

## Expanding the Network: Bringing marine research stations and library collections into the data-sharing community

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**Programme:** CESP

**Project ID:** CESP2022-009

**Project page:** <https://www.gbif.org/project/CESP2022-009/expanding-the-network-bringing-marine-research-stations-and-library-collections-into-the-data-sharing-community>

**Project lead organization:** Museum of Vertebrate Zoology, University of California Berkeley

**GBIF Participant Represented:** VertNet

**Project implementation period:** 1/8/2022 - 15/9/2023

**Report approved:** 23/4/2024

### Narrative Final report

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#### Executive Summary

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The objective of this project was to expand GBIF's community of data publishers to include marine research stations and library collections by improving the capacity of the participating nodes to provide support to these potential publishers and the wealth of knowledge that they will provide to fill in geographic and temporal data gaps. This objective was accomplished in two ways:

A training series was developed and implemented that included a 3-day workshop and two subsequent help desk working sessions. These sessions introduced GBIF/OBIS and explored many tools and resources in data quality and cleaning, data publication and other important resources. New training materials were created and existing these resources were utilized from VertNet, GBIF's BID Programme and OBIS. The training and help desk sessions have resulted in a significant increase in the knowledge and ability of marine station and library staff and a series of GBIF/OBIS specific resources, including a single data publishing template and several quick reference guides to publication of occurrence and event data to both data-sharing platforms.

As a result of this process, we have learned that there is a high level of willingness and interest from the marine stations and library community to become participants in this GBIF and OBIS communities. This interest, however, is tempered by the significant under-staffing and under-funding at these types of institutions. As a result, this project has served to create a solid set of marine-focussed resources AND has helped to generate some much needed awareness and understanding about how Nodes within the North America region can better serve and support these specific types of institutions in future events and projects.

#### Report on Activities

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##### Activity progress summary

All proposed activities were completed and no additional activities were undertaken.

There were no delays in the project schedule.

One decision made the the project team did modify the proposed assessment of project activities. Given that workshop participants were often the only staff (or a member of a very small staff) at their institutions, we chose to provide only one evaluation immediately after the workshop rather than include an additional evaluation after the second Helpdesk session occurred several months later. Verbal feedback suggests opinions of the Helpdesk sessions were similar to those offered after the workshop.

##### Completed activities

#### Activity name: Kick-off and planning meeting

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**Description:** Virtual meeting of the partners to map out the project, assign responsibilities, document/resource sharing and define project and community communication strategies.

**Start Date - End Date:** 8/9/2022 - 8/9/2022

**Verification Sources:** <https://docs.google.com/document/d/10U2tZkrz->

## Activity name: Workshop and documentation preparation

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**Description:** Preparation of materials (agendas, presentations, videos, communications materials) for workshop and help desk activities. Virtual meetings among project participants and asynchronous work.

**Start Date - End Date:** 8/9/2022 - 27/2/2023

**Verification Sources:** Workshop Training Materials:

<https://drive.google.com/drive/u/0/folders/1CvaZ4uuQLAcAQyM8Mw-OMka3dElgQex>

CESP Workshop Guide and Resource List:

<https://docs.google.com/document/d/1CGTx3els69CkA1w9BUi6rnteqfGVInnBqilG8ttRTjc/edit>

## Activity name: Workshop: Fieldbook to Portal: Data quality, cleaning, and publication to GBIF/OBIS

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**Description:** 2-3 days, 3hs/day, workshop. The workshop will be recorded and live-streamed if needed. Targeted to marine labs and libraries, but open to all interested. Materials for the session will be provided.

**Start Date - End Date:** 28/2/2023 - 2/3/2023

**Verification Sources:** Workshop Schedule:

<https://docs.google.com/spreadsheets/d/1Lob9lmr6Qz6VMRrNc4Q9yRBTv8u8JUY8iNt1rTlhpjQ/edit?usp=sharing>

Recordings of the Session are available upon request. Together they are more than 2GB in size.

## Activity name: Help desk sessions: Hands-on data work and tools training

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**Description:** 2 sessions, each focused on mini-demonstrations of tools use to solve specific participant challenges, as requested by participants. Review and exploration of participant datasets. Sessions will be recorded. Targeted at previous workshop participants, but open to marine labs, libraries and interested parties. Topics and agenda determined by participants.

**Start Date - End Date:** 5/4/2023 - 3/5/2023

**Verification Sources:** Helpdesk #1 Materials:

[https://drive.google.com/drive/folders/1wsn9FP6OLp1u\\_P9VyRjJsKjoj\\_qYy7Vf?usp=sharing](https://drive.google.com/drive/folders/1wsn9FP6OLp1u_P9VyRjJsKjoj_qYy7Vf?usp=sharing)

Helpdesk #2 materials were determined by participants.

Records of the sessions are available, but too large to post.

## Activity name: Mentoring Sessions

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**Description:** Mentoring sessions will be provided to members of the marine lab and library community to answer questions, provide guidance and assist with data quality and publication issues as requested. Priority will be given to workshop participants, but all who ask for it will receive help.

**Start Date - End Date:** 3/3/2023 - 1/6/2023

**Verification Sources:** Mentoring session were ad hoc. No specific documentation is available for these phone/Zoom based conversations.

## Activity name: Assessment of project activities and documentation

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**Description:** An assessment of project activities including workshops and materials.

**Start Date - End Date:** 2/3/2023 - 2/3/2023

**Verification Sources:** Workshop Evaluation Summary and Results:

[https://docs.google.com/document/d/1KhMmFuQXiA3bu-ENhLM\\_W5m52q9aYMGyU1eotReBPg8/edit?usp=sharing](https://docs.google.com/document/d/1KhMmFuQXiA3bu-ENhLM_W5m52q9aYMGyU1eotReBPg8/edit?usp=sharing)

## Activity name: Community Survey

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**Description:** Community survey to identify potential data publishers, document their level of awareness of GBIF/OBIS, and gather information on the content of their collections and the current status of their readiness to publish data (e.g., are collections digitized? what support do they need to mobilize?).

**Start Date - End Date:** 1/10/2022 - 11/11/2022

**Verification Sources:** Community Survey Summary and Results:

<https://docs.google.com/document/d/1sHQIMAOR85I3Fmjywmw2ALwHmaXXaeVprv53ZZOu4Eg/edit?usp=sharing>

## Report on Deliverables

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### Deliverables progress summary

All proposed deliverables were completed and are available to the public (all have been linked below,

rather than submitted as attachments), with three caveats.

1. Recordings of the Workshop and Helpdesk sessions have yet to be posted on public website for future viewing. This is due in large part to two factors: (a) the size of the files, which has made them difficult to host) and (b) finding a site, or creating an account on a media site such as YouTube, that can and will be maintained for the foreseeable future. Currently, the best option is the VertNet site, but the hosted-portal version of the site is still currently under construction. Currently, David Bloom (VertNet) is in possession of the recordings and intends to post them when the VertNet hosted portal goes live.

2. We intended to add 10-15 new publishers to the GBIF network, along with 10-15 new datasets. We were successful in adding one new publisher and a new dataset (Hopkins Marine Station: Gilbert M. Smtih Herbarium), but we learned quickly during our community survey and workshop process that none of the institutions we were working with were ready to take the next step into data publication. Most needed additional resources and staff to make publication viable.

3. Finally, the only deliverable that experienced a delay was the creation of a Marine Use Case. As a result, we requested and were granted an extension of the project end date. Currently, the Use Case has been reviewed and approved by the Hopkins Marine Station (whose data and example we are using) and Sharon Grant at the FMNH. We are still pending a final review from Laura Russell to determine what else might be needed to make this use case a resource for the BID Programme.

### Completed deliverables

#### Title: Participant List

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**Type:** Documentation

**Description:** List of marine labs and libraries to be invited to participate in the project

**Sources of verification:**

[https://docs.google.com/spreadsheets/d/1Y0ZHOof\\_mn8vsv0EtlCpMMKRtiX6fKAFMHKsl43oMUr0/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1Y0ZHOof_mn8vsv0EtlCpMMKRtiX6fKAFMHKsl43oMUr0/edit?usp=sharing)

#### Title: Training materials

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**Type:** Documentation

**Description:** Presentations, videos, presentations and training data sets available for reuse by the community on data quality, data cleaning and use of IPT.

**Sources of verification:** Workshop Training Materials:

<https://drive.google.com/drive/folders/1CvaZ4uuQLAcAQyM8Mw-OMka3dElgQex?usp=sharing>

#### Title: Workshop: Fieldbook to Portal: Data quality, cleaning, and publication to GBIF/OBIS

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**Type:** Training Workshop

**Description:** 3 day workshop, 3hs/day. Invited participants, but open to all interested.

**Sources of verification:** Recordings of the three-day session are available, but too large to post currently.

#### Title: Help desk sessions: Hands-on data work and tools training

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**Type:** Documentation

**Description:** 2 sessions, each focussed on mini-demonstrations of tools use to solve specific participant challenges, as requested by participants. Review and exploration of participant datasets. Recorded.

**Sources of verification:** Helpdesk #1 Materials:

[https://drive.google.com/drive/folders/1wsn9FP6OLp1u\\_P9VyRjJsKjoj\\_qYy7Vf?usp=sharing](https://drive.google.com/drive/folders/1wsn9FP6OLp1u_P9VyRjJsKjoj_qYy7Vf?usp=sharing)

Recordings are available as needed.

#### Title: GBIF/OBIS data publication template

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**Type:** Documentation

**Description:** Document (spreadsheet with annotations) to streamline the GBIF and OBIS data field and standardization requirements and recommendations into a singular process.

**Sources of verification:** Template: <https://docs.google.com/spreadsheets/d/1r6kstOIUXmMxzzKock-GeaXpTb3aozSgVsvL0cS81GQ/edit?usp=sharing>

#### Title: Marine-based use case study

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**Type:** Documentation

**Description:** Use case will be developed for use in the project workshop, as a developmental tool and will be offered to GBIF's BID programme for use in future workshops and training programs.

**Sources of verification:** Marine Use Case:

<https://drive.google.com/drive/folders/1ZRpdo7sJyQW9KCvxGOiQndOaYQduM-WP?usp=sharing>

**Title:** Project assessment

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**Type:** Documentation

**Description:** An assessment of the project workshop, help desk sessions, and mentoring efforts to be used to inform future NA Regional activities.

**Sources of verification:** Workshop Assessment:

[https://docs.google.com/document/d/1KhMmFuQXiA3bu-ENhLM\\_W5m52q9aYMGyU1eotReBPg8/edit?usp=sharing](https://docs.google.com/document/d/1KhMmFuQXiA3bu-ENhLM_W5m52q9aYMGyU1eotReBPg8/edit?usp=sharing)

**Title:** Community Survey Assessment

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**Type:** Documentation

**Description:** A written summary of the results of the community survey, including a list of potential data publishers, the types and status of their collections and the type of support needed for data mobilization.

**Sources of verification:** Community Survey:

<https://docs.google.com/document/d/1sHQIMAOR8513Fmjymw2ALwHmaXXaeVprv53ZZOu4Eg/edit?usp=sharing>

**Title:** Workshop Participant institutions

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**Type:** Documentation

**Description:** We anticipate 10-15 institutional participants in the Fieldbook to Portal workshop.

**Sources of verification:** Workshop Participants:

[https://docs.google.com/spreadsheets/d/1Y0ZHOf\\_mn8vsv0EtIcPMMKRtiX6fKAFMHKsl43oMUr0/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1Y0ZHOf_mn8vsv0EtIcPMMKRtiX6fKAFMHKsl43oMUr0/edit?usp=sharing) Institutions Invited for Survey: [https://docs.google.com/spreadsheets/d/1XJYVQ8py-nP9fhAA1mDBsc7irW3\\_FMdQQIB1azRduZ4/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1XJYVQ8py-nP9fhAA1mDBsc7irW3_FMdQQIB1azRduZ4/edit?usp=sharing)

**Title:** New Registered Publishers

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**Type:** Resources

**Description:** Our goal is to add 10 new institutional data publishers to the GBIF Registry over the course of the year.

**Sources of verification:** <https://www.gbif.org/publisher/27f165a4-51ed-41f9-b328-d97c807f0cb5>

## Events

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### Workshop: Fieldbook to Portal: Data quality, cleaning, and publication to GBIF/OBIS

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**Dates:** 28/2/2022 - 2/3/2022

**Organizing institution:** VertNet

**Country:** United States

**Number of participants:** 10

**Comments:**

**Website or sources of verification:** Materials:

<https://drive.google.com/drive/folders/1CvaZ4uuQLAcAQyM8Mw-OMka3dElgQex?usp=sharing>

**Schedule:**

<https://docs.google.com/spreadsheets/d/1Lob9lMr6Qz6VMRrNc4Q9yRBTv8u8JUY8iNt1rTIhpjQ/edit?usp=sharing>

## Events

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### Helpdesk Session#1

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**Dates:** 5/4/2022 - 5/4/2022

**Organizing institution:** VertNet

**Country:** United States

**Number of participants:** 6

**Comments:**

**Website or sources of verification:**

[https://drive.google.com/drive/folders/1wsn9FP6OLp1u\\_P9VyRjJsKjoj\\_qYy7Vf?usp=sharing](https://drive.google.com/drive/folders/1wsn9FP6OLp1u_P9VyRjJsKjoj_qYy7Vf?usp=sharing)

## Events

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## Helpdesk Session#2

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**Dates:** 3/5/2022 - 3/5/2022

**Organizing institution:** VertNet

**Country:** United States

**Number of participants:** 4

**Comments:**

**Website or sources of verification:** Participants brought their own materials to this session.

### Communications and visibility

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VertNet remains in regular communication with the Librarian at Hopkins Marine Station and with Capacity Development Officer at OBIS (in MTL) and we continue to discuss ways to disseminate project materials and communicate the availability of these resources to the broad community. We are also seeking funding opportunities to provide additional trainings in the future.

The primary resource document for the workshop, as well as the our quick guide to required terms, were shared with GBIF's Andrew Rodrigues for use in a Data Use Club event (although we don't know if he used them).

It would be great to have the following documents added to our CESP page:

CESP Workshop Guide and Resource List:

<https://docs.google.com/document/d/1CGTx3eIs69CkA1w9BUi6rnteqfGVInnBqilG8ttRTjc/edit?usp=sharing>

GBIF/OBIS Required Terms Quick Reference:

[https://drive.google.com/file/d/16pAwutgGNfmgMz1qeQl\\_hwYC2ZK5aLFO/view?usp=sharing](https://drive.google.com/file/d/16pAwutgGNfmgMz1qeQl_hwYC2ZK5aLFO/view?usp=sharing)

GBIF/OBIS DwC Publishing Template:

<https://docs.google.com/spreadsheets/d/1r6kstOIUXmMxzzKock-GeaXpTb3aozSgVsvLOcS81GQ/edit?usp=sharing>

### Monitoring and evaluation

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#### Monitoring, evaluation and lessons learned

##### Final Evaluation:

Overall, the project was successful. All events and deliverables were completed as proposed. Despite the success of the project, there are two sides to some of the outcomes. One outcome, for example, was the overwhelmingly positive response to the workshop by its participants. All of them reported significant increases in their knowledge and abilities in regard to data organization, quality and mobilization. All of these stated that they would recommend the workshop to others. Yet, their skill and ability is not their greatest limitation. Instead, these institutions have to find ways to address staffing and funding issues that continue to limit their ability to prioritize and carry-out the tasks necessary to become participants of the data-sharing community. Solving this issue is outside the scope of CESP, but it should be a consideration for the marine station and library community in the future.

The self-assessment of the VertNet Node has been amended now, as it now possesses the knowledge necessary to publish to both GBIF and OBIS without needing to have a third-party provide a review of the data or IPT. Both VertNet and the US Node gained a greater appreciation for the status and needs of this particular part of the broad biodiversity collections community. This knowledge will continue to inform that ways in which the Nodes, and the NA Region, engage with the marine community in the future.

Project implementation was acceptable given that the project sought to engage a community with a community tangential to GBIF's usual type of collections. If the project had been more aware of the challenges facing the marine community prior to the start, both implementation and the types of events may have been different. Despite this lack of awareness, the project received very positive feedback from the participants.

The management of the grant was mostly without issue. There were some initial issues with dispersing funds through UC Berkeley as their processes to establish individuals as institutional vendors are labyrinthian. The day to day management of the project would have benefitted from a partnership between Nodes that included one with greater contact with the target community. The project benefitted from the participation of the Hopkins Marine Lab, to be sure, but if one of the Nodes had greater influence and name recognition with the marine community, the project would have benefitted.

Some key lessons from the project are detail in Best Practices and Lessons Learned below.

### **Best Practices and Lessons Learned:**

This project provided the Nodes with three key lessons learned.

1. The push in the United States to digitize natural history collection has not been distributed evenly across the collections community. Although significant progress have been made by museums, governmental collections, and large academic institutions, the same cannot be said of specialty stations and libraries, such as those targeted by this project. Our initial expectations for the project took this progress for granted and as a result, the number of participating institutions, including those able to become data publishers, was much smaller than expected. After the community survey was closed and the workshop completed, it is clear that there is still a lot of work that needs to be done to bring the marine station and library community to a position in which they can participate fully in the data-sharing community. Future engagement with this community should reflect this awareness and events and partnerships should be planned accordingly.

2. VertNet initiated this CESP, in part, to become better equipped to facilitate the publication of marine data to both GBIF and OBIS. This particular endeavor was successful, yet the process was probably much more difficult than was necessary. In the future, should VertNet pursue any future CESP support, the VN Node will seek to determine that there are enough partners involved in the grant with both the knowledge to achieve the stated goals AND the connections within the target community to really make inroads without having to begin most or all of the connections to the community from scratch. Including the Hopkins Marine Station as a partner on this grant was the difference between "having a local tour guide" vs. trying to find our way around without "speaking the language" of those around us. This lesson will serve us well with future projects.

3. For the workshop this time, we chose to take a slightly different track. We wanted to create documentation that they participants would actually use after the workshop, so rather than create a bunch of standard materials, we started with a document that contained the basic information, explanations, links, and resources and then invited workshop participants to add comments and make requests in the document as the workshop progressed. We then were able to add the information and resources that the participants found the most interesting and useful, which, we anticipate will be more useful to them when they are working on their own and increase the likelihood that the document will be shared with others. In general, this experiment was a good one, although we may consider the possibility that if even more opportunity for input were given to participants, we might consider tempting them with an authorship credit for their contributions. This idea is something we will continue to explore in future workshops.

### **Post Project Activity(ies):**

There are two post project activities that the VertNet nodes hopes to complete.

1. The Marine Use Case still needs to be reviewed by GBIF for use in the BID Programme. We are fully aware that the proximity to the GB30 and Global Nodes Meeting/Training has the training/BID staff busy. After the annual meetings are complete and vacations have been taken, VertNet will work with GBIF to make the use case ready for use.

2. It is still the intent of the VertNet Node to make the training materials, workshop videos, and other resources available in a more public manner. The launch of the hosted portal will support this process.

### **Sustainability plans**

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For this particular project there are only two sustainability concerns. 1. we are still seeking a way to serve several Gigabytes worth of video content on a web site that can handle the size and does not require much long-term maintenance. We think we have a solution, but are waiting now for the completion of the selected web site. 2. The primary outcome of this grant was knowledge, as opposed to a tool or set of processes that might require upkeep. Thus, our primary sustainability plan is to keep our brains healthy and to share what we've learned with as many other people as possible.

### **Impact of COVID-19 pandemic on project implementation**

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The Covid-19 pandemic did not have any effect on the implementation of the project.

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The Capacity Support Enhancement Programme (CESP) is funded by GBIF



