

Title Page

TITLE OF INTERNSHIP: Training the next generation of biologists to help save the elephants and lions in Nigeria.

HOST COUNTRY: Nigeria

LOCATION: Yankari Game Reserve Bauchi State

DATE OF INTERNSHIP from 06/07/2021- 30/06/2022.

OVERALL AIM SUMMARISED: Provide field experience and training to develop skills and competence.

FULL NAME OF INTERN: Dennis Andrew.

PRIMARY INTERNSHIP SUPERVISOR

Name: Nacha Geoffrey

Position/Title: WCS Yankari Landscape Director

Hosting Organisation: Wildlife Conservation Society (WCS)

Work Address: Wikki Camp, Yankari Resort and Game Reserve, Bauchi State, Nigeria

Work Telephone: +234 802 497 6056

Work Email: ngeoffrey@wcs.org

SECONDARY INTERNSHIP SUPERVISOR

Name: Andrew Dunn

Position/Title: WCS Nigeria Country Director

Hosting Organisation: Wildlife Conservation Society (WCS)

Work Address: Calabar, Cross River State, Nigeria

Work Telephone: +234 803 567 9609

Work Email: adunn@wcs.org

PERMANENT CONTACT ADDRESS OF THE INTERN:

ADDRESS: #3 Dong Road, Jos North, Plateau State, Nigeria.

TELEPHONE: +234 806 945 8470

EMAIL: Dandrew746@gmail.com

SECTION 1: EXECUTIVE SUMMARY

The main aim of the internship was to provide field and conservation experience to a young biologist so that he/ she may acquire the necessary skills and attitude to become a potential conservation leader in the future. The goals were to:

1. Protect the largest population of the African Elephant in Nigeria and one of the largest in West Africa.
2. Protect one of two remaining populations of the Critically Endangered West African lion in Nigeria.
3. Engage the communities in reducing pressure on the flora and fauna of Yankari Game Reserve through the school visit program, and to reduce human-elephant conflict through the elephant guardian program.

As a result of the internship, I have been successfully trained in organizing school visit programs, planning ranger patrols, law enforcement through a one-month ranger refresher training, and managing field rations for rangers as well as gained effective communication skills. I have also gained technical skills (mounting camera traps, downloading field data using Cyber tracker/SMART software, and using a VHF radio system). Acquiring experience working with stakeholders, such as community heads, government officials, and other key members of the public.

INTRODUCTION

During the internship, I was engaged in the following main conservation programs

- Camera trapping - I assisted in field deployment, retrieval, and analyses of data collected from the camera trap in the field.
- Providing support for school visits - I have contributed to the WCS Yankari school visit program, raising awareness of the importance Yankari Game Reserve and hence, the need to protect its flora and fauna.
- Assisted in the monitoring of collared elephants.
- Providing support for storeroom management including fuel and patrol rations.
- Supported the management of the operations room, including answering and logging radio calls from rangers and phone calls from elephant guardians.
- Anti-poaching patrol - with the knowledge gained from the ranger refresher training I have been participating in law enforcement patrol during which more knowledge was gained about law enforcement patrol, tracking skills, communication skills, and field tactics.

In addition to the above activities, I was involved in the monitoring of rangers on patrol with the aid of a VHF radio system and downloading patrol field data to SMART (Spatial Monitoring and Reporting Tool). I was able to attend many training programs online including Basic Necessities Survey (BNS), Standard operating procedures of wildlife storeroom and safe driving course. I also participated fully in the one-month ranger refresher training.

SECTION 2: Aims and Objectives

This internship aims to provide field and conservation experience to a young biologist so that he/ she may acquire the necessary skills and attitude to become a potential conservation leader in the present and future through active involvement in WCS programs in Yankari Game Reserve. The internship objectives were to: To help save elephants, lions, and other endangered wildlife in Yankari Game Reserve; and to support WCS efforts in the field to strengthen the conservation and management of Yankari Game Reserve

ACTIVITIES AND METHODOLOGY

School Visits: This is an all-year-round and continuous program, depending on the availability of funds. I have assisted in organizing and conducting the program which entails teaching the school pupils and students about the importance of the Yankari Game Reserve and the need to protect its flora and fauna. Activities during the program include a safari to make them better understand and appreciate the rich biodiversity of the reserve, a free launch for the pupils and their teachers, a free WCS customized shirt, free exercise books for every student and lecture/ teaching on conservation and its importance.

Elephant guardian program: Elephant guardian program helps WCS Yankari to respond quickly to cases of crop-raiding by the elephants thereby, reducing human-elephant conflict. It also demonstrates WCS's commitment to working with these communities. For one year, I have contributed to the program, especially through the logging of calls received from the elephant guardians and reporting of elephant crop-raiding incidences to rangers on patrol. The elephant guardians were carefully selected by heads of the villages surrounding the reserve to assist with reporting incidences of crop-raiding by the elephants, they are trained on how to safely chase the animals back to the reserve whenever they go out of the reserve. I participated in organizing meetings and training on how to safely chase the elephant back into the reserve whenever they go out.

Camera trapping: Camera trapping is a powerful and now widely used tool in scientific research on wildlife ecology and management. It provides a unique opportunity to collect knowledge, investigate the presence of animals, or record and study their behaviors. Starting from August 2021- date, I have learned and participated in the set-up, field deployment, data downloading and maintenance (changing batteries), and the analysis of the data obtained.

Downloading field data to Spatial Monitoring and Reporting Tool (SMART): SMART is an evidence-based data collection and reporting system for wildlife and forestry law enforcement monitoring; it is a combination of software, training material, and implementation standard for systematic law enforcement and monitoring patrols. July- October 2021, I was taught intensively how to operate, download field data and generate reports from SMART. From October – date I have been using the device appropriately.

OUTPUT AND RESULTS

- The result of the school visit program has exposed children from the neighboring villages surrounding the reserve to the wildlife and fosters awareness of the importance of the reserve and its biodiversity in these key holders to orient them towards playing an active role in its protection.

- The elephant guardian program has helped in responding to elephant crop-raiding which in turn has greatly reduced elephant–human conflict. The program has also strengthened the level of protection of the elephant population.
- The result of the camera trapping enabled WCS Yankari collect photographic evidence of rarely seen and globally endangered species of wildlife with relative ease and minimal disturbance, the result of the ongoing camera trapping targeting the lions will help WCS to effectively monitor and protect one of two remaining populations of the Critically Endangered West African lion in Nigeria.
- SMART enables WCS Yankari to see which areas of the reserve have received more or less protection and which parts have more threat levels and enables to see wildlife concentration to best allocate scarce resources

ACHIEVEMENTS AND IMPACTS

The internship has brought short-term and long-term impacts on conservation and advanced the sponsoring organization's mission by contributing to each conservation program implemented by WCS Yankari.

- WCS commits to community engagement at Yankari and one such program is the school visits which are aimed at exposing children from the neighboring villages surrounding the reserve to the wildlife and fostering an awareness of the importance of the reserve and its biodiversity in these key stakeholders, to orientate them towards playing an active role in its protection. Recently I witnessed first-hand how the impact of the program resonated with one of the schools, which gave us a short drama performance about the importance of conserving Yankari game reserve for the future of their communities. The school visit program has strengthened my communication skills.
- The elephant guardian program has helped WCS at Yankari to respond promptly to cases of crop-raiding by the elephants, reducing human-elephant conflict and the risk to human and elephant lives as well as property. In addition, the small token given to the elephant guardians monthly has positively impacted their lives.
- Photographic evidence of rarely seen and often endangered species has enabled WCS to study the reserve's population, abundance, and distribution of such wildlife species. The result of the ongoing camera trapping targeting the critically endangered West African lion in Nigeria will help access their population and distribution in the reserve, providing the opportunity to take proper conservation action through collaring to closely monitor their population.
- SMART has helped WCS Yankari to better monitor, evaluate and adaptively manage patrolling activities thereby enabling the management of the reserve to see which areas of the reserve have received more or less protection and which parts have more or fewer threat levels as well as wildlife concentration so that scarce resources can be equally allocated.

The internship has benefited me in so many ways. My work with WCS so far has enabled me to develop and improve many skills such as communication, critical thinking, teamwork, problem-solving, time management, and decision-making as well as interpersonal skills such as flexibility, patience, and responsibility. The work has widened my computer operation skills through knowledge gained from downloading, filtering, and organization of field data on SMART devices. Among the numerous knowledge gained from WCS Yankari including:

1. Ability to use the cyber tracker/SMART device in the field for law enforcement and elephant protection patrols.
2. Ability to download field data from SMART and generate a report.
3. Handling of camera traps which includes a battery replacement, data downloading, and mounting of the camera to collect photographs of rarely seen species of animals.
4. The work has also provided me with the opportunity to learn how to plan law enforcement patrol.
5. The ability to operate the radio for communication and monitoring of rangers in the field.

These skills and knowledge acquired have prepared me for a career in conservation.

EXTERNAL INFLUENCES AND CHANGES TO INTERNSHIP

Delay in commencing the internship program owing to the difficulty in securing accommodation for the intern within Yankari Game Reserve which delayed the commencement by a month.

SECTION 3: CONCLUSION

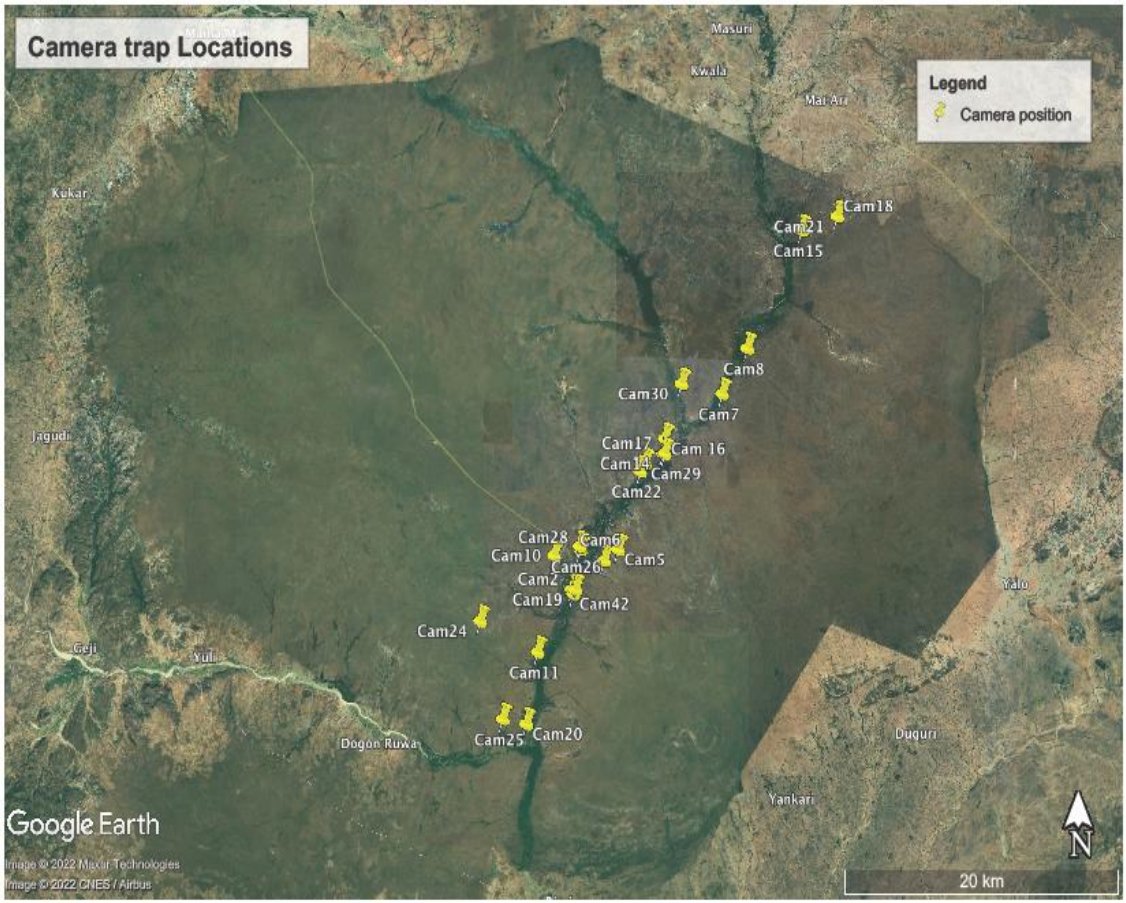
The internship in addition to working on biodiversity conservation in general provided the opportunity to learn and apply the trending technology (camera traps, SMART) in conservation and the opportunity to participate in all WCS Yankari programs. During the internship, I had the opportunity to understand the rudiments of general biodiversity conservation and various sustainable programs such as engaging the communities in the conservation of the rich natural resources of the Yankari Game Reserve through programs like the school visit, elephant guardian program which has a great impact on the socio-economic well-being of the benefiting neighboring villages, hence gradually reducing pressure on the natural resource from the reserve. All of these activities will continue after the formal internship period is over. In the future, I intend to use my existing and acquired skills gained from programs implemented by WCS Yankari especially those targeted at improving the well-being of communities, I am confident in becoming part of the scientific solutions to conservation problems in Nigeria and West Africa at large. WCS has offered me a job at Yankari starting 1 July as a Logistics Assistant.

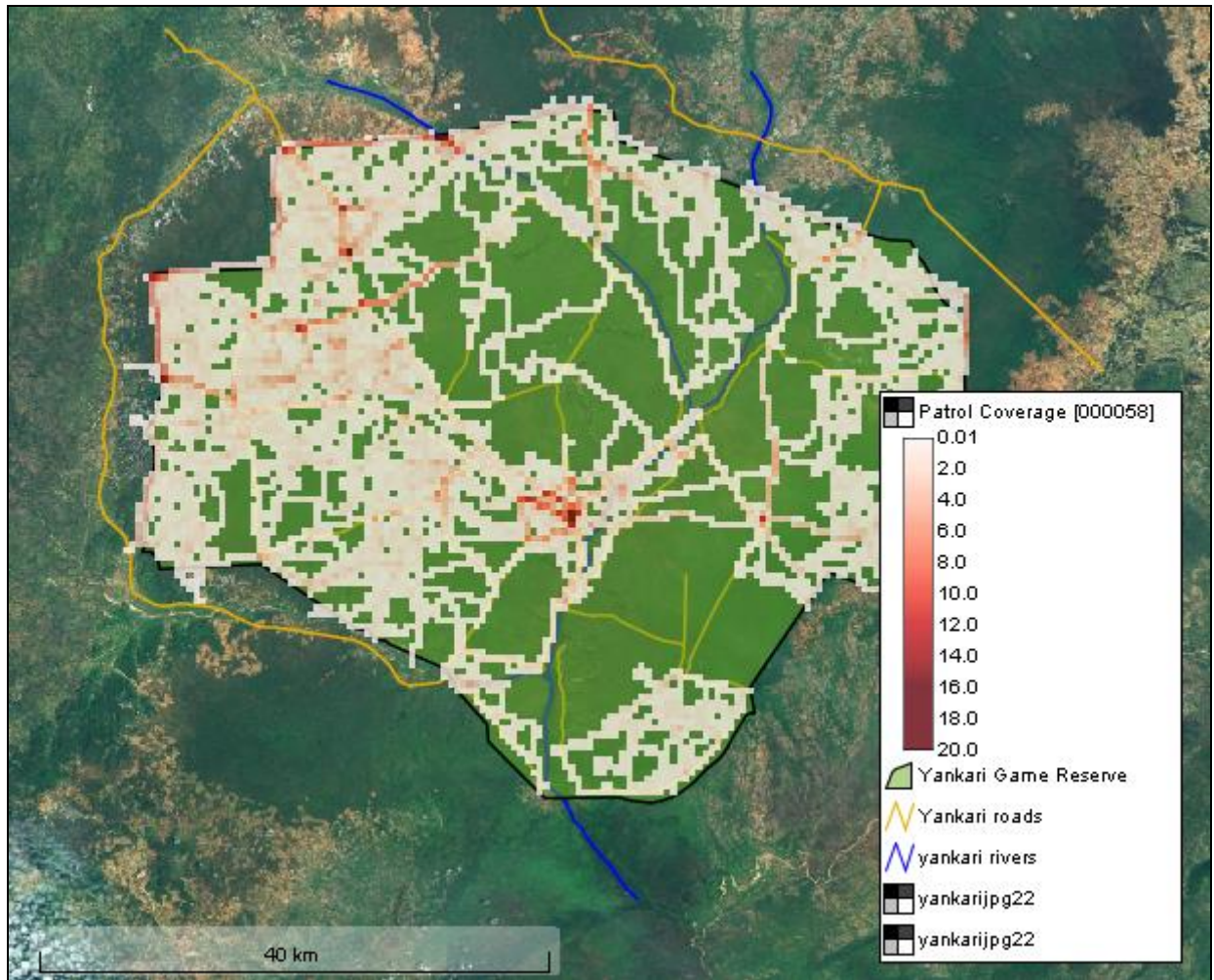
ACKNOWLEDGEMENTS

I would like to acknowledge my internship supervisors, Mr. Nacha Geoffrey (primary supervisor) WCS Landscape Director Yankari Game Reserve, and Mr. Andrew Dunn (secondary supervisor) WCS Country Director for their mentoring and support in any questions and situations. I am also grateful to the WCS Yankari Game Reserve team for their help during the internship and the incredible atmosphere, especially to the lion recovery project manager, Mr. Nuradeen Y. Ahmed, and the operations room manager, Murtala Bamalli for their help in the office and fieldwork. And of course, I would like to acknowledge the Conservation Leadership Program executive manager Stuart Paterson and program officer Henry Rees for the unique opportunity to receive infinite experience during the internship.

SECTION 4: Appendices

Map- location of deployed cameras trap the reserve during the internship.





Map- Patrol effort in km walked per grid cell for the period July 1, 2021, to December 31, 2021. Darker red color indicates areas of more intense patrol coverage.

Table 1. Summary of patrol effort for the period July 1, 2021, to December 31, 2021

Number of Days	Distance (km)	Person - Days
446	6,555	3,259



Fig.1-wild animal footprint tracking



Fig. 2- conducting school visit.



Fig.3- During a meeting with the elephant guardians.