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**Strengthening citizen science and participatory community-based research to promote conservation of the Endangered Secretary Bird in Nyanga IBA.**

**Report by:**

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## Contents

# 1.Summary

The Secretary Bird (*Sagittarius serpentarius*) is classified as Endangered under the IUCN Red List, primarily due to increased habitat loss, hunting, and environmental changes attributable to human actions. Its urgent conservation is vital across its range. In the Nyanga Important Bird Area (IBA), notable decreases in their numbers have been reported by local communities. This project aimed to enhance the conservation efforts of the Secretary Bird in the Nyanga IBA and its surrounding areas through citizen science for monitoring purposes and community engagement.

To achieve this, the project had three key objectives, which were to successfully training eight local custodians from five villages in bird identification and monitoring techniques as well as using the ABC Bird Application. Through a Training of Trainers (ToT) approach, participants acquired essential skills that empowered them to engage in ongoing bird monitoring and conservation efforts.

Moreover, two participatory species surveys were conducted, to confirm the current population status of Secretary Birds across selected habitats in the Nyanga IBA. The surveys provided a provided a crucial baseline data for tracking future conservation efforts and future surveys can compare to the current results.

Apart from the above, the project was also aimed at raising awareness on the plight of the Secretary Bird. Therefore, a campaign, delivered through youth engagement with support from partners like the Manica Youth Assembly (MAYA), was a crucial component of the project. Furthermore, integrating local knowledge into future conservation strategies was heightened by the project implementation. Community insights revealed population declines attributed to local practices, which spurred discussions around sustainable farming and grazing.

Through implementation of the above project components, several key lessons were learnt with regards to species conservation. These include the need for ongoing mentorship for young people, together with tailored training materials that fit different categories of literacy levels. Additionally, the active involvement of community members fostered a sense of pride and responsibility, which is essential for sustained commitment to species conservation.

# 2. Introduction

The Secretary Bird (*Sagittarius serpentarius*), known for its unique appearance and impressive hunting skills, and is classified as endangered due to habitat loss, hunting and environmental changes. In areas like Nyanga Important Bird Area (IBA), where biodiversity is rich yet vulnerable to different threats, the conservation of the Secretary Bird is very important not

only for ecological balance but also for the cultural heritage of local communities (Bennett et al., 2017).

Historically, the Secretary Bird has been a prominent species across Southern Africa, particularly in grasslands and savannas where it plays a role in the ecosystem particularly controlling rodent populations. However, recent trends indicate a worrying decline in its numbers. In countries such as Zambia and Botswana, habitat destruction and agricultural expansion have significantly impacted its breeding grounds and feeding areas (BirdLife International, 2020). In South Africa, the species is listed as "Vulnerable," with estimates suggesting a population below 10,000 (BirdLife South Africa, 2024). Habitat loss from agriculture and development poses a significant threat (BirdLife South Africa, 2024).

Strengthening citizen science and participatory community-based research offers a useful approach to enhance conservation efforts. By actively involving local citizens in data collection, monitoring and advocacy, one can foster a deeper connection between communities and their natural environment (Conrad and Hilchey, 2011). This collaborative framework empowers residents, encourages stewardship and ensures that conservation strategies are informed by local knowledge and perspectives (Kullenberg and Kasperowski, 2016). Furthermore, engaging communities not only assist in data collection but also cultivates a sense of ownership over local wildlife, which is essential for long-term conservation success.

The project was aimed at harnessing the collective efforts of community members, and us the researchers and conservationists to develop sustainable practices that helps to generate monitoring data and also reflect on strategies to protect the Secretary Bird and its habitat in Nyanga Important Bird and Biodiversity Area. Through training, workshops, and the establishment of monitoring network, the project interventions build capacity within the community, promoted awareness and gave a foundational data for future monitoring interventions and impactful conservation actions for this magnificent species in the Nyanga IBA.

By implementing participatory species surveys, local custodians were equipped with the necessary skills to monitor the Secretary Bird's population dynamics, behaviour and habitat use. This approach not only enhances data accuracy but also ensures that the conservation strategies developed are grounded in everyday experiences of interaction between the target species and the community.

In summary, the strengthening of citizen science and participatory research in Nyanga IBA proved to be crucial for the monitoring of Secretary Bird. By involving local communities in monitoring and awareness efforts, we then created the much-needed baseline data and information for the implementation of ground level interventions and sustainable practices that benefit both the species and the people who share its habitat, ensuring that the Secretary Bird continues to thrive in Southern Africa.

## 3. Project Approach and Activities

Training of Trainers program, equipped eight youth from five wards in Nyanga District with practical skills in bird identification and Secretary Bird monitoring using the ABC Bird Application. The trained custodians participated in demonstrating field surveys, contributing to their more understanding and ability to collect data and fostering local ownership of conservation efforts.

Two surveys conducted in December 2024 and in May 2025 confirmed the presence of five Secretary Birds across selected habitats, guided by both scientific methods and local indigenous knowledge. A judgmental sampling approach was used, focusing on suitable grassland habitats and previous sighting reports. Community interviews revealed population declines, with threats such as habitat loss due to agriculture, grazing, and fires. A significant part of the initiative was the education and awareness campaign, delivered through indoor and outdoor seminars, school visits, meet-and-greets, and presentations using visual tools like banners and posters.

## 4. Project Impact and Outcomes

a. *Capacity building and support to local custodians under the training of trainers for continuous monitoring and data collection*

The capacity building component of the project was aimed at empowering members of the local communities in data collection and species monitoring. To achieve this, a training of trainers approach was adopted in which local custodians were identified and trained in and equipped with practical skills in bird identification, data gathering, and the use of mobile technology and GPS tools for the monitoring of the Secretary Bird in particular.

A total of eight male participants, drawn from five different wards, were selected to take part in the training. These individuals were chosen based on their interest and prior involvement in community-based conservation activities, ensuring a broad representation and ownership across the wards.

The training program combined both theoretical and practical elements. Indoor seminars provided the platform for participants to gain foundational knowledge in key areas such as ecological data collection, bird identification in general and tracking for Secretary Bird in particular and in different threats to these species and conservation efforts that are in place in Zimbabwe. The training sessions were held at a central community hall and allowed the

use of visual aids, some group discussions, and interactive presentations to engage the trainees effectively.

The outdoor practical sessions formed a critical component of the training as well. This component, although it was limited by resources, it was conducted in natural birding habitats that seen a few trainees visiting some grasslands surrounding Nyanga national park including the Nyafaru Mountain, Kairezi Valley and, Troutbeck. These field-based exercises allowed participants to practice bird identification techniques using binoculars and to apply the gained theoretical knowledge in practice. They were also capacitated on how to accurately record bird sightings and ecological observations using standardized data collection methods.

A significant time space of the training was dedicated to introducing and familiarizing participants with technological tools essential for modern conservation monitoring. They were trained in the use of GPS devices and smartphones to accurately log the coordinates of bird sightings and habitat locations. Additionally, participants were introduced to mobile applications particularly the African Bird Club ABC mobile bird identification app, which helps users identify bird species based on their features and calls. These tools were demonstrated and applied during the outdoor sessions, where participants gained hands-on experience in using them in field conditions.

The training resulted in all eight participants successfully completing the program, demonstrating a promising future in improved competence in bird identification, data collection and the use of digital tools. The participants expressed confidence in their ability to continue monitoring activities in their respective villages and a commitment to sharing their newly acquired knowledge with others in their communities.

The training effectively built the capacity of local custodians and provided them with the necessary skills and tools to participate meaningfully in species monitoring. To ensure sustainability and long-term impact, it is recommended that participants receive ongoing mentorship, occasional refresher courses and access to basic field equipment such as binoculars and GPS-enabled devices as the available resources were limited to the few participants only. Furthermore, integrating their efforts into broader conservation data platforms and expanding the program to include youth and women will strengthen community engagement and enhance biodiversity conservation outcomes.


*Figure 2. Courage Chimbetete leading a training of trainers session in Nyanga*

*a. Participatory species surveys*

As part of the practical training of the local people, a participatory species survey focused on the Secretary Bird (*Sagittarius serpentarius*). This served a double purpose of generating the baseline data of Secretary Bird availability in Nyanga and training of the trainers to compliment the indoor trainings. As such, a one-week ground survey was conducted in Nyanga from 28 December 2024 to 03 January 2025. The surveys were coordinated by myself, Courage, with the support of Shingirai Sakarombe, also from the Nyanga area. The approach was participatory, involving local guides from the Dazi and Nyamutsapa communities—namely Maxwell Mashambe, Blessing Mapara, and Augustine Samunda. Maxwell, an active member of the Gairezi CAMPFIRE project, provided valuable ecological knowledge about Secretary Bird behavior and habitats, which was instrumental in locating five individual birds. Notably, a pair was observed near the summit of Nyafaru Hill overlooking the Magadzire community, and on 31 December, three more individuals were confirmed at the boundary of ARDA Kairezi Estate and the Dazi community.

In addition to the field surveys, we used the six-day visit to engage local stakeholders to raise awareness about the species. These included representatives from Nyanga National Park (Zimbabwe Parks and Wildlife Management Authority), community bird guide, Nyaradzai Mapara from the Connemara area, and other local community members. These engagements revealed community-observed declines in Secretary Bird populations over the past decade, largely attributed to habitat degradation from potato and maize farming, communal grazing, and recurring veld fires some of which are caused by arson linked to conflicts in the timber industry.

Surveyed areas included the eastern edge of Nyanga National Park near Glen Eagles Estate, Dazi Villages 1–6, Nyafaru and Nyamutsapa Village. Surveys were conducted mainly through active searching in open grasslands, which are preferred Secretary Bird habitats. GPS coordinates were recorded to create baseline data for long-term monitoring efforts. During the survey, we also promoted community training in species identification, monitoring techniques and conservation practices.

**Figure 2:** *Site Custodians during a participatory field survey and bird watching in Nyamutsapa Community.*

*c. Education and awareness raising.*

As part of the project, education and awareness was critical to the profile of the Secretary Bird as one of the species facing threat of extinction within its entire range and also here in Zimbabwe. This project was therefore aimed at gathering data while simultaneously building local knowledge, awareness, and local level commitment to environmental stewardship. A major component of this project was therefore education and awareness, delivered Through village-based training of custodians, informal interviews were conducted across villages such as Dazi, Nyafaru, and Nyamutsapa. The information gathered and shared significantly contributed to the attainment of Sustainable Development Goal 15, which aims to protect, restore, and promote sustainable use of terrestrial ecosystems, ensuring the conservation of life on land. Such as PowerPoint presentations, banners, posters, and take-home materials to effectively communicate key conservation messages.

A crucial partner in the awareness program was MAYA (Manica Youth Assembly**)**, a non-profit, community-based advocacy organization. MAYA's involvement enriched the education component by ensuring that the voices and perspectives reaches a wider audience within their network.

The impact of the awareness interventions was quite commendable. Many participants reported an interest in learning more about birds and specifically the Secretary Bird. What was once considered just another species by the locals became recognized as an important part of the local ecosystem. Eight young people trained in bird identification and monitoring gained experience in hands-on participation in the surveys, using smartphones and the African Bird Club mobile app. Several expressed a newfound interest in conservation careers and a commitment to continue monitoring efforts in their communities assisting BirdLife Zimbabwe in building its data base on Secretary Bird.

Local guides, including Maxwell Mashambe from the Gairezi CAMPFIRE initiative, contributed to local knowledge exchange which was also crucial in enriching our understanding of the local dynamics in terms of how people are interacting with nature and wildlife. His involvement, combined with the engagement of newly trained youth and community members, helped cultivate a stronger conservation interest which BirdLife Zimbabwe can leverage on its future interventions. Communities began reflecting on how unsustainable farming, uncontrolled grazing, and recurrent fires were affecting local biodiversity and expressed willingness to protect nesting areas and report future sightings. The collaboration with MAYA not only deepened the impact of the awareness campaign but also ensured a

holistic approach to conservation one that prioritizes inclusivity, knowledge sharing, and long-term community- centered solutions.


*Figure 31 Participants pause for a group photo at one of the trainings in Nyanga*

## 5.Lessons Learnt

- Leveraging on local ecological insights to enhance data accuracy and identifying effective conservation strategies. Engaging local guides enriches understanding of species behavior and habitat.
- Collaborative efforts enhance resource sharing and leverage diverse expertise for more effective conservation initiatives as shown by the collaborative action with MAYA Youth Assembly.
- Tailor training methods and materials to fit local languages and literacy levels increased engagement and ensures that the content is accessible and relevant to community members.

- Active participation in conservation initiatives fosters pride and responsibility among community members. This sense of ownership encourages sustained engagement in protecting local biodiversity.
- Understanding the ecological role of the Secretary Bird enhanced community appreciation for local biodiversity. This increased awareness drive commitment to conservation efforts.

## 6. Conclusion

This report highlights the implementation of a community-based conservation initiative focused on the endangered Secretary Bird (*Sagittarius serpentarius*) within the Nyanga Important Bird Area (IBA). The project aimed to strengthen citizen science and promote participatory conservation through capacity building, species surveys, and awareness raising.

A significant achievement was the completion of the Training of Trainers (ToT), which equipped eight youth from five wards with practical skills in bird identification, monitoring, and the use of digital tools like the ABC Bird Application and Earth Ranger. This capacity-building effort not only enhanced local expertise but also fostered a sense of ownership among participants, encouraging their active involvement in conservation.

Participatory species surveys confirmed the presence of five Secretary Birds in selected habitats, utilizing both scientific methods and local indigenous knowledge. Notably, this research in Nyanga was the first of its kind without prior studies for comparison within the region. Despite this lack of comparative data, the results were positive, providing crucial baseline data for future conservation efforts. Areas like the Driefontein Grasslands in Zimbabwe, for example, displayed notable species diversity, further emphasizing the importance of this research in understanding local biodiversity dynamics. Community interviews highlighted population declines, primarily due to habitat loss from agriculture, grazing, and fires, underscoring the urgent need for conservation interventions.

The education and awareness campaign, delivered through seminars, school visits, and community engagement, significantly raised the profile of the Secretary Bird. Collaborating with organizations like MAYA enriched the outreach efforts, ensuring inclusivity and fostering a deeper understanding of local biodiversity.

The project demonstrated the effectiveness of integrating local knowledge and community participation in conservation efforts. By creating a participatory framework that empowers local custodians, we have laid the baseline data for sustainable conservation practices that benefit both the Secretary Bird and the communities that share its habitat. The lessons learned from this initiative will guide future efforts in enhancing biodiversity conservation in the Nyanga IBA and beyond.

# 7. Annexes

*a. Picture Gallery*


*Training of trainer's session in Nyanga*


*A Trainer Reflecting Pride After the Training Session*


*Trainers and Youth Participants Posing for a Photo After the Training Session*


*Shingirai Sakarombe from Nyanga Demonstrating Secretary Bird Distribution in Zimbabwe During the Training Session.*

*Financial Statement*

| Budget Categories | Approved Budget GBP | Actual funds Spent GBP | Variance |
|---|---|---|---|
| **Stationery and Communication** | 120.00 | 115.40 | 4.60 |
| **Designing and Printing of Posters** | 75.00 | 76.99 | -1.99 |
| **Designing and Printing of a Banner** | 90.00 | 92.39 | -2.39 |
| **Trainings** | 400.00 | 347.53 | 52.47 |
| **Field Equipment** | 600.00 | 600.55 | -0.55 |
| **Fuel and car hire** | 810.00 | 1,177.52 | -367.52 |
| **Accommodation** | 540.00 | 305.99 | 234.01 |
| **Food** | 190.00 | 106.35 | 83.65 |
| **Tollgate fees** | 25.00 | 27.37 | -2.37 |
| **Administration fee** | 150.00 | 150.00 | -0.00 |
| | | | |
| **Total** | 3,000.00 | 3,000.11 | -0.11 |