

Raising the profile of data for the conservation of four forested African landscapes

Programme:BID Project ID: BID-AF2020-140-REG Project lead organization:A Rocha Kenya Project implementation period:1/4/2021 - 14/4/2023 Report approved: 3/7/2023

Final Narrative Report

Executive Summary

A significant success of the project was to bring together 11 partners spread across four African countries to digitise over 100,000 records in 67 datasets (https://www.gbif.org/project/BID-AF2020-140-REG/raising-theprofile-of-data-for-the-conservation-of-four-forested-african-landscapes#datasets). The understanding and ability to mobilise, digitise and use information has been substantially strengthened across all participating organisations with A Rocha Uganda, who had never previously published a dataset, now actually registered as a publisher, and has published the highest number of datasets (26) of all partners in this project on the GBIF platform. The African Butterfly Research Institute (ABRI) (Kenya) and the Council for Scientific and Industrial Research-FRI (Ghana) are also now registered on the Global Registry of Scientific Collections (GRSciColl). The data published from the ABRI were the first data to be digitised and made available from this unique and highly valuable African butterfly collection numbering over 1 million specimens. The knowledge and capacity acquired under this project is supporting the conservation of four forested African landscapes, the data mobilised is embedded in on the ground conservation action. The biodiversity data digitised for the Atewa forest contributes to the body of evidence available for the biodiversity of this forest informing both the legal court case led by A Rocha Ghana for its protection and possible future livelihood opportunities (e.g mushroom farming). In Nigeria, this project is directly building the foundations for the conservation of the remnant Kwande Obanliku forests, even if the pre & post-election turmoil disrupted our dissemination hopes. These forests have very real significance for conservation and yet have been little documented and known. Publishing the data on GBIF has substantially raised the profile of these forests and highlighted the need for further research within them. In Uganda, the real frustration of not having access to the seminal 1990 forest reports to inform current conservation work around West Bugwe has been relieved as that information is now available digitally and informing the current restoration of this degraded forest. While in Kenya, the case to protect the Dakatcha landscape (a Key Biodiversity Area classified by Birdlife International as 'in danger') has been further reinforced with the publication of important biodiversity information which highlight the little-known presence of Endangered species in this landscape to global audiences and policy makers (e.g. Birdlife partnership, KBA Secretariat, or the CEPF). Altogether, the project has allowed a substantial amount of data that has been buried and unavailable to the conservation, science, and decision-making community to be properly organised, cleaned and made publicly available on the GBIF platform. This is going to be critical for the conservation of several of these sites going forward. In addition, we have already had 72 citations from GBIF of our published datasets. This further shows the relevance and impact of publishing our datasets on GBIF.

There have, of course, been challenges in coordinating this regional project. Resources were thinly distributed amongst all partners and in hindsight too little budget had been allocated for dissemination in Ghana and Uganda. Organisational issues also delayed some of our work (KWS went through a major restructuring, there was an almost complete staff turnover within ARU and ECCI). The field of taxonomy has also progressed dramatically between the time data was collected and this project's digitisation and therefore for

certain taxa (e.g. particularly butterflies and plants) the digitising process not only involved transferring the data into GBIF but also updating its taxonomy. But the experience of our project coordinator, gained from ARK's previous BID project, and the support of technical experts both within the project partners and wider helped navigate the issues.

We have had to learn to work together too under this project. New partnerships have been formed; others strengthened and post project, the 11 partners will continue to work together as well as use the data now available globally.

Key lessons from this regional project include:

• good communication from the outset, particularly the proposal writing, and throughout.

• The challenges of working with government conservation institutions which are over-stretched and underfunded where the parties involved may be willing, but in reality, never are able to get to the task in hand.

• The continued challenge with some scientists who have excellent datasets but are not willing to share them publicly – and yet just sit on the data and it is never therefore used. We realise this is probably just a reality of working with humans!

• The project further demonstrated how many scientists are unfamiliar with producing good quality metadata to accompany a dataset.

• A willingness across the team to learn new skills and apply them.

• Trainings such as data collection require some follow ups to make them effective since they are an important part of data mobilisation. A one-day training funded under the project was not enough. This could be improved in the future.

• Flexibility and understanding, for example it quickly became apparent that it made more sense to start digitising ABRI's vast collection taxonomically as opposed to geographically (focusing four landscapes) for their large dataset. And,

• Already having a conservation objective to put this data to use, as we do.

A recommendation from our experience with publishing datasets is that there is need to make GBIF more user friendly for both publishers and users. The current requirements are complex and slow down and put off people from publishing. In addition, there is a need for GBIF to update the backbone taxonomy that is in place for the database particularly for invertebrates.

We were grateful of the great support received from GBIF's regional coordinator, Laban Musinguzi, throughout.

This summary was drawn from our project evaluation which adopted a mixed approach of methodologies which include reviewing the datasets on the project's page on GBIF, technical data checks, in country visits, interviews and online partner surveys.

Unexpected challenges:

-Since our proposal was developed during the COVID-19 pandemic, at a time when most offices were closed or people were working remotely, there was an overestimation of records available for publishing as was written in the proposal. This was noted quite early in the project and communicated during the mid-term reporting. In addition, plans were made to compensate for the number of records the project was falling short of.

-One of our partners, the Wildlife Research and Training Institute, WRTI (formerly the research department of KWS) has not been able to publish any datasets yet. KWS (who we signed the project agreement with) was restructuring in 2021 with WRTI being split from KWS as a new institution which delayed our engagement with them and up until even now in 2023, they are still working on administration related work for the organisation to run smoothly. However, plans were made, and are already well advanced for digitising two of their datasets. But publishing them will be done after end of the project.

-The elections in Nigeria interfered with the planned physical dissemination meetings that were to take place. - The process of publishing data papers is taking longer than expected because it took a long time to reconcile taxonomic issues for some of our datasets such as butterflies.

- The camera trap dataset from ARK (over 26,000 records) have not yet been published because of technical challenges that the project team in collaboration with GBIF is working on. GBIF is developing a software that will enable ARK to upload their camera trap data, currently held on Wildlife Insights, directly and automatically to the GBIF database. The number of hours of work to have done this manually in the knowledge that this new software option is soon to be released made it worth waiting for.

-Three datasets will not be published because of unavailability of raw data. These include:

(i) One dataset of 900 records by ABRI i.e. Butterflies of south-eastern Nigerian forests

(ii) Two datasets amounting to 230 records by WRTI, i.e., Small Mammals Diversity in Shimba Hills, Mkongani and Mwaluganje Conservation Areas (130 records) and Counts of elephant and other large mammals in Shimba Hills, Mkongani and Mwaluganje Conservation Areas (100 records). Post-project activities:

A Rocha has fully embraced the excellence of the BID/GBIF vision and commitment to making biodiversity data available for decision-makers and other users both as raw datasets and as relevant and high-quality outputs. As a result, we shall not stop the digitising process, nor the dissemination of the results but shall push

to continue this – albeit at a slower rate given the lack of resources. In particular:

- More dissemination meetings will be held by ARK and ARG in the post project period within 2023. In Kenya, one is planned for the top management for Kenya Forest Service at their headquarters in Nairobi which had to be postponed in March due to factors out of our control. These will be tied in with other projects of these organisations.

- At least one data paper will be published by 31/12/2023.

- species lists for sites with Red Listed species clearly highlighted will continue to be shared with decisionmakers, researchers, and conservationists.

- Biodiversity Observations is an open access journal published by the University of Cape Town for sharing biodiversity data in a format which is easier to digest by a wider readership than some of the more high impact journals. Our plan is to submit at least two species checklists to BO by the end of 2023.

- Data mobilisation work is still ongoing for a few of the remaining datasets – more datasets will be published post project period.

Progress against milestones

Has your project completed all planned activities?: No

Has your project produced all deliverables: No

Rationale: While most of our deliverables were met, rationale for those missed are:

-Technical issues such as resolving taxonomic changes for certain datasets, meant a very drawn-out process before publishing to the extent that discussion is ongoing with experts for some datasets. A total of 23 datasets amounting to c.60,000 records will be published post project period. See 'report on deliverables' section below for proposed publication dates.

- The process to know which datasets can potentially qualify to be published as data papers took longer than anticipated because of the resolving taxonomic issues. At least one data paper will be published by 31/12/2023 and two species checklists submitted for publication in relevant journals.

- A technical report about the project, shapefiles for Dakatcha and additional posters for Atewa will also be produced post project. We will need to finalise on all deliverables before producing them

Report on Activities

Summary of the implementation of the project activities

To date our achievements on activities listed in our proposal include:

1. Inception

- A virtual inception meeting was held on 04/05/2021 where the project lead, Dr. Colin Jackson, presented the project goals and ambitions to all project partners and during which roles and responsibilities were discussed. Ten of the 11 partner organisations were represented in the meeting. The total number of participants during the inception meeting was 15. (Report attached below). This marked a good start of the project with a good representation from our project partners.

2. Training and on-going mentoring - Data Mobilisation

-Our objective to strengthen the capacity of the project team in data mobilisation was fully achieved through trainings and mentorship in data mobilisation. A total of four group training sessions were held to help the team understand what GBIF is and the standards required from data entry to publishing on GBIF. These trainings included: (i) Data entry according to DwC standard (24/05/2021), (ii) Data cleaning using openRefine (22/09/2021), (iii) Metadata writing (29/09/2021) and (iv) Data publishing (13/10/2021). 15, 10,

13 and 13 participants attended the trainings respectively. One on one mentorship and training were carried out throughout the project period with the Project Coordinator and other experienced data clerks giving input and clarifying questions from project team members through meetings that were organised based on the needs of each partner.

3. Training and on-going mentoring - Data Collection

A total of four trainings on data collection were hosted by ARK and ARG. Two in person training sessions were held in Kenya. That is, in Arabuko-Sokoke forest, Gede and in Shimba Hills National Reserve. Participants included rangers, citizen scientists, community guides and forest managers. Two other trainings were held in Ghana. One physical training session and another virtual training session. The overall objective of the training was achieved. The participants were able to learn how to collect and upload quality data and were excited they could do this easily especially by using mobile phone applications such as iNaturalist and BirdLasser. However, an area that needs improvement in the future especially when there are enough resources allocated is mentorship. One training session on data collection was not sufficient. Follow up activities are needed to ensure participants can practice what they learn for it to be effective. ARK hopes to do some follow up activities with the participants in future by merging them with some of their projects that involve data collection such as the monthly water bird counts in Sabaki and Mida Creek. Reports of these trainings have been attached below.

4. Training and on-going mentoring - Putting data to use

Three training sessions were held with the project team on making use of data published on GBIF. The aim of these trainings was to help the project team brainstorm on how to produce useful outputs for conservation of the four African landscapes. The trainings included: (1.) Data processing held on 29/06/2022, (2.) Basics of assessing the conservation status of a species held on 10/08/2022, and (3.) Assessing the conservation of a species- learning how to use GeoCAT held on 29/09/2022. A total of 11, 10 and 9 participants were in attendance respectively. Our communications team were later involved through one-one meetings where they played a big role in graphic designing of our project outputs such as posters and presentations.

Reports of these trainings and meetings have been attached below.

5. One on one mentoring

Throughout the project period, there has been an ongoing mentorship with the project team across all four countries on data mobilisation and making use of the published datasets. This was mostly done by the Project Coordinator through bespoke meetings. At the end of the project, our project team was well conversant with the process of data mobilisation and had ideas on how to make use of biodiversity data to inform policies and decisions.

6. Data mobilisation

The trainings and mentorship sessions were crucial in making our datasets publicly available for access on GBIF. To date, a total of 67 datasets amounting over 100,000 records have been published on GBIF. These can be accessed at this link: https://www.gbif.org/project/BID-AF2020-140-REG/raising-the-profile-of-data-for-the-conservation-of-four-forested-african-landscapes#datasets. During project implementation, we encountered a few challenges relating to data mobilisation such as the lengthy process that involved resolving taxonomic issues amongst other technical challenges. Because of this, we were not able to publish all the datasets within the stipulated timelines., but plans have been made to ensure 23 more datasets (c.60,000 records) will be published after the end of the project. Ideally this will be done within the next six months, that is by 31/10/2023.

7. Putting data to use - Developing materials

A training on how to produce outputs from published datasets was facilitated by Dr. Colin Jackson, the project lead, on 23/08/2023 with a total of 16 participants in attendance (report attached below). In this session, he demonstrated to project partners some examples of outputs that could be produced from published datasets. After the training, follow up meetings with individual partners were done and as a result we had eight of the 11 partners producing outputs for our project. These organisations included: ARK, ARU, ECCI, CSIR-FRI, ARG, ABRI, ARI and NMK. The process of developing outputs entailed engaging both the communications team who worked on the graphics and the scientists who worked on providing relevant information about species of conservation importance for these four landscapes for awareness creation about

the importance of conserving forest biodiversity. The following outputs have been produced: posters, banners, and checklists. Other outputs yet to be produced once data mobilisation is finalised include publishing a data paper, creating shape files of important sites for forest biodiversity, and writing a technical report about the project. ARG is also in the process of producing additional posters for Atewa forest which will be shared during their meetings throughout 2023 as merged with other projects they have in that landscape.

We have also produced a podcast interview about the project, an animation, presentations, and social media posts as a way of reaching to the wider public about our project and the outputs produce. The links to these have been attached in the 'other deliverables' section of this report.

It is also worth mentioning that ARU recently launched a new forest restoration project in West Bugwe and are currently working to understand the landscape better. In the future, they will be looking at producing some maps for tourists to use for activities such as bird watching when visiting the forest which will use data digitised under this project.

8. Putting data to use - Dissemination

Engagement with our targeted stakeholders went well. The project was able to hold nine meetings across Ghana, Uganda, Nigeria and Kenya to share our project outputs and invite feedback. These meetings had a multi-stakeholder approach with representatives from government institutions (policy makers), local government, local communities living around the forests and other NGOs, The impact of these meetings have been explained above and reports have been attached below.

Unfortunately, physical dissemination meetings did not happen in Nigeria because of the general elections that were happening between February and March of 2023. But it is worth mentioning that they were able to engage like-minded NGOs regarding the conservation of Kwande and Oban-liku forests. ECCI were invited to a virtual meeting hosted by Nigerian Bird Atlas Project where they were able to share our project outputs from Kwande and Oban-liku.

The project has reached a total of 325 stakeholders across Kenya, Uganda, Nigeria, and Ghana in our dissemination meetings.

Because involving decision makers is critical towards the conservation of these four important African forest landscapes, we are still planning to engage as many of the decision makers as possible. More dissemination meetings have been merged with some of ARK, ECCI, ARU and ARG project activities and will be taking place later in the year.

9. Monitoring & Evaluation

The monitoring and evaluation activities were completed during this project. The project coordinator held fifteen monitoring meetings throughout the course of this project with her colleague at ARI reviewing each time $\{1\}$ what we have done, (2) what needs to happen next and (3) what can we learn.

We also used internal and external technical experts to check our digitised data (lepidopterist, botanist, ornithologist).

The final evaluation took place between February and April 2023. It was split between the project coordinator and Nicholas Warren from ARI. The evaluation adopted a mixed approach of methodologies which include reviewing the datasets on the project's page on GBIF, technical data checks, in country visits, interviews and online partner surveys (See section below).

New activity implemented:

- During the inception meeting the goals of the project, roles and responsibilities and the timelines against which they were to be achieved were well clarified to our project partners. This played a big role in the achievement of most of our project objectives. Because of this, no new activity was implemented under our project as everything seemed to fit well in contributing to the achievement of our goals.

Delayed activities (1) the cause(s) of the delay, (2) impact on the project, (3) post-project activities (with proposed dates) or if you do not intend to complete this activity

Except for a few challenges encountered during project implementation stage, we have been able to achieve

all our project activities with just a few that are partially complete. The causes of delays, impact, and proposed dates when we intend to complete the activities are as described below:

Data mobilisation

23 datasets required a great deal of time reviewing them because of technical issues such as resolving taxonomic changes, technical challenges in developing a software that will publish camera trap dataset directly from Wildlife Insights to GBIF and delayed reviews or responses from the corresponding authors. These datasets have been highlighted under the deliverable section below including the proposed dates for publication. The delays in publishing these datasets delayed the process of producing a technical report addressing the project in its entirety, creating shape files, and publishing a data paper. These will be produced by 31/12/2023.

Putting data to use - Developing materials

We experienced some delays in producing some project outputs such as a data paper, shapefiles, and a technical report because these depended upon completion of data mobilisation. We envision producing these by the end of this year i.e., 31/12/2023. In addition to this, ARG will be producing additional posters highlighting species of conservation importance for Atewa forest by the end of June 2023.

Putting data to use - Dissemination

ECCI in Nigeria was not able to host a physical dissemination meeting to share project outputs because of the general elections that were taking place in Nigeria in the first quarter of 2023. These meetings have been merged with a project launch that will be taking place in Kwande and Oban-liku and will be done in September 2023.

Also, in our attempts to reach out to more policy makers, ARG and ARK will be holding more dissemination meetings to share our project outputs. But it is worth mentioning that most of the stakeholders have already been reached through our previous dissemination meetings. The cause of the delays in engaging more policy makers was because the proposed dates for the meetings did not work for the targeted stakeholders.

Completed activities

Activity: Inception

Description: A virtual inception meeting was held on 04/05/2021 where a total of 15 participants from 10 partner

organisations attended. The project lead, Dr. Colin Jackson explained what GBIF is, clarified on project ambitions and the individual roles and responsibilities of project partners **Start Date - End Date:** 4/5/2021 - 4/5/2021

Verification Sources: A report of the meeting can be found in the attachments section below labelled 'Inception Meeting_04May21'

Activity: Training and on-going mentoring -Data Mobilisation

Description: Four training sessions were held to build the capacity of the project team in data mobilisation. These included: (1) Data entry according to DwC standard

(24/05/2021), (2) Data cleaning using openRefine (22/09/2021), (3) Metadata writing (29/09/2021) and (4) Data publishing (13/10/2021). A total of 15, 10, 13, 13 people attended the trainings respectively.

In addition to the trainings, the Project Coordinator held bespoke meetings throughput the project period to offer mentorship to the project team.

Start Date - End Date: 24/5/2021 - 31/3/2023

Verification Sources: Reports of the trainings and meetings have been attached in the attachment section

below.

Activity: Training and on-going mentoring -Data Collection

Description: Four data collection trainings were held under our project. These were aimed at building the capacity of organisations in collecting quality data since this is an important process in contributing to data mobilisation. These were held by ARK and ARG. Two sessions were held in Kenya that is in Arabuko-Sokoke forest (held on 06/07/2022, with 36 participants represented) and Shimba Hill National Reserve (held on 25/08/2022, with 18 participants represented). Two more trainings were held in Ghana; an in-person training held at the Council for Scientific and Industrial Research (CSIR) - Plant Genetic Resources Research Institute (held on 28/09/2022 with 17 participants represented) and another a virtual training session. Participants of these trainings included research scientists, rangers, forest managers, community guides and citizen scientists.

Start Date - End Date: 6/7/2022 - 28/9/2022

Verification Sources: The reports for these trainings have been attached in the reports attachment section below.

Activity: Training and on-going mentoring -Putting data to use

Description: Three training sessions were held with the project team on making use of data published on GBIF. The aim of these trainings was to help the project team brainstorm on how to produce useful outputs for conservation of the four African landscapes. The trainings included: (1.) Data processing held on 29/06/2022, (2.) Basics of assessing the conservation status of a species held on 10/08/2022, and (3.) Assessing the conservation of a species- learning how to use GeoCAT held on 29/09/2022. A total of 11, 10 and 9 participants were in attendance respectively.

Start Date - End Date: 29/6/2022 - 29/9/2022

Verification Sources: Reports of these meetings have been attached in the reports attachments section below.

Activity: 1:1 Mentoring

Description: Bespoke mentorship sessions in support of mobilisation and putting data to use were mostly done by the Project Coordinator throughout the project period. Additionally ARI's Director of Science and Conservation supplemented the sessions by holding meetings with staff of ARU and ARG who were working on our project. It is also worth mentioning that this will be an on-going activity until we finalise on data mobilisation for the project.

Start Date - End Date: 24/5/2021 - 31/3/2023

Verification Sources: Reports of these meetings have been attached in the reports attachment section below.

Activity: Monitoring & Evaluation

Description: The PC held regular meetings both in person and using Microsoft Teams with partners to offer technical support and mentorship in relation to data mobilization and putting data to use. In addition, the (PC) and the

Monitoring and Evaluation expert (M&E) from ARI were meeting bimonthly using Microsoft teams. These meetings provided a platform for the PC to share M&E updates on the status of the project and vice versa. These meetings helped to resolve project related issues in good time.

Additionally, the M&E expert conducted a baseline survey with all our project partners at the start of the project which helped in understanding their needs. He also administered a questionnaire at the end of project to give our partners a chance to evaluate the project.

Start Date - End Date: 4/5/2021 - 31/3/2023

Verification Sources: Reports of these meetings, the baseline survey and final questionnaire have been attached below.

Report on Deliverables

Deliverables - Summary

• Achievements

Datasets:

Under our project, we set out to mobilise 55 datasets totalling 132,017 records. Nine of the 11 partners were involved in data mobilisation. Eight were able to successfully publish most of their datasets on GBIF. Only one organisation KWS/WRTI was not able to publish their datasets but two of their datasets have already been worked on and awaiting reviews by the lead authors. In the end, the project was able to publish a greater number of datasets (67) than we had set out to publish (55) albeit some of the original planned datasets were not completed. The number of records published, however, was 77% of all our intended total (101,611 records). A key reason for this was a significant over estimation of the number of butterfly specimens that ABRI thought they had for different locations – though they will be able to digitise over 60,000 specimens in total by the end. Despite having overestimated the records, we were able to find additional datasets early in the project to compensate for the records the project was falling shot of. By the end of our data mobilisation later in the year we will have c. 155,000 records published as a direct result of this project which is more than we had initially estimated in our proposal.

Other deliverables:

The mobilised datasets were put to use by producing information products that were useful for the conservation of the four forested African landscapes. Examples included posters which were shared with our stakeholders during our dissemination meetings and others posted on our social media pages. The following outputs were produced by ARK, ECCI, ARG, CSIR, ARU, ARI, ABRI and NMK: Posters, Red Listed species booklet, Digital species checklists in user-friendly format, Species checklists, Regular posts about project progress, outputs, successes on social media, Articles in newsletters, Public seminars, Training workshop for best practice in data collection, Inception meeting, Data mobilisation mentorship, Presentations of project outputs to Decision-makers and Protected Site Management.

In our efforts to reach to a wider audience, it is important to mention that an additional output was produced that was not listed in our proposal. The project coordinator was interviewed by ARI communications team through a podcast interview where she was able to talk about the project.

• New deliverables

There were several changes that happened during our project implementation with regards to our datasets. For example, we realised we overestimated the number of records to be published by some partners (ABRI, ARU, CSIR-FRI and NMK-Mammalogy) as submitted in the proposal. These changes were communicated during our mid-term reporting and plans to compensate for the numbers were made, that is, by publishing additional datasets/records. Seven of the nine additional datasets have already been published as reflected in the 'scope' of each dataset section deliverable section below. The main reason for the overestimation of records was because the proposal was developed during the COVID-19 pandemic, a time where most partners were only going to the office occasionally. Therefore, we relied on estimates rather than actual figures.

Other minor changes that happened were changes between data classes. That is, some sampling events/ occurrence datasets were published as checklists and vice versa. The main reason being most of our partners did not understand the differences between the three data classes (checklist, occurrence, and sampling events) at the time of proposal development. Other datasets were also split in to sub datasets. That is, instead of publishing one dataset, it was published several sub datasets- this resulted in publishing more than the 55 datasets originally written in the proposal.

These have also been highlighted in the 'status' of each dataset section in the deliverable section.

• Delayed deliverables and describe (1) the cause(s) of the delay, (2) if you expect to produce these deliverables as a result of a post-project activity (if so indicate the date of completion) or if you do not intend to produce these deliverables

Datasets

We experienced some delays with publishing 23 of our datasets because of delayed responses or reviews from lead authors, of technical issues such as resolving taxonomic changes and technical challenges in developing a software that will publish ARK's camera trap dataset directly from Wildlife Insights to GBIF. We envision publishing all our datasets by 31/12/2023. These have been highlighted in the deliverables section below including the proposed dates for publication.

Further, three datasets will not be published (one from ABRI and two from WRTI) because we could not find the raw datasets as highlighted in the 'unexpected challenges' section above.

Other deliverables:

Delayed publication of some datasets delayed the process of producing the following outputs during the project implementation period: publications in form of data papers, shapefiles, and technical summary reports. However, it is important to mention that plans have been made to produce them by 31/12/2023.

Deliverables produced by the project

Dataset deliverables

Occurrence of Butterflies at Atewa Range Forest Ghana, 1950 to 2019

Dataset type: Occurrences
Dataset scope: Butterfly collections from Atewa Forest in Ghana
Number of records: 4,761
Data holder: ABRI
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Initially undigitized specimen dataset under the title 'Butterflies of Atewa'. Actual records
published were 4,761 of 25,000. Overestimated records of 20,239 to be compensated by acraea dataset of c.
43,000 records and Lepsoc dataset of c.6,500
DOI: https://doi.org/10.15468/xcb2p7
Expected date of publication:

Occurrence of Butterflies in Kenyan Coastal Forests, 1914 to 2022

Dataset type: Occurrences
Dataset scope: Butterfly collections from coastal forests in Kenya
Number of records: 7,792
Data holder: ABRI
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Initially undigitized specimen dataset under the title 'Butterflies of Kenya coastal forests'.
Actual records published were 7,792 of 20,000. Overestimated records of 12,208 to be compensanted by acraea dataset of c. 43,000 records and Lepsoc dataset of c.6,500 records
DOI: https://doi.org/10.15468/py3efd
Expected date of publication:

Occurrence of Butterflies in Eastern and Central Uganda, 1932-2021

Dataset type: Occurrences Dataset scope: Butterfly collections from Busoga forests of south eastern Uganda including Mabira, Jinja and Bugwe Number of records: 4,186 Data holder: ABRI Data host institution: National Museums of Kenya % complete: 100% Status update: Initially undigitized specimen dataset under the title 'Butterflies of eastern Uganda key forests'. Actual records published were 4,186 of 25,000. Overestimated records of 20,814 to be compensanted by acraea dataset of c. 43,000 records and Lepsoc dataset of c.6,500 records DOI: https://doi.org/10.15468/648pyd Expected date of publication:

Checklist of Butterflies of Shimba Hills and the southern Kenya Coastal landscapes, 1957 to 2020

Dataset type: Checklist

Dataset scope: Shimba Hills butterfly checklist
Number of records: 362
Data holder: ABRI
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Initially partially digitized specimen dataset under the title 'Butterflies of a key coastal forest
in East Africa: Shimba Hills'. Actual records published were 362 of 380 records. Overestimated records of 18
to be compensanted by acraea dataset of c. 43,000 records and Lepsoc dataset of 6,500 records
DOI: https://doi.org/10.15468/8vrmz7
Expected date of publication:

Bird Ringing Data of the Kenyan Coastal Forests, 1992 to 1993

Dataset type: Sampling Event
Dataset scope: Ringing data from KIFCON forest surveys (1991-1993)
Number of records: 1,004
Data holder: NMK- Ornithology
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Initially undigitized, two sub datasets published totalling 3,059 (initially undestimated).
These are: 'Bird Ringing Data of the Kenyan Coastal Forests, 1992 to 1993' 1,004 records as recorded here and 'Timed species count birds' data of the Kenyan Coastal Forests, 1992 - 1994' with 2,055 records entered below
DOI: https://doi.org/10.15468/869ked

Expected date of publication:

Timed species count birds' data of the Kenyan Coastal Forests, 1992 - 1994

Dataset type: Sampling Event Dataset scope: Timed species count birds' data of the Kenyan Coastal Forests, 1992 - 1994 Number of records: 2,055 Data holder: NMK- Ornithology Data host institution: National Museums of Kenya % complete: 100% Status update: Additional dataset published to compesate 996 records that fell shot in 'Bird Ringing Data of the Kenyan Coastal Forests, 1992 to 1993' dataset DOI: https://doi.org/10.15468/yg9qje Expected date of publication:

Bird Ringing Data of the Lower Tana River Forests, 1999 to 2001

Dataset type: Sampling Event Dataset scope: Research project observation records from the Tana Forest GEF project Number of records: 279 Data holder: NMK- Ornithology Data host institution: National Museums of Kenya % complete: 100% Status update: Published as a sub-dataset of 'Bird records from the Tana River Forest' DOI: https://doi.org/10.15468/ge6vzg Expected date of publication:

Avifauna recorded using timed species count method during 2003 Spotted Ground-thrush surveys in Kenyan Coastal Forests

Dataset type: Sampling Event

Dataset scope: Timed species counts carried out during Spotted Ground Thrush surveys along the Kenya Coast, 2003

Number of records: 1,155

Data holder: NMK- Ornithology

Data host institution: National Museums of Kenya

% complete: 100%

Status update: Dataset was originally titled 'Timed species counts carried out during Spotted Ground Thrush surveys along the Kenya Coast, 2003'. It has been published as three sub datasets (timed species counts, point counts and ringing/mistnetting dataset) as entered in this row and in the next two rows below respectively. A total of 4176 records of have been published. The 109 records we fell shot of have been compensated by the additional c.20,000 records published in the 'Bird Ringing Data of the Taita Hills Forests, 1996 to 2016' dataset

DOI: https://doi.org/10.15468/jn9f66 **Expected date of publication:**

Avifauna recorded using point count method during 2003 Spotted Ground-thrush surveys in Kenyan Coastal Forests Fragments

Dataset type: Sampling Event Dataset scope: Timed species counts carried out during Spotted Ground Thrush surveys along the Kenya Coast, 2004 Number of records: 2,503 Data holder: NMK- Ornithology Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/ca82mz Expected date of publication:

Avifauna recorded using Mist netting method during 2003 Spotted Ground-thrush surveys in Kenyan Coastal Forests

Dataset type: Sampling Event Dataset scope: Timed species counts carried out during Spotted Ground Thrush surveys along the Kenya Coast, 2005 Number of records: 518 Data holder: NMK- Ornithology Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/ntbenc Expected date of publication:

Bird Ringing Data of the Taita Hills Forests, 1996 to 2016

Dataset type: Sampling Event
Dataset scope: Bird records taken from biodiversity surveys and research in theTaita Hills Forests
Number of records: 26,360
Data holder: NMK- Ornithology
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Dataset originally titled as 'Bird records from the Taita Hills Forests' was partially digitized with an estimated 6,000 records. The records were underestimated, we ended up publishing 26,360 records in total. The 20,360 records have therefore been used to compesate for the records we were falling shot of DOI: https://doi.org/10.15468/96cup5
Expected date of publication:

Occurrence records of mammal species in Taita-Taveta, Kwale and Kilifi counties in Kenya

Dataset type: Occurrences
Dataset scope: Specimen records from a museum collection for Shimba and coastal Kaya forests
Number of records: 645
Data holder: NMK- Mammalogy
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Dataset originally titled as 'A Mammal collection from coastal forests in Kenya' was partially
digitized with an estimated 4,000 records. The has been published as four sub datasets as entered in this row
and the next three respectively including both specimens and observations. The last one being 'Diversity of
bird species in three adjacent coastal forest fragments, Kwale County, South coast-Kenya' collected during
the mammals surveys which was used to compensate for the records we fell shot of. The total records for the
four datasets was 3,834. We fell shot by 166 records
DOI: https://doi.org/10.15468/8g8287

Expected date of publication:

Occurrence records of different mammal species from several localities in Kenya

Dataset type: Occurrences Dataset scope: Specimen records from a museum collection for Shimba and coastal Kaya forests Number of records: 1,659 Data holder: NMK- Mammalogy Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/vyf55f Expected date of publication:

Occurrence records of small and medium sized mammal species in Kaya Kauma Forest, Jaribuni, Kilifi County-Kenya.

Dataset type: Occurrences Dataset scope: Specimen records from a museum collection for Shimba and coastal Kaya forests Number of records: 77 Data holder: NMK- Mammalogy Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/9zxf8y Expected date of publication:

Diversity of bird species in three adjacent coastal forest fragments, Kwale County, South coast-Kenya

Dataset type: Occurrences Dataset scope: Bird records collected during the mammals surveys Number of records: 1,453 Data holder: NMK- Mammalogy Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/yw73yx Expected date of publication:

Checklist of shrubs and trees in West Bugwe forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 251 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: Dataset originally referred to as 'Shrubs and tree species of eastern Uganda key forests' has been published as nine sub datasets for the nine forests reserves. A total of 1625 of 2400 records have been published. We fell shot of 775 records which have been compensated by the 'Budongo bird ringing' dataset DOI: https://doi.org/10.15468/pnwceq Expected date of publication:

Checklist of shrubs and trees in Igwe-Luvunya forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 201 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/evgqj5 Expected date of publication:

Checklist of trees and shrubs in South Busoga forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 171 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/w4kgxa Expected date of publication:

Checklist of trees and shrubs in Bukaleba forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 95 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/5wncsd Expected date of publication:

Checklist of shrubs and trees in Mabira forest reserve, Uganda

Dataset type: Checklist

Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 308 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/jrfv59 Expected date of publication:

Checklist of shrubs and trees in Mukono forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 177 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/suc24c Expected date of publication:

Checklist of shrubs and trees of Mpanga forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 204 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/nmxvd5 Expected date of publication:

Checklist of shrubs and trees of Mpigi forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 96 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/32e7fp Expected date of publication:

Checklist of trees and shrubs in Zika forest reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves Number of records: 122 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/zaufkx Expected date of publication:

Occurrence of butterflies in eastern and central Uganda Key forests

Dataset type: Occurrences
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys.
Number of records: 2,555
Data holder: ARU
Data host institution: GBIF Secretariat

complete: 100%

Status update: Dataset originally referred to as 'Butterflies of eastern Uganda key forests'.Total records were underestimated. We have published a total of 2555 compared to 1780 written in the proposal. All records have been published.
DOI: https://doi.org/10.15468/5533sk

Occurrence of moths in eastern and central Uganda Key forests

Dataset type: Occurrences

Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field collection.
Number of records: 9,777
Data holder: ARU
Data host institution: GBIF Secretariat

complete: 100%

Status update: Dataset originally referred to as 'Hawkmoths and Silkmoths of eastern Uganda'. Total records were slightly overstimated. We have published a total of 1977 compared to 9,800 records written in the proposal. The 23 records we fell shot of have been compensated by the Budongo bird ringing dataset.
DOI: https://doi.org/10.15468/xexvck

Occurrences of birds in eastern and central Uganda forests, 1993 to 1995

Dataset type: Occurrences
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on mist netting recordsand specimen collection.
Number of records: 582
Data holder: ARU
Data host institution: GBIF Secretariat

% complete: 100%

Status update: Dataset originally referred to as 'Ringing and collection records of birds in key forests of eastern Uganda'. Total records were slightly overstimated. We have published a total of 582 compared to 682 records written in the proposal. The 100 records we fell shot of have been compensated by the Budongo bird ringing dataset.

DOI: https://doi.org/10.15468/rwmkzm **Expected date of publication:**

Checklist of small mammals of West-Bugwe forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection.
Number of records: 11
Data holder: ARU
Data host institution: GBIF Secretariat % complete: 100%
Status update: Dataset originally referred to as 'Small mammals of eastern Uganda key forests' . Data class changed from occurrence to checklists. Currently published as four subdatasets totalling 58 records as entered from this row tothe next three subsequent rows . Four other checklists are yet to be published. Total records were slightly overstimated. We will publish a total of 101 of 429 records written in the proposal. The 328 records we fell shot of have been compensated by the Budongo bird ringing dataset.
DOI: https://doi.org/10.15468/2289ft
Expected date of publication:

Checklist of small mammals of Mabira Central Forest Reserve, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection. Number of records: 23 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/5g9xef Expected date of publication:

Checklist of small mammals of Mpanga Forest Reserve

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection. Number of records: 8 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/9xxvrh Expected date of publication:

APLORI Bird Ringing Data from Cross River SAPLORI Bird Ringing Data from Cross River State, Nigeriatate, Nigeria

Dataset type: Sampling Event Dataset scope: Ornithological survey results for South-Eastern Nigeria Number of records: 2,037 Data holder: APLORI Data host institution: Forestry Research Institute of Nigeria % complete: 100% Status update: Dataset originally refereed to as 'Birds of south-eastern Nigeria forests'. All records published including an additional 37 records DOI: https://doi.org/10.15468/t7r6k6 Expected date of publication:

Occurrence of Bird species in Kwande and Obanliku in 2020

Dataset type: Occurrences
Dataset scope: Ornithological survey results for south-eastern Nigeria
Number of records: 172
Data holder: ECCI
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Dataset originally refereed to as 'Avian survey data from of south-eastern Nigeria'. Recorded
as a sampling event in the proposal but was later published as an occurrence dataset. All records have been
published- there was a slight overestimation of 28 records. These have been compesanted by an addditional
dataset published by ECCI 'Checklist of birds of Anwase forest'
DOI: https://doi.org/10.15468/awaxdw
Expected date of publication:

Bird Ringing Data from Tosso of Taraba State, North east Nigeria

Dataset type: Sampling Event
Dataset scope: Ornithological survey results from mist-netting for north-eastern Nigeria
Number of records: 46
Data holder: ECCI
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Dataset originally refereed to as 'Bird ringing data from of north-eastern Nigeria'. All records
have been published. There was a slight oveestimation of 6 records which have been compensated by an
additional dataset published by ECCI 'Checklist of birds of Anwase forest.'
DOI: https://doi.org/10.15468/snearh
Expected date of publication:

Occurrence of Bird Species in Tosso Kurmi LGA, Taraba State, 18-21 December, 2017

Dataset type: Occurrences
Dataset scope: Ornithological survey results for north-eastern Nigeria
Number of records: 64
Data holder: ECCI
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Dataset originally refereed to as 'Avian survey data from north-eastern Nigeria'. All records
have been published. There was a slight oveestimation of 1 record compensated by an additional dataset
published by ECCI 'Checklist of birds of Anwase forest.'
DOI: https://doi.org/10.15468/qkwnks
Expected date of publication:

Occurrence of Bird species in Donga Basin between 1967 and 1999

Dataset type: Occurrences Dataset scope: Results from ornithological surveys involving mist-netting andpoint count surveys from north-eastern Nigeria Number of records: 849 Data holder: ECCI Data host institution: National Museums of Kenya % complete: 100% Status update: Dataset originally referred to as 'Systematic avian survey data from north-eastern Nigeria'. All records have been published- with additional 549 records DOI: https://doi.org/10.15468/vmszwz Expected date of publication:

A checklist of Wild Mushrooms of the Atewa Range Forest Reserve, Eastern Region, Ghana.

Dataset type: Checklist
Dataset scope: Mushroom collections from Atewa Forest, Ghana in 2015
Number of records: 22
Data holder: CSIR-FRI
Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 100%
Status update: Dataset originally referred to as 'Collections of mushrooms from Atewa Forest, 2015'- data class changed from sampling event to checklist because of limited information available. All records published-overestimated by 28 records
DOI: https://doi.org/10.15468/4hcd6v
Expected date of publication:

A checklist of mushrooms from Agumatsa, Ghana

Dataset type: Checklist Dataset scope: Mushroom collections from WLI AGUMATSA , Ghana in 2013 Number of records: 14 Data holder: CSIR-FRI Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 100% Status update: Dataset originally referred to as 'Mushrooms of WLI AGUMATSA, Ghana, in 2013'- data class changed from sampling event to checklist because of limited information available. All records published-slightly overestimated by 6 records DOI: https://doi.org/10.15468/sayep2 Expected date of publication:

A checklist of Wild Mushrooms of the Bia Conservation Area, Western North Region, Ghana.

Dataset type: Checklist
Dataset scope: Mushroom collections from Bia Biosphere Reserve, Ghana in 2015
Number of records: 15
Data holder: CSIR-FRI
Data host institution: Department of Marine and Fisheries Sciences, University of Ghana
% complete: 100%
Status update: Dataset originally referred to as 'A collection of mushrooms from Bia Biosphere Reserve,
Ghana, in 2015'. Data class changed from sampling event to a checklist. All records published, overestimated
by 34 records.
DOI: https://doi.org/10.15468/f6w5pc
Expected date of publication:

A checklist of Mushrooms of Ayum Forest Reserve, Bono Region, Ghana

Dataset type: Checklist Dataset scope: Mushroom collections from Ayum Forest, Ghana in 2015 Number of records: 15 Data holder: CSIR-FRI Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 100% Status update: Dataset originally referred to as 'Collections of Mushrooms from Ayum Forest, Ghana, 2015'. Data class changed from sampling event to a checklist. All records published, overestimated by 45 records. DOI: https://doi.org/10.15468/agbv9n Expected date of publication:

Mushroom collections from Dodowa and Armahia Forests, Ghana in 2015

Dataset type: Checklist Dataset scope: Mushroom collections from Dodowa and Armahia Forests, Ghanain 2015 Number of records: 4 Data holder: CSIR-FRI Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 8% Status update: Data entry in progress with only 4 records available so far. Follow up with lead author ongoing to find out if there are mores records available and seek consent to publish the data on GBIF DOI: Expected date of publication: 2023-12-31

Checklist of Birds in Atewa Range Forest Reserve Ghana

Dataset type: Checklist Dataset scope: A updated compilation of all confirmed and accepted bird recordsfrom Atewa Forest, Ghana. Number of records: 282 Data holder: ARG Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 100% Status update: All records published-including an additional 43 records. DOI: https://doi.org/10.15468/277p7d Expected date of publication:

A checklist of terrestrial mammals in Atewa Range Forest Reserve, Ghana

Dataset type: Checklist
Dataset scope: A updated compilation of all confirmed and accepted mammalrecords from Atewa Forest, Ghana.
Number of records: 67
Data holder: ARG
Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 100%
Status update: All records published. A slight overestimation of 2 records.
DOI: https://doi.org/10.15468/jca6ge
Expected date of publication:

A checklist of Butterflies in Atewa Range Forest Reserve, Eastern Region, Ghana

Dataset type: Checklist Dataset scope: A compilation of butterfly records from Atewa Forest, Ghana Number of records: 636 Data holder: ARG Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 100% Status update: All records published-including an additional 63 records. DOI: https://doi.org/10.15468/38ws89 Expected date of publication:

Checklists of Birds in West Bugwe forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys.
Number of records: 89
Data holder: ARU
Data host institution: GBIF Secretariat

complete: 100%

Status update: Dataset originally referred to as a sampling event titled 'Species lists of birds of key eastern Uganda forests'. Published as checklists of eight subdatasets as entered from this row and the seven subsequent rows. All records have been published with a slight overestimation of 353 records.
DOI: https://doi.org/10.15468/3gsrff
Expected date of publication:

Checklist of Birds in Igwe-Luvunya forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys.
Number of records: 30
Data holder: ARU
Data host institution: GBIF Secretariat
% complete: 100%
Status update: All records published
DOI: https://doi.org/10.15468/u78pt5
Expected date of publication:

Checklist of Birds in South Busoga forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys.
Number of records: 123
Data holder: ARU
Data host institution: GBIF Secretariat
% complete: 100%
Status update: All records published
DOI: https://doi.org/10.15468/msmvb2
Expected date of publication:

Checklist of birds in Bukaleba forest, Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys. Number of records: 47 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/3qkwcb Expected date of publication:

Checklist of Birds in Mabira forest reserve, Uganda

Dataset type: Checklist

Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys.
Number of records: 286
Data holder: ARU
Data host institution: GBIF Secretariat

complete: 100%

Status update: All records published
DOI: https://doi.org/10.15468/jd7wr5
Expected date of publication:

Checklist of Birds in Mpigi forest reserve Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys. Number of records: 158 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/mztaqw Expected date of publication:

Checklist of Birds in Zika forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys.
Number of records: 141
Data holder: ARU
Data host institution: GBIF Secretariat
% complete: 100%
Status update: All records published
DOI: https://doi.org/10.15468/8k7bed
Expected date of publication:

Checklist of birds of Mpanga forest Uganda

Dataset type: Checklist Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys. Number of records: 141 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/66wwkr Expected date of publication:

Occurrence of butterflies in eastern and central Uganda Key forests

Dataset type: Occurrences **Dataset scope:** Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on field surveys **Number of records:** 2,555 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published with an additional 1,755 records. DOI: https://doi.org/10.15468/5533sk Expected date of publication:

An Initial Checklist of Mammals of the A Rocha Dakatcha Nature Reserve, Kenya, 2022

Dataset type: Checklist Dataset scope: A checklist construed from mainly camera-trapping data of mammals from Dakatcha Nature Reserve Number of records: 26 Data holder: ARK Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/p4wacc Expected date of publication:

An Initial Checklist of Birds of the A Rocha Dakatcha Nature Reserve and its Surrounding Area, Kenya, 2022

Dataset type: Checklist Dataset scope: Species list of birds of Dakatcha Nature Reserve Number of records: 182 Data holder: ARK Data host institution: National Museums of Kenya % complete: 100% Status update: All records published, slightly overestimated by 19 records DOI: https://doi.org/10.15468/27kzbg Expected date of publication:

An Initial Checklist of Butterflies of the A Rocha Dakatcha Nature Reserve, Kenya, 2023

Dataset type: Checklist Dataset scope: A list of species recorded from the A Rocha Dakatcha NatureReserve Number of records: 129 Data holder: ARK Data host institution: National Museums of Kenya % complete: 100% Status update: All records published including an additional 19 records DOI: https://doi.org/10.15468/rvaezv Expected date of publication:

A collection of invertebrates from the A Rocha Dakatcha Nature Reserve and the surrounding area, 2019-2022

Dataset type: Occurrences Dataset scope: Sampling within the Dakatcha Nature Reserve, from fieldwork carried out primarily between 2018 and 2021 Number of records: 816 Data holder: NMK- Entomology Data host institution: National Museums of Kenya % complete: 100% **Status update:** All records published, data overestimated by 684 records. An additional dataset of 12,603 records titled 'Butterfly Survey at A Rocha Kenya Conservation Centre' to compensate for the records **DOI:** https://doi.org/10.15468/yawuer **Expected date of publication:**

A collection of invertebrates from Gede Ruins National Monument forest

Dataset type: Occurrences
Dataset scope: Invertebrate sampling from Gede Ruins National Monument forestand adjacent farmland, 2011
Number of records: 183
Data holder: NMK- Entomology
Data host institution: National Museums of Kenya
% complete: 100%
Status update: All records published, i.e, 183 of 2,000. Overestimated records of 1,817 were compensated by an additional dataset published titled 'Butterfly Survey at A Rocha Kenya Conservation Centre'
DOI: https://doi.org/10.15468/s3r8bb
Expected date of publication:

Plants of Shimba Hill and Mwaluganje Conservation Areas

Dataset type: Checklist Dataset scope: Results from botanical surveys taking place in 2012 within theShimba Hills National Park Number of records: 26 Data holder: WRTI Data host institution: National Museums of Kenya % complete: 0% Status update: Raw data unavailable. Dataset originally recorded as a sampling event but maybe be published as a checklist of 26 records based on analysed reports. Data entry not started. Overestimated records by 594 DOI:

Expected date of publication: 2023-12-31

Reptiles of Shimba Hill and Mwaluganje Conservation Areas

Dataset type: Checklist
Dataset scope: Results from herps surveys in Shimba Hills forests in 2012
Number of records: 40
Data holder: WRTI
Data host institution: National Museums of Kenya
% complete: 0%
Status update: Raw data unavailable. Dataset originally recorded as a sampling event but maybe be
published as a checklist of 40 records based on analysed reports. Data entry not started. Overestimated by 15
records
DOI:
Expected date of publication: 2023-12-31

Birds in Shimba Hills, Mkongani and Mwaluganje Conservation Areas

Dataset type: Checklist Dataset scope: Surveys of birds recorded in Shimba Hills National Park andadjacent community conservation area, 2012 Number of records: 108 Data holder: WRTI Data host institution: National Museums of Kenya % complete: 0% Status update: Raw data unavailable. Dataset originally recorded as a sampling event but maybe be published as a checklist of 108 records based on analysed reports. Data entry not started. Overestimated by 142 records DOI: Evenented data of publication: 2023, 12, 31

Expected date of publication: 2023-12-31

Invertebrates in Shimba Hills, Mkongani and Mwaluganje Conservation Areas

Dataset type: Sampling Event
Dataset scope: Surveys of invertebrates within the Shimba Hills and adjacentcommunity conservation areas during 2012
Number of records: 400
Data holder: WRTI
Data host institution: National Museums of Kenya
% complete: 10%
Status update: Data entry ongoing- a few records entered according to DwC standard
DOI:
Expected date of publication: 2023-12-31

Ticks on wildlife in the Shimba Hills

Dataset type: Checklist Dataset scope: Sampling of ticks on mainly large mammals found within ShimbaHills National Park, Kenya Number of records: 9 Data holder: WRTI Data host institution: National Museums of Kenya % complete: 0% Status update: Raw data unavailable. Dataset originally recorded as a sampling event but maybe be published as a checklist of 9 records based on analysed reports. Data entry not started. Overestimated by 41 records DOI:

Expected date of publication: 2023-12-31

Butterfly Survey at A Rocha Kenya Conservation Centre

Dataset type: Sampling Event Dataset scope: Butterfly survey at the A Rocha Kenya Conservation Centre- an additional dataset published to compensate records project fell short of Number of records: 12,603 Data holder: ARK Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/vqb2zs Expected date of publication:

Waterbird Counts at Sabaki River Mouth and Mida Creek

Dataset type: Sampling Event Dataset scope: A Rocha Kenya surveys of monitoring waterbirds at two key sites on the Coast of Kenya: Sabaki River Mouth and Mida Creek-an additional dataset published to compensate records project fell short of Number of records: 6,699 Data holder: ARK Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/9hs9vv Expected date of publication:

A collection of invertebrates from within the A Rocha Conservation Centre grounds, Watamu, Kilifi, Kenya

Dataset type: Sampling Event
Dataset scope: Invertebrates collected from the small patch of coastal dune forest and coastal scrub within the A Rocha conservation center grounds on the beachfront of Watamu and stored at the National Museums of Kenya-an additional dataset published to compensate records project fell short of.
Number of records: 363
Data holder: NMK- Entomology
Data host institution: National Museums of Kenya
% complete: 100%
Status update: All records published
DOI: https://doi.org/10.15468/zh3vm4
Expected date of publication:

Bird ringing data from Budongo Forest Reserve, Western Uganda

Dataset type: Sampling Event Dataset scope: A collection of bird ringing data collected by Jeremy Lindsell during the course of his residence in the Budongo Forest at the Budongo Forest Project field station at Sonso, between October 1996 and May 2000-an additional dataset published to compensate records project fell short of. Number of records: 1,575 Data holder: ARU Data host institution: GBIF Secretariat % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/79sxqw Expected date of publication:

Occurrence of Butterflies in Taita-Taveta, 1912 to 2018

Dataset type: Occurrences Dataset scope: Records of butterfly specimens from the larger Taita-Taveta county preserved at the African Butterfly Research Institute-an additional dataset published to compensate records project fell short of. Number of records: 548 Data holder: ABRI Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/tr8uw5 Expected date of publication:

A checklist of birds of Anwase forest

Dataset type: Checklist Dataset scope: Records of birding trips were to forest patches around Anwase village of Kwande Local Government Area in Benue State-an additional dataset published to compensate records project fell short of. Number of records: 153 Data holder: ECCI Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/b6acdw Expected date of publication:

Occurrence of Bird species from Tosso- Magaji of Taraba State, North-east Nigeria

Dataset type: Occurrences Dataset scope: Ornithological sampling event carried out in the Tosso forest, Taraba State Nigeria-an additional dataset published to compensate for the records the project fell short of. Number of records: 61 Data holder: ECCI Data host institution: National Museums of Kenya % complete: 100% Status update: All records published DOI: https://doi.org/10.15468/gevm6p Expected date of publication:

Trees of Atewa forest

Dataset type: Sampling Event
Dataset scope: Trees over 10 cm dbh identified to species level from 34 quarterhectares plots in Atewa Forest, Ghana in 2015
Number of records: 2,500
Data holder: ARG
Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 23%
Status update: c. 700 records entered according to DwC standards. Total records available for publishing 2,500
DOI:
Expected date of publication: 2023-10-31

Camera trap data from Atewa Forest

Dataset type: Sampling Event Dataset scope: Mammal observations from terrestrial camera trapping in AtewaForest, GhaMammal observations from terrestrial camera trapping in AtewaForest, Ghana in 2016na in 2016 Number of records: 1,000 Data holder: ARG Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 20% Status update: Raw data cleaning work ongoing. Actual records may be 1,000 after data cleaning DOI: Expected date of publication: 2023-10-31

Checklist of small mammals of South Busoga forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection.
Number of records: 16
Data holder: ARU
Data host institution: GBIF Secretariat % complete: 50%

Status update: Dataset and metadata ready awaiting review before publishing **DOI: Expected date of publication:** 2023-05-31

Checklist of small mammals of Bukaleba forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection.
Number of records: 8
Data holder: ARU
Data host institution: GBIF Secretariat

% complete: 50%

Status update: Dataset and metadata ready awaiting review before publishing

DOI:
Expected date of publication: 2023-05-31

Checklist of small mammals of Igwe-Luvunya forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection.
Number of records: 7
Data holder: ARU
Data host institution: GBIF Secretariat

complete: 50%

Status update: Dataset and metadata ready awaiting review before publishing

DOI:
Expected date of publication: 2023-05-31

Checklist of small mammals of Mpigi forest reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga,Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection.
Number of records: 12
Data holder: ARU
Data host institution: GBIF Secretariat

% complete: 50%

Status update: Dataset and metadata ready awaiting review before publishing
DOI:
Expected date of publication: 2023-05-31

A collection of mushrooms from Atewa Forest, 2013

Dataset type: Checklist
Dataset scope: Mushroom collections from Atewa Forest, Ghana in 2013
Number of records: 10
Data holder: CSIR-FRI
Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 0%
Status update: Raw data mining currently ongoing- number of records to be published might be lower because some specimens cannot be identified because of poor picture quality. Data class maybe changed from sampling event to checklist because of the limited information available.
DOI:

Expected date of publication: 2023-12-31

Mushrooms of Afadzato Forest, Ghana

Dataset type: Checklist Dataset scope: Mushroom collections from Afadzato Forest, Ghana in 2013 Number of records: 10 **Data holder:** CSIR-FRI Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 0% Status update: Raw data mining currently ongoing- number of records to be published might be lower because some specimens cannot be identified because of poor picture quality. Data class maybe changed from sampling event to checklist because of the limited information available. DOÎ: Expected date of publication: 2023-12-31

Mushroom collections from Kakum Forest, Ghana in 2015

Dataset type: Checklist **Dataset scope:** Ad hoc mushroom collections from Kakum Forest, Ghana in 2015 Number of records: 10 **Data holder: CSIR-FRI** Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 0% Status update: Raw data mining currently ongoing- number of records to be published might be lower because some specimens cannot be identified because of poor picture quality. Data class maybe changed from sampling event to checklist because of the limited information available. DOÎ: Expected date of publication: 2023-12-31

A collection of mushrooms from Bia Biosphere Reserve, Ghana, in 2001

Dataset type: Checklist **Dataset scope:** Mushroom collections from Bia Biosphere Reserve, Ghana in 2001 Number of records: 10 Data holder: CSIR-FRI Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 0%Status update: Raw data mining currently ongoing- number of records to be published might be lower because some specimens cannot be identified because of poor picture quality. Data class maybe changed from sampling event to checklist because of the limited information available. DOI: Expected date of publication: 2023-12-31

Spotted Ground Thrush records on the Kenya coast, 2003

Dataset type: Sampling Event Dataset scope: Records of the Endangered Spotted Ground Thrush in Kenya in2003 Number of records: 11 Data holder: NMK- Ornithology Data host institution: National Museums of Kenya % complete: 95% Status update: Dataset and metadata ready awaiting review before publishing- 11 records available. There was a slight overestimation of 4 records DOI:

Expected date of publication: 2023-05-30

Camera Trap records from the A Rocha Dakatcha Nature Reserve

Dataset type: Sampling Event
Dataset scope: Records of birds and mammals from two years of camera trappingin Dakatcha Woodlands KBA
Number of records: 8,000
Data holder: ARK
Data host institution: National Museums of Kenya
% complete: 50%
Status update: A software is being developed to automatically publish ARK camera trap data from Wildlife Insights directly to GBIF- dataset awaiting DwC formatting
DOI:
Expected date of publication: 2023-09-30

An Initial Checklist of Plants of the A Rocha Dakatcha Nature Reserve, Kenya, 2022

Dataset type: Checklist Dataset scope: Confirmed species list of plants in Dakatcha Reserve and the wider Dakatcha KBA Number of records: 333 Data holder: ARK Data host institution: National Museums of Kenya % complete: 100% Status update: All records published including an additional 83 records DOI: https://doi.org/10.15468/f6w83n Expected date of publication:

A butterfly collection from the A Rocha Dakatcha Nature Reserve

Dataset type: Occurrences Dataset scope: Records of butterflies sampled across the Dakatcha NatureReserve 2018-2021 Number of records: 400 Data holder: ARK Data host institution: National Museums of Kenya % complete: 50% Status update: Species identification work and data entry currently ongoing DOI: Expected date of publication: 2023-10-31

Checklist of the Mammals of Shimba Hills National Park

Dataset type: Checklist
Dataset scope: A collation of mammal records from Shimba Hills National Park
Number of records: 19
Data holder: WRTI
Data host institution: National Museums of Kenya
% complete: 98%
Status update: Both dataset and metadata ready awaiting reviews from lead authors. Data slightly overestimated by 19 records
DOI:
Expected date of publication: 2023-06-30

A birder's records from Dakatcha Woodlands KBA

Dataset type: Occurrences Dataset scope: 20 years of notebook data from an observer visiting Dakatcha - bylocality Number of records: 1,500 Data holder: ARK Data host institution: National Museums of Kenya % complete: 90% Status update: Data entry and metadata done awaiting review from lead author DOI: Expected date of publication: 2023-05-31

Checklist of butterflies of Lepidopterist Society of Africa

Dataset type: Occurrences
Dataset scope: A comprehesive list of butterflies of Africa- an additional dataset published to be adopted as a reference list for GBIF and to compensate for records the project is falling short of
Number of records: 6,500
Data holder: ABRI
Data host institution: National Museums of Kenya
% complete: 90%
Status update: Dataset formatted to DwC standard. Metadata writing in progress
DOI:
Expected date of publication: 2023-05-31

Occurrence of Acraea Butterflies in Africa, 1892-2022

Dataset type: Occurrences Dataset scope: Records of acraea butterfly specimens stored at ABRI Number of records: 43,000 Data holder: ABRI Data host institution: National Museums of Kenya % complete: 98% Status update: Both dataset and metadata ready. Awaiting publication DOI: Expected date of publication: 2023-04-30

The Avian Collection of the Coastal Forests at the National Museums of Kenya's Ornithology Section

Dataset type: Occurrences
Dataset scope: Specimen records from museum collection
Number of records: 813
Data holder: NMK- Ornithology
Data host institution: National Museums of Kenya
% complete: 100%
Status update: Initially the data of bird specimens was partially digitized. Now published with an additional records of 313.
DOI: https://doi.org/10.15468/49q7fn
Expected date of publication:

A checklist of Trees in Atewa Range Forest Reserve, Ghana

Dataset type: Checklist Dataset scope: Trees over 10 cm dbh identified to species level from 34 quarterhectares plots in Atewa Forest, Ghana in 2015 Number of records: 249 Data holder: ARG Data host institution: Department of Marine and Fisheries Sciences, University of Ghana % complete: 30% Status update: Originally a sampling event dataset titled 'Trees of Atewa Forest'. Dataset was split into two sub datasets (checklist and sampling event) based on the raw data received. There was a lot of cleaning required and consultations about sampling methods needed. Dataset was first published as a checklist as entered in this row. A sampling event dataset will be published by 30/09/2023-currently c.700 records have been partially aligned according to DwC standards. DOI: https://doi.org/10.15468/us72da Expected date of publication:

Timed Species Count Data collected in the Lower Tana River Forest Fragments 1999 - 2001

Dataset type: Occurrences Dataset scope: Research project observation records from the Tana Forest GEF project Number of records: 679 Data holder: NMK- Ornithology Data host institution: National Museums of Kenya % complete: 100% Status update: Dataset was originally titled 'Bird records from the Tana River Forest' and was partially digitized. 1,042 records were overestimated. It has been published as two sub datasets as entered in this row with 679 records and 'Bird Ringing Data of the Lower Tana River Forests, 1999 to 2001', sampling event dataset of 279 records as entered below. Ovestimated records were compensated by publishing c.20,000 more records under the 'Bird Ringing Data of the Taita Hills Forests, 1996 to 2016' dataset DOI: https://doi.org/10.15468/amp2sp

Expected date of publication:

Checklist of small mammals of Zika Forest Reserve, Uganda

Dataset type: Checklist
Dataset scope: Data for West Bugwe and Igwe-Luvunya, plus South Busoga, Bukaleba, Mabira, Mukono, Mpanga, Mpigi, Zika Forest Reserves. Based on specimen collection.
Number of records: 16
Data holder: ARU
Data host institution: GBIF Secretariat
% complete: 100%
Status update: All records published
DOI: https://doi.org/10.15468/chupt3
Expected date of publication:

A birder's records from Dakatcha Woodlands KBA

Dataset type: Occurrences Dataset scope: 20 years of notebook data from an observer visiting Dakatcha - bylocality Number of records: 1,500 Data holder: ARK Data host institution: National Museums of Kenya % complete: 90% Status update: Data entry and metadata done awaiting review from lead author DOI: Expected date of publication: 2023-05-31

Other deliverables

Posters

Description: Posters displaying Red List species for the key forest sites addressed by this project and thus the forest's importance to raise awareness with wildlife authority staff, schools and othermembers of the public **% complete:** 95%

Status update: Posters highlighting species of conservation importance for the four forested African landscapes have been produced by ARK, ARG, CSIR-FRI, ARU and ECCI and copies handed over to releveant stakeholders. ARG will be producing a few additional posters

Sources of verification: • https://arochakenya.sharepoint.com/:b:/s/BID-

GBIFAfricaForestsProject2020/Ec2NxmhzŤ4lFkV2VHe1A56YBhUCjBpnwAK9xcUhpG5ivaA?e=X4Tg8s • https://arochakenya.sharepoint.com/:i:/s/BID-GBIFAfricaForestsProject2020/EZ0-

uyLQKwZHvN00MMMQLHoBem662yG3gc3hySZ50C3Qiw?e=ccsEIU •

https://arochakenya.sharepoint.com/:i:/s/BID-

GBIFAfricaForestsProject2020/ETer13U0eqlDsTtBCN1MptsB76D1-AWjAblQaxB8XXqLOA?e=bWg30t • https://arochakenya.sharepoint.com/:i:/s/BID-

GBIFAfricaForestsProject2020/EWQxbjizu8xEjcs6vU1OB8kBsqH57DwHHEAPsKfeHzZT7g?e=Hi0nNP • https://arochakenya.sharepoint.com/:f:/s/BID-

GBIFAfricaForestsProject2020/EjIDfHnzqxxAvfoeX3NSKOgBH7yRWgxzQ4BBbOXs2mhTTw? e=dvDOlm • https://arochakenya.sharepoint.com/:f:/s/BID-

GBIFAfricaForestsProject2020/Ehy5MASQp31Isd4OfrfW6Y4B1KiNtui9WiOwkGbSij4_cw?e=4Dd9bO • https://arochakenya.sharepoint.com/:f:/s/BID-GBIFAfricaForestsProject2020/Eqkf0HToZGNBhMk2pbHil-sBux-6HmFMio3es3M1b3R0BA?e=58cooV

Red Listed species booklet

Description: A rapid reference booklet for managers and decision-makersthat highlights the Red List assessment process, its globalrecognition for conservation and thus its relevance to thesite/forest in question. Included will be the checklist of RedListed species for that site.

% complete: 80%

Status update: ARK has produced some Red Listed species booklet which they are yet to finalise and distribute to forest managers

Sources of verification: https://arochakenya.sharepoint.com/:f:/s/BID-

GBIFAfricaForestsProject2020/Eosps98c2OBPIBziJiDZJxsBAU0E_RzcyrxccYVIbz7hbA?e=Y0Svvd

Digital species checklists in user-friendly format

Description: Species lists of key taxa in each forest site considered will be produced in Excel in a format which make them easy for managers and decision-makers to easily access and use them. Red Listed species will behighlighted together with other relevant conservation status categories. Ahyperlink will be included to take the user directly to the Red Listwebpage for each species where it exists. **% complete:** 90%

Status update: ARK has produced some user friendly species checklists yet to finalise and distribute to forest managers

Sources of verification: https://arochakenya.sharepoint.com/:f:/s/BID-GBIFAfricaForestsProject2020/Eosps98c2OBPlBziJiDZJxsBAU0E_RzcyrxccYVIbz7hbA?e=Y0Svvd

Species checklists

Description: Checklists of popular taxa such as birds and mammals or butterflies produced in an attractive and user-friendly format to share with and thus promote tourism and environmental education **% complete:** 95%

Status update: ARK, ARU and ECCI have produced some simple species checklists. ARU has shared these with NFA. ARK and ECCI are yet to share with the relevant authorities

Sources of verification: • https://arochakenya.sharepoint.com/:f:/s/BID-

GBIFAfricaForestsProject2020/Eosps98c2OBPlBziJiDZJxsBAU0E_RzcyrxccYVIbz7hbA?e=b5NZs2 • https://arochakenya.sharepoint.com/:f:/s/BID-

GBIFAfricaForestsProject2020/Ehy5MASQp31Isd4OfrfW6Y4B1KiNtui9WiOwkGbSij4_cw?e=4Dd9bO • https://arochakenya.sharepoint.com/:f:/s/BID-GBIFAfricaForestsProject2020/Eqkf0HToZGNBhMk2pbHil-sBux-6HmFMio3es3M1b3R0BA?e=58cooV

Technical summary reports on data and data gaps

Description: A technical report by scientists that goes into greater depth regarding the biodiversity of a site and thus itsimportance for conservation. The papers would highlightkey gaps in our knowledge, list other current resourcesrelevant to the site, highlight issues or species or seriousconservation concern and give some recommendations tomanagers / decision-makers as to how best to addressthem.

% complete: 0%

Status update: A technical report will be produced by 31/12/2023 once all the deliverables have been achieved

Sources of verification: N/A

Shapefiles

Description: digital files of GIS layers for forest sites (e.g. boundary, tracks and trails, vegetation, key taxa of interest, wetlands etc) available for managers, researchers and interested members of the public for use to create their own maps

% complete: 0%

Status update: Shapefiles will be produced by ARK for DW after publishing all their datasets and will be shared with relevant stakeholders

Sources of verification: N/A

Publications

Description: Papers published in relevant scientific journals highlighting datasets of interest from some of the sites considered. These may includedata papers publishing actual datasets **% complete:** 10%

Status update: ARK has already submitted an application for reimbursement of Article Processing Charges to GBIF to facilitate publication of data papers. Potential datasets to be integrated in the data papers have already been identified and one already worked on. At least two data papers will be published: One in the Check List journal and another in Biodiversity Observation by 31/12/2023 **Sources of verification:** N/A

Articles in newsletters and magazines about the project

Description: articles in A Rocha and other magazine outletsabout GBIF and the overall project **% complete:** 100% **Status update:** This has been published by ARI in their website **Sources of verification:** https://mailchi.mp/arocha.org/a-rocha-international-enews-mar-2023?e=1178b612aa

Public seminars

Description: Physical meetings and presentations to the public OR virtual webinarswhere the project and its outputs / results are presented to raiseawareness about GBIF, BID and the specific available data outputs from the project

% complete: 93%

Status update: Physical public seminars were done by ARK, ARG and ARU. ECCI presented results about our project in a virtual meeting hosted by the Nigerian Bird Atlas Project. ARG, ARK and ECCI are planning to host other additional dissemination meetings later in the year to share project outputs widely **Sources of verification:** Reports of the dissemination meetings have been attached below

Training workshop for best practice in data collection

Description: Workshops to train scouts / rangers in best practice forfuture data collection - to improve data quality in thefuture.
% complete: 100%
Status update: Four trainings were conducted by ARK and ARG. Three in person and one virtual Sources of verification: Reports of the four trainings have been attached below

Inception meeting

Description: A virtual meeting drawing together all partners to introduce theGBIF, the project, it's aims and expected outputs.

% complete: 100%

Status update: A virtual inception meeting launching the project was succesfully hosted by ARK **Sources of verification:** Report of the meeting has been attached below

Data mobilisation mentorship

Description: Mentorship and training, both in small groups and one-on-one,mostly virtually but some faceto-face interactions to train and expose project staff to details of good quality data management,writing of high quality metadata etc.

% complete: 100%

Status update: Mentorship was successfully done throughout the project period mostly by the project coordinator

Sources of verification: Reports of the meetings by Project Coordinator and project staff have been attached below

Presentations of project outputs to Decision-makers and Protected Site Management

Description: Seminars, workshops and presentations to small groups of keyindividuals who play a lead role in biodiversity conservation relateddecision-making. The aim is to share the project results, raise awarenessof the tools for conservation that have arisen from the data mobilisationand invite them to give further input and suggestions on how we asscientists can produce tools and outputs that are tailored to their specificneeds. **% complete:** 93%

Status update: Physical public seminars were done by ARK, ARG and ARU. ECCI presented results about our project in a virtual meeting hosted by the Nigerian Bird Atlas Project.ARI communications team and ARK produced a presentation about the project in general. ARG, ARK and ECCI are planning to host other additional dissemination meetings later in the year to share project outputs widely

Sources of verification: • https://arocha.org/wp-content/uploads/2023/03/GBIF-Presentation.pdf • https://arochakenya.sharepoint.com/:p:/s/BID-

GBIFAfricaForestsProject2020/Ecfzb4zEXHZLmijUMi6p7r8BTBPNkUDfvqMmpJbFJhoASQ?e=1Xofq9 • Reports of the dissemination meetings have been attached below

Video animation about the project

Description: Short animations using African illustration
% complete: 100%
Status update: Short animation about GBIF in general and our project has been produced by ARI communications team
Sources of verification: https://vimeo.com/810217435

Podcast interview about the project

Description: Podcast interview about the project **% complete:** 100%

Status update: Short animation about GBIF in general and our project has been produced by ARI communications team **Sources of verification:** Short animation about GBIF in general and our project has been produced by ARI communications team

Events

Inception Meeting

Dates: 2021-05-04 - 2021-05-04 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria, Ghana and United Kingdom Number of participants: 15 Comments: This marked a good start of the project with a good representation from our project partners. Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Training on Data Entry according to DwC Standard

Dates: 2021-05-24 - 2021-05-24 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria, Ghana and the United Kingdom Number of participants: 15 Comments: Capacity of the project team in data mobilisation was enhanced Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Training on Data Cleaning using openRefine

Dates: 2021-09-22 - 2021-09-22 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria and Ghana Number of participants: 10 Comments: Capacity of the project team in data mobilisation was enhanced Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Training on Metadata Writing

Dates: 2021-09-29 - 2021-09-29 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria, Ghana and the United Kingdom Number of participants: 13 Comments: Capacity of project team in data mobilisation was enhanced Website or sources of verification: Please refer to uploads in the reports attachment section

Training on Data Publishing

Dates: 2021-10-13 - 2021-10-13 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria and Ghana Number of participants: 13 Comments: Capacity of project team in data mobilisation was enhanced Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Training on Data Collection

Dates: 2022-07-06 - 2022-11-23
Organizing institution: A Rocha Kenya and A Rocha Ghana
Country: Kenya- Arabuko-Sokoke Forest and Shimba Hills National Reserve, Ghana- Council for Scientific and Industrial Research (CSIR) - Plant Genetic Resources Research Institute (PGRRI) and Virtual
Number of participants: 79
Comments: Participants were happy to have learnt about GBIF and useful skills needed for data collection and mobilisation
Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Putting Data to Use- Training on Assessing the Conservation Status of a Species (Part 1 & 2)

Dates: 2022-08-10 - 2022-09-29 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria, Ghana and the United Kingdom Number of participants: 19 Comments: Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Putting Data to Use- Training on Data Processing

Dates: 2022-06-29 - 2022-06-29 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria and Ghana Number of participants: 11 Comments: Participants learnt how to use filter functions on GBIF when analysing data Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Putting Data to Use- Training on Producing Outputs from GBIF Datasets

Dates: 2022-08-23 - 2022-08-23 Organizing institution: A Rocha Kenya Country: Virtual- Kenya, Uganda, Nigeria and Ghana Number of participants: 16 Comments: Project team learnt how to produce outputs from published datasets Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Dissemination meetings

Dates: 2023-03-01 - 2023-03-31
Organizing institution: A Rocha Ghana, A Rocha Uganda, A Rocha Kenya and Eden Creation Care Initiative
Country: Ghana, Uganda, Kenya and Nigeria
Number of participants: 325
Comments: Nine meetings happened across Ghana, Uganda, Kenya and Nigeria to share outputs of our project with decision makers in the four forested African landscapes
Website or sources of verification: Please refer to uploads in the reports attachment section

Events

Mid-term Project Meeting

Dates: 2021-12-02 - 2021-12-02
Organizing institution: A Rocha Kenya
Country: Virtual- Kenya, Uganda, Nigeria, Ghana and the United Kingdom
Number of participants: 23
Comments: Meeting held to reflect on project achievements and assess the progress of data mobilisation from project partners
Website or sources of verification: Please refer to uploads in the reports attachment section

Communications and visibility

1. Intended audience – GBIF Secretariat: Overall we feel that the communication with the GBIF Secretariat was good. We appreciated its keen interest in our project, its responsiveness and flexibility. Having a regional GBIF contact person helped enormously. After our mid-term report, we were surprised with the critical feedback received from JRS at that point given all key targets by then had been met. The project has published 67 datasets, but we are still working on the at least one data paper and one species checklist which we committed to publish by the end of 2023 through relevant journals. An infographic about the project has been produced and can be viewed here - https://vimeo.com/810217435 -

2. Intended audience – local partners: We have engaged with local partners in all four targeted landscapes even if the physical dissemination meetings could only be held in 3 out of 4 countries, as political unrest in Nigeria prevented us from holding such an event in Kwande. A total of six physical dissemination meetings have been held under our project across Ghana, Uganda, and Kenya to share our project outputs and invite feedback. In Nigeria, ECCI were hosted by the Nigerian Bird Atlas project through a virtual meeting where they were able to share about our project outputs. These meetings had a multi-stakeholder approach with representatives from government institutions (policy makers), local government, local communities living around the forests and other NGOs. Posters, PowerPoint slides were prepared for these meetings and the information was also shared on national social media.

3. Audience – local and national government and key institutions – We engaged with this key audience on a 1:1 basis as well as during our dissemination workshops. The government agencies and institutions this project engaged with include Ghana – Uganda – Kenya.

4. Audience – A Rocha's national and international network – Some outputs include:

4. Audience – A Rocha's national and international network – Some outputs have been listed below and others included in the deliverables section above:

Social Media content:

6 posts on each social platform (Facebook, Instagram, Twitter); total of 18 social media posts Links to Twitter social media posts:

- Field Notes Podcast https://twitter.com/arochaint/status/1633887673952903168?s=20
- Top Story https://twitter.com/arochaint/status/1635989222955028483?s=20
- Dakatcha Woodland https://twitter.com/arochaint/status/1636748446848929792?s=20
- Atewa Forest https://twitter.com/arochaint/status/1638203066104287233?s=20
- West Bugwe https://twitter.com/arochaint/status/1640380630000340994?s=20
- Animation (not included in metrics yet shared 28 March) -
- https://twitter.com/arochaint/status/1640740065323417602?s=20

So far Cumulative reach: 7,573 - Cumulative engagement (likes, shares, comments and saves): 741.

Additional Comms content created:

• A Rocha International "Top Story" - "Digitizing Data to help conserve African forests" - featured on ARI's homepage - https://arocha.org/en/digitizing-data/

• A Rocha International eNews - "Digitizing Data to help conserve African forests" - featured in March newsletter sent to 4,500 subscribers - https://mailchi.mp/arocha.org/a-rocha-international-enews-mar-2023? e=1178b612aa

• Podcast - Episode 28: Judith Ochieng – How digitising data about nature can change the world (292 podcast downloads) - https://arocha.org/en/field-notes-podcast/

Presentation - PowerPoint shared internally to ARI staff and linked externally in Top Story, March newsletter, and social posts - https://arocha.org/wp-content/uploads/2023/03/GBIF-Presentation.pdf
Video Animation - "Digitizing Data for African Landscapes" shared on Vimeo, in Top Story, and on social media - https://vimeo.com/810217435

5. Audience – project members – Working with 10 partners across the continent required good project management – thankfully our project coordinator was a good communicator. She was able to use different methods of engagement with team i.e., emails, phone, video conference, workshops, physical meetings in ensuring deliverables were achieved and shared. She also intends to share this final report with the project team once approved by GBIF

Monitoring and evaluation

Final Evaluation

The evaluation of this project was coordinated by ARI but implemented by ARK, ARI and some technical consultants through in-country visits to Ghana, Uganda and Kenya, in person partner interviews, data checks, end of project partner questionnaire (20 responses received - 10 out of 11 organisations responded – CSIR was missing) and 1:1 interview with ARK as project leader.

-An evaluation of the project activities and their outputs/deliverables

The general level of satisfaction was high amongst the project partners across all the different stages of the project.

The capacity built and mentoring aspects was greatly appreciated by all. Across all main areas of work, we have seen improvements. Most improvements were reported for 'data mobilisation', then 'putting data to use' and least progress for 'developing materials'.

All respondents who identified a challenge highlighted data cleaning as the biggest challenge. One also noted that the resources were tight (linked to resource distribution amongst the large partnership) and GBIF's requirement to match computer purchase with 50% co-funding was hard. More specific comments:

• Cleaning and getting good metadata done was quite a challenge - in particular working out the correct

taxonomy for particular taxa such as invertebrates was quite a challenge.

- Facing taxonomic and nomenclatural problems, cleaning up geographic records
- Getting GBIF to get the most updated system available for African Butterflies
- Metadata review by authors took a long time.
- Data from notebooks sometimes were hard to read due to handwriting/ fading pencil notes.
- Technology like Kobo Collect should be prioritized in data collection if possible.
- Publishing on the IPT was a big challenge.

• A recommendation from our experience with publishing datasets is that there is need to make GBIF more user friendly for both publishers and users. The current requirements are complex and slow down and put off people from publishing.

• Project IT purchase on 50% co-funding from institutional budget was impractical.

• There is need to enhance the reporting template in future to make is more efficient in filling the information, for example allow for editing of the deliverables without having to manually enter them again and some questions have been repeated several times in different sections in the template.

The data mobilised was quality checked by taxonomic experts before these were uploaded onto the GBIF platform and thereafter linked to the GBIF project page. By end of project, a total of 67 datasets were uploaded onto GBIF which consists of 101,611 records which is 77% of the original 132,017 biodiversity records target estimated at the start of the project. Data are still being mobilised, however, and an estimated total of 155,000 data should have been published by the end of 2023.

Once digitised, the information was analysed by using the International Union for Conservation of Nature (IUCN) website to highlight the species of conservation importance for the four forested African landscapes and useful outputs were produced to help with conservation and sustainable utilisation of these forests. □ Feedback on the project's relevance from the partners and stakeholders

The partners enjoyed being part of such an ambitious regional project. They liked the regional collaboration, teamwork and learning from each other.

The project formed the basis for awareness raising and informed discussions with key stakeholders in Kenya, Uganda and Ghana. Across the partnership, this data will continue to be used in a multitude of ways and slightly differently depending on the work focus of each organisation. It will support activities in all four landscapes towards community livelihood initiatives, education and awareness raising, government advocacy and applied biodiversity research and monitoring.

GBIF enabled A Rocha Uganda to be a Data Publisher for which that organisation is grateful.

The project supports the momentum for conservation activities across the African continent. Through its accessibility on GBIF, the newly digitised data will also support international research and decision making (the data for the Dakatcha KBA is far more complete now for example). This information will help the participating organisations with their fundraising too and for the NGOs with their supporter communications. The most often sited issue was linked to the budget. Its allocation amongst partners and the co-funding requirements. The budget was tight for all – especially for mobilisation, technical support, dissemination. The budgeting at the proposal stage could have been more transparently and better facilitated by ARK. Instead, it ended up being rushed to meet the deadline. Convening a meeting with or between partners for example to navigate the inevitable tensions between resource allocation towards data mobilisation based on dataset size (datasets were unevenly distributed amongst the partners), versus allocating budget to the cost of outreach across the continent and between different partners.

The transfer of funds to partners could have been done more effectively too.

It was ARK's first pan-Åfrican project. The organisation learned a lot from the experience. Coordinating the information gathering from 10 organisations, while at the same time managing expectations, their needs and work, is no mean task. ARK had to navigate this carefully encountering different organisational cultures and expectations throughout as well as facing different costs of working in each country.

Some partners would have appreciated more in person support as opposed to virtual – but COVID restrictions, budgets and environmental considerations prevented this.

Too little time was put towards dissemination. Some project partners were still digitising data project data as the project ended.

One organisation commented that in parts of Africa it is hard to plan 2-years ahead for dissemination and that therefore it has slipped beyond the end of the project (for e.g. political unrest in Nigeria disrupted dissemination).

For some, there was a sense of unfinished business too as much more data is available for digitisation. ABRI has over 3 million specimen records!

A few final quotes from our partners:

"It was a good project that expanded our partnerships and network. It also enhanced our knowledge and skills in biodiversity data mobilization and management. I would recommend to continue the practices and skill learnt during the project as part of our organizational culture." ARG

"Some new and valuable data mobilization, management, and data use capacity has been added at our organization, thanks to our participation in the project." APLORI

"The project was educative and polished my skills in different fields e.g. Microsoft Excel and word and I also gained skills in publishing. The project was also an eye opener on how much data has been lying unpublished and hence not in good use at different institutions." NMK Ornithology

"The project was very important and follow up projects may add value and ensure sustainability in the outputs" WRTI-KWS

Best Practices and Lessons learned

We are firm believers in the importance of the whole GBIF initiative of digitising data and creating outputs for conservation - particularly decision-makers. We are deeply grateful for this project and that ARK has been able to take a lead on it, albeit with high demands on the coordinator. A national focus is possibly the most feasible for this sort of project given that different countries function so totally differently in terms of decision-makers, capacity, in-country costs, etc etc.. However, having the international component was a really great opportunity to share skills and build capacity across Africa.

We greatly welcomed the support of the GBIF regional coordinator. He was responsive and helpful. Having such a resource at hand helped.

GBIF's financial reporting could be redesigned so that financial data once submitted does not need to be resubmitted at the final stage. Entering the data twice is inefficient. The financial data we submitted during our mid-term report now needs to be resubmitted for the final report and it needs to be re-calculated at a different exchange rate.

A possible weakness of GBIF and the whole data entry protocol is that it does not initiate or encourage field work for more recent biotic data collection and the data sets compiled with scientific rigour are therefore getting extremely scarce on many plant and animal groups. We have an urgent need of scientific (and not citizen science-based) data collection which includes accurate georeferencing, specimen and DNA sampling, otherwise decision makers will use outdated and inaccurate datasets. GBIF should partner up scientific teams and/or natural history museums in order to work out the frame and standard of such data collection.

Post Project activities

A Rocha has fully embraced the excellence of the BID/GBIF vision and commitment to making biodiversity data available for decision-makers and other users both as raw datasets and as relevant and high-quality outputs. As a result, we shall not stop the digitising process, nor the dissemination of the results but shall push to continue this – albeit at a slower rate given the lack of resources. In particular:

- More dissemination meetings will to be held by ARK and ARG in the post project period within 2023. One is planned for the top management for Kenya Forest Service at their headquarters in Nairobi which had to be postponed in March due to factors out of our control. These will be tied in with other projects of these organisations.

- At least one data paper will be published by 31/12/2023.

- species lists for sites with Red Listed species clearly highlighted will continue to be shared with decisionmakers, researchers and conservationists

- Biodiversity Observations is an open access journal published by the University of Cape Town for sharing biodiversity data in a format which is easier to digest by a wider readership than some of the more high impact journals. Our plan is to submit at least two species checklists to BO by the end of 2023.

- Data mobilisation work is still ongoing for a few of the remaining datasets – more datasets will be published post project period (as explained in sections above)

Sustainability

Sustainability Plans

In many case the sustainability of this project is greatly strengthened by the fact that the data mobilised is automatically embedded into on the ground conservation action in four landscapes.

As mentioned above, we are firm believers in the importance of the whole GBIF initiative of digitising data and creating outputs for conservation. One measure of future success would be the continued addition of datasets to the GBIF platform and publishing of data papers. An impressive outcome would be if ABRI, NMK and others sought further funds to continue this digitising process as they still have vast amount of "locked-up" data in their respective institutions.

Impact of COVID-19 pandemic on project implementation

There was an overestimation of records available for publishing by some partners (ABRI, CSIR-FRI, NMK Mammalogy and WRTI) because at the time the proposal was being developed, they could only access their offices intermittently and therefore did their best to estimate what was available.

The Project Lead could also not travel to different places to ascertain what records were actually available because of the pandemic. If this was possible, he could have started the discussions on compensating for the numbers earlier.

This was however resolved as partners agreed to publish more additional datasets from different localities to compensate for the records the project was falling short of. The impact of which will be positive- by the end of our data mobilisation efforts, we envision publishing c.155,000 records which is a lot more than the 132,017 records initially estimated in our proposal.

New changes

-Seven of the nine additional datasets not listed in the proposal have already been published (22,022 records) to compensate for the records the project was falling short. Two additional datasets amounting to c.49,000 are yet to be published by the end of May 2023 as reflected in the deliverables section.

GBIF leads the Biodiversity Information for Development (BID), a programme funded by the European Union. The programme provides supplementary support for activities addressing the needs of regional researchers and policymakers through mobilization and use of biodiversity data.

