

MOBILIZING BIODIVERSITY DATA FROM ASEAN PROTECTED AREAS PROJECT FINAL ACTIVITY REPORT

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1. Executive summary

This report covers the implementation period (1 April – 30 July 2016) of the Mobilizing Biodiversity Data from ASEAN Protected Areas, a GBIF-supported project funded under the Biodiversity Information Fund for Asia (BIFA) facility. The ASEAN Centre for Biodiversity (ACB) as lead implementer coordinated all project activities with the technical support of GBIF nodes from Taiwan (TaiBIF) and Norway (GBIF, Norway).

The project aimed to mobilize species information from protected areas (PAs) into forms that these can be utilized for decision making and policy development. This was achieved through the conduct of a 5-day orientation workshop designed to enhance the capacities of managers and staff of the ASEAN Heritage Parks (AHPs) in Southeast Asia to organize and manage species information from their parks. AHPs are selected PAs with outstanding biodiversity values. A main feature of the orientation workshop was the camera trap methodology for collecting species information. Also included in the workshop design were

the tools developed by GBIF (IPT toolkit) and ACB (offline species data encoding interface) as well as demo and hands-on on bulk data harvesting, processing and mapping. Experts from TaiBIF shared their expertise on the camera trap methodology on data collection.

During the midterm period (1 April – 7 June) activities were focused on: coordination with the staff of the Mount Makiling Forest Reserve (MMFR), the 36th AHP in Southeast Asia, and site for camera trap deployment; design and deployment of the pre-workshop survey on the data management practices of AHPs; finalization of logistical arrangements (workshop venue, hotel accommodation and catering and transport services); preparation and approval of the activity design by the expert collaborators from TaiBIF and GBIF, Norway; and circulation of nominees and confirmation of attendance of participants from AHPs.

A two-day pre-workshop meeting was convened on 1-2 July among ACB, TaiBIF and GBIF, Norway to: conduct a pre-workshop visit in the MMFR and set-up some test camera traps in the sites identified by MMFR staff; discuss the topics assigned to each experts, tools and software to be used during the demos and hands-on; and finalize the program and workshop modules.

The orientation workshop on Mobilizing Biodiversity Data from ASEAN PAs was conducted as planned on 4-8 July with 24 participants from eight ASEAN Member States (AMS) and 18 AHPs. The pre-workshop survey questionnaire that was planned to be administered online was distributed upon arrival of participants on 3 July and the filled-in questionnaires were collected on the first day of the workshop. The results were presented on the second day of the workshop.

Based on the survey results, the majority of participants agreed that knowledge imparted in the workshop are valuable and will be applied in their respective protected areas. They also validated that the duration of the workshop was adequate and that the workshop venue was conducive for learning. The speakers were accorded ratings from “very good” to excellent” in terms of their knowledge on the topics discussed and delivery of the lectures and demos.

Some set-backs of the project and the solutions implemented were as follows:

- Low internet connectivity and limited internet access of AHP managers and staff to participate in online surveys. This was addressed by distributing the questionnaire upon arrival of participants during the orientation workshop and collecting the filled-in forms the next day for processing of results and presentation on the second day.

- Low internet connectivity in the workshop venue that proved to be a challenge in the hands-on session for the IPT. This was addressed by setting up a local host in addition to the IPT helpdesk installed at GBIF-Norway.
- Most AMS were interested to participate in the orientation workshop such that four more participants had to be accommodated. To maximize use of the budget, participants were encouraged to purchase their own tickets and avail of budget promotions to take advantage of lower airfare expenses
- Language barrier is a major issue in Southeast Asia, thus the experts from TaiBIF and GBIF, Norway were advised to deliver their lectures at a slower pace to ensure that all participants understood the topics being discussed and follow the demo of tools during the hands-on exercises.
- In cases where a camera trap methodology is included in bioinformatics workshops, test cameras should be set-up one to two weeks ahead in several sites of a protected area where the field visit will be conducted to identify the most appropriate sites for deployment and ensure that animals will be trapped for analysis during the hands-on sessions.

2. Contact information

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3. Project summary

The project on Mobilizing Biodiversity Data from ASEAN Protected Areas was implemented with support from the GBIF-Biodiversity Information Fund Facility (BIFA), with ACB as lead implementer. It involved the conduct of a five-day training workshop designed to enhance the capacities of managers and staff of ASEAN Heritage Parks (AHPs) to collect, organize, update, and manage biodiversity information in the park they manage. The training program introduced the use of the camera trap method in data collection as well as the tools developed by ACB and GBIF on data management and publication.

AHPs are selected protected areas in the ASEAN region, recognized for their unique biodiversity and ecosystems, wilderness and outstanding values. Improving skills of AHP managers and staff to manage biodiversity information would facilitate the generation of interoperable biodiversity information from AHPs for geographically relevant analysis, decision making, policy development and reform.

The collaborators of this project included the following GBIF Nodes and/or affiliates from Taiwan and Norway who contributed their expertise on the camera trap methodology, GBIF IPT toolkit and data paper publication:

1. Taiwan Biodiversity Information Facility (TaiBIF) at Academia Sinica:
 - a. Dr. Yu-Huang Wang, Node Manager
 - b. Dr. Po-Jen Chiang
 - c. Mr. Guan-Shuo Mai

2. Global Biodiversity Information Facility, Norway (GBIF, Norway)
 - a. Dr. Dag Endresen, Node Manager

The ACB designed modules on data organization and management (e.g., data interoperability, Darwin Core concepts, species information mapping with GIS, encoding with offline Darwin Core interface, collection and processing of data from online sources, etc.) complemented the partners' expertise. The ACB team were composed of the following staff from the Biodiversity Information Management (BIM) unit:

- Dr. Sheila Vergara, Director
- Mr. Christian Elloran, Database Specialist
- Ms. Lilibeth Cabebe, CHM and KM Officer
- Mr. Jerome Alano, GIS Officer
- Ms. Erica Villavelez, Research Officer
- Mr. Carlos Callangan, Junior Research Associate
- Ms. Pauline Carmel Eje, Junior Research Associate

3.1. Activities completed

The project commenced on 1 April 2016 and was completed on 31 July 2016. The major activities completed are discussed in details below:

- a. *Biodiversity Data Assessment Survey in AHPs*. The survey aimed to obtain insights on the methods and practices employed in AHPs in the collection,

processing and analysis of species information in their respective protected areas as well as identify areas where capacity building interventions may be necessary. Although originally intended to be an online survey (through the SurveyMonkey online platform), the questionnaire (**Annex 1**) was distributed to participants on the first day of the orientation workshop due to low online turnout brought about by the low/ slow internet connectivity in AHPs. Survey results were presented on the second day of the training workshop and included as **Annex 2** of this report.

b. Logistical arrangements for the conduct of the 5-day orientation workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas. Pre-workshop

arrangements for the conduct of the training workshop were done from May to June 2016. These include the following activities:

- i. conduct of an informal meeting (on 19 February 2016 in Bangkok Thailand) between ACB and TaiBIF Node Manager, Dr. Yu-Huang Wang regarding the latter's availability as project co-implementer. In this meeting, Dr. Wang also agreed to bring camera traps for the orientation workshop.
- ii. coordination with Dr. Rogelio Andrade from the Makiling Center for Mountain Ecosystem (MaCME) in the first week of May 2016 for a possible site for camera trap deployment. Dr. Andrada and staff suggested the Mount Makiling Forest Reserve (MMFR), Southeast Asia's 36th AHP as the site due to its proximity to various workshop venues in Los Baños, Laguna. They provided the geographic details of the site as follows: latitude: 14.13195; longitude: 121.219553; elevation: 439 msl (SARDEM); GPS:370.24 masl.
- iii. circulation of the call for nominations for the orientation workshop on 4 April 2016 to members of ACB's Governing Board (GB) and ASEAN Working Group on Nature Conservation and Biodiversity (AWGNCB)
- iv. preparation of a draft activity design for the orientation workshop which include the methodology, modules and topic assignments of each collaborators and ACB staff
- v. scouting of possible venues for the workshop and hotel accommodation for participants
- vi. validation of the suggested date for the orientation workshop from the AWGNCB members on 25-26 May 2016 at the 26th AWGNCB meeting in Hanoi, Vietnam

- vii. follow-up of nominations from AMS as well as coordination of plane ticket purchase from 1 May to July 2 2016. To facilitate booking of flights and economize on fare expenses, ACB requested the participants to book and pay their tickets for reimbursement to ACB during the orientation workshop
 - viii. finalization of contracts with the Southeast Asian Regional Center for Graduate Study (SEARCA) and Splash Mountain Resort Hotel as the workshop venue and lodging for participants, respectively.
- c. Planning and preparation of training modules. Coordination with partners from TaiBIF and GBIF, Norway was done through emails. Comments and suggestions of these partners on modules and methodologies for the orientation workshop were included in the final version of the activity design (please see **Annex 3**). Preparation of training modules (powerpoint presentations) commenced upon the acceptance of all partners on the final activity design of the workshop.
- d. Preparation and submission of the midterm report to GBIF. The midterm financial and activity reports were submitted to GBIF secretariat on 9 June 2016. These reports cover the progress of arrangements for the orientation workshop and expenses for the period 1 April to 7 June 2016 (please see **Annexes 4 and 5**).
- e. Conduct of pre-workshop meeting with collaborators from TaiBIF and GBIF, Norway on 1-2 July 2016. On 1 July 2016, ACB Biodiversity Information Management (ACB-BIM) staff led by Dr. Sheila G. Vergara accompanied by Dr. Yu-Huang Wang, Dr. Po-jen Chiang, Mr. Guan-Shou Mai all from the Taiwan Biodiversity Information Facility (TaiBIF), and Dr. Dag Endresen from Norway, GBIF met with Ms. Emer Gestida, University Researcher of the Makiling Center for Mountain Ecosystems and staff of the MMFR to discuss the arrangements for the camera trap set-up for the training. A brief orientation on the workshop agenda was followed by a field visit to the MMFR to assess the site for camera trap deployment identified by the MMFR. Dr. Wang and Dr. Chiang set up two camera traps in these sites to check local fauna that can be captured in the site. They also identified feasible areas where 10 more camera traps will be set up as part of the field work session.
- On day 2 TaiBIF and GBIF Norway discussed the agenda and modules of the orientation workshop, following the flow of data management, from collection (with the use of the camera-trap methodology), through to encoding, harvesting,

processing, analysis and publication. It was agreed that Dr. Endresen will introduce the data paper publication on the last day of the workshop. **Annex 6** presents the revised workshop program.

- f. Conduct of the training workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas on 4-8 July 2016. The Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas was held at the SAS Hall SEARCA headquarters in Los Baños, Laguna, Philippines, on 4 to 8 July 2016. It was chaired by Dr. Vergara with the technical support of TaiBIF and GBIF, Norway. 24 participants from 18 AHPs from 8 ASEAN Member States attended the training workshop. Staff from ACB's Communications and Public Affairs (CPA) unit were present to assist in documenting this event. (please see **Annex 7** for the directory of participants).

The highlights of the workshop are as follows:

- Day 1 (4 July 2016). Atty. Roberto Oliva, the ACB Executive Director welcomed the participants and guests followed by Dr. Endresen with a brief orientation on GBIF's data platform infrastructure and the BIFA. Dr. Chiang and Dr. Wang from TaiBIF provided an orientation on the camera trap methodology for data collection and demonstrated the mechanics in deploying the camera traps. In the afternoon, the participants (who were divided into eight groups, representing the countries present) and experts proceeded to the Mount Makiling Forest Reserve (MMFR) and set-up the camera traps in the pre-identified sites. An autonomous sound recorder was also installed by Dr. Chiang to complement the photos expected to be captured by the camera traps.
- Day 2 (5 July 2016). Ms. Cabebe presented the results of the pre-workshop survey on data management practices of AHPs followed by Dr. Vergara's discussion on data interoperability and Dr. Endresen's explanation on the Darwin Core (DwC) archives and IPT toolkit. Mr. Alano then oriented the participants on the types of enabled devices for map-ready biodiversity data collection. Mr. Elloran discussed the DwC concepts and structures complemented with a demonstration and participants' hands-on on the use of the offline species encoding interface led by Ms. Cabebe and Mr. Callangan. Ms. Villavelez demonstrated the mechanics of bulk data harvesting from global data sources like GBIF,

IUCN redlist and FishBase as well as data processing with the use of the special features of MS Excel. After the demo, the participants were given group exercises on data harvesting and processing where they can apply what they have learned.

- Day 3 (6 July 2016). Day 3 was devoted to the retrieval and processing of data captured from the camera traps deployed at the MMFR in Day 1. Dr. Wang introduced some online software tools in managing the camera trap data and demonstrated the steps in batch downloading and renaming images while the groups followed with the data captured in their respective camera traps. It was found out that only one or two cameras captured images of rats while the rest of the images were pictures of people who were passing by or curious of the device. Dr. Wang showed various video footages and images captured on camera traps, to supplement the discussions on data processing. Mr. Alano concluded the day with a lecture and hands-on on data mapping with the use of CartoDB, an online mapping tool.
- Day 4 (7 July 2016). The whole day was devoted to a demonstration and hands-on on the IPT where all participants were assigned user accounts with the use of the IPT helpdesk setup of ACB and GBIF Norway. **Annex 8** presents a screen capture of the datasets that were published through the IPT.
- Day 5 (8 July 2016). Ms. Cabebe started the day with a video presentation on the highlights of the first four days of the orientation workshop. Dr. Endresen discussed the preparation of a data management plan and facilitated a brief open forum. After the lecture, participants were grouped by country and asked to discuss among themselves the current arrangement on biodiversity information that they have, potential products and needs. A summary table of the results of this group work is presented as **Annex 9**.
- For their next steps, the participants indicated the need for more training on the use of the camera trap, biodiversity assessment and database management particularly for their database management staff and data partners. More skilled manpower, funding and equipment (e.g., camera trap) were also reported as priority needs. Other expressed requirements include internet access, establishment of information sharing protocols,

technical assistance from ACB and GBIF, enhancing commitments of stakeholders and data partners and easier use of the GBIF system.

- All presentations, references, pictures and exercises prepared or generated in the workshop are available for downloading at <http://bim-mirror.aseanbiodiversity.org/acbws/>
- The workshop report (please refer to **Annex 10**) presents details of the activities and results of the five-day orientation workshop.

g. Post-workshop evaluation (feedback from participants). A post-workshop evaluation form was provided to participants to gauge their responses to the modules covered and the arrangements done in the workshop (please refer to **Annex 11** for the evaluation form). Based on the participants' responses, an average of 79 percent agree that the workshop objectives were attained; 100 percent stimulated their learning and 96 percent thought that the exercises provided them sufficient chance to practice and apply what they have learned. About 64 percent agreed that the difficulty level was appropriate, and 59 percent of them thought that time allotted for each topic was sufficient. Most participants agreed that the topics included in the workshop improved their skills and knowledge on data management. 71 percent indicated that they will be able to apply this new knowledge in their work. The resource speakers were also accorded "very good" and "excellent" ranking in terms of their knowledge on the topics assigned to them and the manner in which these were delivered. **Annex 12** provides the details of the post-workshop evaluation results.

3.2. Ongoing and post-project activities

As a follow-up activity, the ACB will be presenting the results of the orientation workshop during the conduct of the 5th AHP Conference on 24-25 October 2016 in Nay Pyi Taw, Myanmar.

4. Project objectives

The project on Mobilizing Biodiversity Data from ASEAN Heritage Parks aimed to facilitate a more effective and efficient mobilization of biodiversity information from the ASEAN region, specifically, from AHPs. In so doing, the project served as catalyst for biodiversity

information from AHPs to be appropriately organized. When transformed into inter operable formats such data can then be integrated, analysed and utilized as bases for decision making and policy development in the region. The orientation workshop featured the camera trap methodology for the collection of species data that will complement transect-derived survey information in order to present a more comprehensive species data collection for AHPs. GBIF and ACB tools in managing species information such as the GBIF IPT toolkit and Darwin Core offline were also introduced. The target beneficiaries included managers and staff of AHPs in the region. Current data holding in the region are in different structures and forms (e.g., analogue and digital).

Specifically, the project aimed to:

1. increase the availability of biodiversity information in interoperable databases by strengthening the data curation skills of ASEAN Heritage Parks Managers and staff;
2. provide exposure and promote awareness on the use/function of camera traps as a helpful tool for acquiring real time biodiversity information that would otherwise not have been available through standard (transect) survey methods; and
3. convince and increase the willingness to share biodiversity information and promote science informed decision making and policy development at the level of the AHP as well as contribute to national and regional conservation efforts.

5. Project deliverables

Table 1 presents the project deliverables and status of completion.

Project deliverables	Status
1. Data curation and management capacity assessment conducted	<ul style="list-style-type: none"> • Completed
2. Activity Design of the Training and Capacity Enhancement Activity prepared <ol style="list-style-type: none"> a. Reusable training modules on publishing data to the GBIF network are developed, fully adjusted to cater to the ASEAN Heritage Parks' personnel's current capacities and are available for ASEAN 	<ul style="list-style-type: none"> • Completed

Project deliverables	Status
Heritage Park managers	
3. Workshop logistics arranged: a. List of eligible park management staff are made available	<ul style="list-style-type: none"> • Completed
b. Invitations prepared and delivered	<ul style="list-style-type: none"> • Completed
c. Venue and lodgings arranged	<ul style="list-style-type: none"> • Completed
4. Workshop is implemented a. Trainees are oriented in the benefits and advantages of interoperable databases	<ul style="list-style-type: none"> • Completed
b. Trainees use actual data collected from AHP to publish through the IPT tool	<ul style="list-style-type: none"> • Completed
c. Trainees are exposed to advanced site monitoring technology using the camera trap method	<ul style="list-style-type: none"> • Completed
5. At least 20 AHPs are registered to the GBIF network as data publishers, each publishing at least one species occurrence dataset by the end of the project.	<ul style="list-style-type: none"> • Partially completed. Only 18 AHPs were represented in the workshop because of the non-attendance of Cambodia and Viet Nam. • 6 AHPs from the Philippines and an unregistered organization from Singapore already published datasets through the IPT • ACB will follow-up on the participants from other AMS during the yearly AWGNCB and GB meetings
6. Workshop reports prepared a. Best practices and experiences gathered in the course of implementing this training course are documented	<ul style="list-style-type: none"> • Completed. This will be indicated in the final report.
b. Financial reports are prepared in accordance with GBIF Financial reporting formats	<ul style="list-style-type: none"> • The midterm and final reports conform to templates provided by the GBIF Secretariat.

6. Project communications

The progress and results of the project were closely coordinated with the AHP Programme Coordinator of ACB, Mr. Norman Ramirez of the Program Development and Implementation unit of ACB, who in turn, is in charge of updating all AHP managers and staff and AHP Committee members of project activities.

Results and findings of the project were reported during the Fifth meeting of the AHP Committee on 25-27 July 2016 in Jakarta, Indonesia. The project will also be included as agenda item in the Fifth AHP Conference on 24-25 October 2016 in Nay Pyi Taw, Myanmar.

ACB released news articles about the project before and after the conduct of the workshop. These articles were also communicated to GBIF and were uploaded in the website dedicated for the project (URL: <http://www.gbif.org/programme/bifa/2015/ASEAN-heritage-park>).

7. Evaluation: findings and conclusions

While project implementation was generally smooth sailing, there were some challenges encountered. Below are the major constraints in the conduct of the orientation workshop and the solutions implemented.

1. Internet connectivity was generally a problem in the workshop venue, and even in the whole area of Laguna including Los Baños, for that matter, thus, during the hands-on session on IPT, a local host as well as the IPT helpdesk installed at GBIF, Norway were used to facilitate access and use of the participants.
2. Most participants were proficient in the English, but extra attention was provided for a few with difficulties in understanding the language particularly one participant each from Lao PDR and Myanmar.
3. Most AMS indicated interest to join the workshop such that ACB had to accommodate four more participants and thus last minute adjustments on accommodation, catering, and other logistical arrangements had to be done.
4. SEARCA hotel (SH) cancelled ACB's reservations at the last minute to give way to their participants from their training programmes that were given priority. Thus, ACB engaged the Splash Mountain Resort (SMR) as the official hotel services for the

workshop but had to adjust the cost because SMR rates were higher by Euro 10-15 per room than SH.

5. SMR was quite a distance to the City proper such that ACB arranged group dinners rather than provide allowances for dinner to participants. Vans were also hired daily to ferry participants from the hotel to workshop venue and back.
6. As the actual number of participants exceeded the intended number for the workshop, ACB maximized the budget on airfares by opting for tickets to be purchased on a reimbursement arrangement so that these are less costly compared to tickets purchased in the Philippines. Participants were also encouraged to buy promo fares.

8. Recommendations and lessons learned

Taking into account the constraints that were encountered during the orientation workshop, the following are recommended:

1. Workshops in the ASEAN region should take into consideration language barriers, and participants' access to internet such that:
 - a. demos, lectures, and hands-on should be delivered in a slower pace to enhance understanding of knowledge imparted;
 - b. pre-workshop surveys should be administered during the first day of registration rather than conducting these online
 - c. powerpoint presentations should be simple and supported with visuals
 - d. post-workshop evaluation should be a must to obtain feedbacks on the modules discussed and the manner in which the workshops were conducted
2. In cases where bioinformatics workshops conducted in the Philippines will require fast internet connections, the main criteria for venue selection should be in a location with efficient internet connectivity, and that its proximity to a potential site for field visit should take second priority.
3. If the training involves the use of camera traps, test cameras should be set-up ahead of time (at least one or two weeks in advance) in several areas in the protected area where the field visit will be conducted to identify the most appropriate site for deployment and increase the chances of capturing the animals within the park.
4. On logistics, the following are suggested:
 - a. For hotels, consideration should be those with fully equipped function room (e.g., fast internet connection, sufficient lighting, etc.) and efficient catering

services that could cater to food restrictions especially for participants with special food preferences (e.g., halal food, vegetarian, vegan, etc.).

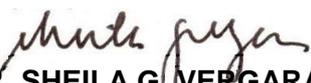
- b. Participants should be encouraged to book and purchase their own flights and avail of promo fares to economize on transportation cost

9. Future plans

The Biodiversity Information Management Unit of ACB, in collaboration with the IT Experts of the AHPs, will facilitate and monitor the publishing of the biodiversity information to interoperable databases. And as a partner to the GBIF, ACB will regularly update the GBIF Secretariat on new datasets from AHPs published through the IPT or their respective national CHMs.

Signed on behalf of the project partners

Date


DR. SHEILA G. VERGARA

30 August 2016

BIM Director



Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016



Annex 1

Mobilizing Species Data from Protected Areas AHP Survey Questionnaire

This survey is being conducted by the Biodiversity Information Management of the ASEAN Centre for Biodiversity (ACB) to inform the design of ACB-facilitated training courses and capacity building interventions on organizing, managing and mobilizing species information from ASEAN Heritage Parks (AHPs). Questions may be answered with multiple options.

Name: _____

AHP/PA Represented: _____

1. What are the sources of species data in your protected area?
 - from results of regular surveys conducted (from 6 years and older surveys)
 - from results of previous expeditions conducted 10 or more years ago
 - from video recordings obtained from camera traps deployed in the AHP area
 - available secondary information from government and non-government organizations, academic institutions, museums, among others
 - global data holders (IUCN, GBIF, COL, etc.)
 - remote sensing data (land satellite, spot images, aerial photos, etc.) conducted by foreign-funded projects near the AHP/other special projects in the area
 - Other (please specify): _____

2. Whether from primary or secondary sources, what type of species information do you collect?
 - Common name
 - Local name
 - Scientific name
 - Physical attributes (sex, weight, other features, etc.)
 - Pictures or images of species
 - Specimen collection from museums or academic institutions
 - Species location (point data - longitude and latitude where species were seen or observed)
 - Type and number of species observed per site
 - Other (please specify): _____

3. How do you organize and manage species information in your AHP?
- Encode information into a format agreed upon by the AHP management
 - Encode information following a globally accepted format (e.g., Darwin Core 2, etc.)
 - For AHPs with camera traps - store electronic files of pictures and videos collected
 - Store electronic file of survey reports conducted, reference materials from secondary sources
 - Store the information in analog form (print out of reports)
 - Other (please specify): _____
4. How often do you update your species information?
- Every 5 years for data collected from surveys
 - Every year for data sourced from local GOs, NGOs, academic institutions and/or museums
 - Every year for data sourced from global data holders
 - As needed
 - Does not update data
 - Other (please specify): _____
5. Who maintains your species information?
- AHP Manager
 - AHP Technical staff
 - Technical consultants hired for data organization and management only
 - Please provide the name, designation and email address of the person managing your species information:

6. Where do you use your species information?
- For wildlife enforcement, monitoring species status and tracking species movement in AHP
 - For planning and decision making on ecotourism, conservation and other activities in the AHP
 - For compliance of reporting requirements of Head Office
 - For AHPs with camera traps, please specify the use of camera trap data whether for monitoring, enforcement, etc.

7. What type of software do you use in data processing and your proficiency (scale of 1 to 5, 5 being highly proficient and 1 being not so proficient) in using these programs?

	5	4	3	2	1
Microsoft Excel					
ArcGIS					
MS Access					

Others, please specify program used and proficiency level: _____

8. What type of analysis presentation do you usually prepare out of the species data?
- Tables
 - Maps
 - Graphs
 - Other (please specify): _____
9. Aside from the AHP management and Head Office, who else have access to your data?
- Local GOs and NGOs in the area
 - Share data to national CHM team in the country for publication in the national CHM website
 - Share data to global data holders for conservation planning and decision making at the global level
 - Share to other AHP managers within the country for conservation planning and decision making at the national level
 - Share to other AHP managers in Southeast Asia for conservation planning and decision making in the region
 - No one else
 - Other (please specify): _____
10. If your answer in Question No. 9 is "No one else", are you willing to share your data in the future and to whom?
- Local GOs and NGOs in the area
 - Submit data for publication in the national CHM
 - Submit data for publication in the ASEAN CHM to make species information available at the regional level
 - Submit data for publication to global data holders to make species information available at the global level
 - No, I cannot share the species information, it is confidential
 - Other (please specify): _____



Pre-workshop survey results

Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016

SAS Hall, SEARCA, Los Banos, Laguna, Philippines



Global Biodiversity
Information Facility



ASEAN CENTRE
FOR BIODIVERSITY





Objectives

- To gain insights on the biodiversity information management practices of AHPs/PAs
- Identify areas where capacity building interventions may be necessary

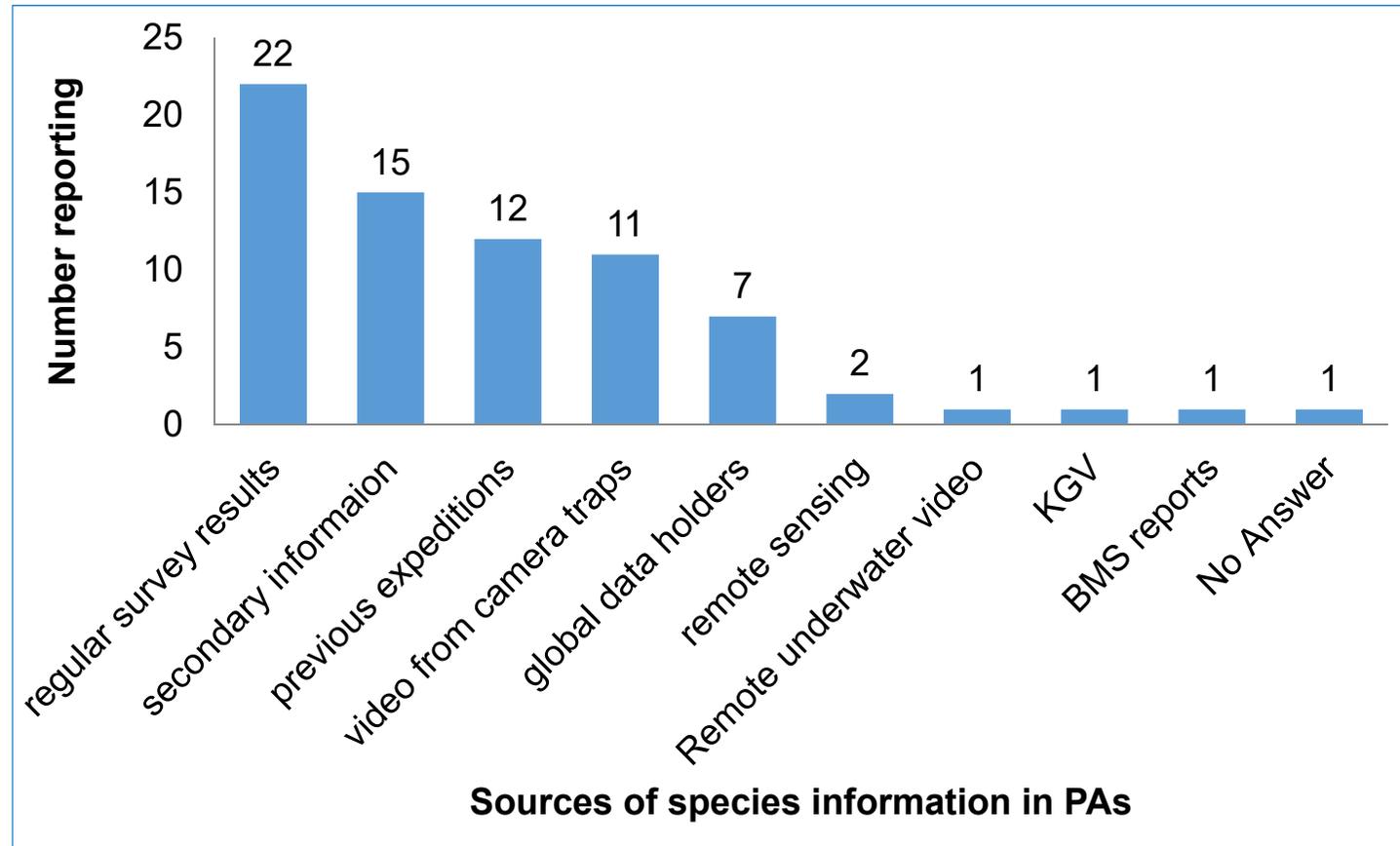


Results

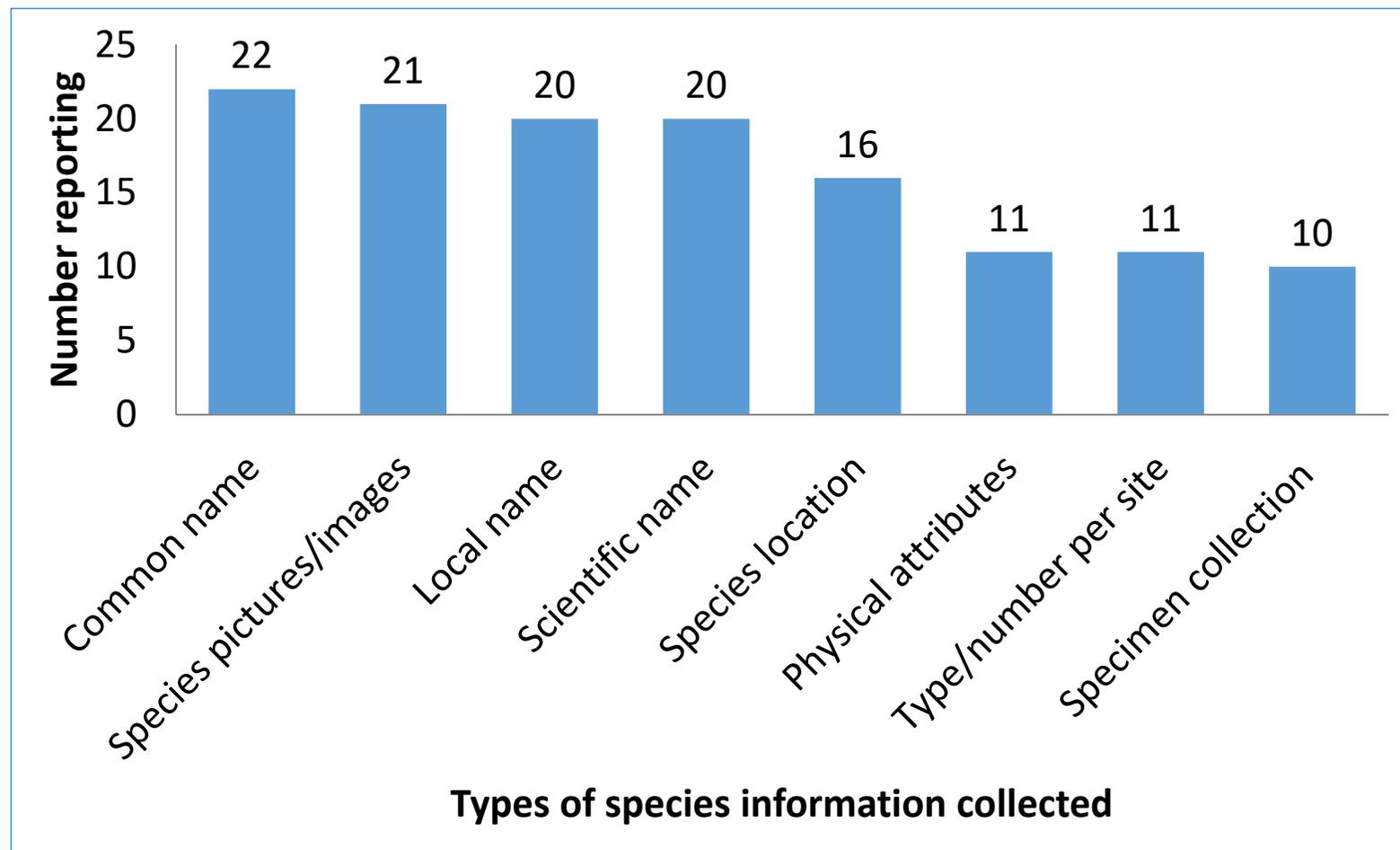
Participants' Profile

- 24 participants
- 8 ASEAN Member States
- 18 AHPs
- 3 national natural resource/PA offices

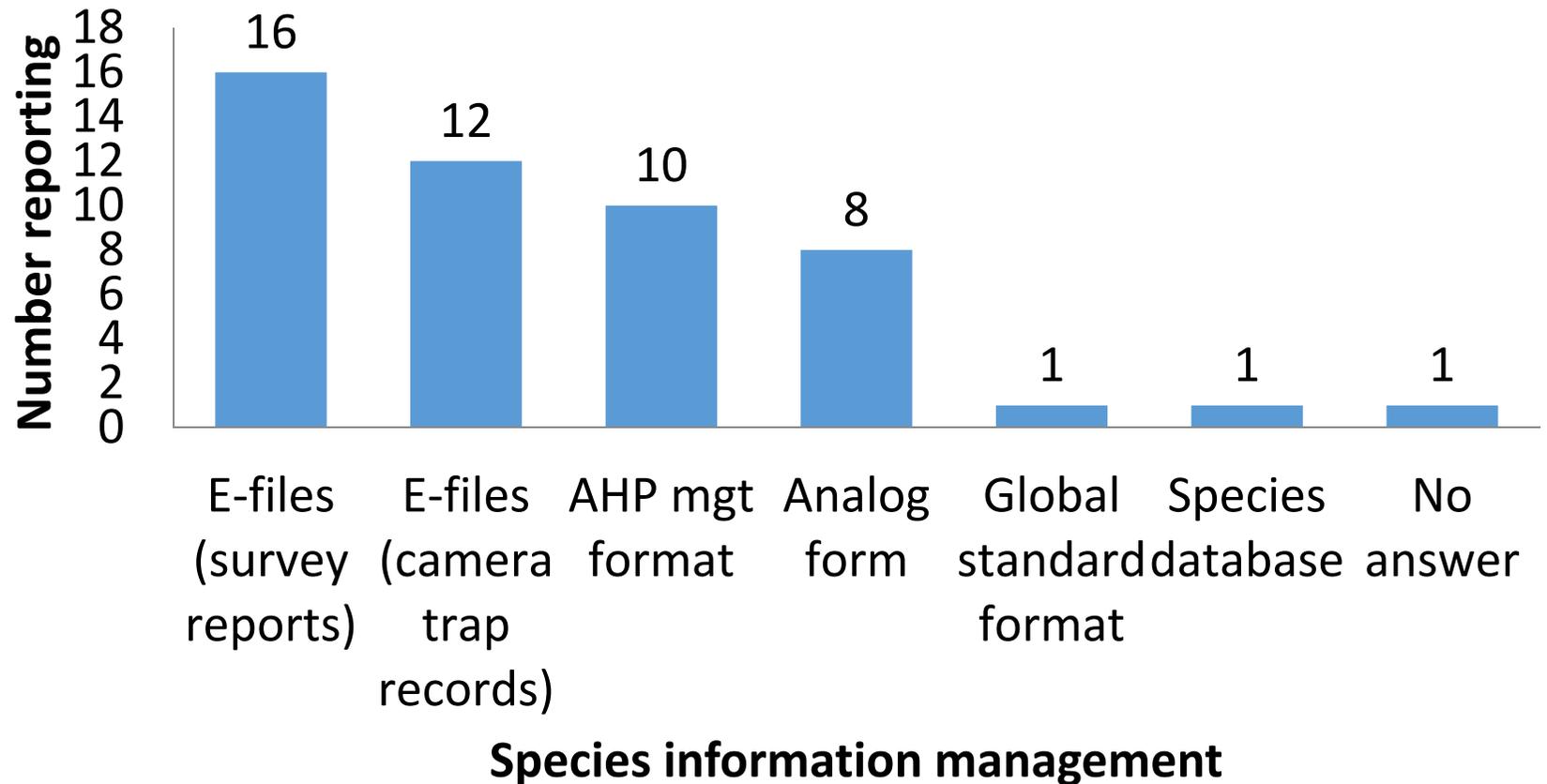
Sources of species data in PAs



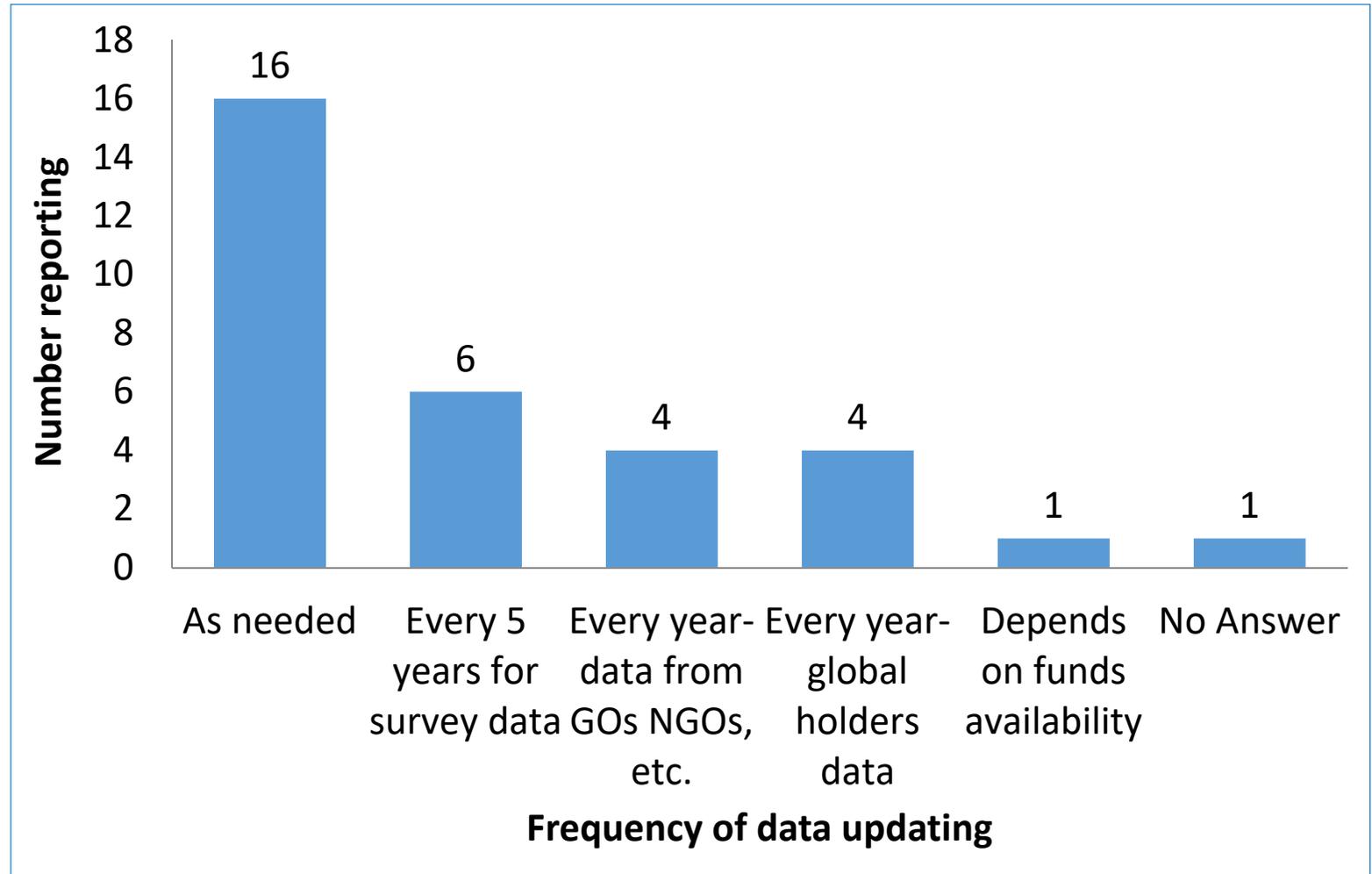
Type of species data collected



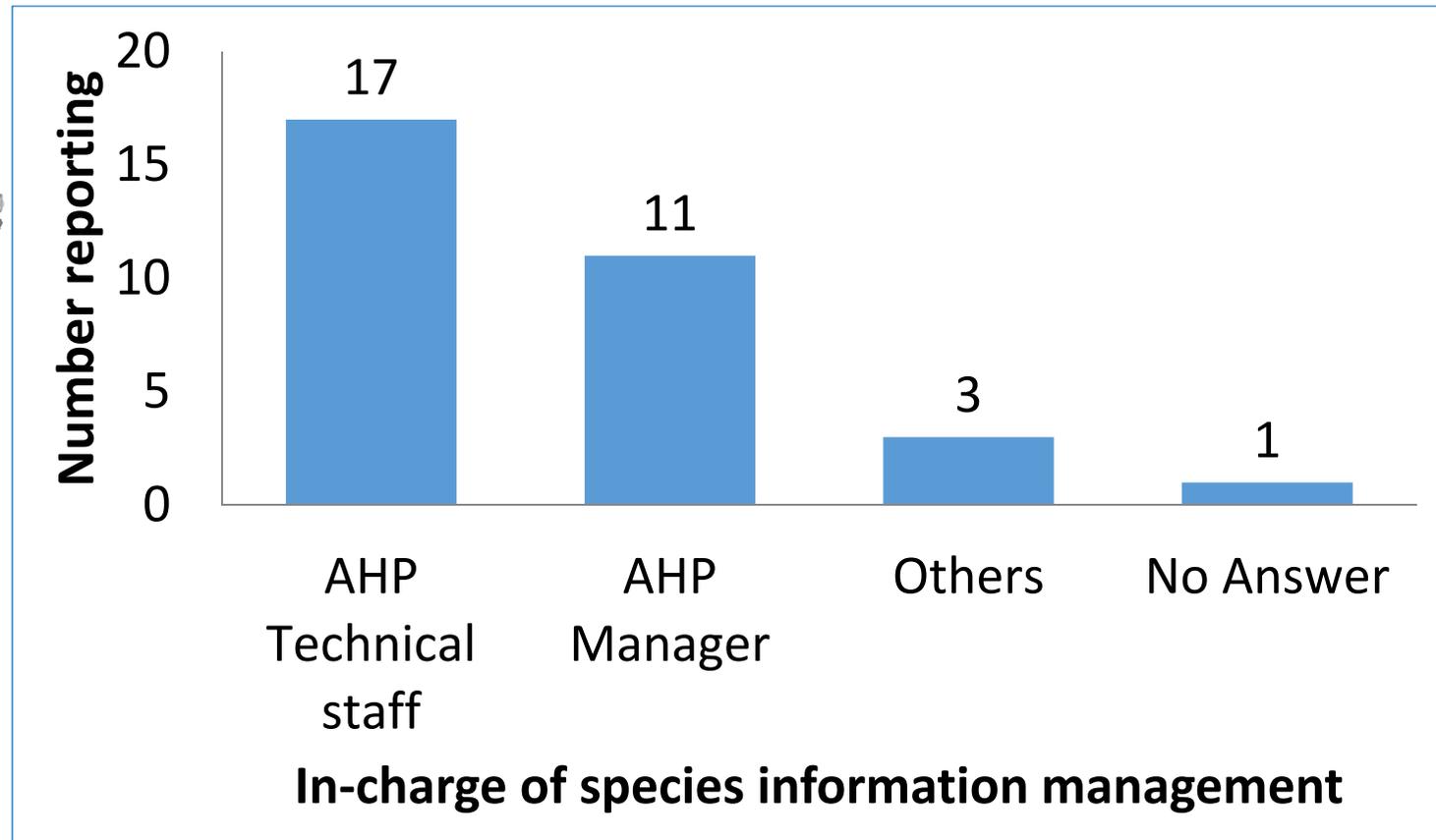
How species data are organized and managed



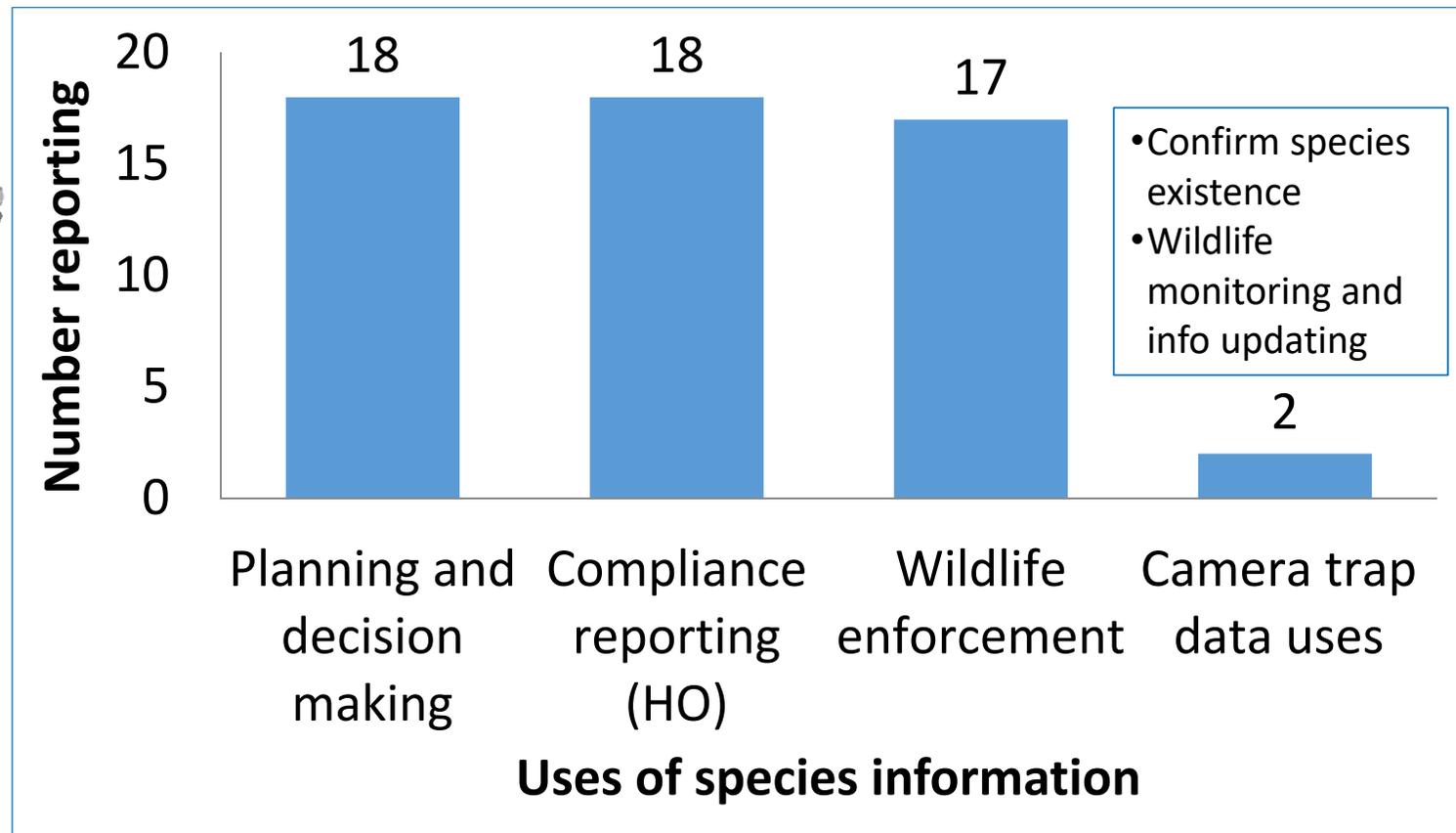
Frequency of species data updating



Who manage species information



Uses of species information

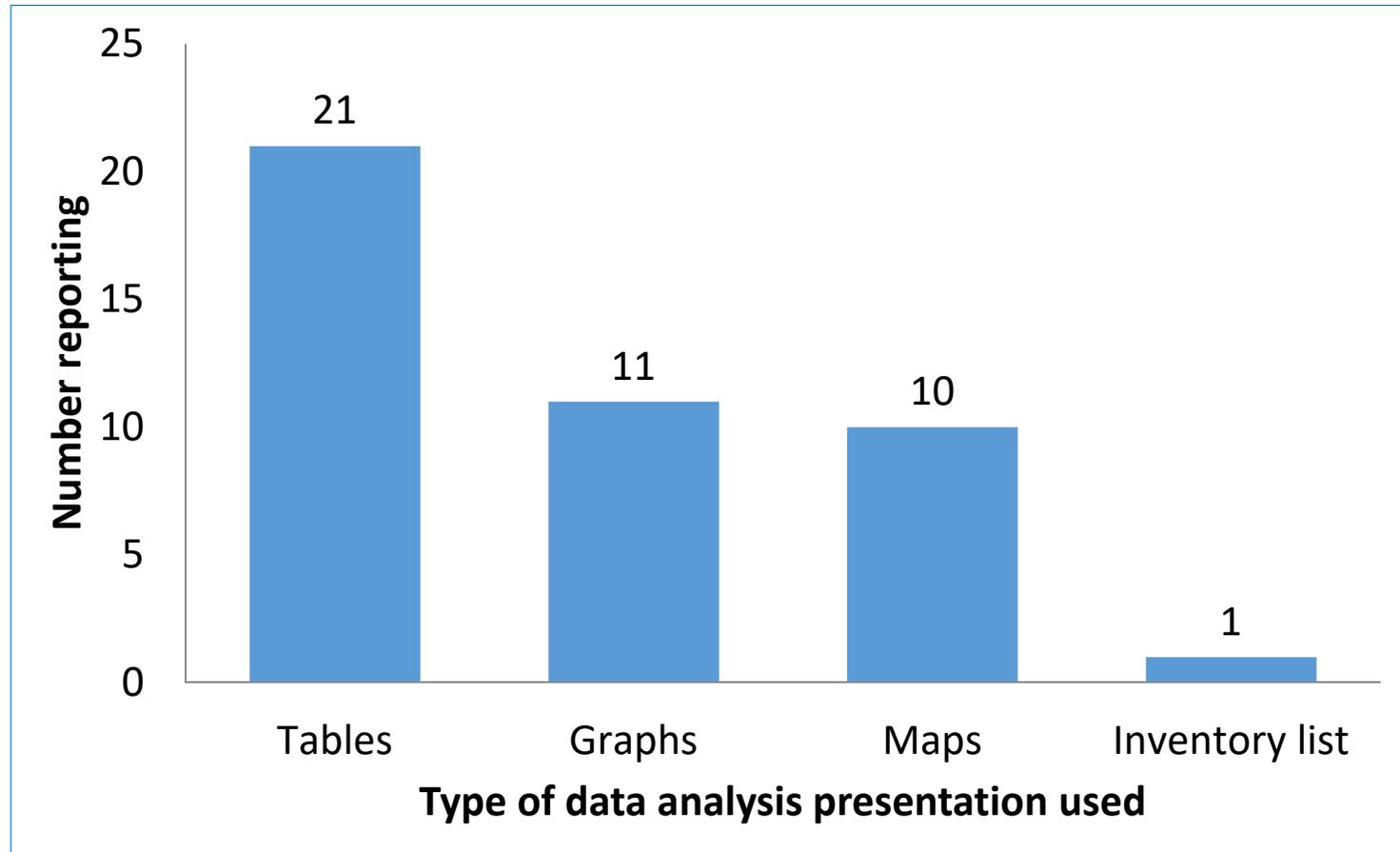


Level of proficiency in software used

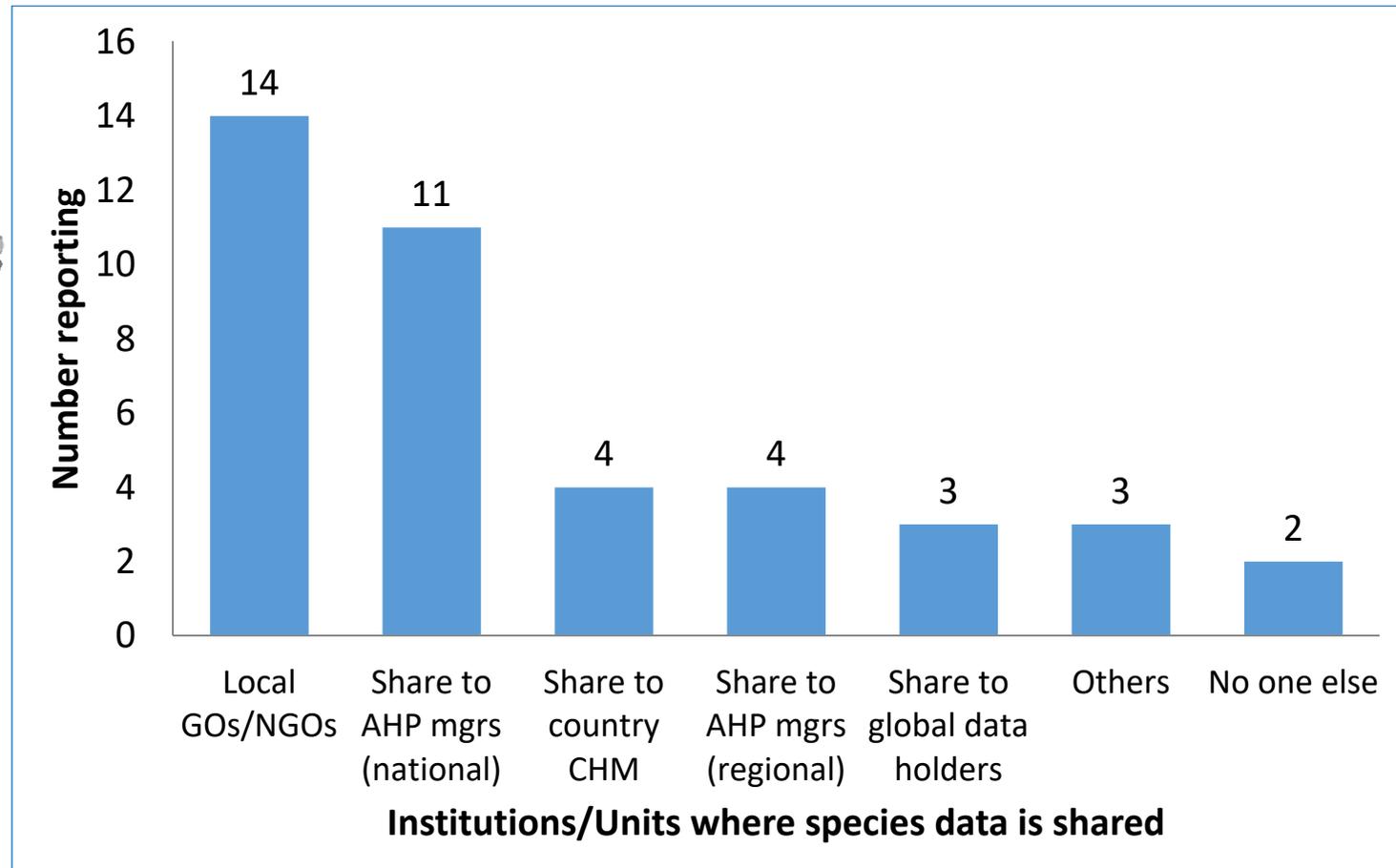


Software	Level of proficiency					
	5	4	3	2	1	No indicated proficiency
MS Excel	4	4	12	1	1	
ArcGIS	1		3	4	5	
QGIS			1			
Ozi Explorer						1
MIST						1
Quantum GB			1			1

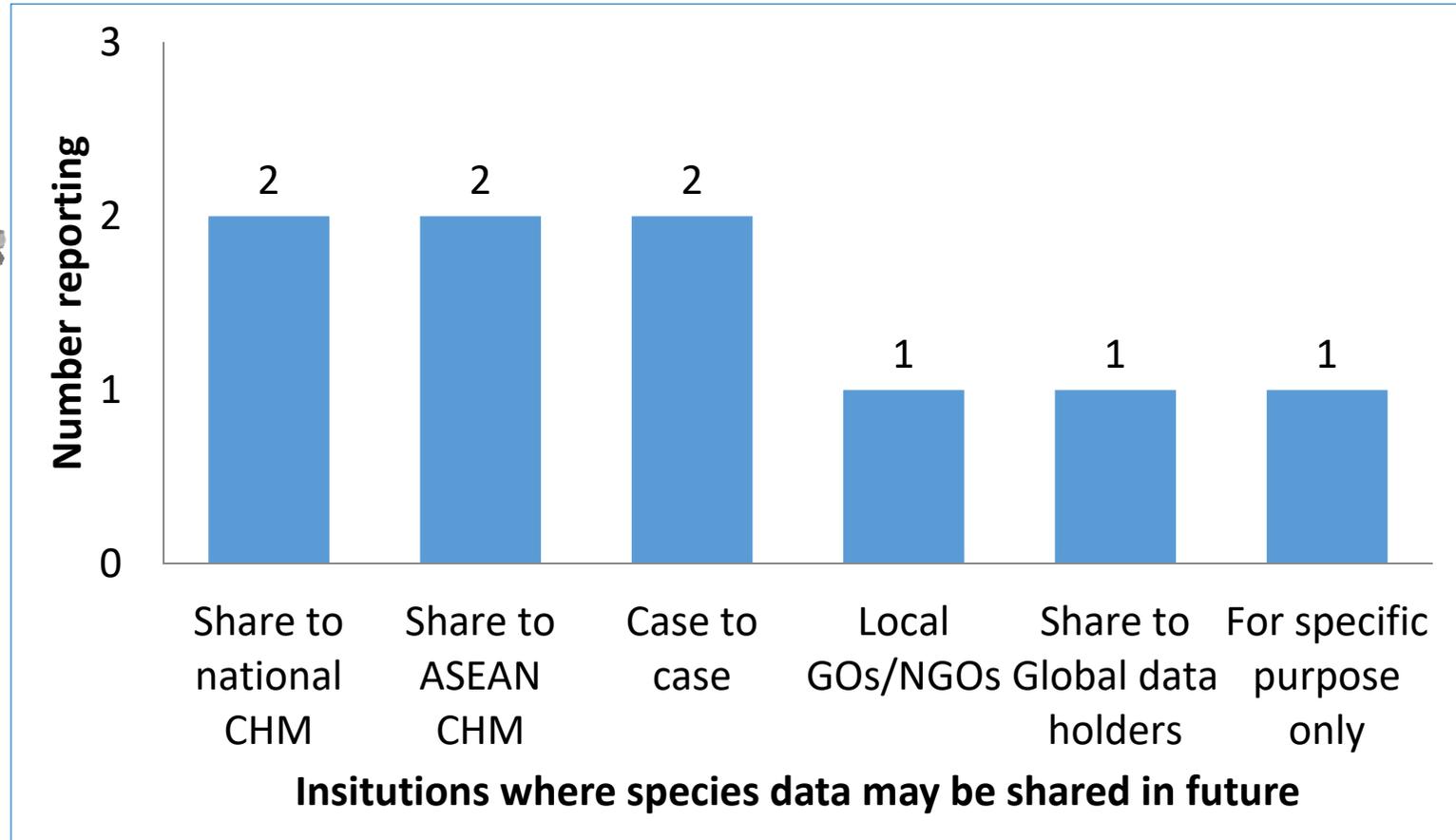
Types of data analysis presentation used



Institutions/Units where species information are shared



Institutions/Units where species information maybe shared in the future



Thank you





Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016



GBIF

Global Biodiversity
Information Facility



**ASEAN CENTRE
FOR BIODIVERSITY**





Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016



Activity Design Orientation Workshop on Mobilizing Data from ASEAN Heritage Parks 4-8 July 2016

A. Introduction

Southeast Asia is known for its rich biodiversity, with thousands of species unique to each of its countries. ASEAN Heritage Parks (AHPs) are selected protected areas in the ASEAN region, recognized for their unique biodiversity and ecosystems, wilderness and outstanding values. Through the ASEAN Declaration on Heritage Parks and Reserves, the ASEAN Member States (AMS) agreed to effectively manage these AHPs to maintain ecological processes and life support systems, preserve genetic diversity, ensure sustainable utilization of species and ecosystems and maintain wilderness that have scenic, cultural, educational, research, recreational and tourism values.

Having sufficient availability of biodiversity information from AHPs will provide for unhampered progress in conservation efforts being mobilized in the Region. The absence of capacity, skills, and institutional support to regularly update information on the status of biodiversity may cause delays in developing and reforming biodiversity - related policies and call-for-actions and may result to further threats to the already vulnerable situation that this Region's rich biodiversity is subject to. At current, biodiversity data collected from park surveys are documented through various means and may not always conform to globally agreed standards. A structured methodology that aligns survey methods with data curation and having curated data consistent with global standards would best serve the AHPs' managers and staff needs to be well oriented in the relevance, use, application of, and have the necessary skills in encoding field - sourced data in interoperable formats. In addition, data acquired from ASEAN Heritage Parks will be readily available for geographically relevant analysis, decision making, policy development and reform.

For this reason, the ASEAN Centre for Biodiversity has collaborated with the Global Biodiversity Information Facility (GBIF) in the implementation of the project on Mobilizing Biodiversity Data from ASEAN Heritage Parks which will be funded under GBIF's Biodiversity Information Fund for Asia (BIFA). Annex A presents details of the ACB-GBIF BIFA project on Mobilizing Biodiversity Data from AHPs.

A major output of this project is the conduct of a training program on data collection, organization and management which highlights the use of the camera trap method for data collection and the Integrated Publishing Toolkit (IPT) developed by GBIF for data publication. It is intended that data mobilized from this training will be an input to populate the biodiversity databases of national CHMs and expanding the network of GBIF in the region with AHPs as potential contributors of datasets. Thus, an orientation workshop on Mobilizing Data from AHPs is proposed to be conducted in Los Banos, Laguna, Philippines on 2-8 July 2016 in collaboration with the GBIF national nodes in Taiwan and Norway.

B. Objectives

The orientation workshop aims to facilitate a more effective and efficient mobilization of information through the AHPs and honing the skills of AHP managers as effective and efficient contributor of biodiversity information to national CHMs and eventually, to the GBIF network.

Specifically, the workshop aims to:

1. Strengthen skills of AHP managers and staff to:
 - a. Collect and document biodiversity information with the use of camera traps and GPS points;
 - b. Encode data from surveys into interoperable formats with the use of global standard formats for recording species (Darwin Core) and protected areas (WDPA format) with the use of offline and online encoding interfaces developed by ACB;
 - c. Harvest biodiversity data (from camera traps) and online global platforms
 - d. Process, map and analyze biodiversity data; and
 - e. Publish data through GBIF's IPT.
2. Enhance the awareness and appreciation of AHP managers and staff in their role as data providers to promote the establishment of a robust biodiversity information in the region as bases for science-based monitoring and policy and decision making
3. Enhance awareness of AHP managers on the importance of sharing information at the global, regional and national levels for biodiversity monitoring and conservation by being a part of the global, regional and national BIF networks

C. Methodology

Throughout the implementation of this project, the expertise of the Taiwan Biodiversity Information Facility (TaiBIF) and Global Biodiversity Information Facility, Norway (GBIF, Norway) and the experience of ACB in facilitating biodiversity-related activities among AMS and AHPs will be utilized. AHP managers and/or staff from the ten AMS will be invited in a training workshop to share with them necessary skills to be able to appropriately curate species data collected from various survey methods in AHPs. AHP staff will be advised to take with them actual data to work on at the training workshop. The national focal points of their respective CHMs will be informed of this development.

Outputs in the form of a) curated data will contribute to populating species databases in their respective national facilities including national CHM websites; and b) improvements in their respective database structures as guided by GBIF and ACB formats and tools. These activities will therefore be entry points towards expanding the GBIF Network in the ASEAN Region.

A three-day pre-workshop meeting (1-3 July 2016) will be conducted between ACB, TaiBIF and GBIF, Norway before the workshop to finalize the training modules and specific locations for setting up the camera traps. The Mount Makiling Forest Reserve (MMFR) will be the venue of the camera set up. Staff from the MMFR will be requested to assist in identifying appropriate locations where the camera traps will be established.

The orientation workshop will be conducted for five days, from 4-8 July 2016. Short descriptions of the modules for the training are listed below including equipment and facilities requirements:

1. Module 1 (1st Day) – Deployment of camera traps at the MMFR and orientation on the use of camera traps for data collection. This module involves a brief orientation on the use of camera traps for monitoring activities of rare animals and wildlife and practical application of the concepts discussed through the actual demo and hands-on in setting up camera traps. Ten camera traps which will be loaned to ACB by Taiwan Forestry Research Institute (TFRI) will be set-up in the pre-selected sites in the MMFR.
 - Note: Requirements for Module 1 – 10 camera trap set-ups to be brought by TaiBIF for the workshop

2. Module 2 (1 hour, 30 minutes, 2nd Day) – Introduction to Data Interoperability for Biodiversity Conservation Planning and Management. This module will define the concept of data interoperability as applied in organizing and managing species and protected areas data as bases for sound conservation policy and decision making. It also describes how interoperability for species and PA data is achieved through the use of global formats such as the Darwin Core and World Database on Protected Area (WDPA) structures, respectively. Topics under this module including the mode and duration are as follows:
 - a. Workshop Overview and Mechanics, levelling of expectations, 30 minutes
 - b. Data Interoperability for Biodiversity Conservation Planning and Management, Lecture, 30 minutes
 - c. Darwin Core Concept and Structure for recording species information, Lecture, 20 to 30 minutes

3. Module 3 (1hour 45 minutes, 2nd Day) – Transforming species records into a globally accepted format such as the Darwin Core (DwC) structure. This module involves an in-depth lecture, demo, and hands-on in the use of the offline species encoding tool (based on the DwC format) using actual species data from participants. This module is divided into three sections:
 - a. Lecture and Demo, Dynamics in Species Encoding, 20 minutes
 - b. Introduction to the Offline Species Encoding Tool, Lecture and Demo, 20 minutes
 - c. Supervised hands-on species encoding with the use of the offline species encoding tool. Participants are expected to encode actual species data from their individual collections, if not, then, use the species record sample provided by the trainers.
 - d. Duration: About one hour to one hour 15 minutes, depending on the quantity of species records available for encoding.
 - Note: Requirements for Module 3 – Fast and stable internet connection, laptop for each participants (with MS Office software), actual species records from participants (is preferred)

4. Module 4 (Half day, 2nd Day) – Online Species Data Harvesting and Processing. This module will introduce the processes employed by ACB in collecting and processing bulk species data from online global sources such as the Catalogue of Life (COL), IUCN Red List, Global Biodiversity Information Facility (GBIF), among others. The participants will be given a chance to apply the techniques that they have learned through a group exercise on data processing and report preparation. Topics in this module are as follows:
 - a. Collection of species information from several online sources, Demo and Hands-On, 1 hour.
 - b. Processing of bulk species information using data management features of the MS Excel software, Demo and Hands-on, 1 hour
 - c. Group Exercise 1: Data processing and report preparation (1 hour, 15 minutes)
 - d. Group Presentation (1 hour)
 - Note: Requirements for Module 4 – Fast and stable internet connection and laptop/computer for each participants
5. Module 5 (Half day- 3rd Day) – Camera trap retrieval, processing and analysis of data retrieved from camera traps. This module involves retrieval of camera traps from followed by an orientation, demo and exercise on the analysis of wildlife images collected.
6. Module 6 (Half day, 3rd Day) – GPS data collection and mapping species occurrence data. This module will introduce the step-by-step process of collecting GPS readings, processing, and mapping species point data and other information such as description of the area where species were found. Field collection of GPS points will be conducted back-to-back with retrieval of camera traps. Activities and topics in this module include:
 - a. Collection of GPS points at the MMFR after retrieval of camera traps (for module 5).
 - b. Orientation on new technologies evolving around Global Positioning System (GPS); uses of GPS data and Demo on a mapping platform (e.g., GeoCommons or ArcGIS, QGIS, GeoNames, Open Street Map (?), etc.) and tasking 2 hours of 2nd day
 - c. Preparation and presentation of group output - processing and mapping of GPS point data, lecture, demo and hands-on, 3 hours
 - Note: Requirements for Module 6 – Fast and stable Internet connection, smartphone with GPS or handheld GPS device, laptop for each participants, and actual species point data including descriptions of sites where the species were cited.
7. Module 7 (1 day, 4th Day) – Data Publication- Mobilizing data from AHPs. This module will include orientation, demo and hands-on on the use of the IPT (GBIF Integrated Data Publishing Toolkit) and mechanics of publishing datasets using the

GBIF interface. The process of publishing data papers will likewise be tackled in this module.

8. Module 8 (50 minutes, 5th Day) – Demo and Hands-On, Species in Protected Areas Tool. In this module, workshop participants will be oriented on the use of the tool as well as experience hands-on in mapping species within protected areas.
9. Module 9 (1 hour, 15 minutes, 5th Day) – Planning for next steps. This module will include discussions on the protocols and activities for the continued mobilization of AHP data to national CHMs and the GBIF network.

Annex B includes the programme for the 5-day orientation workshop.

Resource Persons

The project will be conducted collaboratively with experts from TaiBIF, GBIF, Norway and ACB as follows:

1. Taiwan Biodiversity Information Facility (TaiBIF):
 - a. Dr. Yu-Huang Wang, Node Manager
 - b. Dr. Po-Jen Chiang
 - c. Mr. Guan-Shuo Mai
 2. Global Biodiversity Information Facility, Norway (GBIF, Norway)
 - a. Dr. Dag Endresen, Node Manager
 3. ASEAN Centre for Biodiversity
 - a. Dr. Sheila Vergara, BIM Director
 - b. Mr. Christian Elloran, Database Specialist, BIM
 - c. Mr. Jerome Alano, GIS Officer, BIM
 - d. Ms. Lilibeth Cabebe, CHM and KM Officer, BIM
 - e. Ms. Erica Villavelez, Research Officer, BIM
 - f. Mr. Carlos Callangan, Jr. Research Associate, BIM
- Photo Documentation: Ms. Carmel Eje, Jr. Research Associate, BIM

D. Target Participants and Criteria for Selection

About 20 managers or staff of selected AHPs from the 10 AMS will be involved in the workshop. The criteria for selection of target participants will be as follows:

- a. AHPs with camera trap facilities and data will be considered priority.
- b. AHPs with available species data collected from transect surveys and are willing to encode and share information.

E. Expected Outputs

The workshop is expected to achieve the following outputs:

- AHP staff are oriented in the benefits and advantages of interoperable databases;
- AHP staff are introduced to GBIF developed tools and are guided through their use through hands-on exercises;
- AHP staff use actual data collected from AHP to publish through the IPT tool; and
- AHP staff are exposed to advanced site monitoring technology using the camera trap method.

F. Expected Outcomes

At the end of the workshop, it is hoped that:

- The rationale behind the collection, processing, analysis and sharing of biodiversity information is better understood.
- Participants are able to relate their work to country commitments to MEAs, particularly on:
 - Monitoring and reporting progress on biological resource conservation and management particularly on species information; and
 - Awareness on the importance of data publication through national CHMs and eventually to global data platforms such as the GBIF
- Newfound skills and knowledge will contribute to efficiency and effectiveness of AHP and PA management.

PROGRAMME

Day 0 (Sunday , 3 July 2016) – Arrival of participants		
Day 1 (Monday, 4 July 2016)– Opening Program and Camera Trap Deployment, Orientation, Demo and Hands-On		
8:00 AM	Registration of Participants	Workshop Participants
8:15 AM	Welcome Remarks	Atty. Roberto V. Oliva ACB Executive Director
8:20 AM	Workshop Overview & Mechanics <ul style="list-style-type: none"> • Introduction of participants • Workshop Overview • Levelling of Expectations • Photo Op 	Dr. Sheila G. Vergara ACB
8:40 AM	The GBIF Facility <ul style="list-style-type: none"> • Introduction to GBIF and the GBIF biodiversity data publishing infrastructure 	Dr. Dag Endresen GBIF, Norway Node Manager
9:00 AM	Orientation on the use of Camera traps for Wildlife Monitoring <ul style="list-style-type: none"> • Use of Camera Traps in Biodiversity Research and Conservation (use of multimedia objects, use of camera trap data, examples of practical uses) • Planning a data collection system based on Camera trapping • Setting-up the Data Capture System in The Field (setting-up, configuration of camera, camera trap maintenance) • Grouping of participants and tasking • Group Exercise 1: Deployment of Camera Traps 	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants
10:15 AM	Coffee Break	
10:30 AM	Demo and Hands-On on Deployment of Camera Traps	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants
12:00 NN	Lunch Break	

1:30 PM	Demo and Hands-On on Deployment of Camera Traps (Field site)	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants
4:00 PM	Group reporting: Exercise 1 – Process employed in setting up the camera traps	Workshop Participants
5:00 PM	End of Day 1	
6:00 PM	Dinner at Makiling Lounge, SEARCA	
Day 2 (Tuesday, 5 July 2016) – Overview of Information Interoperability and the Darwin Core for Species Database Management		
8:00 AM	Results of Pre-workshop survey	Ms. Lilibeth R. Cabebe ACB
8:20 AM	Data Interoperability for Biodiversity Conservation	Sheila G. Vergara ACB
8:50 AM	The GBIF Facility <ul style="list-style-type: none"> • What is the GBIF Integrated data Publishing Toolkit (IPT) • Data profiles in GBIF at rs.gbif.org • Occurrence, Event and Taxon cores • Darwin Core archives, data exchange format 	Dr. Dag Endresen GBIF- Norway Node Manager
9:20 AM	Lecture: Orientation on new technologies evolving around Global Positioning System (GPS)	Mr. Jerome S. J. Alano, ACB
9:40 AM	Lecture and Demo - Processing of GPS data (e.g., KBA delineation/identification) Demo and Hands-On: Online Mapping Platform	Mr. Jerome S. J. Alano, ACB/ Workshop Participants
10:30 AM	Coffee Break	
10:45 AM	Darwin Core: Data Structure and Concepts	Mr. Christian B. Elloran ACB
11:05 AM	Lecture: Dynamics in Darwin Core Offline Encoding Interface	Ms. Lilibeth R. Cabebe ACB
11:20 AM	Demo: Darwin Core Offline Encoding Interface	Mr. Carlos O. Callangan ACB
11:40 AM	Hands-On: Darwin Core Offline Encoding Interface	Workshop Participants/ACB
12:00 NN	Lunch Break	
1:00 PM	Hands-On: Darwin Core Offline Encoding Interface	Workshop Participants/ACB
2:00 PM	Demo and Hands-on: Species	Ms. Erica T. Villavelez, ACB

	Bulk Harvesting and Processing	Workshop Participants
3:00 PM	Coffee Break	
3:15 PM	Demo and Hands-on: Species Bulk Harvesting and Processing	Ms. Erica T. Villavelez, ACB Workshop Participants
4:00 PM	Group Exercise 2: Species data harvesting and processing	Workshop Participants
4:45 PM	Presentation of Group Output	Workshop Participants
5:10 PM	Tasking – Retrieval of Camera traps and collection of GPS points	Dr. Yu-Huang Wang, TaiBIF Mr. Jerome Alano, ACB
5:30 PM	End of Day 2	
6:00 PM	Dinner - Max Fried Chicken Restaurant	
Day 3 (Wednesday, 6 July 2016) – Retrieval, Management and Analysis of Camera Trap Data and Species Mapping		
8:00 AM	Field visit- MMFR – Retrieval of camera traps and collection of GPS points	Dr. Yu-Huang Wang, Dr. Po-Jen Chiang, Mr. Guan-Shuo Mai, TaiBIF Mr. Jerome Alano, ACB Workshop Participants
10:00 AM	Coffee Break	
10:15 AM	Data Management <ul style="list-style-type: none"> • Assigning file names for camera trap images • Quality control and quality enhancement of image collection • Archiving of data • Biodiversity data collection and management 	Dr. Yu-Huang Wang, Dr. Po-Jen Chiang, Mr. Guan-Shuo Mai, TaiBIF Dr. Dag Endresen, GBIF, Norway
12:00 NN	Lunch Break	
1:00 PM	Data Management <ul style="list-style-type: none"> • Dataset Metadata Management • Ecological Metadata Language (EML) • Publishing data paper (e.g. Pensoft Biodiversity Data Journal) 	Dr. Yu-Huang Wang, TaiBIF Dr. Dag Endresen, GBIF, Norway
3:00 PM	Coffee Break	
3:15 PM	Group Exercise 3: Mapping of Species (data points can be taken from camera trap data and GPS points collected)	Workshop Participants Jerome Alano, ACB
4:30 PM	Group Reporting of Exercise 3	Workshop Participants
5:30 PM	End of Day 3	
6:00 PM	Dinner at ACB HQ	
Day 4 (Thursday, 7 July 2016) – Data Publication – Mobilizing Data from AHPs		
8:00 AM	Orientation on the IPT	Dr. Dag Endresen, GBIF, Norway

8:40 AM	Demo and Hands-On: Publishing metadata through the IPT	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
9:40 AM	Demo on MyMatch!	Mr. Guan-Shuo Mai, TaiBIF
10:00 AM	Coffee Break	
10:15 AM	Demo and Hands-On: Publishing data through the IPT	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
12:00 NN	Lunch Break	
1:00 PM	Demo and Hands-On: Publishing data through the IPT (Continuation)	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
3:00 PM	Coffee Break	
3:15 PM	Demo and Hands-On: Publishing data through the IPT (Continuation)	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
4:00 PM	Open Forum	Workshop Participants/Consultants
5:00 PM	End of Day 4	
6:00 PM	Dinner at Palaisdaan	
Day 5 (Friday, 8 July 2016) – Planning for Next Steps and Closing Program		
8:00 AM	Recap of Days 1-4	Ms. Lilibeth R. Cabebe ACB
8:10 AM	Demo: Species in Protected Areas Tool	Mr. Christian Elloran, ACB
8:30 AM	Publishing Data Paper	Dr. Dag Endresen, GBIF, Norway
9:30 AM	Planning for next steps in AHP Biodiversity Information Management	Workshop Participants/ Dr. Dag Endresen, GBIF, Norway Dr. Yu-Huang Wang, TaiBIF Dr. Sheila Vergara, ACB
10:15 AM	Coffee Break	
10:30 AM	Workshop Synthesis	Dr. Sheila Vergara, ACB
11:00 AM	Closing Program <ul style="list-style-type: none"> • Response from participants • Awarding of Certificates • Closing Remarks 	Workshop Participants/ACB
12:00 NN	Lunch Break	
1:00 PM	Tour around Los Banos and Nuvali/Tagaytay	
6:00 PM	Dinner in Tagaytay Highlands	

Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas MID-TERM ACTIVITY REPORT

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Executive summary

The midterm report covers the project accomplishments for the period 1 April to 7 June 2016 as follows:

- Approval of the Global Biodiversity Information Facility (GBIF) grant letter agreement
- Site selection for camera trap deployment
- Planning and preparation for the training programme on Mobilizing Biodiversity Data from ASEAN Heritage Parks
- Conduct of online survey assessment regarding the biodiversity information management practices of AHPs
- Initial arrangements for the workshop

The orientation workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas was proposed to organize species data from ASEAN Heritage Parks (AHPs) into globally accepted formats. Such organized information can then be sound reference for science-based decision making in the ASEAN region. The orientation workshop will likewise expose ASEAN Park Managers in the use of camera traps and the processing of information

gathered from this method and orient them on the publication of species information with the use of species encoding and publication tools developed by ACB and GBIF.

The project proposal was approved by GBIF in March 2016 and the grant letter was signed by GBIF and ACB in 14 April 2016. The ACB leads project implementation with partners from Taiwan Biodiversity Information Facility (TaiBIF) and GBIF Norway contributing to the delivery of the training modules. Target participants and direct beneficiaries of this training programme are the managers and staff of AHPs.

The activity design was agreed among the partnership of TaiBIF, GBIF Norway and ACB. It maps out the workshop objectives, methodology (including module and topic descriptions), target participants, expected outputs, and programme. The Mount Makiling Forest Reserve (MMFR) was chosen as the site for camera trap deployment. All activities undertaken are closely coordinated with the ACB's AHP Programme Coordinator to ensure that AHP managers and staff are kept abreast in the developments and progress of the project.

An online survey on the current species data organization and management practices of AHPs was prepared and deployed to all managers and staff of AHPs on 1 April 2016. By 7 June 2016, only 5 confirmed participants had responded to the survey. This low turnout could be due to the low connectivity in AHPs. As an alternative strategy, the questionnaire will be administered before the start of the workshop to obtain insights on the data organization and management methodologies currently employed in AHPs and include these as inputs to the levelling-off activities.

As part of the ASEAN protocol, the call for nominations had been circulated in 4 April 2016 to all members of ACB's ASEAN Working Group on Nature Conservation and Biodiversity (AWGNCB) and Governing Board (GB). The project was also presented to the 26th AWGNCB meeting held in Viet Nam on 25-27 May 2016 to validate the schedule and elicit participation from AMS. By 7 June 2016, about 15 AHP managers/staff from 12 AHPs had confirmed attendance to the workshop. Six nominees from the Philippines representing three AHPs are put on hold pending receipt of their official nominations from the country's AWGCNB focal point. Initial and logistical arrangements for the workshop are ongoing.

The partners from Taiwan and Norway will be advised to deliver their lectures at a slower pace to ensure that all participants will understand and follow the lectures and demos despite language barriers.

Contact information

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Introduction

This report describes the activities and progress in project implementation from the approval of the GBIF Grant Letter (4 April 2016) to 7 June 2016. It contains details on the planning, coordination and logistical arrangements done in preparation for the conduct of an orientation workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas on 4-8 July 2016 in Los Banos, Laguna, Philippines. These preparatory activities were conducted in consultation with GBIF experts from Taiwan BIF (TaiBIF) and GBIF, Norway as collaborators in this project.

The project and its objectives

The project on Mobilizing Biodiversity Data from ASEAN Heritage Parks aims to facilitate a more effective and efficient mobilization of biodiversity information from the ASEAN region, specifically, from AHPs. It will ensure that these will be organized in the forms that these can be integrated, analysed and utilized as bases for decision making and policy development in the region. The orientation workshop features the camera trap methodology for the collection of species data that will complete transect-derived survey information. GBIF and ACB tools in managing species information such as the GBIF IPT toolkit and Darwin Core offline will be used. The target beneficiaries include managers and staff of AHPs in the region, who at present, hold biodiversity information in different structures and forms (e.g., analogue and digital).

The project is implemented with support from the GBIF-Biodiversity Information Fund Facility (BIFA), with ACB as lead implementer. The collaborators of this project include the following GBIF Nodes and/or affiliates from Taiwan and Norway who will contribute their expertise on the camera trap methodology and GBIF IPT toolkit:

1. Taiwan Biodiversity Information Facility (TaiBIF) at Academia Sinica:
 - a. Dr. Yu-Huang Wang, Node Manager
 - b. Dr. Po-Jen Chiang
 - c. Mr. Guan-Shuo Mai

2. Global Biodiversity Information Facility, Norway (GBIF, Norway)
 - a. Dr. Dag Endresen, Node Manager

The ACB designed modules on data organization and management (e.g., data interoperability, Darwin Core concepts, species information mapping with GIS, encoding with offline Darwin Core interface, collection and processing of data from online sources, etc.) will complement the partners' expertise. The ACB team are as follows:

- Dr. Sheila Vergara, Director, Biodiversity Information Management
- Mr. Christian Elloran, Database Specialist
- Ms. Lilibeth Cabebe, CHM and KM Officer
- Mr. Jerome Alano, GIS Officer
- Ms. Erica Villavelez, Research Officer
- Mr. Carlos Callangan, Junior Research Associate
- Ms. Pauline Carmel Eje, Junior Research Associate

Specifically, the project aims to:

1. increase the availability of biodiversity information in interoperable databases by strengthening the data curation skills of ASEAN Heritage Parks Managers and staff;
2. provide exposure and promote awareness on the use/function of camera traps as a helpful tool for acquiring real time biodiversity information that would otherwise not have been available through standard (transect) survey methods; and
3. convince and increase the willingness to share biodiversity information and promote science informed decision making and policy development at the level of the AHP as well as contribute to national and regional conservation efforts.

Project activities completed by mid-term

The major accomplishments in the mid-term period include the approval of the proposal and signing of the Grant Agreement, site selection for camera trap deployment, planning of training design and modules in collaboration with the Regional experts, preparation and implementation of the online assessment survey for AHP managers and staff, and initial workshop arrangements including call for participation from ASEAN Member States (AMS) and scanning of possible workshop venue and accommodation for participants.

Accomplishments for these activities are included in Table 1.

Table 1. Mid-Term project accomplishments from 1 April to 5 June 2016
vis-à-vis project deliverables

Date	Activities/Deliverables	Status/Major Accomplishments
Feb-Mar 2016	Submission and approval of the Proposal	<ul style="list-style-type: none"> Completed
21 Mar - 14 April 2016	Approval and signing of the Grant Agreement	<ul style="list-style-type: none"> Completed
31 May 2016	Funds released to proponent	<ul style="list-style-type: none"> The first tranche amounting to Euro 21,212.29 (USD 23336.85) was released by GBIF to ACB on 1 June 2016. This amount represents 60% of the total project cost.
1 May-10 Jun 2016	Site selection and related logistics in collaboration with TaiBIF and GBIF, Norway	<ul style="list-style-type: none"> The Mount Makiling Forest Reserve (MMFR), the sole AHP in Los Banos, Laguna was selected as the site for the field deployment of 11 camera traps Details of the site for camera trap deployment: <ul style="list-style-type: none"> Latitude: 14.13195 Longitude: 121.219553 Elevation: 439 masl (SAR DEM) GPS: 370.24 masl An initial list of potential fauna in the MMFR was provided by the park manager Dr. Yu-Huang Wang and colleagues will take along test datasets in case of a “no-show” of these animals.
1-15 May 2016	Planning in collaboration with the Region’s Experts (TaiBIF) and Norway Consultant (GBIF, Norway) on how the training on biodiversity information management, data publishing, capacity enhancement on the use of camera traps in PA management, data analysis will be implemented	<p><u>Informal meeting between ACB and TaiBIF conducted</u></p> <ul style="list-style-type: none"> An informal meeting was conducted between ACB (represented by Dr. Sheila Vergara and Ms. Lilibeth Cabebe) and TaiBIF (represented by Dr. Yu-Huang Wang) on 19 February 2016 in Bangkok, Thailand. This side meeting occurred during the 7th APBON Workshop in Thailand where both ACB and TaiBIF attended. Meeting agreements include: <ul style="list-style-type: none"> confirmed availability of Dr. Yu-Huang Wang as resource person for the camera trap methodology; TaiBIF to bring 11 camera traps to the meeting; and duration of the workshop. <p><u>Activity design with inputs from TaiBIF and GBIF, Norway completed.</u></p> <ul style="list-style-type: none"> A draft activity design for the conduct of a workshop on Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas was completed in 4 April and

Date	Activities/Deliverables	Status/Major Accomplishments
		<p>finalized in 27 May with inputs from Dr. Yu-Huang Wang (TaiBIF) and Dr. Dag Endresen (GBIF, Norway).</p> <ul style="list-style-type: none"> • The activity design (presented as Annex A) outlines the objectives, methodology (modules), expected outputs, and detailed programme of the orientation workshop where ACB, TaiBIF and GBIF, Norway agreed on: <ul style="list-style-type: none"> ○ Overall methodology and workshop flow ○ specific module/topic assignments ○ date of the workshop which is on 4-8 July 2016 in Los Banos, Laguna, Philippines.
		<p><u>In-House Coordination with the AHP Programme Coordinator</u></p> <ul style="list-style-type: none"> • Internal coordination with Mr. Norman Ramirez, ACB's AHP Programme Coordinator was done to ensure that news and updates about the project are communicated to AHP managers and staff in the region. • Mr. Ramirez also assisted in following up the submissions of official nominees from AHPs. <p><u>Call for nominations and status of confirmation of AHP managers/staff to the workshop</u></p> <ul style="list-style-type: none"> • The call for nominations for the orientation workshop on Mobilizing Biodiversity Data from ASEAN PAs was circulated on 4 April 2016 to members of ACB's Governing Board (GB) and ASEAN Working Group on Nature Conservation and Biodiversity (AWGNCB). • ASEAN protocol dictates that ACB may only recognize nominees that are officially endorsed by AWGNCB members of each AMS. • Official nominations were submitted by AMS starting mid-May to date. The deadline for submission, originally set on 20 May 2016, was extended up to the second week of June to accommodate late submissions. • By 7 June 2016, status of AMS participation include: <ul style="list-style-type: none"> ○ 15 confirmed participants from 6 AMS (Lao PDR, Indonesia, Malaysia, Myanmar, Singapore, and Thailand) representing 12 AHPs. ○ 6 participants from 3 AHPs in the Philippines are on hold pending receipt of their official nominations from the country's AWGNCB contact point. ○ Brunei Darussalam and Viet Nam also indicated interest to participate in the workshop but have yet to send their official nominees. • The initial list of participants is included as

Date	Activities/Deliverables	Status/Major Accomplishments
		Annex B of this report.
1 Apr-20 Jun 2016	Preparation of training modules	<ul style="list-style-type: none"> Preparation of powerpoint presentations for modules and tutorials is ongoing.
1 Apr- 15 June 2016	Online assessment of the ASEAN Heritage Parks on how biodiversity data are currently mobilized	<ul style="list-style-type: none"> The online survey for AHPs was prepared and deployed to AHP managers on 1 April 2016. Originally, deadline for completion of the survey was set on 20 May 2016 but was extended up to 15 June 2016 because of low turnout. The survey was designed to obtain insights on the methods and practices employed in AHPs in the collection, processing and analysis of species information in their respective protected areas. The survey was created through SurveyMonkey, the screen capture of which is included as Annex C. By 7 June 2015, a total of 5 AHP managers/staff completed the survey and these comprise of confirmed participants to the training. More responses are expected as official nominations from AMS are submitted to ACB.
25 May to 7 June 2016	Initial arrangements for the workshop	<p><u>Presentation of the ACB-GBIF project on Mobilizing Biodiversity Data from ASEAN PAs at the 26th AWGNCB Meeting</u></p> <ul style="list-style-type: none"> Dr. Sheila Vergara presented the project to the AWGNCB members to: <ul style="list-style-type: none"> Validate the schedule of the workshop; and Request for participation/nominees from AMS The meeting noted that the workshop schedule will coincide with the celebration of the Eid UI Ftre 2016 Malaysia endorsed three participants and indicated interest for an increased participation Indonesia endorsed two nominees Decisions on the participation from Brunei Darussalam, Cambodia and Viet Nam are pending <p><u>Workshop Venue and Accommodation for Participants</u></p> <ul style="list-style-type: none"> The workshop will be conducted at the Southeast Asian Regional Center for Graduate Study and Agriculture or SEARCA. Participants will be housed at the Splash Mountain Resort from 3-8 July 2016, a 15-minute drive from the workshop venue. To facilitate issuance of plane tickets, participants from Myanmar and Singapore as well as partners from TaiBIF and GBIF, Norway were requested to book their flights and will be paid by ACB upon their submission of official receipts. E-tickets of the rest of the participants (e.g., from

Date	Activities/Deliverables	Status/Major Accomplishments
		Lao PDR, Indonesia, Malaysia, and Thailand will be booked and issued by ACB upon submission of their scanned passports. <ul style="list-style-type: none"> The purchase order for workshop-related supplies was submitted to the Finance and Admin for processing and acquisition.
10 June 2016	Submission of the Mid-term activity and financial report to the GBIF Secretariat	<ul style="list-style-type: none"> Midterm activity and financial report completed and submitted to GBIF on 10 June 2016.

Project communications

The progress and results of the project are closely coordinated with the AHP Programme Coordinator of ACB, Mr. Norman Ramirez, who in turn, is in charge of updating all AHP managers and staff and AHP Committee members of project activities. Results and findings of the project will also be included as agenda items in two major events of the AHP Programme this year which include:

- the Fifth Meeting of the ASEAN Heritage Parks Committee on 25-27 July 2016 in Jakarta, Indonesia; and
- the Fifth ASEAN Heritage Parks Conference on 24-26 October 2016 in Nay Pyi Taw, Myanmar.

Reports and periodic updates will be communicated to GBIF for uploading in the website dedicated for the project (URL: <http://www.gbif.org/programme/bifa/2015/ASEAN-heritage-park>). The ACB communications contact persons for this undertaking are as follows:

- Main Contact: Ms. Pamela Reblora, Development Communications Officer (email: pqreblora@aseanbiodiversity.org)
- Alternate Contact: Ms. Lilibeth Cabebe, CHM and KM Officer (email: lrcabebe@aseanbiodiversity.org)

ACB will release news articles about the project from time to time.

Mid-term evaluation findings and recommendations for the remaining project implementation period

From initial feedback from the AHP Programme Coordinator and partners from AMS, the AHP managers and staff, who are the target beneficiaries of the project, are interested to avail of the training. ACB received direct submissions of nominees coming from the AHPs

themselves (e.g., Philippines, Indonesia, Malaysia, and Thailand). These submissions were considered official nominees upon endorsement of the AWGNCB focal points.

In spite of delays in the submission of official nominations from AMS, arrangements for the workshop are catching up. Coordination with partners from TaiBIF and GBIF, Norway is mostly done through emails and this is working well so far.

The major concern identified is the low response rate of AHP managers and staff on the online assessment survey being conducted. This low turn-out may be attributed to the low connectivity of AHP sites in the region. Alternatively, ACB will:

- use the results of a training needs assessment (TNA) conducted on AHPs in March 2015 as initial input to the training modules being developed; and
- administer the questionnaire as part of the levelling-off activities at the onset of the workshop to cover participants' concerns not identified in the TNA and the online assessment. This will enable the lecturers to adjust the module contents as necessary.

To ensure that all participants will effectively understand lectures and demos despite language differences, partners will be advised to deliver the lectures at a slower pace.

Annex A

Activity Design Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas 1-8 July 2016

A. Introduction

Southeast Asia is known for its rich biodiversity, with thousands of species unique to each of its countries. ASEAN Heritage Parks (AHPs) are selected protected areas in the ASEAN region, recognized for their unique biodiversity and ecosystems, wilderness and outstanding values. Through the ASEAN Declaration on Heritage Parks and Reserves, the ASEAN Member States (AMS) agreed to effectively manage these AHPs to maintain ecological processes and life support systems, preserve genetic diversity, ensure sustainable utilization of species and ecosystems and maintain wilderness that have scenic, cultural, educational, research, recreational and tourism values.

Having sufficient availability of biodiversity information from AHPs will provide for unhampered progress in conservation efforts being mobilized in the Region. The absence of capacity, skills, and institutional support to regularly update information on the status of biodiversity may cause delays in developing and reforming biodiversity - related policies and call-for-actions and may result to further threats to the already vulnerable situation that this Region's rich biodiversity is subject to. At current, biodiversity data collected from park surveys are documented through various means and may not always conform to globally agreed standards. A structured methodology that aligns survey methods with data curation and having curated data consistent with global standards would best serve the AHPs' managers and staff needs to be well oriented in the relevance, use, application of, and have the necessary skills in encoding field - sourced data in interoperable formats. In addition, data acquired from ASEAN Heritage Parks will be readily available for geographically relevant analysis, decision making, policy development and reform.

For this reason, the ASEAN Centre for Biodiversity has collaborated with the Global Biodiversity Information Facility (GBIF) in the implementation of the project on Mobilizing Biodiversity Data from ASEAN Heritage Parks which will be funded under GBIF's Biodiversity Information Fund for Asia (BIFA). Annex A presents details of the ACB-GBIF BIFA project on Mobilizing Biodiversity Data from AHPs.

A major output of this project is the conduct of a training program on data collection, organization and management which highlights the use of the camera trap method for data collection and the Integrated Publishing Toolkit (IPT) developed by GBIF for data publication. It is intended that data mobilized from this training will be an input to populate the biodiversity databases of national CHMs and expanding the network of GBIF in the region with AHPs as potential contributors of datasets. Thus, an orientation workshop on Mobilizing Data from AHPs is proposed to be conducted in Los Banos, Laguna, Philippines on 2-8 July 2016 in collaboration with the GBIF national nodes in Taiwan and Norway.

B. Objectives

The orientation workshop aims to facilitate a more effective and efficient mobilization of information through the AHPs and honing the skills of AHP managers as effective and efficient contributor of biodiversity information to national CHMs and eventually, to the GBIF network.

Specifically, the workshop aims to:

1. Strengthen skills of AHP managers and staff to:
 - a. Collect and document biodiversity information with the use of camera traps and GPS points;
 - b. Encode data from surveys into interoperable formats with the use of global standard formats for recording species (Darwin Core) and protected areas (WDPA format) with the use of offline and online encoding interfaces developed by ACB;
 - c. Harvest biodiversity data (from camera traps) and online global platforms
 - d. Process, map and analyze biodiversity data; and
 - e. Publish data through GBIF's IPT.
2. Enhance the awareness and appreciation of AHP managers and staff in their role as data providers to promote the establishment of a robust biodiversity information in the region as bases for science-based monitoring and policy and decision making
3. Enhance awareness of AHP managers on the importance of sharing information at the global, regional and national levels for biodiversity monitoring and conservation by being a part of the global, regional and national BIF networks

C. Methodology

Throughout the implementation of this project, the expertise of the Taiwan Biodiversity Information Facility (TaiBIF) and Global Biodiversity Information Facility, Norway (GBIF, Norway) and the experience of ACB in facilitating biodiversity-related activities among AMS and AHPs will be utilized. AHP managers and/or staff from the ten AMS will be invited in a training workshop to share with them necessary skills to be able to appropriately curate species data collected from various survey methods in AHPs. AHP staff will be advised to take with them actual data to work on at the training workshop. The national focal points of their respective CHMs will be informed of this development.

Outputs in the form of a) curated data will contribute to populating species databases in their respective national facilities including national CHM websites; and b) improvements in their respective database structures as guided by GBIF and ACB formats and tools. These activities will therefore be entry points towards expanding the GBIF Network in the ASEAN Region.

A three-day pre-workshop meeting (1-3 July 2016) will be conducted between ACB, TaiBIF and GBIF, Norway before the workshop to finalize the training modules and specific locations for setting up the camera traps. The Mount Makiling Forest Reserve (MMFR) will be the venue of the camera set up. Staff from the MMFR will be requested to assist in identifying appropriate locations where the camera traps will be established.

The orientation workshop will be conducted for five days, from 4-8 July 2016. Short descriptions of the modules for the training are listed below including equipment and facilities requirements:

1. Module 1 (1st Day) – Deployment of camera traps at the MMFR and orientation on the use of camera traps for data collection. This module involves a brief orientation on the use of camera traps for monitoring activities of rare animals and wildlife and practical application of the concepts discussed through the actual demo and hands-on in setting up camera traps. Ten camera traps which will be loaned to ACB by Taiwan Forestry Research Institute (TFRI) will be set-up in the pre-selected sites in the MMFR.

- Note: Requirements for Module 1 – 10 camera trap set-ups to be brought by TaiBIF for the workshop
2. Module 2 (1 hour, 30 minutes, 2nd Day) – Introduction to Data Interoperability for Biodiversity Conservation Planning and Management. This module will define the concept of data interoperability as applied in organizing and managing species and protected areas data as bases for sound conservation policy and decision making. It also describes how interoperability for species and PA data is achieved through the use of global formats such as the Darwin Core and World Database on Protected Area (WDPA) structures, respectively. Topics under this module including the mode and duration are as follows:
 - a. Workshop Overview and Mechanics, levelling of expectations, 30 minutes
 - b. Data Interoperability for Biodiversity Conservation Planning and Management, Lecture, 30 minutes
 - c. Darwin Core Concept and Structure for recording species information, Lecture, 20 to 30 minutes
 3. Module 3 (1hour 45 minutes, 2nd Day) – Transforming species records into a globally accepted format such as the Darwin Core (DwC) structure. This module involves an in-depth lecture, demo, and hands-on in the use of the offline species encoding tool (based on the DwC format) using actual species data from participants. This module is divided into three sections:
 - a. Lecture and Demo, Dynamics in Species Encoding, 20 minutes
 - b. Introduction to the Offline Species Encoding Tool, Lecture and Demo, 20 minutes
 - c. Supervised hands-on species encoding with the use of the offline species encoding tool. Participants are expected to encode actual species data from their individual collections, if not, then, use the species record sample provided by the trainers.
 - d. Duration: About one hour to one hour 15 minutes, depending on the quantity of species records available for encoding.
 - Note: Requirements for Module 3 – Fast and stable internet connection, laptop for each participants (with MS Office software), actual species records from participants (is preferred)
 4. Module 4 (Half day, 2nd Day) – Online Species Data Harvesting and Processing. This module will introduce the processes employed by ACB in collecting and processing bulk species data from online global sources such as the Catalogue of Life (COL), IUCN Red List, Global Biodiversity Information Facility (GBIF), among others. The participants will be given a chance to apply the techniques that they have learned through a group exercise on data processing and report preparation. Topics in this module are as follows:
 - a. Collection of species information from several online sources, Demo and Hands-On, 1 hour.
 - b. Processing of bulk species information using data management features of the MS Excel software, Demo and Hands-on, 1 hour
 - c. Group Exercise 1: Data processing and report preparation (1 hour, 15 minutes)
 - d. Group Presentation (1 hour)

- Note: Requirements for Module 4 – Fast and stable internet connection and laptop/computer for each participants
5. Module 5 (Half day- 3rd Day) – Camera trap retrieval, processing and analysis of data retrieved from camera traps. This module involves retrieval of camera traps from followed by an orientation, demo and exercise on the analysis of wildlife images collected.
 6. Module 6 (Half day, 3rd Day) – GPS data collection and mapping species occurrence data. This module will introduce the step-by-step process of collecting GPS readings, processing, and mapping species point data and other information such as description of the area where species were found. Field collection of GPS points will be conducted back-to-back with retrieval of camera traps. Activities and topics in this module include:
 - a. Collection of GPS points at the MMFR after retrieval of camera traps (for module 5).
 - b. Orientation on new technologies evolving around Global Positioning System (GPS); uses of GPS data and Demo on a mapping platform (e.g., GeoCommons or ArcGIS, QGIS, GeoNames, Open Street Map (?), etc.) and tasking 2 hours of 2nd day
 - c. Preparation and presentation of group output - processing and mapping of GPS point data, lecture, demo and hands-on, 3 hours
 - Note: Requirements for Module 6 – Fast and stable Internet connection, smartphone with GPS or handheld GPS device, laptop for each participants, and actual species point data including descriptions of sites where the species were cited.
 7. Module 7 (1 day, 4th Day) – Data Publication- Mobilizing data from AHPs. This module will include orientation, demo and hands-on on the use of the IPT (GBIF Integrated Data Publishing Toolkit) and mechanics of publishing datasets using the GBIF interface. The process of publishing data papers will likewise be tackled in this module.
 8. Module 8 (50 minutes, 5th Day) – Demo and Hands-On, Species in Protected Areas Tool. In this module, workshop participants will be oriented on the use of the tool as well as experience hands-on in mapping species within protected areas.
 9. Module 9 (1 hour, 15 minutes, 5th Day) – Planning for next steps. This module will include discussions on the protocols and activities for the continued mobilization of AHP data to national CHMs and the GBIF network.
- Annex B includes the programme for the 5-day orientation workshop.

Resource Persons

The project will be conducted collaboratively with experts from TaiBIF, GBIF, Norway and ACB as follows:

3. Taiwan Biodiversity Information Facility (TaiBIF):
 - a. Dr. Yu-Huang Wang, Node Manager
 - b. Dr. Po-Jen Chiang
 - c. Mr. Guan-Shuo Mai

 4. Global Biodiversity Information Facility, Norway (GBIF, Norway)
 - a. Dr. Dag Endresen, Node Manager

 5. ASEAN Centre for Biodiversity
 - a. Dr. Sheila Vergara, BIM Director
 - b. Mr. Christian Elloran, Database Specialist, BIM
 - c. Mr. Jerome Alano, GIS Officer, BIM
 - d. Ms. Lilibeth Cabebe, CHM and KM Officer, BIM
 - e. Ms. Erica Villavelez, Research Officer, BIM
 - f. Mr. Carlos Callangan, Jr. Research Associate, BIM
- Photo Documentation: Ms. Carmel Eje, Jr. Research Associate, BIM

D. Target Participants and Criteria for Selection

About 20 managers or staff of selected AHPs from the 10 AMS will be involved in the workshop. The criteria for selection of target participants will be as follows:

- a. AHPs with camera trap facilities and data will be considered priority.
- b. AHPs with available species data collected from transect surveys and are willing to encode and share information.

E. Expected Outputs

The workshop is expected to achieve the following outputs:

1. Trainees are oriented in the benefits and advantages of interoperable databases
2. Trainees are introduced to GBIF developed tools and are guided through their use through hands-on exercises
3. Trainees use actual data collected from AHP to publish through the IPT tool
4. Trainees are exposed to advanced site monitoring technology using the camera trap method

Attachment B to Annex A

**Orientation Workshop on Mobilizing Data from ASEAN Heritage Parks
1-8 July 2016**

PROPOSED PROGRAMME

<i>Pre-Workshop Meeting between ACB, TaiBIF, GBIF, NorwayGBIF, Norway (Friday to Sunday, 1-3 July 2016)</i>		
<i>Day 0 (Sunday, 3 July 2016) – Arrival of participants</i>		
<i>Day 1 (Monday, 4 July 2016)– Opening Program and Camera Trap Deployment, Orientation, Demo and Hands-On</i>		
8:00 AM	Registration of Participants	Workshop Participants
8:15 AM	Welcome Remarks	Atty. Roberto V. Oliva ACB Executive Director
8:20 AM	Workshop Overview & Mechanics <ul style="list-style-type: none"> • Introduction of participants • Workshop Overview • Levelling of Expectations • Photo Op 	Dr. Sheila G. Vergara ACB
8:40 AM	The GBIF Facility <ul style="list-style-type: none"> • Introduction to GBIF and the GBIF biodiversity data publishing infrastructure 	Dr. Dag Endresen GBIF, Norway Node Manager
9:00 AM	Orientation on the use of Camera traps for Wildlife Monitoring <ul style="list-style-type: none"> • Use of Camera Traps in Biodiversity Research and Conservation (use of multimedia objects, use of camera trap data, examples of practical uses) • Planning a data collection system based on Camera trapping • Setting-up the Data Capture System in The Field (setting-up, configuration of camera, camera trap maintenance) • Grouping of participants and tasking • Group Exercise 1: Deployment of Camera Traps 	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants
10:15 AM	Coffee Break	
10:30 AM	Demo and Hands-On on Deployment of Camera Traps	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai

		Workshop participants
12:00 NN	Lunch Break	
1:30 PM	Demo and Hands-On on Deployment of Camera Traps (Field site)	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants
4:00 PM	Group reporting: Exercise 1 – Process employed in setting up the camera traps	Workshop Participants
5:00 PM	End of Day 1	
6:00 PM	Dinner	Arrangements to be announced
Day 2 (Tuesday, 5 July 2016) – Overview of Information Interoperability and the Darwin Core for Species Database Management		
8:00 AM	Recap of Day 1	Ms. Lilibeth R. Cabebe ACB
8:20 AM	Data Interoperability for Biodiversity Conservation	Sheila G. Vergara ACB
8:50 AM	The GBIF Facility <ul style="list-style-type: none"> • What is the GBIF Integrated data Publishing Toolkit (IPT) • Data profiles in GBIF at rs.gbif.org • Occurrence, Event and Taxon cores • Darwin Core archives, data exchange format 	Dr. Dag Endresen GBIF- Norway Node Manager
9:20 AM	Lecture: Orientation on new technologies evolving around Global Positioning System (GPS)	Mr. Jerome S. J. Alano, ACB
9:40 AM	Lecture and Demo - Processing of GPS data (e.g., KBA delineation/identification) Demo and Hands-On: Online Mapping Platform	Mr. Jerome S. J. Alano, ACB/ Workshop Participants
10:30 AM	Coffee Break	
10:45 AM	Darwin Core: Data Structure and Concepts	Mr. Christian B. Elloran ACB
11:05 AM	Lecture: Dynamics in Darwin Core Offline Encoding Interface	Ms. Lilibeth R. Cabebe ACB
11:20 AM	Demo: Darwin Core Offline Encoding Interface	Mr. Carlos O. Callangan ACB
11:40 AM	Hands-On: Darwin Core Offline Encoding Interface	Workshop Participants/ACB
12:00 NN	Lunch Break	
1:00 PM	Hands-On: Darwin Core Offline Encoding Interface	Workshop Participants/ACB
2:00 PM	Demo and Hands-on: Species Bulk Harvesting and Processing	Ms. Erica T. Villavelez, ACB Workshop Participants

3:00 PM	Coffee Break	
3:15 PM	Demo and Hands-on: Species Bulk Harvesting and Processing	Ms. Erica T. Villavelez, ACB Workshop Participants
4:00 PM	Group Exercise 2: Species data harvesting and processing	Workshop Participants
4:45 PM	Presentation of Group Output	Workshop Participants
5:10 PM	Tasking – Retrieval of Camera traps and collection of GPS points	Dr. Yu-Huang Wang, TaiBIF Mr. Jerome Alano, ACB
5:30 PM	End of Day 2	
6:00 PM	Dinner	Arrangements to be announced
Day 3 (Wednesday, 6 July 2016) – Retrieval, Management and Analysis of Camera Trap Data and Species Mapping		
8:00 AM	Field visit- MMFR – Retrieval of camera traps and collection of GPS points	Dr. Yu-Huang Wang, Dr. Po-Jen Chiang, Mr. Guan-Shuo Mai, TaiBIF Mr. Jerome Alano, ACB Workshop Participants
10:00 AM	Coffee Break	Jerome S. J. Alano, ACB
10:15 AM	Data Management <ul style="list-style-type: none"> • Assigning file names for camera trap images • Quality control and quality enhancement of image collection • Archiving of data • Biodiversity data collection and management 	Dr. Yu-Huang Wang, Dr. Po-Jen Chiang, Mr. Guan-Shuo Mai, TaiBIF Dr. Dag Endresen, GBIF, Norway
12:00 NN	Lunch Break	
1:00 PM	Data Management <ul style="list-style-type: none"> • Dataset Metadata Management • Ecological Metadata Language (EML) • Publishing data paper (e.g. Pensoft Biodiversity Data Journal) 	Dr. Yu-Huang Wang, TaiBIF Dr. Dag Endresen, GBIF, Norway
3:00 PM	Coffee Break	
3:15 PM	Group Exercise 3: Mapping of Species (data points can be taken from camera trap data and GPS points collected)	Workshop Participants/ ACB/TaiBIF/GBIF, Norway
4:30 PM	Group Reporting of Exercise 3	Workshop Participants
5:30 PM	End of Day 3	
6:00 PM	Dinner	Arrangements to be announced
Day 4 (Thursday, 7 July 2016) – Data Publication – Mobilizing Data from AHPs		
8:00 AM	Recap of Days 2 and 3	Lilibeth R. Cabebe, ACB
8:20 AM	Orientation on the IPT	Dr. Dag Endresen, GBIF, Norway
9:00 AM	Demo and Hands-On: Publishing metadata through the IPT	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
10:00AM	Coffee Break	
10:15 AM	Demo and Hands-On: Publishing	Mr. Dag Endresen, GBIF, Norway/

	metadata through the IPT	Mr. Christian Elloran, ACB Workshop Participants
12:00 NN	Lunch Break	
1:00 PM	Demo and Hands-On: Publishing metadata through the IPT (Continuation)	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
3:00 PM	Coffee Break	
3:15 PM	Demo and Hands-On: Publishing metadata through the IPT (Continuation)	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
4:00 PM	Open Forum	Workshop Participants/Consultants
5:00 PM	End of Day 4	
6:00 PM	Dinner	Arrangements to be announced
Day 5 (Friday, 8 July 2016) – Planning for Next Steps and Closing Program		
8:00 AM	Recap of Day 1	Ms. Lilibeth R. Cabebe ACB
8:10	Demo and Hands-On : Species in Protected Areas Tool	Mr. Christian Elloran, ACB
9:00 AM	Planning for next steps	Workshop Participants/ Dr. Dag Endresen, GBIF, Norway Dr. Yu-Huang Wang, TaiBIF Dr. Sheila Vergara, ACB
10:15 AM	Coffee Break	
10:30 AM	Workshop Synthesis	Dr. Sheila Vergara, ACB
11:00 AM	Closing Program <ul style="list-style-type: none"> • Response from participants • Awarding of Certificates • Closing Remarks 	Workshop Participants/ACB
12:00 NN	Lunch Break	
1:00 PM	Tour around Los Banos/Calamba/ Sta. Rosa and Nuvali	
6:00 PM	Dinner	

Annex B

List of Participants as of 7 June 2016 Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas 4-8 July 2016, Los Banos, Laguna, Philippines

Name	Sex	Country	Designation and Address	
Participants				
1	Ms. Phitsamai Dalalom	F	LA	Technical Official Division of National Biodiversity Conservation Areas Department of Forest Resources Management (MONRE) Vientiane, Lao PDR E-mail: phitsamai.dalalom@gmail.com
2	Mr. Toui Kingmala	M	LA	Nam Ha National Park Manager –KWF/SGP Department of Forest Resources Management (MONRE) Vientiane, Lao PDR E-mail: toui100@yahoo.com
3	Ms. Aye Myat Thu	F	MM	Range Officer Nature and Wildlife Conservation Division Forest Department Ministry of Natural Resources and Environment Conservation Nay Pyi Taw, Myanmar E-mail: nwcdfdmof@gmail.com
4	Mr. Sein Tun	M	MM	Staff Officer/Park Warden Inlay Lake Wildlife Sanctuary, Nature and Wildlife Conservation Division Forest Department Ministry of Natural Resources and Environment Conservation Nay Pyi Taw, Myanmar E-mail: nwcdfdmof@gmail.com
5	Mr. Benjamin Lee Chengfa	M	SG	Manager / Projects (Conservation) Sungei Buloh Wetland Reserve E-mail: Benjamin_CF_LEE@nparks.gov.sg

Name	Sex	Country	Designation and Address	
6	Mr. Chung Yi Fei	M	SG	Manager / Conservation Bukit Timah Nature Reserve Email: CHUNG_Yi_Fei@nparks.gov.sg
7	Mr. Gilmore G. Bolongon	M	MY	Taman Negara National Park Wildlife Officer, Department of Wildlife and National Parks Peninsular Malaysia E-mail: gilmore@wildlife.gov.my
8	Mr. Paschal Dagang	M	MY	Gunung Mulu National Park Biologist, Sarawak Forestry Corporation E-mail: paschald@sarawakforestry.com
9	Mr. Nickson Joseph Robi	M	MY	Gunung Mulu National Park Ag. Local Cordinator for RIMBA Sarawak, Sarawak Forestry Corporation E-mails: nick@sarawakforestry.com
10	Mr. Fred Tuh Yit Yu	M	MY	Kinabalu National Park Coordinator (Research & Education Division), Sabah Parks E-mails: sabahparks@gmail.com; sabahparks@sabah.gov.my
11	Mr. Mohammad Zaini Abdul Wahab	M	MY	Kinabalu National Park Senior Research Assistant (Interpretation & Education) Research & Education Division Sabah Parks E-mails: sabahparks@gmail.com; sabahparks@sabah.gov.my
12	Mr. P. Agusman	M	ID	Kerinci Seblat National Park Sumatra, Indonesia E-mail: agusmanm@yahoo.com; bptnsumbar@yahoo.co.id
13	Mr. Yoshia Wirasyylvia Ginting	M	ID	Gunung Leuser National Park Sumatra, Indonesia E-mail: borneo_ginting@yahoo.co.id; balai_tngl@dephut.go.id

Name		Sex	Country	Designation and Address
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15	Mr. Thammanoon Temchai	M	TH	Head of National Parks Research Centre (working in KKNP) Department of National Parks, Wildlife and Plants Bangkok, Thailand E-mail: nfp.onep@gmail.com
16			PH	Waiting for official nominations from the Biodiversity Management Bureau of the Department of Natural Resources, ACB's AWGNCB focal point
17			PH	
18			PH	
19			PH	
20			PH	
21			PH	
Partner Experts				
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	Dr. Yu-Huang Wang	M	Taiwan	TaiBIF Node Manager C301 Biodiversity Research Center Academia Sinica, 128 Academia Rd., Sec. 2, Nankang, Taipei 11529, Taiwan E-mail: yuhuangwang@gmail.com
	Dr. Po-Jen Chiang		Taiwan	Taiwan Biodiversity Information Facility (TaiBIF) E-mail: neckrikulau@gmail.com
	Mr. Guan-Shuo Mai	M	Taiwan	Taiwan Biodiversity Information Facility (TaiBIF) E-mail: trashmai@gmail.com
ACB Staff				

Name	Sex	Country	Designation and Address
Dr. Sheila G. Vergara	F	PH	BIM Director Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna
Mr. Christian B. Elloran	M	PH	Database Specialist Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna
Ms. Lilibeth R. Cabebe	F	PH	CHM and KM Officer Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna
Mr. Jerome S. J. Alano	M	PH	GIS Officer Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna
Ms. Erica T. Villavelez	F	PH	Research Officer Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna
Mr. Carlos O. Callangan	M	PH	Jr. Research Associate ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna
Ms. Pauline Carmel Joy Eje	F	PH	Jr. Research Associate ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna

Annex C
Online Survey for AHPs through the SurveyMonkey platform

Mobilizing Species Data from ASEAN Heritage Parks (AHPs)

This survey is being conducted by the Biodiversity Information Management of the ASEAN Centre for Biodiversity (ACB) to inform the design of ACB-facilitated training courses and capacity building interventions on organizing, managing and mobilizing species information from ASEAN Heritage Parks (AHPs). Kindly click on the box beside the answers most appropriate to the AHP you are managing. Questions may be answered with multiple options. Please complete the survey on or before 15 June 2016. Thank you for your cooperation.

1. What are the sources of species data in your protected area?

- from results of regular surveys conducted (from 6 years and older surveys)
- from results of previous expeditions conducted 10 or more years ago
- from video recordings obtained from camera traps deployed in the AHP area.
- available secondary information from government and non-government organizations, academic institutions, museums, among others
- global data holders (IUCN, GBIF, COL, etc.)
- remote sensing data (land satellite, spot images, aerial photos, etc.) conducted by foreign-funded projects near the AHP/other special projects in the area
- Other (please specify)

2. Whether from primary or secondary sources, what type of species information do you collect?

- Common name
- Local name
- Scientific name
- Physical attributes (sex, weight, other features, etc.)
- Pictures or images of species
- Specimen collection from museums or academic institutions
- Species location (point data - longitude and latitude where species were seen or observed)
- Type and number of species observed per site
- Other (please specify)

3. How do you organize and manage species information in your AHP?

- Encode information into a format agreed upon by the AHP management
- Encode information following a globally accepted format (e.g., Darwin Core 2, etc.)
- For AHPs with camera traps - store electronic files of pictures and videos collected
- Store electronic file of survey reports conducted, reference materials from secondary sources
- Store the information in analog form (print out of reports)
- Other (please specify)

4. How often do you update your species information?

- Every 5 years for data collected from surveys
- Every year for data sourced from local GOs, NGOs, academic institutions and/or museums
- Every year for data sourced from global data holders
- As needed
- Does not update data
- Other (please specify)

5. Who maintains your species information?

- AHP Manager
- AHP Technical staff
- Technical consultants hired for data organization and management only
- Please provide the name, designation and email address of the person managing your species information

6. Where do you use your species information?

- For wildlife enforcement, monitoring species status and tracking species movement in AHP
- For planning and decision making on ecotourism, conservation and other activities in the AHP
- For compliance of reporting requirements of Head Office
- For AHPs with camera traps, please specify in the box allotted the use of camera trap data whether for monitoring, enforcement, etc.

7. What type of software do you use in data processing and your proficiency (scale of 1 to 5, 5 being highly proficient and 1 being not so proficient) in using these programs?

	5	4	3	2	1
Microsoft Excel	<input type="checkbox"/>				
ArcGIS	<input type="checkbox"/>				
MS Access	<input type="checkbox"/>				

Others, please specify program used and proficiency level

8. What type of analysis presentation do you usually prepare out of the species data?

- Tables
- Maps
- Graphs
- Other (please specify)

9. Aside from the AHP management and Head Office, who else have access to your data?

- Local GOs and NGOs in the area
- Share data to national CHM team in the country for publication in the national CHM website
- Share data to global data holders for conservation planning and decision making at the global level
- Share to other AHP managers within the country for conservation planning and decision making at the national level
- Share to other AHP managers in Southeast Asia for conservation planning and decision making in the region
- No one else
- Other (please specify)

10. If your answer in Question No. 9 is "No one else", are you willing to share your data in the future and to whom?

- Local GOs and NGOs in the area
- Submit data for publication in the national CHM
- Submit data for publication in the ASEAN CHM to make species information available at the regional level
- Submit data for publication to global data holders to make species information available at the global level
- No, I cannot share the species information, it is confidential
- Other (please specify)

GUIDELINES FOR MID-TERM FINANCIAL REPORTING

Deadline for submission of mid-term reports to the Secretariat is 10 June 2016.

These guidelines accompany the template for the mid-term financial reports for projects supported under the Biodiversity Information Fund for Asia (BIFA). The template 'BIFA Mid-term financial report template.xlsx' will be submitted with these guidelines.

As stated in the grant letter paragraphs 4 and 5, the second instalment can be requested by providing a mid-term financial report, documenting the expenditure of the first instalment by the indicated deadline.

The mid-term financial report must contain the approved budget from the approved full proposal, with an addition of columns to the budget table to indicate the actually realised figures.

Example:

Budget from original proposal			Realised figures	Realised cofunding
Xxx	Xxx	xxxx	Xxxx	Xxxx
Xxxx	Xxx	Xxxx	Xxxx	Xxxx
Xxxx	xxxxx	Xxxx	xxxxxx	xxxxxx

Please notice that 80% of the sum of the first instalment has to have been spent before payment of the second instalment can be requested.

The financial report must contain accounting of expenditure, be signed by the institutional Head of Accounting, and must confirm that the funds have been spent in agreement with the conditions laid out in the grant letter and the Annexes.

The GBIF Secretariat reserves the right to ask for documentation of expenses presented in the financial report. Any unspent funding must be refunded to the GBIF Secretariat.



Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016



GBIF

Global Biodiversity
Information Facility



**ASEAN CENTRE
FOR BIODIVERSITY**



Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016

Orientation Workshop on Mobilizing Data from ASEAN Heritage Parks 4-8 July 2016

PROGRAMME

Day 0 (Sunday , 3 July 2016) – Arrival of participants		
Day 1 (Monday, 4 July 2016)– Opening Program and Camera Trap Deployment, Orientation, Demo and Hands-On		
8:00 AM	Registration of Participants	Workshop Participants
8:15 AM	Welcome Remarks	Atty. Roberto V. Oliva ACB Executive Director
8:20 AM	Workshop Overview & Mechanics <ul style="list-style-type: none"> • Introduction of participants • Workshop Overview • Levelling of Expectations • Photo Op 	Dr. Sheila G. Vergara ACB
8:40 AM	The GBIF Facility <ul style="list-style-type: none"> • Introduction to GBIF and the GBIF biodiversity data publishing infrastructure 	Dr. Dag Endresen GBIF, Norway Node Manager
9:00 AM	Orientation on the use of Camera traps for Wildlife Monitoring <ul style="list-style-type: none"> • Use of Camera Traps in Biodiversity Research and Conservation (use of multimedia objects, use of camera trap data, examples of practical uses) • Planning a data collection system based on Camera trapping • Setting-up the Data Capture System in The Field (setting-up, configuration of camera, camera trap maintenance) • Grouping of participants and tasking • Group Exercise 1: Deployment of Camera 	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants

	Traps	
10:15 AM	Coffee Break	
10:30 AM	Demo and Hands-On on Deployment of Camera Traps	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants
12:00 NN	Lunch Break	
1:30 PM	Demo and Hands-On on Deployment of Camera Traps (Field site)	Dr. Po-Jen Chiang Dr. Yu-Huang Wang Mr. Guan-Shuo Mai Workshop participants
4:00 PM	Group reporting: Exercise 1 – Process employed in setting up the camera traps	Workshop Participants
5:00 PM	End of Day 1	
6:00 PM	Dinner at Makiling Lounge, SEARCA	
Day 2 (Tuesday, 5 July 2016) – Overview of Information Interoperability and the Darwin Core for Species Database Management		
8:00 AM	Results of Pre-workshop survey	Ms. Lilibeth R. Cabebe ACB
8:20 AM	Data Interoperability for Biodiversity Conservation	Sheila G. Vergara ACB
8:50 AM	The GBIF Facility <ul style="list-style-type: none"> • What is the GBIF Integrated data Publishing Toolkit (IPT) • Data profiles in GBIF at rs.gbif.org • Occurrence, Event and Taxon cores • Darwin Core archives, data exchange format 	Dr. Dag Endresen GBIF- Norway Node Manager
9:20 AM	Lecture: Orientation on new technologies evolving around Global Positioning System (GPS)	Mr. Jerome S. J. Alano, ACB
9:40 AM	Lecture and Demo - Processing of GPS data (e.g., KBA delineation/identification) Demo and Hands-On: Online Mapping Platform	Mr. Jerome S. J. Alano, ACB/ Workshop Participants
10:30 AM	Coffee Break	
10:45 AM	Darwin Core: Data Structure and Concepts	Mr. Christian B. Elloran ACB
11:05 AM	Lecture: Dynamics in Darwin Core	Ms. Lilibeth R. Cabebe

	Offline Encoding Interface	ACB
11:20 AM	Demo: Darwin Core Offline Encoding Interface	Mr. Carlos O. Callangan ACB
11:40 AM	Hands-On: Darwin Core Offline Encoding Interface	Workshop Participants/ACB
12:00 NN	Lunch Break	
1:00 PM	Hands-On: Darwin Core Offline Encoding Interface	Workshop Participants/ACB
2:00 PM	Demo and Hands-on: Species Bulk Harvesting and Processing	Ms. Erica T. Villavelez, ACB Workshop Participants
3:00 PM	Coffee Break	
3:15 PM	Demo and Hands-on: Species Bulk Harvesting and Processing	Ms. Erica T. Villavelez, ACB Workshop Participants
4:00 PM	Group Exercise 2: Species data harvesting and processing	Workshop Participants
4:45 PM	Presentation of Group Output	Workshop Participants
5:10 PM	Tasking – Retrieval of Camera traps and collection of GPS points	Dr. Yu-Huang Wang, TaiBIF Mr. Jerome Alano, ACB
5:30 PM	End of Day 2	
6:00 PM	Max Fried Chicken Restaurant	
Day 3 (Wednesday, 6 July 2016) – Retrieval, Management and Analysis of Camera Trap Data and Species Mapping		
8:00 AM	Field visit- MMFR – Retrieval of camera traps and collection of GPS points	Dr. Yu-Huang Wang, Dr. Po-Jen Chiang, Mr. Guan-Shuo Mai, TaiBIF Mr. Jerome Alano, ACB Workshop Participants
10:00 AM	Coffee Break	
10:15 AM	Data Management <ul style="list-style-type: none"> Assigning file names for camera trap images Quality control and quality enhancement of image collection Archiving of data Biodiversity data collection and management 	Dr. Yu-Huang Wang, Dr. Po-Jen Chiang, Mr. Guan-Shuo Mai, TaiBIF Dr. Dag Endresen, GBIF, Norway
12:00 NN	Lunch Break	
1:00 PM	Data Management <ul style="list-style-type: none"> Dataset Metadata Management Ecological Metadata Language (EML) Publishing data paper (e.g. Pensoft Biodiversity Data Journal) 	Dr. Yu-Huang Wang, TaiBIF Dr. Dag Endresen, GBIF, Norway
3:00 PM	Coffee Break	
3:15 PM	Group Exercise 3: Mapping of	Workshop Participants

	Species (data points can be taken from camera trap data and GPS points collected)	Jerome Alano, ACB
4:30 PM	Group Reporting of Exercise 3	Workshop Participants
5:30 PM	End of Day 3	
6:00 PM	Dinner at ACB HQ	
Day 4 (Thursday, 7 July 2016) – Data Publication – Mobilizing Data from AHPs		
8:00 AM	Orientation on the IPT	Dr. Dag Endresen, GBIF, Norway
8:40 AM	Demo and Hands-On: Publishing metadata through the IPT	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
9:40 AM	Demo on MyMatch!	Mr. Guan-Shuo Mai, TaiBIF
10:00 AM	Coffee Break	
10:15 AM	Demo and Hands-On: Publishing data through the IPT	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
12:00 NN	Lunch Break	
1:00 PM	Demo and Hands-On: Publishing data through the IPT (Continuation)	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
3:00 PM	Coffee Break	
3:15 PM	Demo and Hands-On: Publishing data through the IPT (Continuation)	Mr. Dag Endresen, GBIF, Norway/ Mr. Christian Elloran, ACB Workshop Participants
4:00 PM	Open Forum	Workshop Participants/Consultants
5:00 PM	End of Day 4	
6:00 PM	Dinner at Palaisdaan	
Day 5 (Friday, 8 July 2016) – Planning for Next Steps and Closing Program		
8:00 AM	Recap of Days 1-4	Ms. Lilibeth R. Cabebe ACB
8:10 AM	Demo: Species in Protected Areas Tool	Mr. Christian Elloran, ACB
8:30 AM	Publishing Data Paper	Dr. Dag Endresen, GBIF, Norway
9:30 AM	Planning for next steps in AHP Biodiversity Information Management	Workshop Participants/ Dr. Dag Endresen, GBIF, Norway Dr. Yu-Huang Wang, TaiBIF Dr. Sheila Vergara, ACB
10:15 AM	Coffee Break	
10:30 AM	Workshop Synthesis	Dr. Sheila Vergara, ACB
11:00 AM	Closing Program <ul style="list-style-type: none"> • Response from participants • Awarding of Certificates • Closing Remarks 	Workshop Participants/ACB
12:00 NN	Lunch Break	
1:00 PM	Tour around Los Banos and Nuvali/Tagaytay	
6:00 PM	Dinner in Tagaytay Highlands	



Orientation Workshop on Mobilizing Data from ASEAN Heritage Parks
Los Banos, Laguna, Philippines
4-8 July 2016

No.	Name	Country	Designation & Office Address	
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1	His Royal Highness, Pengiran Muda Omar Ali	Brunei Darussalam	Curator of Natural History and Manager, Tasek Merimbun Heritage Park, Brunei Darrussalam Email: pm.omarali@muzium.gov.bn	
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3	Mr. Agusman	Indonesia	Kerinci Seblat National Park Sumatra, Indonesia E-mail: agusmanm@yahoo.com; bbtnks@gmail.com	
4	Mr. Yosia Wirasyilva Ginting	Indonesia	Gunung Leuser National Park Sumatra, Indonesia E-mail: borneo_ginting@yahoo.co.id; balai_tngl@dephut.go.id	

5	Mr. Monekham Vongkhyly	Lao PDR	Technical Staff Division of Protection and Protected Areas Department of Forest Resource Management Ministry of Natural Resources and Environment Vientiane, Lao PDR Email: Mhonevkl@gmail.com	
6	Mr. Toui Kingmala	Lao PDR	Nam Ha National Park Manager –KWF/SGP Department of Forest Resources Management (MONRE) Vientiane, Lao PDR E-mail: toui100@yahoo.com	
7	Mr. Gilmoore G. Bolongon	Malaysia	Taman Negara National Park Wildlife Officer, Department of Wildlife and National Parks Peninsular Malaysia E-mail: gilmoore@wildlife.gov.my	
8	Mr. Paschal Dagang	Malaysia	Gunung Mulu National Park Biologist, Sarawak Forestry Corporation E-mail: paschal@sarawakforestry.com	
9	Mr. Nickson Joseph Robi	Malaysia	Gunung Mulu National Park Ag. Local Cordinator for RIMBA Sarawak, Sarawak Forestry Corporation E-mails: nick@sarawakforestry.com	

10	Mr. Fred Tuh Yit Yu	Malaysia	<p>Kinabalu National Park Coordinator (Research & Education Division), Sabah Parks E-mails: fredtuh@gmail.com, sabahparks@gmail.com; sabahparks@sabah.gov.my</p>	
11	Mr. Mohammad Zaini Abdul Wahab	Malaysia	<p>Kinabalu National Park Senior Research Assistant (Interpretation & Education) Research & Education Division Sabah Parks E-mails: sabahparks@gmail.com; sabahparks@sabah.gov.my, zkinabalu@gmail.com</p>	
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15	Mr. Clint Michael Cleofe	Philippines	<p>Ecosystems Management Specialist 1 Mount Hamiguitan Range Wildlife Sanctuary PENRO RX-2, City of Mati, Davao Oriental Email: clintmichaelcleofe@gmail.com</p>	
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18	Ms. Ma. Ramonnette E. Saruang	Philippines	<p>Special Projects for Biodiversity Conservation DENR Region 12 Davao City, Philippines Email: monette.ealdama@gmail.com</p>	
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22	Mr. Chung Yi Fei	Singapore	<p>Manager / Conservation Bukit Timah Nature Reserve Email: CHUNG_Yi_Fei@nparks.gov.sg</p>	
23	Mr. Saksit Sritubtim	Thailand	<p>Forestry Officer Khao Yai National Park Wildlife and Plant Conservation Department E-mail: platu31@gmail.com</p>	
24	Mr. Thammanoon Temchai	Thailand	<p>Head of National Parks Research Centre (working in Kaeng Krachan Forest Complex) Department of National Parks, Wildlife and Plants Bangkok, Thailand E-mail: dhamma57@gmail.com</p>	

Partner Experts

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2	Dr. Yu-Huang Wang	Taiwan	<p>TaiBIF Node Manager C301 Biodiversity Research Center Academia Sinica, 128 Academia Rd., Sec. 2, Nankang, Taipei 11529, Taiwan E-mail: yuhuangwang@gmail.com</p>	
3	Dr. Po-Jen Chiang	Taiwan	<p>Taiwan Biodiversity Information Facility (TaiBIF) E-mail: neckrikulau@gmail.com</p>	
4	Mr. Guan-Shuo Mai	Taiwan	<p>Taiwan Biodiversity Information Facility (TaiBIF) E-mail: trashmai@gmail.com</p>	

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2	Mr. Christian B. Elloran	PH	<p>Database Specialist Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna</p>	
3	Ms. Lilibeth Cabebe	PH	<p>CHM and KM Officer Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna</p>	
4	Mr. Jerome S. J. Alano	PH	<p>GIS Officer Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna</p>	
5	Ms. Erica T. Villavelez	PH	<p>Research Officer Biodiversity Information Management ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna</p>	

6	Mr. Carlos O. Callangan	PH	Jr. Research Associate ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna	
7	Ms. Pauline Carmel Joy Eje	PH	Jr. Research Associate ASEAN Centre for Biodiversity 3/F ERDB Building, Forestry Campus Los Banos, Laguna	

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--	Camiguin, Philippines Fauna	ASEAN Centre for Biodiversity (ACB)	Occurrence	--	18	2016-07-13	2016-07-13	2017-07-13 13:46:32
--	Fauna for Borneo	ASEAN Centre for Biodiversity (ACB)	Checklist	--	55	2016-07-13	2016-07-13	2017-01-11 13:50:18
--	Flora of Agusan Marsh	ASEAN Centre for Biodiversity (ACB)	Checklist	--	23	2016-07-18	2016-07-18	2017-07-18 15:29:46
--	ICCEM CLSU-RSA Pantabangan Fauna	ASEAN Centre for Biodiversity (ACB)	Checklist	--	43	2016-07-18	2016-07-18	2017-07-18 15:33:07
--	IPAS Kitanglad	ASEAN Centre for Biodiversity (ACB)	Occurrence	--	186	2016-07-13	2016-07-13	2017-07-13 13:19:34
	MCME UPLB Museum Plant Collection	ASEAN Centre for Biodiversity (ACB)	Checklist	--	268	2016-07-11	2016-07-11	2017-01-09 12:51:54
--	MMFR Zingiberaceae Botanical	ASEAN Centre for Biodiversity (ACB)	Occurrence	--	109	2016-07-13	2016-07-13	2017-07-13 13:36:00
	Mt. Hamiguitan RWS Avifauna	ASEAN Centre for Biodiversity (ACB)	Checklist	--	102	2016-07-13	2016-07-13	2017-07-13 13:08:52
--	Negros Cave Frog Observation	ASEAN Centre for Biodiversity (ACB)	Occurrence	--	6	2016-07-18	2016-07-18	2017-07-18 15:37:00
--	Philippines Museum Collections	ASEAN Centre for Biodiversity (ACB)	Occurrence	--	20	2016-07-18	2016-07-18	2017-07-18 15:42:58
--	Tawi Tawi, Philippines Reef Fishes	ASEAN Centre for Biodiversity (ACB)	Checklist	--	135	2016-07-18	2016-07-18	2017-07-18 15:39:45

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Annex 9. Data management arrangements and needs in AHPs, 18 AHPs, 8 AMS, 8 July 2016

ASEAN Member States	Coverage			Data Partners Identified			Potential Products	Needs		
	Where	Who	Type of Data							
Brunei Darussalam	Where	Who	Type of Data	<ul style="list-style-type: none"> • Forestry Department, Ministry of Industry & Primary Resources • Wildlife Division, Ministry of Industry & Primary Resources • Parks and Recreation Department • Higher Institution – University of Brunei Darussalam (UBD) • Panaga Nature Society • BruWILD 			<ul style="list-style-type: none"> • Biodiversity Research • Increase in the number of researches from local or abroad. • Ecotourism • Increase in the numbers of visitors • Conservation • Conserve on wildlife of Tasek Merimbun Heritage Park. 		<ul style="list-style-type: none"> • Training. • Need to train our staff especially on Database & Research (Camera Trap, mapping and so on). • Human Resources Manpower • Funding From Government or NGOs. 	
	Tasek Merimbun Heritage Park	Museums Department, Ministry of Culture, Youth and Sports	-Documents -Species Database -Mapping							
Indonesia	Where	Who	Type of Data	<ul style="list-style-type: none"> • NGOs : WWF, WCS, FFI, Local NGO (WARSI, FKL, OIC, SOCP, AKAR Network) • Governments Institution : Indonesian Institute of Science, Forestry Research and Development Agency • Experts • Academic Institution 			<ul style="list-style-type: none"> • Data Information • Reporting • Management Plan 		<ul style="list-style-type: none"> • Camera Traps • Technical Officer • Capacity Building for Database Officer • Budgeting 	
	ASEAN Heritage Park : (Gunung Leuser National Park, Kerinci Seblat National Park)	Ministry of Environmental and Forestry -Local Government -NGOs	-Checklist -Mapping, -Monitoring Result							
Lao PDR	Where	Who	Type of Data	<ul style="list-style-type: none"> • Nongovernment • Government • University • International Sharing data 			<ul style="list-style-type: none"> • Education • Evaluation • Conservation • Tourism • Trade 		<ul style="list-style-type: none"> • Equipment • Budget • Expert • Staff • Internet access • Development • Policy 	
	-National park -National Protected Area	Ministry of Agriculture and Forestry, involving by researcher and NGO								
Malaysia	Where	Who	Type of Data	Peninsular Malaysia	Sabah	Sarawak	<ul style="list-style-type: none"> • Biodiversity scientific data • Flora and fauna • Geological data • GIS data 		<ul style="list-style-type: none"> • Funding • Expertise • GBIF system • Latest equipment • Equipment under different ownership • Capacity building • Stakeholders commitment • Willingness to share data in open source • Staff training • Standard protocol 	
	AHPs of Malaysia	All of stakeholders in Malaysia	Type of data -Published data -Secondary data	<ul style="list-style-type: none"> • NRE • NGOs • State government • Local and international institution 	<ul style="list-style-type: none"> • SABC • Ministry of Tourism, Culture and Environment Sabah • NGOs • Local and international institution 	<ul style="list-style-type: none"> • MRPE • NGOs • Relevant government agency • Local and international institution 				

Myanmar	Where	Who	Type of Data			
	<p>39 Pas, 7 AHP (kha, IDG, AKP, ILLWS, LP, NMT, MMLK) Site- Hkakaborazi NP (Tentative list of WHS), Potential Site</p>	<p>-WCS -CAS -UNESCO -FD and other Governmental Organizations</p>	<p>-Species Data</p>	<ul style="list-style-type: none"> • WCS • UNESCO • CAS • XTBG • FFI • Universities 	<ul style="list-style-type: none"> • Checklists of Species • Photos of Species • Videos • CEPA programs 	<ul style="list-style-type: none"> • Recommendations of Decision Makers (1st) • Technical assistance from UNESCO, ACB, GBIF • Budget • Equipment • Internet Access
Philippines	Where	Who	Type of Data			
	<p>Mt. Apo Natural Park (Davao and Cotabato)</p> <p>Mt. Makiling Forest Reserve (Laguna, Calamba & Batangas)</p> <p>Mt. Hamiguitan Range Wildlife Sanctuary (Davao Oriental)</p> <p>Tubbataha Reefs Natural Park (Cagayancillo, Palawan)</p> <p>Mt. Kitanglad Range Natural Park (Bukidnon)</p> <p>Mt. Malindang Range Natural Park (Misamis Occidental, Zamboanga del Norte and del Sur)</p> <p>Mts. Timpoong-Hibok-hibok Natural Monument (Camiguin)</p>		<p>Types of Data Available</p> <p>-Biodiversity Monitoring System (BMS)</p> <p>-Results Research Outputs from academes/NGO's</p> <p>-LAWIN System Monitoring output results</p> <p>Maps</p> <p>Secondary data</p> <p>Data series from permanent monitoring plots</p> <p>Specific taxonomic coverage: priority/threatened species</p>	<ul style="list-style-type: none"> • Academic Institutions (MSU, CMU, BSU, USM-Kabacan, UPLB, UP-MSI, DLSU, WPU, Misamis University) • Local Government Units • Other Research Institutions (DOST) • Enforcement Agencies • DENR-Biodiversity Management Bureau • ASEAN Centre for Biodiversity • Funding donors/partners 	<ul style="list-style-type: none"> • For Updating of PA Management Plan • Basis for policy-making, development and implementation • For integration to local government units (land use plan) • Data/information sharing • Community Education Public Awareness (CEPA) • For compliance/reporting • For further research and development purposes 	<ul style="list-style-type: none"> • Capability Building/Development - Training on Biodiversity Assessment - Standardize protocol for BA • Pilot testing - introduction of equipment's • Procurement of Camera traps and associated equipments • AHP funding • Personnel/manpower

Singapore	Where	Who	Type of Data	<ul style="list-style-type: none">• Local Government Agencies (GO)	<ul style="list-style-type: none">• Publication	<ul style="list-style-type: none">• Readily available high
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	<p>AHP Sungei Buloh Wetland Reserve</p> <p>AHP Bukit Timah Nature Reserve</p> <p>All of Singapore</p> <p>-Nature Reserves</p> <p>-Parks and green spaces</p> <p>-Urban areas and streetscapes</p>	<p>Data holders</p> <p>-Government agencies</p> <p>-Research institute</p> <p>-NGOs</p>		<ul style="list-style-type: none"> Local NGOs Nature Society Singapore (NSS) Research Institute Local universities Foreign universities Citizen Science Programs (New) International collaborators Natural History Museum 	<p>-Scientific Journals</p> <p>-Magazines and other Journals</p> <ul style="list-style-type: none"> Data papers <p>-Checklist</p> <p>-etc</p> <ul style="list-style-type: none"> Management of PA / NR Outreach and Public Education <p>-Seminar and Public talks</p> <p>-Interpretative Signs in PA / NRs</p>	<p>speed internet.</p> <ul style="list-style-type: none"> Equipment under different ownership Available pool of skilled manpower High density of research projects conducted locally Limited access through network system Limited funding for equipment and restricted access Expensive labour cost Willingness to share data in open source Training for <ul style="list-style-type: none"> Data Partners Database managers
Thailand	Where	Who	Type of Data	<ul style="list-style-type: none"> GOs : PAs Managers, Policy makers NGOs: WCS, WWF, Freeland, etc. Researcher University 	<ul style="list-style-type: none"> Online data Digital copy Journal 	<ul style="list-style-type: none"> Easier use of GBIF system Very difficult to provide the server, so can GBIF reserve space for all register? Training for country database officer
	All PAs, All threaten spp. (in IUCN, CITES Appendice and National Redlist)	<p>-GOs</p> <p>-NGOs</p>	<p>-Checklist</p> <p>-Mapping</p> <p>-GIS data</p>			



Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016

Annex 10

Workshop Report

Introduction

This report includes the activities and progress in project implementation before, during and after the conduct of the Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas. It outlines in detail the following activities:

- results of the pre-workshop activities which includes meetings between the staff of the Mt. Makiling Forest Reserve (MMFR) and the ASEAN Centre for Biodiversity (ACB) with experts from GBIF nodes in Taiwan and Norway;
- highlights of the orientation workshop conducted on 4-8 July 2016
- follow-up activities for publication of the datasets generated by participants

Pre-workshop Activities

On 1 July 2016, ACB Biodiversity Information Management (ACB-BIM) staff led by Dr. Sheila G. Vergara accompanied by Dr. Yu-Huang Wang, Dr. Po-jen Chiang, Mr. Guan-Shou Mai all from the Taiwan Biodiversity Information Facility (TaiBIF), and Dr. Dag Endresen from GBIF, Norway met with Ms. Emer Gestiada, University Researcher of the Makiling Center for Mountain Ecosystems and staff of the MMFR to discuss the arrangements for the camera trap set-up for the training. A brief orientation on the workshop agenda ensued followed by a field visit to the MMFR to assess the site for camera trap deployment identified by the MMFR. Dr. Wang and Dr. Chiang set up two camera traps in these sites to check the animals that can be captured in the site. They also identified areas where 10 more camera traps will be set up as part of the field work of participants in the first day of the orientation workshop.

On 2 July, ACB-BIM, TaiBIF and GBIF Norway discussed the agenda and modules of the orientation workshop, following the flow of data management, starting from collection (with the use of the camera-trap methodology), to encoding, harvesting, processing, analysis and publication. It was also suggested that Dr. Endresen will introduce the data paper publication on the last day of the workshop. **Annex 1 presents the revised workshop programme.**

Workshop Highlights

The Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas was held at the SAS Hall of the Southeast Asian Regional Center for Graduate Study and Research (SEARCA) headquarters in Los Baños, Laguna, Philippines, on 4 to 8 July 2016.

The workshop, organized by the ASEAN Centre for Biodiversity (ACB) in partnership with the Global Biodiversity Information Facility (GBIF), invited as participants the park managers and technical staff of the ASEAN Heritage Parks (AHP).

The workshop was chaired by Dr. Sheila Vergara, Director of ACB-BIM with the technical support of TaiBIF and GBIF, Norway. About 24 participants attended the workshop coming from 8 ASEAN Member States and 18 AHPs. Staff from ACB's Communications and Public Affairs (CPA) unit were also present to assist in documenting this event. **Annex 2 includes the directory of participants to the workshop.**

Day 1 (4 July 2016)

In the opening programme, Atty. Roberto V. Oliva, Executive Director of ACB welcomed the 24 participants from Brunei Darussalam, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, and Thailand. He highlighted the significance of ASEAN Heritage Parks (AHP) managers and officers as primary data sources of biodiversity information, which is why it is important to equip them with knowledge in encoding data in globally agreed formats.

An overview and the mechanics of the workshop were presented by Dr. Sheila G. Vergara, Director of ACB-BIM. The participants were then asked to introduce themselves and their work in their respective AHPs.

Dr. Dag Endresen, Node Manager of GBIF, Norway introduced the GBIF, its organizational partners, and the facility's biodiversity data publishing infrastructure. He emphasized that the Facility is focused on ensuring that data concerning biodiversity will be accessible to anyone who would require the data for scientific research, conservation and sustainable development. Dr. Andresen also informed the participants of the existence of a new fund facility – the Biodiversity Information Fund for Asia (BIFA) which aims to mobilize biodiversity data in the Asian region and address current gaps and requirements to aid analysis and decision making processes in the region.

Dr. Po-Jen Chiang of TaiBIF introduced the participants to the camera traps, one of the devices under the modern digital autonomous data collection used to gather information of normal activities of animals, particularly elusive species, regardless of the weather condition. Dr. Chiang emphasized that in setting up a camera trap, it is important to estimate the movement of the wildlife in the area, as the positioning of the camera traps will affect the detection range.

The participants were then divided into country groupings or eight groups. With the assistance of Dr. Wang, Mr. Mai and Dr. Endresen, each group had the chance to experience activating the camera traps assigned to them before the field trip in the afternoon.

In the afternoon, the TaiBIF, GBIF Norway and ACB team together with all the participants proceeded to the MMFR to set up the camera traps. Before the setting out inside the MMFR, Dr. Chiang and Dr. Wang gave the participants instructions on how to choose the most suitable sites for the camera trap. The 8 groups were then divided into two - the first four groups went with Dr. Chiang while the other four went with Dr. Wang. Dr. Chiang and Dr. Wang each chose a site for their respective camera traps, and demonstrated to the participants how to install the camera traps, and how to ensure that it will activate upon sensing the motion of an animal. They also provided instructions to make sure that the

participants' camera traps range are not obstructed. The participants then proceeded to locate the sites for their camera traps.

An autonomous sound recorder was also installed by Dr. Chiang to complement the photos expected to be taken by the camera traps in the area. This, together with the camera traps, will be retrieved on the third day of the workshop.

Back at the workshop venue, Dr. Chiang and the participants reviewed the process they employed in setting up the camera traps. Dr. Chang further discussed the uses of camera traps and showed samples of images of animals captured in the camera trap.

Before the end of Day 1, the pre-workshop survey questionnaires which were distributed Sunday night (3 July 2016) to the participants were collected, the results of which were presented in the following day.

Day 2 (5 July 2016)

Ms. Lilibeth Cabebe, ACB-BIM's CHM and KM Officer presented the results of the pre-workshop survey. Ms. Cabebe said that the pre-workshop survey was conducted to gain insights on the biodiversity information management practices of AHPs and protected areas as well as identify areas where capacity building interventions may be necessary. Results discussed include current data sources, how data are organized and managed, frequency of data updating, type of species data collected, among others. **Annex 3 presents the results of the pre-workshop survey.**

Dr. Vergara then introduced data interoperability where she emphasized the importance of adhering to a common standard (e.g., in terms of format – which is the Darwin Core or DwC, terminologies and metrics) in recording species information to enhance integration, analysis and sharing of this information for sound decision making and policy development.

Dr. Endresen presented GBIF's data publishing facility including the format used DwC archives data exchange format, occurrence, event and taxon cores and data profiles in GBIF. He also discussed briefly the integrated data Publishing Toolkit or IPT, how data are published through this tool and demonstrated how data are downloaded from the GBIF portal.

Mr. Jerome Alano, ACB-BIM's GIS Officer oriented the participants on the types of GPS-enabled devices for map-ready biodiversity data collection. He emphasized the importance of making the data map ready to be able to visualize and process data in relation to its geographic environment that can influence or be influenced by them. Mr. Alano also oriented the participants on working with geographic coordinates, and how to convert these into acceptable formats (e.g., degrees-minutes-seconds to decimal degrees) to enhance mapping the data. The participants were then requested to collect GPS coordinates of plant species at the MMFR during the camera trap retrieval the next day. These geographic coordinates will then be used by the participants for their hands-on activities in the use of online mapping tools like CartoDB the following day.

Mr. Christian Elloran, ACB-BIM's Database Specialist acquainted the participants with the DwC, what it is, its history, core data, and the offline encoding interface developed by ACB to enhance species data encoding.

Following the DwC orientation by Mr. Elloran, Ms. Cabebe and Mr. Carlos Callangan, ACB-BIM's Research Associate introduced the offline species encoding interface, its features and

uses. They said that the encoding interface program that operates on MS Excel and was developed to facilitate encoding of species data into the DwC format, particularly for protected area staff with low connectivity or no access to internet. The participants then had a chance to experience data encoding using the interface through a supervised hands-on which followed after the demo and lecture of Ms. Cabebe and Mr. Callangan.

A discussion on data harvesting followed where Ms. Erica Villavelez, ACB-BIM's Research Officer, taught the participants how to download data (in bulk) from data global holders like IUCN, GBIF, Fishbase, COL, among others. Ms. Villavelez also taught the participants how to process bulk data and generate graphs and tables using the MS Excel special features while the other resource persons helped by going around the room and heeding to the participants' request for assistance. The participants were then provided a practice exercise on data processing with the use of redlist data from IUCN and presented the results thereafter in a role play where they pretended to be discussing their findings to a decision maker like a mayor and governor. Dr. Endresen and Ms. Cabebe acted as politicians and provided critique on their presentations.

Day 3 (6 July 2016)

The resource persons (from TaiBIF, Norway, GBIF and ACB) together with the participants retrieved the camera traps from the MMFR sites. The participants also took geographic coordinates on some plants for the mapping exercise later in the afternoon.

After the field trip from MMFR, Dr. Wang provided an orientation on some online software tools used in managing data obtained from camera traps such as XMind, DoubleCommander, Advance Renamer and ExifTool, among others. He then proceeded to demonstrate the steps in batch downloading and renaming the images obtained from the camera trap with the use of these tools. The participants followed the process with the use of the data they obtained from the specific camera traps assigned to their groups.

It was found out that only one or two cameras captured images of rats while the rest of the images were pictures of people who were passing by or those that tinkered with the cameras out of curiosity. Dr. Wang then showed various video footages and images captured on camera traps, to supplement the discussion on managing data obtained from camera traps.

After the lecture and hands-on on data management, Mr. Alano introduced CartoDB, an online mapping tool. The participants processed the geographic coordinates they took at the MMFR in the morning and mapped these points using the CartoDB.

Day 4 (7 July 2016)

Dr. Endresen's topic focused on the IPT, its features, installation and use. He said that the IPT is a free open source software tool written in Java that is used to publish and share biodiversity datasets through the GBIF network. He emphasized that publication of datasets through GBIF does not entail an actual physical transfer of the data but rather the links for the location of the data, and where data owners have control over the extent of biodiversity information they can share. After the IPT orientation, all participants were then assigned user accounts for the hands-on on data publication through the IPT with the use of the IPT helpdesk setup of ACB and GBIF Norway. ACB and TaiBIF resource persons helped in the hands-on, providing the necessary assistance to participants when needed.

Dr. Endresen pointed out that the datasets generated during the hands-on session would stay unpublished until the participants choose to publish them. The participants said that they will ask permission from their home offices before they publish their datasets.

Annex 4 presents a screen capture of the datasets that are already published through the IPT.

Day 5 (8 July 2016)

To set a pleasant mood for the day, Ms. Cabebe highlighted the activities of the first four days through a video presentation. This was followed by Dr. Endresen's discussion on data management planning, where it was specified that data management is critical to ensure data is organized, understandable and reusable. In the presentation, the participants were made to understand that digital data can easily vanish due to: natural disasters; facilities infrastructure failure; storage failure; server hardware or software failure; application software failure; format obsolescence; legal encumbrance; human error; malicious attack; loss of staffing competencies; loss of institutional commitment; loss of financial stability; and changes in user expectations.

A Data Management Plan, according to Dr. Endresen, should be able to define how the data will be created and documented, where the data be stored, who will access and back up the data, and how will the data be shared and preserved.

Dr. Endresen provided various means of publishing and archiving research data, such as by contacting GBIF, or installing the GBIF Integrated Publishing Toolkit (IPT), a data publishing software.

During the time allotted for questions from the participants, Dr. Endresen was asked if the researchers or institutions who would like to access the data need to ask permission from the source person, and if that person should be made as a co-author. Dr. Endresen said that in his opinion, it is not productive to contact each of the individuals, but he added that most of the people in GBIF do expect to be contacted and acknowledged for their research or studies.

Another participant also requested permission from Dr. Endresen if the slides used in the presentation can be used in his department in Malaysia. Dr. Endresen approved of this, saying that he encourages people to use materials produced by GBIF.

After the lecture, participants were grouped by country and asked to discuss among themselves the current arrangement biodiversity information that they have, potential products and needs. **A summary table of the results of this group work is presented as Annex 5.**

For their next steps, the participants indicated the need for more training on camera trap, biodiversity assessment and database management particularly for their database management staff and data partners. More skilled manpower, funding and equipment (e.g., camera trap) were also reported as priority needs. Other expressed requirements include internet access, establishment of information sharing protocols, technical assistance from ACB and GBIF, enhancing commitments of stakeholders and data partners and easier use of the GBIF system.

All presentation presentations, references, pictures and exercises prepared or generated in the workshop are available for downloading at <http://bim-mirror.aseanbiodiversity.org/acbws/>

Assessment of the Workshop by Participants

A post-workshop evaluation form was provided to participants to gauge their responses on the modules covered and the arrangements done in the workshop. **Annex 6 presents the evaluation form used.**

Based on the participants' responses, 68 to 87 percent agreed that the workshop objectives were attained, 86 to 90 percent stimulated their learning and thought that the exercises provided them sufficient chance to practice and apply what they have learned. About 59 to 64 percent agreed that the difficulty level was appropriate and time allotted for each topic was sufficient. Majority also averd that the topics included in the workshop improved their skills and knowledge on data management. About 71 percent indicated that they will be able to apply this new knowledge in their work. The resource speakers were also accorded "very good" and "excellent" ranking in terms of their knowledge on the topics assigned to them and the manner in which these were delivered. **Annex 7 presents the post-workshop evaluation results.**

Challenges Encountered and Solutions Implemented

While project implementation was generally smooth sailing, there were some challenges encountered.

1. Internet connectivity was generally a problem in the workshop venue, and even in the whole area of Laguna including Los Baños, for that matter, thus, during the hands-on session on IPT, a local host as well as the IPT helpdesk installed at GBIF, Norway were used to facilitate access and use of the participants.
2. Most participants were proficient in the English, but extra attention was provided for a few with difficulties in understanding the language particularly one participant each from Lao PDR and Myanmar.
3. Most AMS indicated interest to join the workshop thus, ACB had to accommodate four more participants and thus last minute adjustments on accommodation, catering, and other logistical arrangements had to be done.
4. SEARCA hotel (SH) cancelled ACB's reservations at the last minute to give way to their participants from their training programmes who were given priority. Thus, ACB engaged the Splash Mountain Resort (SMR) as the official hotel services for the workshop but had to adjust the cost because SMR rates were higher by Euro 10-15 per room than SH.
5. SMR was quite a distance to the City proper such that ACB arranged group dinners rather than provide allowances for dinner to participants. Vans were also hired daily to ferry participants from the hotel to workshop venue and back.
6. As the actual number of participants exceeded the intended number for the workshop, ACB maximized the budget on airfares by opting for tickets to be purchased on a reimbursement arrangement so that these are less costly compared to tickets purchased in the Philippines. Participants were also encouraged to buy promo fares.

Orientation Workshop on Mobilizing Biodiversity Data from ASEAN Protected Areas

4-8 July 2016



Annex 10

EVALUATION QUESTIONNAIRE

Dear Participant, kindly respond to this evaluation questionnaire based on your opinion of the quality of the workshop organized. Please check the box that best reflects your level of agreement. Your feedback is sincerely appreciated. Thank you.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
A. Workshop Objectives					
I am more aware now of the importance of establishing a robust biodiversity information in the region as bases for science-based monitoring and policy and decision making	<input type="checkbox"/>				
I am more aware now of the importance of sharing information at the global, regional and national levels for biodiversity monitoring and conservation by being a part of the global, regional and national BIF networks	<input type="checkbox"/>				
I have gained knowledge and skills in harvesting biodiversity data (from camera traps) and online global platforms	<input type="checkbox"/>				
I have gained knowledge and skills in collecting and documenting biodiversity information with the use of camera traps and GPS points	<input type="checkbox"/>				
I have gained knowledge and skills in encoding data from surveys into interoperable formats with the use of offline and online encoding interfaces developed by ACB	<input type="checkbox"/>				
I have gained knowledge and skills in processing, mapping and analyzing biodiversity data.	<input type="checkbox"/>				
I have gained knowledge and skills in publishing data through GBIF's IPT.	<input type="checkbox"/>				

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
B. Workshop Design					
The workshop activities stimulated my learning	<input type="checkbox"/>				
The hands on exercises of this workshop gave me sufficient practice	<input type="checkbox"/>				
The difficulty level of this workshop was appropriate	<input type="checkbox"/>				
The time allotted for each activity was adequate	<input type="checkbox"/>				
The duration (number of days) of the whole workshop was adequate	<input type="checkbox"/>				
What would you recommend to improve the workshop design?					
C. Workshop Topics	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The methodologies used in the workshop were appropriate to the work that I do	<input type="checkbox"/>				
The <i>Introduction to GBIF and the GBIF biodiversity data publishing infrastructure</i> was very informative	<input type="checkbox"/>				
The discussion/ exercise on <i>The use of Camera traps for Wildlife Monitoring</i> improved my understanding on monitoring methods	<input type="checkbox"/>				
The discussion on <i>Data Interoperability for Biodiversity Conservation</i> made me realize its importance	<input type="checkbox"/>				
The discussion on <i>The GBIF Facility</i> was very informative	<input type="checkbox"/>				
The <i>Orientation on new technologies evolving around Global Positioning System (GPS)</i> was very informative	<input type="checkbox"/>				
The lecture, demonstration and exercise on <i>Processing of GPS data and Online mapping</i>	<input type="checkbox"/>				

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
<i>platform</i> enhanced my skills					
The discussion on Darwin Core: Data Structure and Concepts improved my understanding on biodiversity information management	<input type="checkbox"/>				
The lecture, demonstration and exercise on Darwin Core Offline Encoding Interface enhanced my skills	<input type="checkbox"/>				
The demonstration and exercise on Species Data Harvesting and Processing enhanced my skills	<input type="checkbox"/>				
The discussion on Data management of camera trap data improved my understanding on data management	<input type="checkbox"/>				
The exercise on Mapping of Species enhanced my skills	<input type="checkbox"/>				
The orientation, demonstration and exercise on Publishing metadata through the IPT enhanced my skills	<input type="checkbox"/>				
The demonstration and exercise on Species in Protected Areas Tool enhanced my skills	<input type="checkbox"/>				
What would you recommend to improve the methodologies/topics used in the workshop?					
D. Physical Arrangement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The workshop venue was very conducive	<input type="checkbox"/>				
The facilities and equipment were excellent	<input type="checkbox"/>				
The accommodation was excellent	<input type="checkbox"/>				
The food selection was excellent	<input type="checkbox"/>				

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
What would you recommend to improve the physical arrangement of the workshop?					
E. Workshop Results					
I accomplished the objectives of this workshop	<input type="checkbox"/>				
I will be able to use what I learned in this workshop	<input type="checkbox"/>				
This workshop lived up to my expectations	<input type="checkbox"/>				
F. Workshop Facilitators, Lecturers, Trainers Kindly use this rating scale: 1 = needs improvement, 2 = fair, 3 = satisfactory, 4= very good and 5 = excellent	Voice speed	Voice clarity	Response to questions	Knowledge on the topic	
Dr. Dag Endresen					
Dr. Yu-Huang Wang					
Dr. Po-Jen Chiang					
Mr. Guan-Shuo Mai					
Dr. Sheila Vergara					
Mr. Christian Elloran					
Ms. Lilibeth Cabebe					
Mr. Jerome Alano					
Ms. Erica Villavelez					
Mr. Carlos Callangan					

How will this training benefit your workplace? Kindly provide a short description in your future plans.

Optional

Name:

Signature:

Organization:



Global Biodiversity
Information Facility



**Orientation Workshop on Mobilizing Biodiversity Data from ASEAN
Protected Areas
4-8 July 2016**

EVALUATION RESULTS

Summary of Participants' Response

Items	Distribution of respondents' response (%) (N = 22)					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No Answer
A. Workshop Objectives						
I am aware now of the importance of establishing a robust biodiversity information in the region as bases for science-based monitoring and policy and decision making	32	55	14	0	0	0
I am more aware now of the importance of sharing information at the global, regional and national levels for biodiversity monitoring and conservation by being a part of the global, regional and national BIF networks	23	59	18	0	0	0
I have gained knowledge and skills in harvesting biodiversity data (from camera traps) and online global platforms	27	59	14	0	0	0
I have gained knowledge and skills in collecting and documenting biodiversity information with the use of camera traps and GPS points	32	45	23	0	0	0
I have gained knowledge and skills in encoding data from surveys into interoperable formats with the use of offline and online encoding interfaces developed by ACB	18	54	23	0	0	5
I have gained knowledge and skills in processing, mapping and analyzing biodiversity data.	18	50	32	0	0	0
B. Workshop Design						
The workshop activities stimulated my learning	14	86	0	0	0	0
The hands on exercises of this workshop gave me sufficient practice	4	82	9	0	0	5

Items	Distribution of respondents' response (%) (N = 22)					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No Answer
The difficulty level of this workshop was appropriate	0	64	32	0	0	4
The time allotted for each activity was adequate	0	59	27	9	0	5
The duration (number of days) of the whole workshop was adequate	5	36	31	23	0	5
C. Workshop Topics						
The methodologies used in the workshop were appropriate to the work that I do	18	68	5	0	0	9
The Introduction to GBIF and the GBIF biodiversity data publishing infrastructure was very informative	36	45	14	0	0	5
The discussion/ exercise on The use of Camera traps for Wildlife Monitoring improved my understanding on monitoring methods	45	36	14	0	0	5
The discussion on Data Interoperability for Biodiversity Conservation made me realize its importance	27	45	18	5	0	5
The discussion on The GBIF Facility was very informative	27	45	23	0	0	5
The Orientation on new technologies evolving around Global Positioning System (GPS) was very informative	23	45	27	0	0	5
The lecture, demonstration and exercise on Processing of GPS data and Online mapping platform enhanced my skills	18	64	14	0	0	4
The discussion on Darwin Core: Data Structure and Concepts improved my understanding on biodiversity information management	32	54	14	0	0	0
The lecture, demonstration and exercise on Darwin Core Offline Encoding Interface enhanced my skills	27	45	27	0	0	0
The demonstration and exercise on Species Data Harvesting and Processing enhanced my skills	32	50	18	0	0	0
The discussion on Data management of camera trap data improved my						

Items	Distribution of respondents' response (%) (N = 22)					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No Answer
understanding on data management	32	50	18	0	0	0
The exercise on <i>Mapping of Species</i> enhanced my skills	14	68	14	0	0	4
The orientation, demonstration and exercise on <i>Publishing metadata through the IPT</i> enhanced my skills	18	50	32	0	0	0
The demonstration and exercise on <i>Species in Protected Areas Tool</i> enhanced my skills	18	59	23	0	0	0
D. Physical Arrangement						
The workshop venue was very conducive	36	32	27	5	0	0
The facilities and equipment were excellent	36	27	23	14	0	0
The accommodation was excellent	32	50	14	4	0	0
The food selection was excellent	36	41	23	0	0	0
E. Workshop Results						
I accomplished the objectives of this workshop	23	54	23	0	0	0
I will be able to use what I learned in this workshop	18	54	27	0	0	0
This workshop lived up to my expectations	23	59	18	0	0	0

Distribution of respondents' rating of the workshop resource persons (%) N=22

