



BID Caribbean 2016 – National 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 BID@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

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2. Project Information

- 2.1. **Project Coordinator: Institution/network/agency name:** Institute of Jamaica
- 2.2. **Main contact person and role:** Suzanne Davis (Project Coordinator, and Co-Facilitator for the Jamaica Invasive Species Database Workshop)
- 2.3. **BID proposal identifier:** BID-CA2016-0001-NAC
- 2.4. **Project title:** Advancing Jamaican Biodiversity Data Products and Information Services
- 2.5. **Start date and end date of the reporting period** September 11, 2017 – January 31, 2019
- 2.6. **Country in which the activities take place:** JAMAICA

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)

Digitization of specimens by the Botany Department has exceeded the minimum target of 8,000 specimens inclusive of mosses, mushrooms and *Miconia* sp. and the data has been uploaded to GBIF. The Zoology Department has uploaded one dataset (Orthoptera) of 382 specimens to GBIF. The digitized pages of six (6) books were collated into individual books.

With the exception of a metadata workshop for Darwin Core standards, all other project workshops were held on digitizing specimens, invasive species, GIS and mapping and the end of project Biodiversity for Information Workshop. Metadata was incorporated into the digitization and GIS Workshops. Occurrence data for 15 species of invasive alien species (IAS) have been published on the GBIF Portal.

The image database is not yet completed due to the IT department still being hampered by reduced human resources. However, an early version is available online at http://nhmji-ioj.org.jm/ioj_wp/image-database/. A total of 89 images have been digitized.

The BIND workshop was held on December 11, 2018 and there were 23 attendees. The invitees included a representative from the European Union (EU) delegation office in Jamaica, Board Members of the IOJ, academia, government organizations, and environmental NGOs. The workshop proved interesting and eye opening for attendees who were surprised at the complexity of the digitization process, and they were also made more cognizant of the fact that care has to be taken when collecting and recording information on specimens so that there is uniformity. Some suggestions made by attendees were:



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- that the image database could be made expandable in a manner similar to that of iNaturalist with citizen scientists being able to add pictures once the images were identified; and
- research institutions could pool work activities to maximize work and funds.

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	Completed? Yes/No	Explanatory notes	Sources of verification
Completed capacity self-assessment questionnaire for national biodiversity information facilities https://www.gbif.org/document/82277/capacity-self-assessment-guidelines-for-national-biodiversity-information-facilities (EN) https://www.gbif.org/document/82782/auto-evaluation-des-capacites-pour-les-systemes-nationaux-dinformation-sur-la-biodiversite (FR) (Early Progress report milestone)	Yes		See Appendix 1 of the Early Progress Narrative Report.
At least one national data publishing institutions is registered with GBIF.org Guidelines to become a publisher: https://www.gbif.org/become-a-publisher (Early Progress report milestone)	Yes	The Institute of Jamaica is registered with GBIF as a publisher.	https://www.gbif.org/publisher/b207e0d6-d8e9-461a-afdf-84e2197a29db
At least one person from the project team has completed the certification process following the BID Capacity Enhancement workshop on Data Mobilization (Early	Yes	On-site and off-site exercises were completed and submitted by Mr. Keron Campbell	See Appendix 2 of the Early Progress Narrative Report.



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Progress report milestone)			
Knowledge dissemination activities have been scheduled following the first BID Capacity Enhancement workshop (Early Progress report milestone)	Yes	Meeting of the local Project Implementation Team members held on September 29, 2017 where presentations on the Capacity Enhancement and Regional Workshops were made by Keron Campbell and Suzanne Davis.	See Appendix 3 of the Early Progress Narrative Report.
At least one dataset has been published to GBIF.org (Midterm report milestone)	Yes	Four datasets have been published.	See Appendix 1
The data users identified in the full proposal have documented their intended use of the mobilized data and provided early feedback (Midterm report milestone)	Yes	Early feedback from the BIND workshop indicated that the data is useful – UWI, CASE, UTECH, NEPA, Forestry Department.	See Google shared file, BIND Workshop Exercise Summary of Selected Questions - https://drive.google.com/open?id=1mA5ccFy0rFB2IOmjfJAmboUdeOr2B5R7
All mobilized data have been published to GBIF.org (Final report milestone)	No	To date Botany has completed 3 datasets (Flowering plants, Mushrooms and Mosses), Zoology has completed one subset of the Insect dataset. Zoology has not completed the digitization process.	See Appendix 1
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		See Appendix 1
The training outcomes of the project have been		<ul style="list-style-type: none"> IAS Workshop – 	See workshop registers, workshop agendas in Appendices of the Early and Mid-term reports,





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)		<ul style="list-style-type: none"> 12 persons • Digitization workshop – 8 persons • GIS/Metadata Workshop – 6 persons • BIND Workshop – 23 persons • BID Capacity Enhancement Workshops (2) – 1 person 	and Appendices 2 and 3 in this report, and the shared Workshop Reports folder and the Summary of the BIND workshop exercise on Google drive - https://drive.google.com/open?id=1HxvGBUeQ02Kqzwui_43C8PTv0zaWLIF8
Final capacity self-assessments for national biodiversity information facilities have been completed with sustainability plans. https://www.gbif.org/document/82277/capacity-self-assessment-guidelines-for-national-biodiversity-information-facilities (EN) https://www.gbif.org/document/82782/auto-evaluation-des-capacites-pour-les-systemes-nationaux-dinformation-sur-la-biodiversite (FR) (Final report milestone)	Yes	The final score was 34/120. A strength was the ability to respond to national policy and strategy information needs. IT resources, limitations, both human and infrastructure need to be addressed as a priority.	See shared Google Drive file – https://drive.google.com/open?id=1FGNoxUSr0bf1GtgjPvdFNDaG-IFlyx9I
All users of the mobilized data have been documented (Final report milestone)	No	The BIND Workshop highlighting the project work was held in December and some of the identified activities have specific schedules and have not yet commenced. The State of the Environment report has been initiated and data will be made	





		available. The BIND Workshop Questionnaire report has gone to NEPA and JCDT (maps and checklist) on data and have acknowledged receipt but no response as to use. JCDT has indicated a potential use for images.	
Best practices and lessons learned have been documented (Final report milestone)	Yes	Digitization manual and the NHMJ has also collated the capacity challenges and solutions/responses to the challenges as supplemental documentation	Digitization Manual and supplemental documentation for various aspects of the process, and title pages of BIND workshop presentations. See shared Google drive folders – <ul style="list-style-type: none"> https://drive.google.com/open?id=1JMgAfTpARHDOjGIHCrVzGhUwm5YyRvQ4 https://drive.google.com/open?id=1jG11Nx0MeiEtM2byS5idkg8AyiUtx6n

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
1.1 Curatorial staff for NHMJ (8 persons) trained in the digitization of biological specimens and publications, producing approximately 20,000	With the assistance of personnel from the Natural History Museum, UK (NHMUK), NHMJ staff will be trained in	Yes	Training was completed but progress in digitization has been slow due to: <ul style="list-style-type: none"> the NHMJ staff having to learn a new software for digitization; also delays such as the wrong camera adapter for one of the cameras being sent 	See Appendix 1 of Mid-term Report – digitization workshop expenses See Appendix 2 of Mid-term Report receipt from the Post Office for the adapter to be sent back to the UK.





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
digitized plant and animal specimens and 5 rare books	developing and using digitization techniques and workflows for plant and animal specimens		<p>from the UK; and also</p> <ul style="list-style-type: none"> the delayed delivery of a new computer (capable of handling the digitization process) for the Zoology department and late delivery of a barcode reader for Zoology Department. <p>The Botany Department has published to GBIF, a dataset containing 8,549 specimens. The Zoology department has published a dataset of 382 specimens and is working on data verification due to errors discovered in the original database.</p> <p>The Library has digitized and collated 6 rare books.</p>	See Appendix 1 for links to published datasets.
1.2 Document with approaches to digitization customized to the NHMJ specimens, publications, resources and workflows	Documentation of steps taken in the pre- and post-training processes of developing and using digitization techniques and workflows	Completed	This has been completed by the NHM-UK.	See Appendix 3 of Mid-term Report which is the table of contents of the document.
1.3 Trained staff (1-2 persons) in Darwin Core Archive standard for preparation for creating metadata for	One or two selected staff members will attend a regional training workshop hosted by	Yes	Basic Darwin Core Archive standards were covered in the Capacity Building Workshop in June 2017 attended by Mr. Keron Campbell.	Trainer, Laura Russell, can be contacted for confirmation at larussell@gbif.org





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
biological databases	GBIF on Darwin Core Standard in preparation for creating Metadata for biological databases			
2.1 New online image database for 50 plants, 40 animals and 10 ecosystems from Jamaica that includes taxonomic and geographic information	Collation of images from IOJ, NEPA and JCDT into one dataset for creation of the image database	Yes	A total of 57 plants, 19 animals and 13 ecosystems from IOJ and NEPA have been selected and digitized. JCDT sent a slide of an endemic snake but there was uncertainty as to copyright.	Email communication and return form from NEPA listing images sent by them on Google drive – <ul style="list-style-type: none"> https://drive.google.com/open?id=1VpdDWkwCzyCMwx4al-lhY9tPNAWEPU1D https://drive.google.com/open?id=1siPLT_inOV_JUYJgej610fuDzf-C-aKs https://drive.google.com/open?id=1fJkH2sO9O0Gr15rsZWKpeL9S-PqsrkDA
	IOJ, NEPA and JCDT agree on criteria for selection of images	Yes	Criteria agreed on	See Appendix 5 of Mid-term Report for Image Selection Criteria.
	Scanning of images by Image Database Assistant	Yes	Photographs were scanned and edited by the image database assistant over a 10-day period.	See early report in Google drive on Images Scanned for the Image Database - https://drive.google.com/open?id=1DJuegxOfXdLzhjqUElqjek63f10cS9cJ
	Creation of template for online database and uploading of images into	Yes	In progress. The IT Department is short staffed and work on the image database has to be done on an <i>ad hoc</i> basis. Images have been	http://nhmji-ioj.org.jm/ioj_wp/image-database/





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
	database		uploaded to the IOJ servers. The webpage has been created but images have to be incorporated.	
	Adding relevant data and metadata to selected images e.g. Identification, date, locality, altitude, GPS coordinates, etc.	Yes	Work was delayed due to illness of the Image Database Assistant in December. Additional cleaning and verification of data had to be done.	See shared Excel file in Google drive - https://drive.google.com/open?id=1ivgg6Hd5GNj4dqMR20q7kP4j_yCFk3b8
	Publishing of image database locally	Partially	Early version of the database has been published but it is not complete since the IT Department is short staffed.	http://nhmi-ioj.org.jm/ioj_wp/image-database/
2.2 Increased content for the Jamaica Invasive Species Database (JISD) via 25 new records and updating of 10 existing records for invasive alien species (IAS)	Configuration of JISD for coordinates and images by JISD Technical Facilitator	Yes	This was done in early January 2018.	See Appendix 7 of Early Progress Report
	Selection of new IAS records to be entered and existing records to be updated	Yes	Species selected from the national list of invasive alien species.	See Appendix 2





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
	Organization of an IAS Data Entry and Content Update Workshop	Yes	JISD Content Workshop held Jan 17-18, 2018. International Trainer (Dr. Silvia Ziller) offered workshop consultancy. Workshop co-facilitated by Dr. Suzanne Davis	See workshop report in Google drive link - https://drive.google.com/file/d/1sev6U02zzlmw_u5t1hTzt0ivww0ITCnA/view?usp=sharing
	Entry of text, images and spatial data to the JISD at the Workshop	Yes	11 records have coordinate data from the Workshop. Few images were added due to issues with the size of the photos. This is still being resolved.	See Appendix 16 of Early Progress Report and the JISD website - http://cidebox.com/jamaicainvasives/www/
2.3 Total of five expanded (updated) national databases on biodiversity and publications	Addition of digitized insect specimens and/or scanned animal photographs to NHMJ zoology database	No	Process started but data cleaning and verification is ongoing. The Zoology Department is working with the data in Excel.	
	Addition of digitized flowering plant specimens and/ or scanned plant photographs to NHMJ herbarium database	Yes	Some images were added. Previous broken links to images are being addressed. There are 2,539 complete processed images, and an additional 2,069 that require processing (total of 4,608). Data for 8,779 specimens have been added to the Botany database in ongoing work.	
	Addition of coordinates to Jamaica Invasive Species	Yes	Additional geographic coordinates have been added to four other species, now totalling 15 for species with spatial	http://cidebox.com/jamaicainvasives/www/ Also see Appendix 1 for link to IAS dataset on GBIF.





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
	Database (JISD)		data.	
	Addition of flowering plant specimens scanned images to Jamaica Virtual Herbarium (JVH)	Yes	500 plant images were transferred to the UWI herbarium. Images to be processed and vetted by Dr. Philip Rose before uploading to the JVH.	See acknowledgment of receipt of images by Dr. Philip Rose of the JVH in the shared Google drive file - https://drive.google.com/open?id=1rZz30YA210KIJqQ0GGB30XdAkJqZQUVh
	Addition of digitized publications to NHMJ library database	No	The library is in the process of cleaning and verifying data for transfer to another library management system – Koha and will add once Koha has been installed. Expected to be completed before the end of 2019.	
2.4 Total of three maps and one checklist based on wildlife research permit data for 2010-2015, showing biodiversity research i) in protected areas islandwide, ii) in the Blue & John Crow Mountains National Park, iii) of <i>Miconia</i> sp., and a checklist for birds located in front Hill, St. Elizabeth	Creation of research distribution maps from NEPA's Wildlife Research Permit data and the IOJ databases using ArcGIS tools with a focus on the Blue and John Crow Mountains National Park (BJCMNP) Online publishing of	Partially	<p>Maps completed during workshop held July 5 – 6, 2018. However, there are difficulties with finding a server to host the content generated due to IT resource issues at both the IOJ and NEPA. The JCDT does not have any hosting capabilities.</p> <p>The checklist for birds at Font Hill is delayed because of a technicality with generating a TaxonID for each of the over 100 species. Mr Keron Campbell sought assistance via email from Marie Grosjean (GBIF HelpDesk) and David</p>	See Appendix 8 of Mid Term Report for list of maps created. See Appendix 9 of Mid Term Report for the Course Outline.





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
	maps and checklist		Bloom (Vernet) a little over a week ago. However, there has been no response. Today (Feb 14) Vanessa Kadosoe (Suriname) received a telephone call from Keron and she explained what was required. However, more time is required to add the Taxon ID and this will be done by early next week.	
2.5 Metadata for a total of four to five datasets or databases:	Training Workshop for the creation of metadata using the Darwin Core Archive Standard	Yes	Metadata (ArcGIS' item description) has been added to one of the maps from 2.4 above and will be added to the other two. Darwin Core Archive Standard metadata is being applied to data during the digitization process. Metadata was addressed between the Digitization and GIS/Metadata workshops	Digitization manual and GIS workshop report – see Google drive link to the Digitization manuals - https://drive.google.com/open?id=1JMgAfTpARHDOjGIHCrVzGhUwm5YyRvQ4
	Online publishing of metadata on IOJ web and Jamaica CHM websites	Partially	Metadata for the digitized specimens and the invasive species occurrences have been published on the GBIF Portal . At present the IOJ and the CHM websites are experiencing technical issues and the IT Department is short staffed.	See Appendix 1 for links to GBIF metadata, also includes IAS dataset
2.6. Project data and information accessible through	Dialogue with GBIF on Data Publishing and hosting	Yes		Email correspondence between K. Campbell and GBIF, BID capacity workshop trainers and others.





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
GBIF.org	options for our project data information			
	Submission of project data, i.e. images, digitized specimens, coordinates (where available) and metadata to a GBIF Publisher	Yes	All published except for some Zoology datasets and the bird checklist.	See Appendix 1
	Online publishing of project data by GBIF Publisher	Partially	The Botany Department has published 3 datasets, the Zoology Department 1 dataset, and Jamaica CHM 1 dataset.	See Appendix 1
3.1 Sensitization of key biodiversity stakeholders (e.g.) natural resource regulators, protected area managers, academia and policy makers) on freely available data and information to inform national biodiversity planning, policy and reporting. Examples of how digitized specimens, images and maps can inform	Jamaica Biodiversity Information for National Development (BIND) Workshop to i) present and share project outputs and ii) highlight both actual and potential uses of the project data and information under 2-3 themes e.g. invasive species management, national biodiversity reporting and	Yes	Workshop was held on December 11, 2018.	See Workshop register in Appendix 3





Deliverable	Related activity	Completed ? Yes/No	Explanatory notes	Sources of verification
the biodiversity strategies, the BJMNP Management Plan and complement the monitoring of wildlife research in Jamaica.	protected area planning.			





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
Mushrooms-NHMJ-IJ-2019-01-15	Institute of Jamaica	https://doi.org/10.15468/hjyztS	15 Jan 2019	
Mosses-NHMJ-IJ-2019-01-11	Institute of Jamaica	https://doi.org/10.15468/m7avmg	11 Jan 2019	
Orthopteracollections-NHMJ-IOJ	Institute of Jamaica	https://doi.org/10.15468/fojam0	10 Dec 2019	
NHMJ-IJ-Collections-20181205	Institute of Jamaica	https://doi.org/10.15468/kbdo6c	20 Dec 2019	
IAS dataset	Institute of Jamaica	https://doi.org/10.15468/as3kqn	14 Feb 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? Some policy-making processes are just being started, e.g. A Technical Working Group is working on the National Spatial Data Plan and has requested data on invasive species distribution in the IAS database. The preparations for the State of the Environment Report (2017) has been launched and some of the project data may be useful.

Where did the demand for these data come from? Technical Working Group

If yes, which policies have been developed using your data? N/A, data not yet utilized.

If no, what were some of the challenges you faced in getting your data into those processes? It is too soon after the BIND workshop for policy makers to start utilizing data in their scheduled activities, some of which, such as the State of the Environment Report consultations, have not yet started.



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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? Yes, see page 29 of the project proposal, and some have been initiated. No adaptation made.

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 were in a format accessible to policy-makers? N/A

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? Through relevant workshops, committees, and in response to requests for information.

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

Funding to host presentations on the BID Project Data to different stakeholder consultations for policy and research plans. IT support and funding for digitization, mapping and JISD entry.

How would you improve on your own processes in the future to improve data integration in the future? Send out more updates on available data.

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?

We raised public awareness about the museum's digitizing activities via social media communications. The museum plans to use the data in other areas in the future.

Supporting materials – Not yet applicable

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
- 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.

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





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 title	Organizing institution	Dates	Number of participants	Sources of verification
JISD workshop	IOJ	Jan 2018	14	https://pbs.twimg.com/media/DeT5hETUQAAAhJ.png JISD Manual
Digitization Workshop	IOJ	Mar 2018	8	https://pbs.twimg.com/media/DeUAMh5VQAATDee.png See Appendix 3 of Mid Term Report
GIS and Metadata Workshop	IOJ	July 5 – 6, 2018	6	See Appendix 10 of Mid Term Report – register for the two days.
BIND Workshop	IOJ	Dec 11, 2018	23	See Appendix 3 - register for the workshop See Appendix 4 - Agenda for the workshop





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 (01/01/19 – 28/02/19)																			
Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Notes
Digitization – Botany, Zoology and Library – ongoing (has been included in work plans)	*	*																	Ongoing, digitization has been included in the workplans of Botany, Library and Zoology
Addition of location information to IAS database - ongoing																			Addition of coordinates into the IAS database is ongoing



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Evaluation period start date and end date (05/02/19 - 28/02/19)				
Activity	1	2	3	Notes
Project Evaluation		*		
<Activity name>				

4.1. Explanatory notes:



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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 NHMJ has included ongoing digitization as part of its operational plans and Mr. Keron Campbell has provided training on uploading datasets to the GBIF portal to NHMJ staff. Training in digitization techniques and documentation will be provided upon request by the NHMJ to future and other relevant staff across the local partners.

Needs identified for sustainability of digitization and data mobilization are (see Appendix 6) :

- Collection preservation – insect repair glue; pens for labelling; special barcode pre-printed labels for specimens; storage equipment; pinning material; mounting sheets;
- Biological Database – Specify subscription to help with troubleshooting, and data migration;
- Continued addition of IAS coordinates – another workshop;
- Digitisation – additional training for Zoology in setting up workflow for larger specimens.

The JCDDT has already expressed an interest in utilizing the scanned images.

The JISD plans to hold another workshop to update the database with more geographic coordinates and images.

Notification of the availability of mobilized data will be sent to relevant institutions responsible for policy and decision-making processes related to biodiversity via various media.

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.

To date, all project partners have been engaged in the implementation of one or more project activities. NEPA assisted the IOJ with interviews for the project manager (2017) and documentation for the JISD Trainer. JCDDT assisted the IOJ with interviews for the project manager in 2018. IOJ, NEPA and JCDDT participated in the JISD and BIND Workshops, and IOJ and NEPA participated in the GIS and Metadata workshop. The Natural History Museum, UK has provided follow up digitization advice via Skype and e-mail and have offered to lend support as needed. IOJ sits on a co-management committee with the JCDDT and assists with managing the Blue and John Crow Mountains National Park. NEPA and the Jamaica National Heritage Trust co-manage with the IOJ the Mason River Protected Area, Game Sanctuary, Ramsar site, and Protected National Heritage site. The NHMJ is the national repository for duplicates of biological specimens collected under NEPA's wildlife research permit.

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) ? N/a

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

Project visibility has been through advertisements for a Project Manager, through a Jamaica Clearing-House Mechanism electronic newsletter, through the JISD, Digitization, GIS and Metadata, and BIND workshops, and



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through post-event media releases of the JISD, Digitization and BIND Workshops on the Natural History Museum of Jamaica's Facebook, Instagram and Twitter pages. The Government of Jamaica has also published information on the project via its Jamaica Information Service (JIS) page.

Sources of verification

- <https://twitter.com/iloveNHMJ/status/1001207087215636480>
- <https://pbs.twimg.com/media/DeT5hETUQAAAehJ.png>
- <https://www.facebook.com/naturalhistorymuseumofjamaica/photos/pcb.2014867025212824/2014866498546210/?type=3>
- <https://twitter.com/iloveNHMJ/status/1072529406353203200>
- <https://www.instagram.com/p/BrQlxYQgwyD/>
- <https://jis.gov.jm/govt-allocates-1-4m-advance-biodiversity-activities/>

7.2. Visibility of the EU contribution

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

Short summary

All project presentations, social media postings, and invitations have included a footer with the text, "This project was funded by the European Union", with the EU flag included and the words, "European Union" hyperlinked to the EU website. Invited EU ambassador and an attache was sent who attended the BIND workshop.

Sources of verification

See Appendix 5 for general invitation letter to the BIND Workshop, see links above, and Appendix 3 for BIND workshop register, page 2, last name for Mr. Cilli, and the title pages of the BIND workshop presentations in the Google drive shared folder -

https://drive.google.com/open?id=1ttZtajG37wK_FPF19xa1-inOndF1UVVB

Signature _____

Name of the contact person for the BID Project: Suzanne Davis

Date report sent by email in Word format to bid@gbif.org for pre-approval: Feb 14, 2019

Date report sent by post to GBIF Secretariat: _____



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Appendix 1. Datasets Published to GBIF and their URLs

- Botany Major Collections - <http://www.gbif.org/dataset/d82eaca8-005a-4002-817c-70c1d2d4b5db>
- Mushrooms - <http://www.gbif.org/dataset/a0364481-b35c-4e5d-85c2-65f757f7ec40>
- Mosses - <http://www.gbif.org/dataset/59ab76d8-6664-4589-b1e2-791753d79eb3>
- Zoo Orthoptera - <http://www.gbif.org/dataset/4946ae59-8711-475c-8a76-3ef7e70b8b75>
- IAS dataset - <https://www.gbif.org/dataset/ff918604-48cc-4f28-a77e-9e454830d7c7>



Appendix 2. Species Entered in JISD Content Workshop, Jan 17-18, 2018

New Records

- 1 ***Aleurocanthus woglumi***
- 2 *Angiopteris evecta*
- 3 *Aphis gossypii*
- 4 *Bemisia tabaci*
- 5 ***Cactoblastis cactorum***
- 6 *Coccus viridis*
- 7 *Cyprinus carpio*
- 8 *Dactylosternum abdominale*
- 9 ***Flemingia strobilifera***
- 10 ***Gambusia affinis***
- 11 *Ips grandicollis*
- 12 ***Macrobrachium rosenbergii***
- 13 ***Melaleuca quinquenervia***
- 14 *Nephrolepis hirsutula*
- 15 ***Papilio demoleus***
- 16 *Pittosporum viridiflorum*
- 17 *Aphis spiraecola*
- 18 ***Lithobates catesbeianus***
- 19 *Solenopsis invicta**
- 20 *Subulina octona*
- 21 *Thelypteris dentata*
- 22 ***Toxoptera citricida***
- 23 *Zeuxine strateumatica*
- 24 ***Miconia calvascens***
- 25 *Cranoglanis sp.*

Upated/Edited Records

- 1 *Alpinia nigra*
- 2 *Bracharia decumbens*
- 3 *Hoplosternum littorale*
- 4 *Hypothenemus hampei*
- 5 *Molathrus bonariensis*
- 6 *Oreochromis mossambicus*
- 7 *Passer domesticus*
- 8 ***Pittosporum undulatum***
- 9 *Raoiella indica*
- 10 *Rhinella marinus*
- 11 *Thiara granifera*
- 12 *Urochloa maxima*
- 13 *Alocasia macrorrhiza*
- 14 *Schinus*
- 15 *Syzigium jambos*
- 16 *Sus scrofa*
- 17 *Pterois volitans**

SPECIES WITH COORDINATES ADDED POST- IAS WORKSHOP

1. ***Bambusa vulgaris***
2. ***Eichhornia crassipes***
3. ***Perna viridis***
4. ***Rhinella marina***

N.B. Species in bold have geographic coordinates. Those with asterisk have images.





Appendix 4. BIND Workshop Agenda



AGENDA

- 9:30 a.m. **Registration**
- 10:00 a.m. Welcome – Tracy Commock, Director, Natural History Museum of Jamaica
 Greetings: European Union – Jamaica Office
 Institute of Jamaica
 Jamaica Conservation and Development Trust
 National Environment and Planning Agency
 Natural History Museum, U.K.
- 10:25 a.m. Project Background – Suzanne Davis, Project Coordinator/ Senior Research Officer – Jamaica Clearing-House Mechanism
- 10:35 a.m. Introduction of Project & Project Implementation Team – Laura Ogle, Project Manager
- 10:45 a.m. **Coffee Break**
- PRESENTATIONS**
- 11:00 a.m. *Digitizing NHMJ Botany Specimens – Keron Campbell, Botanist
 *Digitizing Rare Books in the NHMJ Science Library – Leleka Johnson, Librarian
 *Digitizing NHMJ Zoology Specimens – Elizabeth Morrison, Zoologist
 *Updating Content in the Jamaica Invasive Alien Species Database – Suzanne Davis, Senior Research Officer - Jamaica Clearing-House Mechanism (CHM)
- 12:30 p.m. **Lunch**
- 1:30 p.m. Biodiversity Image Database – Shemere Lawes, Research Officer - CHM
- 1:50 p.m. Adding Spatial Value to NEPA's Wildlife Research Permit Database – Monique Curtis & Suzanne Davis
- 2:15 p.m. **GROUP ACTIVITY**
- 2:45 p.m. Birds Checklist – Suzanne Davis
- 3:00 p.m. Virtual Herbarium – Keron Campbell
- 3:15 p.m. Lessons learned & Capacity building experiences – Sashalee Cross, Assistant Botanist
- 3:35 p.m. Closing Remarks and Vote of Thanks – Tracy Commock
- 3:45 p.m. Viewing of Displays

BID-Jamaica Project funded by the European Union/Global Biodiversity Information Facility and implemented by the Natural History Museum of Jamaica (NHMJ), Institute of Jamaica



This programme is funded by the [European Union](#)



Appendix 5. BIND Workshop General Invitation Letter



The Institute of Jamaica
For the Encouragement of Literature, Science and Art.

10 - 14 East Street, Kingston, Jamaica, W.I. • Telephone: (876) 922-6626-6 • Fax: (876) 922-1147
• Email: info@instituteofjamaica.org.jm • Website: www.instituteofjamaica.org.jm

November 23, 2018

Dear Sir/Madam,

Re: Invitation to the Biodiversity Information for National Development (BIND) Workshop

In 2017, the Institute of Jamaica received grant funding from the European Union through the Global Biodiversity Information Facility's (GBIF's) Biodiversity Information for Development (BID) Programme. This Programme was initiated with the aim of increasing the amount of biodiversity information available for use in scientific research and policy-making in the 'ACP' nations of sub-Saharan Africa, the Caribbean and the Pacific. The BID – Jamaica Project, led by the Institute of Jamaica, has been implemented in collaboration with partner entities namely, the National Environment and Planning Agency, the Jamaica Conservation and Development Trust, and the Natural History Museum, London. Our project entitled "Advancing Jamaican Biodiversity Data and Information Products and Services" has produced a number of digital biodiversity information products and services which will be publicly available and may support your conservation and development planning efforts.

The Natural History Museum of Jamaica invites you or a representative to a one-day BIND Workshop on December 11, 2018 from 10 am to 4 pm at Pollyanna Caterers and Banqueters, 8 Stanton Terrace, Kingston 6. Lunch will be provided. Please see the map included for the location of the venue.

Kindly confirm your availability by December 3, 2018 by emailing Ms. Larra Ogle at loogle@gmail.com and copying Ms. Sandra Brown at info@instituteofjamaica.org.jm. Upon confirmation a draft Agenda will be sent to you.

Yours sincerely,
INSTITUTE OF JAMAICA

Tracy Connock (Mrs.)
Director
Natural History Museum of Jamaica

TC/ta

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