oil palm plantations, including roosting, nesting, and feeding sites, should be identified, and protected as HCVs following existing guidelines set out in HCV-HCSA Assessment Manual (2023).
2. Plantation managers or owners should adopt and ensure effective adherence to existing policies protecting biodiversity, especially within HCVs.
3. Degraded HCVs within plantations should be reforested with indigenous tree species while ensuring that the diversity reflects indigenous forests.
4. Standardised monitoring of African Grey parrots should be established within oil palm plantations and adjoining areas in collaboration with experts and research should be conducted to understand drivers of population change (for instance, are populations increasing in oil palm estates because of the threats/disturbance to neighbouring forests?)
5. Federal and State governments should work with experts to identify important areas for African Grey parrots in need of formal protection (e.g. gazettement as protected areas) and to inform the development of plans for land use and resource management in States where African Grey Parrots are endemic to ensure the protection of parrots and their habitat and other biodiversity. Such plans should be made in consultation with stakeholders including industry, investors, local communities, biologists and conservation experts.
6. State governments should adopt ASCI principles and ensure plantations adhere to RSPO (Round Table on Sustainable Palm Oil) principles and criteria, drawing on lessons learned from implementation in Edo State. This should include the assessment and protection of HCVs within existing and proposed new plantations

- and any expansion of oil palm plantations and other agricultural commodities to be contingent on the restoration of degraded forest habitats.
7. Where feasible, efforts should be made to increase productivity/yield of existing land under cultivation for oil palm to help meet demand for palm oil while minimising the need to convert additional land for oil palm cultivation. Care should be taken to minimise the loss of conservation value of less intensive production systems.
 8. Companies that source and process Oil palm fruits from outside Oil palm estates under their direct management should ensure farm owners are trained on riparian buffer zone management and that farmers' groups have an action plan to maintain and/or enhance riparian buffer zones in line with Roundtable on Sustainable Palm Oil Independent Smallholder Standard 2019.

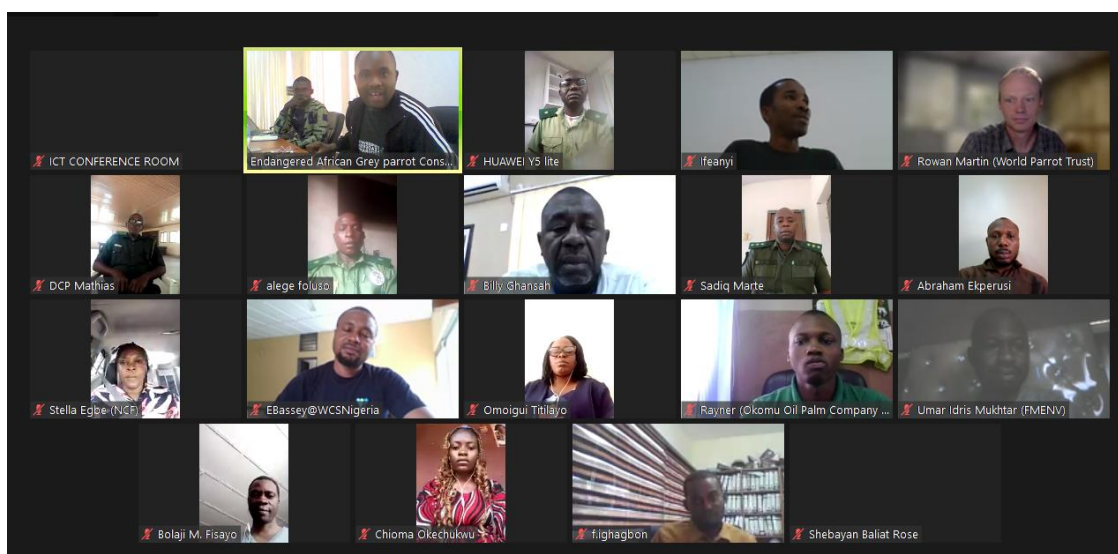


Table 1: Participant list

Name	Affiliation/Organisation
DCPI Umar Yusuf Tanko	Old Oyo National Park
DCP Mathias Enaberue	Gashaka Gumti National Park
DPW Shebayan Rose Baliat	Kainji Lake National Park
DPW Gimba Alhassan Abubakar	Kamuku National Park
DPI Alege Folusho	Okomu National Park
DPW Sadiq babagana Marte	Chad Basin National Park
ACP Hauwa Jaafaru Mangga	National Park Service Headquarters Abuja
PW Dahiru Aliyu	National Park Service Headquarters Abuja

Emmanuel Bassey	Wildlife Conservation Society
Nnebechukwu John	Wildlife Conservation Society
Sunday Ova	Wildlife Conservation Society
Dr Stella Egbe	Nigerian Conservation Foundation
Nacha Geoffrey	African Nature Investor
Peter Abanyam	African Nature Investor
Paul O Hameed	Wilmar International
Matthew Ahuean	Presco PLC
Festus Ighahbon	Presco PLC
Rayner Ibude	Okomu Oil Palm Company PLC
Billy Ghansah	Okomu Oil Palm Company PLC
Emmanuel John-Onyijen	Okomu Oil Palm Company PLC
Umar Idris Mukhtar	Minister of Ministry of Environment
Joe Onyiuke	Oil Palm Growers' Association of Nigeria
Sonigitu Ekpe	Ministry of Environment Cross River State
Omoigui Titilayo	Edo State Forestry Commission
Blessing Agbongiaruoyi	Edo State Forestry Commission
Olukanni Bosede	Federal Ministry of Environment, Federal Department of Forestry
Dr Abraham Ekperusi	Chair Policy committee, SCB; Nigeria Maritime University
Dr Bibitayo Ayobami Owolabi	Osun State University Osogbo
Chinemerem Orakwelu	University of Nigeria Nsukka
Dr Chike Ebido	University of Nigeria Nsukka
Ifeanyi Ezenwa	University of Nigeria Nsukka; World Parrot Trust
Dr Rowan Martin	World Parrot Trust

4.5 Prepared manuscript for publication

Night vision' cameras as a tool for consistent and repeatable counts at communal overnight roosts for parrots. Proposed journal for publication - Journal of Ornithology

4.6 Address list and web links

An annotated list of useful names, addresses and websites

4.7 Distribution list

List where copies of the report have been distributed for reference by future project leaders and others, and where the report can be bought (if relevant).