



BID Africa 2017 – Small Grant Template

Final narrative report

Instructions

- Fill the template below with relevant information. **please indicate the reason of the delay and expected date of completion.**
- Use the information included in your project Full proposal (reproduced in annex III of your BID contract) as a baseline from which to complete this template
- The information provided below must correspond to the financial information that appears in the financial report
- Sources of verification are for example direct links to relevant digital documents, news/newsletters, brochures, copies of agreements with data holding institutions, workshop related documents, pictures, etc. **Please provide access to all mentioned sources of verification** by either providing direct link or sending a copy of the documents.
- This report must first be sent as a **Word document** to GBIF@GBIF.org and be pre-approved by GBIFS
- Once this report is pre-approved in writing by GBIFS, it must be signed by the BID project coordinator and sent by post to:

The Global Biodiversity Information Facility Secretariat (GBIFS)
Universitetsparken 15
DK-2100 Copenhagen Ø
Denmark

Template

1. Table of Contents

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2. Project Information

2.1. Project Coordinator: Institution/network/agency name:

Natural History Museum of Zimbabwe

2.2. Main contact person and role:

Kudzai Mafuwe, Assistant Curator of Entomology

2.3. BID proposal identifier:

BIDAF20150134REG

2.4. Project title:

African Insect Atlas: Unleashing the potential of insects in conservation and sustainability research in Africa

2.5. Start date and end date of the reporting period:

01.06.2016-31.10.2016

2.6. Country in which the activities take place:

Zimbabwe

3. Overview of results

3.1. Executive summary

Give a short summary of the activities implemented and the outcomes of the project for the reporting period (500 words maximum)

This project sought to mobilise the much required data on freshwater biodiversity in the Eastern Highlands of Zimbabwe and will make use of Biodiversity Informatics tools to identify the important sites for Conservation of Freshwater biodiversity, with a focus on fish, invertebrates, amphibians and bird species in the region. The project commenced on the 1st of July 2017 and concluded in December 2018. Roles were assigned to the heads of section and their assistants within the four Zoology branched involved in this project. In addition, 1 volunteer in the entomology division and 1 attachment student in the Ornithology department also joined the team as transcribers. The Team captured, Geo-referenced and cleaned over 3000 occurrence records from the invertebrate, herpetology, ornithology and Ichthyology sections. The project team has published a checklist of 322 species of the GBIF website along with the species distribution extension which contain the threat status of the species, as well as an occurrence dataset with 3,566 records. In total 16 threatened species that have recorded from the region have specimens that are deposited in the collection. The project also co-hosted two training workshops with the 3 other BID projects running within the Natural History Museum of Zimbabwe as well as the National Project being coordinated by Bindura University. Over 100 people were trained during these workshops. Zimbabwe also joined GBIF as an associate participant as a results of this project and the other projects that were running in Zimbabwe







3.2. Progress against expected milestones:

Give an overview of all the expected milestones for your project from the beginning until now (see Annex V of your contract)



Expected milestones/activities <small>(<i>BID project id</i>)</small>	Completed? Yes/No	Explanatory notes	Sources of verification <small><Start and end date of the reporting period></small>
 <p>Completed capacity self-assessment questionnaire for data holding institutions https://www.gbif.org/document/82785/self-assessment-guidelines-for-data-holding-institutions (EN) https://www.gbif.org/document/82813/modele-dauto-evaluation-pour-les-institutions-detentrices-de-donnees (FR) <i>(Early Progress report milestone)</i></p>	yes	The forms were successfully sent by email to the GBIF secretaria	 The forms were sent by email to the GBIF secretariat
<p>At least one national data publishing institutions are registered with GBIF.org Guidelines to become a publisher: https://www.gbif.org/become-a-publisher <i>(Early Progress report milestone)</i></p>	Yes	Natural History Museum of Zimbabwe is successfully registered with GBIF.org	https://www.po.org/publisher/5f2df235-914f-4cc9-b247-08fb981e8b8a
<p>At least one person from the project team has completed the certification process following the BID Capacity Enhancement workshop on Data Mobilization organized as a part of the BID programme Africa 2015 or the BID programme Africa 2017 <i>(Early Progress report milestone)</i></p>	No	The capacity enhancement certification requirement was waived for this project as the team hsd the necessary capacity to kick start the project; Two of the project teams are currently carrying out the Data Use online course which will be submitted by the 17 th of June 2018	The Global Biodiversity Information Facility (GBIF) Secretariat
<p>Knowledge dissemination activities have been scheduled following the first BID Capacity Enhancement workshop <i>(Early Progress report milestone)</i></p>	Yes	A workshop was conducted from the 16 th of January to the 19 th of January 2018 to train the project teams on the Data Quality Data Cleaning and Data Sharing principles.	https://www.facebook.com/pg/NHMZimbabwe/photos/?tab=album&album_id=1595574997223440
<p>At least one dataset has been published to GBIF.org (<i>Midterm report milestone</i>)</p>	Yes	A Checklist and occurrence data of freshwater species were published and registered on GBIF.	http://www.nhmbyo.co.zw/ipt/resource?r=eastern_highlands_species
The data users identified	No	Feedback Forms have been	



in the full proposal have documented their intended use of the mobilized data and provided early feedback (Midterm report milestone)		sent to the datausers and are yet to be returned	
All mobilized data have been published to GBIF.org (Final report milestone)	Yes	Checklist and occurrence data sets with the required columns have been published	https://doi.org/10.15468/uyrvez http://www.nhmbyo.co.zw/ipt/resource?r=freshwater_occurrence&v=1.0
All published data meet the minimum requirements outlined in the Data Quality Requirements available at https://bid.gbif.org/en/community/data-quality/ (Final report milestone)	Yes	Checklist and occurrence data sets with the required darwin core terms have been published	https://doi.org/10.15468/uyrvez http://www.nhmbyo.co.zw/ipt/resource?r=freshwater_occurrence&v=1.0
The training outcomes of the project have been documented, including the number of people receiving certification through the BID Capacity Enhancement workshops, the number of people trained in nationally organized events, and the evaluation of the impacts of these training activities (Final report milestone)	Yes	The project coordinator attended two international workshops organized by GBIF, 1 regional workshop hosted by The African Insect Atlas training and facilitated in the other three national workshops.	https://www.facebook.com/pg/NHMZimbabwe/photos/?tab=album&album_id=1595574997223440 https://docs.google.com/document/d/1Don3iCz0bxgF9_JnmkuDeI9R6ptmHxZLhgpEIHZyNZM/edit?usp=sharing
Final capacity self-assessments for national biodiversity information facilities have been completed with sustainability plans. https://www.gbif.org/document/82785/self-assessment-guidelines-for-data-holding-institutions (EN) https://www.gbif.org/document/82813/modele-dauto-evaluation-pour-les-institutions-detentrices-de-donnees (FR) (Final report milestone)	Yes	The forms were completed with all the sustainability plans and attached with the report.	





All uses of the mobilized data have been documented (Final report milestone)	Yes	A scientific paper resulted from this project and a manuscript is in preparation	https://docs.google.com/document/d/15UEasJNKMFwk7EjvdTnx60knH3Oy3OcrAeu_g0LqYio/edit?usp=sharing
Best practices and lessons learned have been documented (Final report milestone)	Yes	All our documentation was according to Darwin Core standards, we used licenses when publishing our data.	

3.3. Project deliverables and activities

Refer to the table in section 2.2 "Deliverables, activities and reporting criteria" of your BID full proposal. Provide updates on the status of each of planned deliverables. In the event of unexpected delay, please provide detailed explanatory notes and indicate planned completion date. Add as many rows as needed.

Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
4 laptops and a scanner with the minimum requirement for hosting the chosen database and capable of running the required software for data cleaning and data analysis will be purchased for the participating departments	Capacity enhancement (Upgrading of infrastructure)	Yes	Due, to the economic challenges within the country, the budget was not enough for 4 laptops but instead 1 Tv monitor was sourced and will be mounted in the museum galleries to document the project outcomes and stories on biodiversity and will be accessible to the public who visit the museum	
A database containing at least 4000 Geo-referenced records of fish, amphibians, birds and invertebrates from	Data mobilization	Yes	3566 records where captured and Geo-referenced from the of fish, amphibians,	https://doi.org/10.15468/uyvez http://www.nhmbyo.co.zw/jpt/resource?r=freshwater



the Eastern Highlands of Zimbabwe by end of year 2018. Additional records the possible threats namely the presence of cattle grazing, illegal mining activities, over fishing, introduction of invasive species, water extraction and stream bank cultivation will be captured if recorded at these localities.			birds and invertebrates group, recorded from the Eastern Highlands of Zimbabwe	occurrence&v=1.0
At least 8 trained data clerks/data holders from 4 museum departments and project collaborators in Biodiversity Informatics and digitization and best practices by end of year 2018	Capacity enhancement (Training)	Yes	A workshop was conducted from the 16th of January to the 19th of January 2018 to train the project teams on the Data Quality Data Cleaning and Data Sharing principles	https://www.facebook.com/pg/NHMZimbabwe/photos/?tab=album&album_id=1595574997223440
At least 1 checklist of approximately 500 records, accompanied by an occurrence and media extensions will be uploaded to GBIF and made freely available by end of December 2018	Data sharing and data access	Yes	Achieved	https://doi.org/10.15468/uyrvez http://www.nhmbyo.co.zw/ipt/resource?r=freshwater_occurrence&v=1.0
Development of a checklists and at least 4 distribution maps of the freshwater biodiversity in the Eastern Highlands of Zimbabwe, The metadata for the distribution maps will be made available onto GBIF by end of the year 2018	Data sharing and data access	Yes	Achieved	https://doi.org/10.15468/uyrvez http://www.nhmbyo.co.zw/ipt/resource?r=freshwater_occurrence&v=1.0
Data users and holders from the project collaborators in Biodiversity Informatics and digitization and best practices by end of year 2018	Capacity enhancement (Training)	Yes	A workshop was conducted from the 25th to the 29th of June 2018 to equip data users under the Biodiversity Information for Development (BID) projects with skills relating to packaging mobilised biodiversity datasets into information products that can feed into national decision-making processes.	https://docs.google.com/document/d/1Don3jCz0bxqF9_JnmkuDeI9R6ptmHxZLhgpElHZyNZM/edit?usp=sharing https://drive.google.com/open?id=1fsY_2zUYUDTTeTyJmWW2OwZ0_G2-GCL
At least 2 of the end users working and living in the eastern highlands of Zimbabwe access and use the checklists	Data use and conservation	Yes	Posters and Scientific articles are under preparation and will be sent to the National	https://docs.google.com/document/d/15UEasJNKMFWk7EjvdTnx60knH3Oy3OcrAeu_q0LqYio/edit?usp





and maps into their conservation activities and management efforts within the region			Parks within the eastern highlands of Zimbabwe	=sharing
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3.4. Datasets published on GBIF.org

Refer to the table in section 2.4 “Biodiversity data mobilization plan” of your BID full proposal. If the dataset is not yet published, please indicate the name of the institution that is expected to host the data when published in the column “DOI or URL/Planned hosting institution”. Add as many rows as needed.

Dataset title	Publishing institution	DOI or URL/Planned hosting institution	Date/expected date of publication	Explanatory notes
Freshwater biodiversity of the Eastern Highlands of Zimbabwe: Assessing conservation priorities using primary species occurrence data (Checklist)	Natural History Museum	https://doi.org/10.15468/uyrvez	May 29, 2018	
Freshwater biodiversity of the Eastern Highlands of Zimbabwe: Assessing conservation priorities using primary species occurrence data (Occurrence dataset)	Natural History Museum	http://www.nhmbyo.co.zw/ipt/resource?r=freshwater_occurrence&v=1.0	Mar 1, 2019	

3.5. Examples of use of biodiversity data available through GBIF

Data mobilised through the BID programme, ultimately, should guide natural resource conservation and management policy. We require you to report on how you have integrated these data into these policy-making processes. You may want to refer to the section 2.5 “Plan to support the integration of biodiversity information into policy and decision-making process” of your original proposal as a reminder of your original commitments.





As part of that process, we request you to provide us with a summary of how you have used these data within the decision-making process and we have included some guiding questions below to help with that process. Please note that if your dataset has been combined with other datasets in analyses that guide the decision-making process, then this should be recorded too.

Description

Has your project been successful in integrating data within the policy-making process?

Where did the demand for these data come from?

If yes, which policies have been developed using your data?

If no, what were some of the challenges you faced in getting your data into those processes?

Did you have a biodiversity data integration plan from the beginning of your project? If so, did you have to adapt your plan as the project progressed and why did you have to make those alterations?

In what format are your data being used i.e. what were the analyses, if any, that you needed to perform on the data to ensure that they was in a format accessible to policy-makers?

What level of communication has there been with the relevant policy stakeholders i.e. by which means? With what regularity? And, how critical have these interactions been for the development policy-relevant analyses?

What additional support (resources, tools, network, training) would be needed for your project to ensure the flow of information from mobilisation to decision-making?

How would you improve on your own processes in the future to improve data integration in the future?

Data may serve other purposes other than for policy-making and these are as valuable. How was your data used for other purposes e.g. development of training materials, scientific publications, communication activities etc?

The biodiversity data integration plan of the project was to identify the priority areas for conservation through status reports of endemic species in this region within a very short time all endemic and threatened species in this region. However, the project had to be adopted as the project progress because not all the endemic and threatened had enough records to use for prediction modelling. After data was mobilized for the freshwater species in the Eastern highlands' biodiversity Hotspot, an analysis was done to model the potential geographical distribution of three threatened freshwater species (*Amietia inyangae*, *Chlorestes elegans* and *Strongylopus rhodesianus*) in the Eastern Highlands of Zimbabwe, using the Maximum Entropy (MaxEnt) niche modelling approach (Phillips et al. 2006). The aimed was to provide a critical baseline of where these 3 threated species can potentially occur, so as to highlight priorities areas where future surveys may be conducted as well as to highlight areas in the biodiversity hotspot where conservation efforts of protecting these threatened species should be targeted. A Scientific manuscript is under preparation and will be sent to the National Parks within the eastern highlands of Zimbabwe. Simplified posters have also been requested because, it may be difficult for students and layman to interpret habitat suitability or prediction maps, whilst scientists may find it better to interpret prediction maps. Through this project, we have received. In the pasenquiries from universities such as researcher from the University of Zimbabwe who have requested who have requested for occurrence data for pests such as the fall army worms and the termites in order to produce risk assessment models that can assist in controlling the pests. Peer review of scientific manuscript from the expert within the network will be requested before the manuscript is sent out for publication. In presenting our data, we will need further workshops to present the results to the users, to explain data use and how the data can be incorporated into future policies, conservation, and management for threatened species. Through the discussions and workshops held with the stakeholders, they have agreed as data users to use the data mobilized through this project in future activities of developing of National Biodiversity Strategies, assessing the status and threats of freshwater biodiversity and for the conservation and management of Biodiversity within the eastern highlands of Zimbabwe. The stakeholders have shown commitment of carrying these activities in the future by providing us with letters of intent. the future stakeholder engagement is critical when analysing data, as there are critical or prevailing aspects that may need immediate attention using historical data. Therefore, it is important to present collated data before it is



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analysed so that the data can be used for resolving current issues using the best possible analysis software. The TV monitor sourced through this project will be put up in our gallery and simplified video will be produced and re-played so that visitors can also have an appreciation of the project outcomes and the work that has been conducted in the background.

Supporting materials

As part of our reporting, we request you to provide us with a copy of any materials highlighting data use on your dataset, either on its own or in combination with other datasets. This could be in the form of:

- Reports – governmental, ministerial, non-governmental organisations, international policy-making bodies
- Policy briefs
- Scientific publications

Name of resource	Type of resource i.e. report, policy brief, scientific publication, analysis output, education materials, communication materials, other (please specify)	Dataset doi	Link to document or publication citation
Predicting The Occurrence Of IUCN Threatened Freshwater Species In The Eastern Highlands (Biodiversity Hotspot) Of Zimbabwe.	Scientific publication	Manuscript in preparation	https://docs.google.com/document/d/15UEasJNKMFw7EjvdTnx60knH3Oy3OcrAeu_q0LqYio/edit?usp=sharing
Threatened Freshwater species of The Eastern Highlands of Zimbabwe	Scientific poster	Poster in preparation	

- Outputs from analyses that will be used in the future e.g. species distributions maps and other spatial analyses
- Education/communication materials

Please provide a valid dataset to the doi. Where the doi is not known, please state why.

3.6. Events organized as part of the project

List all the events that have been organized as part of your project. Please provide links to any documents or webpages documenting the use in the “Sources of verification” column. Add as many rows as needed.

Full	Organizi	Dates	Number	Sources of verification
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title	ng instituti on		of participa nts	
Data Quailty Data Cleani ng and Data Sharin g principl es	Natural History Museum of Zimbabw e	16th of Janua ry to the 19th of Janua ry 2018	35	https://www.facebook.com/pg/NHMZimbabwe/photos/?tab=album&album_id=1595574997223440
Data decisio n making and ecologi cal niche modelli ng worksh op	Natural History Museum	25 June – 29 July 2018	22	https://drive.google.com/open?id=1fsY_2zUYUDTTeTtyJmWW2OwZ0_G2-GCL
Feedba ck worksh op organis ed by the Natural History Museu m in January 2019.	Natural History Museum	22 Januar y 2019	30	





4. Updated calendar for the BID project implementation and evaluation period

The calendar should be completed in the same way as in the Full Project Proposal, but should include any expected changes. Provide reasons for any expected changes in section 4.1 'Explanatory Notes'.

Implementation period start date and end date (dd/mm/yy)	01/10/2017 to 31/12/2018															Notes
Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Notes
Early Progress evaluation & reporting			X	X												
Mid-term evaluation & reporting							X	X								
BID Capacity Enhancement workshop – Data mobilization and publication (Online training - Participation is mandatory)			X													
BID Capacity Enhancement workshop – Data use (Online training - Participation is mandatory)					X											
Upgrading of infrastructure	X															
Training for project team and data holders		X			X							X				
Data mobilization (data capturing of undigitized records)	X	X	X	X	X	X	X	X	X	X						
Data mobilization (data cleaning and geo-referencing)							X	X	X	X	X	X				
Uploading Data to GBIF											X	X	X	X	X	
Data Analysis, Reports and map compilation													X	X		
Data sharing and data access (Distribute reports to end users)													X	X	X	
Plan and Host workshop for Data users														X	X	



<BID project id>

<Start and end date of the reporting period>



Evaluation period start date and end date (dd/mm/yy)	01/012019 to 31/03/2019			
Activity	1	2	3	Notes
Final financial and narrative reporting		X	X	



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4.1. Explanatory notes:

Due to civil unrest, stay ways, government shut downs, violence as well as internet shut down with in the country over the past months, some of the project activities and the final report could not be completed by the 31st of January.



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5. Sustainability plans

Explain the approach that will be taken to ensure the sustainability of the project's results after the end of your project (500 words maximum)

The Natural History museum of Zimbabwe has a national, regional and international support team that saw the successful implement of this program. The organization has a mandate to provide for the preservation Zimbabwe's natural heritage and should therefore be able replicate the project to increase the sustainability of the project's results also after the project's end. The results and recommendations of this project will therefore be used to develop a long-term data mobilization action project for the freshwater biodiversity by the various stakeholders involved in biodiversity conservation in Zimbabwe. The institution has also installed the GBIF IPT and will be capable of mobilizing and hosting data beyond the project duration. Furthermore, the institution also has and a full time and dedicated IT department and technical staff to support database beyond the duration of the project. The institution is also in a strategic position to reach out to the public and the scientific community and raise awareness on the need to continue mobilizing biodiversity data and to use the data for conserving and protecting biodiversity. The database that was created will be hosted in the Natural History Museum where the infrastructure will be updated regularly and staff was trained to sustainably manage and continuously update and share the database. The results from the analysis will be shared with the network of data users including National Parks managers and policy makers to ensure direct flow of the data to knowledge to field application chain. Further data that continues to flow into the museum through donors and research collaborations will continue to be mobilized and updated into the database as it becomes available. A TV monitor sourced through this project will be put up in our gallery and simplified video will be played to communicate the outcomes and impacts from these projecct activites so that the general public can also have an appreciation of the project as well as to show ways that the public can also particapte in biodivresity conservation and citizen science.



6. Beneficiaries/affiliated entities and other cooperation

6.1. Relationship with project partners

Please describe the relationship between your project coordinating team/institution and your project partners, and with any other organisations involved in implementing your BID project.

The organization received grants from CEPF (The Critical Ecosystems Partnership Fund) between June 2016 to July 2017 to assess the Eastern Highland of Zimbabwe and the coordination institution for this grant is also one of the project partners for this project. The Biodiversity Information collated and digitized during the BID project will be used to fulfil the long-term objective of this project to produce species delimitation and IUCN assessment of the freshwater Odonata in this region as well as guide future surveys for other freshwater species focusing on where the species have been previously collected and found in the past. With existing agreements, the University students and researchers within our data users' circles have access to our data for their research. The University of Zimbabwe lecturers will also be providing training on MAXENT modelling techniques. Collaborative research is also being conducted with project Partners such as University of Zimbabwe and DAMBARI Wildlife Trust

6.2. Links to other projects and actions

Where applicable, outline any links and synergies you have developed with other actions, e.g. GBIF nodes, other BID funded projects, etc. If your organization has received previous grants in view of strengthening the same target group, to what extent has your BID project been able to build upon/complement the previous project(s) ?

The project is coordinating with the other BID projects within the museum and from the Bindura University to conduct training and exchanging ideas on best ways to implement the projects

7. Visibility

Please refer to the [BID guidelines](#).

7.1. Visibility of the BID project

How is the visibility of your BID project being ensured?

Short summary

The workshop attendees received personalized t-shirts with the project logos which are being worn as often as possible to ensure visibility of the project. Customized folders, mugs, flash drives and pens with the project logos have been given to the attendees during the workshops that were organized. Presentations were also given to the Museum staff and other stakeholders to introduce and talk about the BID project. The link to the project's page on the GBIF website has also been shared with the stakeholders and data users

Sources of verification

https://www.facebook.com/pg/NHMZimbabwe/photos/?tab=album&album_id=1595574997223440

https://drive.google.com/open?id=1P1jsJFILNh1_b5hHbDZUVj4dFOe6TqGd

<https://drive.google.com/open?id=1-CKJ1qGGL4OCI56K1ZCLaQscuz6Grgz>

https://drive.google.com/open?id=1-d2HaohTIL2LX2Xw61_5nK2iegjxc1Y

7.2. Visibility of the EU contribution

How is the visibility of the EU contribution being ensured within your project implementation?

Short summary



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Similar to BID, before all the workshops started the EU, was acknowledged. Materials used such as writing sheets also had the GBIF, EU, BID logo on them and the Biodiversity informatics workshop were made public on the Natural History Museum facebook page and website. Promotional materials with BID, EU, GBIF and NHM such as t-shirts pens, and folders were also made and given to the workshop participants

Sources of verification

https://drive.google.com/open?id=1P1jsJFILNh1_b5hHbDZUVj4dFOe6TqGd

<https://drive.google.com/open?id=1-CKJ1qGGL4OCI56K1IZCLaQscuz6Grgz>

https://drive.google.com/open?id=1fsY_2zUYUDTTeTtyJmWW2OwZ0_G2-GCL

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