

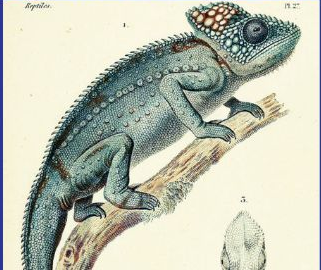


The Biodiversity Heritage Library (BHL)

Overcoming and Pre-empting COVID Limitations

Constance Rinaldo, Biodiversity Heritage Library
Jane Smith, formerly Natural History Museum, London
David Iggulden, Royal Botanic Gardens, Kew
Elisa Herrmann, Museum fur Naturkunde, Berlin
Colleen Funkhouser, Biodiversity Heritage Library

June 23, 2021/LIBER



“BHL simply allowed work to continue.....”

Today

- Setting the context, what is BHL
- Operating during the Pandemic
- Value and impact - reflections from users and partners
- Collective resilience: building on lessons learned for future developments

Inspiring discovery through free access to biodiversity knowledge.

The Biodiversity Heritage Library improves research methodology by collaboratively making biodiversity literature openly available to the world as part of a global biodiversity community.



Search across books and journals, scientific names, authors and subjects

Search the catalog and full-text



Full-text **Catalog**

ADVANCED SEARCH

 Help Support BHL

BHL's existence depends on the financial support of its patrons. Help us keep this

The Biodiversity Heritage Library
(www.biodiversitylibrary.org) is an open access
digital library for biodiversity literature and archives.

New on the BHL Blog

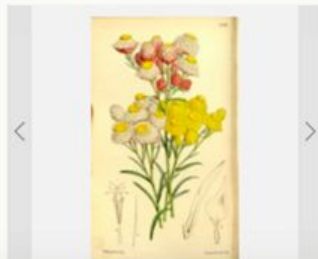
The Garden: A Place to Learn and Experiment

A garden is a place to rest, relax, rejuvenate. It also provides an opportunity to learn about...

Language of Flowers Virtual Symposium on 30 April 2021

On 30 April 2021, join the Chicago Botanic Garden's Lenhardt Library and the Caxton Club for a free,...

Today's Picks Flickr Stream



Featured Content Women in Natural History



Inspiring Discovery through Free Access to Biodiversity Knowledge

15+ years of inspiring discovery
through **free & open access**

to biodiversity literature & archives

from the **15th-21st centuries**

Mission

The Biodiversity Heritage Library improves research methodology by collaboratively making biodiversity literature openly available to the world as part of a global biodiversity community.

BHL is a Global Consortium



19 MEMBERS
22 AFFILIATES
AS OF MAY 2021

100+ WORLDWIDE PARTNERS

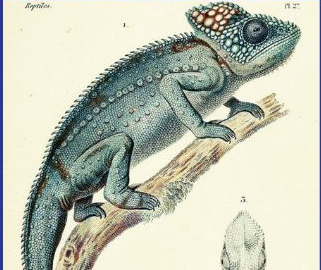
BHL's Natural Ecosystem

- Global partnerships
- Virtual collaboration
- Social distancing
- Open access/Open science
- Wider society benefit through open culture/open knowledge
- Collective resiliency

BHL's Natural Ecosystem

Based on a strong infrastructure:

- Technical: clear technical roadmap
- Extensive and enhanced
- Content/collection policy, plans and standards
- Communication and professional support
- User community support and communication
- Feedback, requesting system



Value and impact of BHL during the Pandemic

Addressing the planetary
crisis in (bio)diversity

Empowering Ongoing Research During COVID

"My graduate-level [Museum Studies] class...was taken online when New York University shut down. Since the shut-down, the biggest issue for my students has been in conducting research...I've been working with them to use BHL's collections to shape their projects and conduct primary source research online. BHL has emerged as one of the most popular databases for primary source work!"

DR. ELAINE AYERS
NEW YORK UNIVERSITY



Dr Erica McAlister @flygirlNHM · Aug 14, 2020

Dear @BioDivLibrary - just thank you. I am data basing from my couch and I have no access to my books. But YOU have many of the important taxonomic tomes scanned and I can resolve many a nomenclatural problem - #bighugs



Julie Grob
@JulieGrob

Replying to @mazarines and @BioDivLibrary

At University of Houston Special Collections, we are using the @BioDivLibrary to help us research an exhibition on birds remotely while we can't be with our books. So appreciative of this resource!

8:55 AM · Apr 20, 2020 · Twitter Web App



Jordan Thomas Mursinna
@JTMursinna

So appreciative of this and the @BioDivLibrary in general — it's a difficult time to start one's research year, but resources like this make all the difference

NHM Library&Archives @NHM_Library · Aug 3, 2020
NEW @BioDivLibrary collection of publications from @NHM_London and @britishmuseum (Natural History) found in one place bit.ly/39NPBRF #DigitisedCollections

2:49 PM · Aug 3, 2020 · Twitter for iPhone



NHM Oology
@NHM_Oology

As a Curator @NHM_London one of the things I miss most is our @NHM_Library, especially when answering enquiries! We have one of the world's best ornithological libraries @NHM_Tring but we can all explore 58 million pages of natural history @BioDivLibrary biodiversitylibrary.org/page/7583037



9:12 AM · Apr 15, 2020 · Twitter Web App



Ashleigh Whiffin
@AshWhiffin

Love & appreciation for @BioDivLibrary like never before! Checking through old texts on #Silphids, for an upcoming collaboration. #WorkingFromHome = no access to our #Ento library - but BHL has got me covered. Thank you! #CarrionBeetles #TeamBeetle #TaxonomyTuesday



11:37 AM · Mar 24, 2020 · Twitter Web App

Feedback from BHL Partner Researchers

“Although we have an excellent and extensive library at Kew, we IPNI editors are very reliant on BHL because it allows us to very quickly look up protologues ... Given our reliance on BHL, it is not hard to imagine how vital this resource has been during the COVID-19 lockdown as the whole team are now working from home and can only physically access the Kew library very occasionally. None of us can imagine the backlog of work that we would have faced had we not been able to access to this fantastic resource. We are very grateful for this service and could not do without it.”

Dr. Helen Hartley

Content Editor, IPNI

Royal Botanic Gardens, Kew

"We believe that by sharing important collections in BHL and allowing free digital access to such materials, we will greatly assist researchers in furthering their own research on biodiversity. Information inequality between developing and developed world researchers can be narrowed with the availability of open access digital repositories."

Dr. Nura Abdul Karim
Deputy Director
Library, Training, and External Relations
Singapore Botanic Gardens

BHL Blog: BHL Users

"My work requires historical literature and records from scientific expeditions in different languages. BHL is the best place to find the bibliography I need to reconstruct the past and present of marine species."



DR. EVANGELINA SCHWINDT

HEAD OF THE GRUPO DE ECOLOGÍA EN AMBIENTES COSTEROS FROM CONICET IN ARGENTINA

"Conservation-related research benefits greatly from BHL in terms of providing access to some of the classic and most iconic images of plant species and to the early texts and archival materials, especially correspondence, pertaining to the focal species."



DR. BRIAN M. BOOM

CURATOR EMERITUS AND FORMER VICE PRESIDENT FOR CONSERVATION STRATEGY AND BASSETT MAGUIRE CURATOR OF BOTANY AT THE NEW YORK BOTANICAL GARDEN

"As a researcher, the Biodiversity Heritage Library gives me the opportunity to seek and find scientific literature especially from home, during this pandemic—that's something so valuable to me, when I'm far away from the Smithsonian Libraries' many branches and deep storage archives."



DR. NICHOLAS PYENSON

CURATOR OF FOSSIL MARINE MAMMALS, SMITHSONIAN'S NATIONAL MUSEUM OF NATURAL HISTORY

"BHL is like having a world-class library in my home. BHL has done more than impact my research — it has made it possible, or at least, made it more practical."



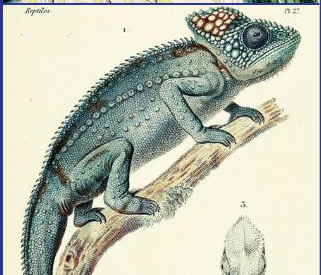
DR. MAURA FLANNERY

PROFESSOR EMERITA OF BIOLOGY AT ST. JOHN'S UNIVERSITY IN NEW YORK | RESEARCH ASSOCIATE IN THE A.C. MOORE HERBARIUM AT THE UNIVERSITY OF SOUTH CAROLINA – COLUMBIA.

Read the Series: s.si.edu/BHLUsers

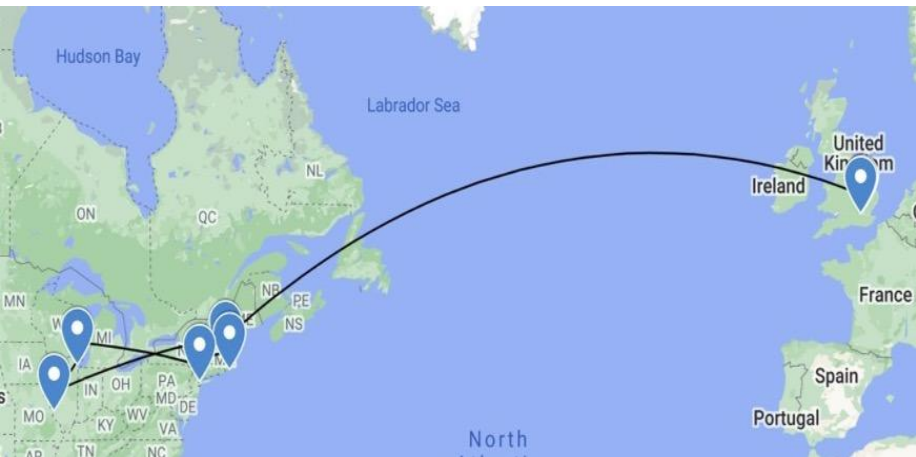
The Result

BHL simply allowed
work to continue.....



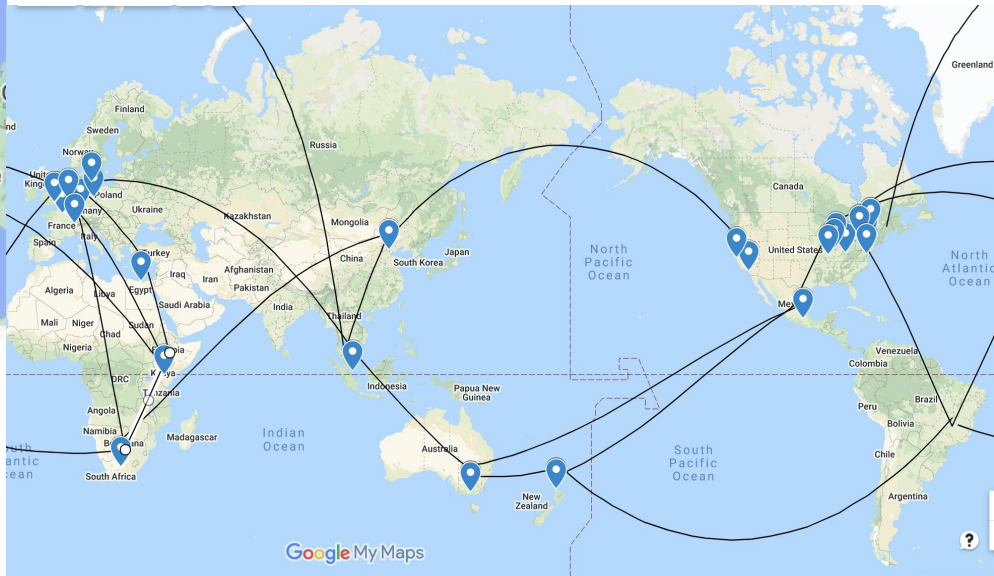
Collective resilience: lessons learned and future developments

COMPLEXITY INCREASES RESILIENCY



BHL in 2006

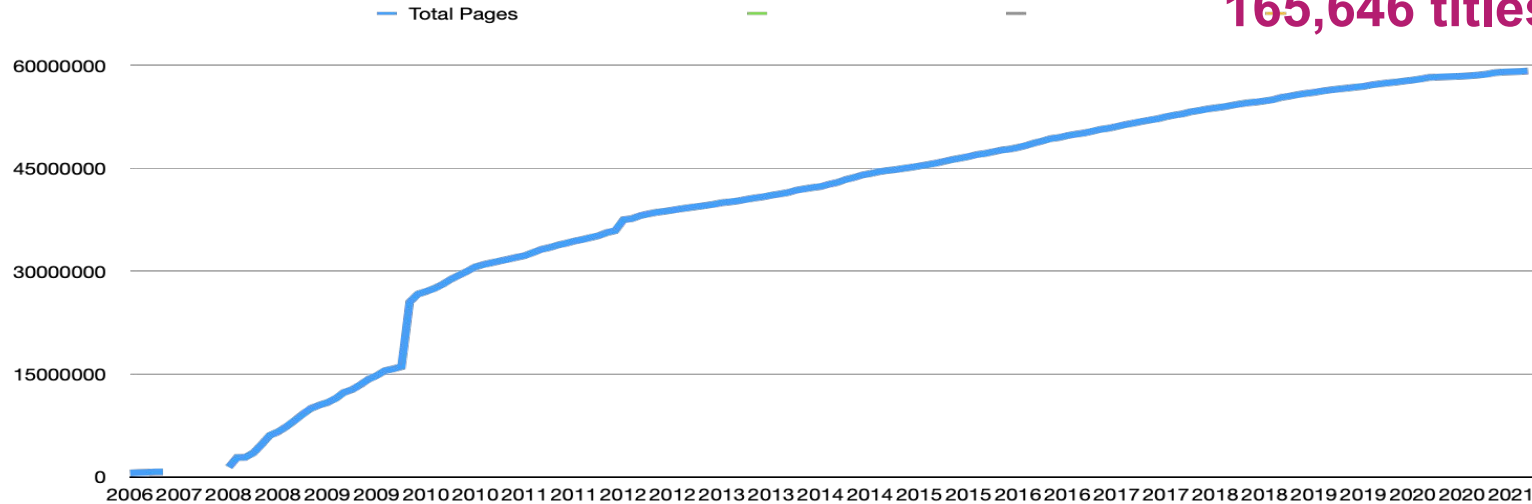
From 9 founding institutions
to 88 institutions



BHL at 15 years

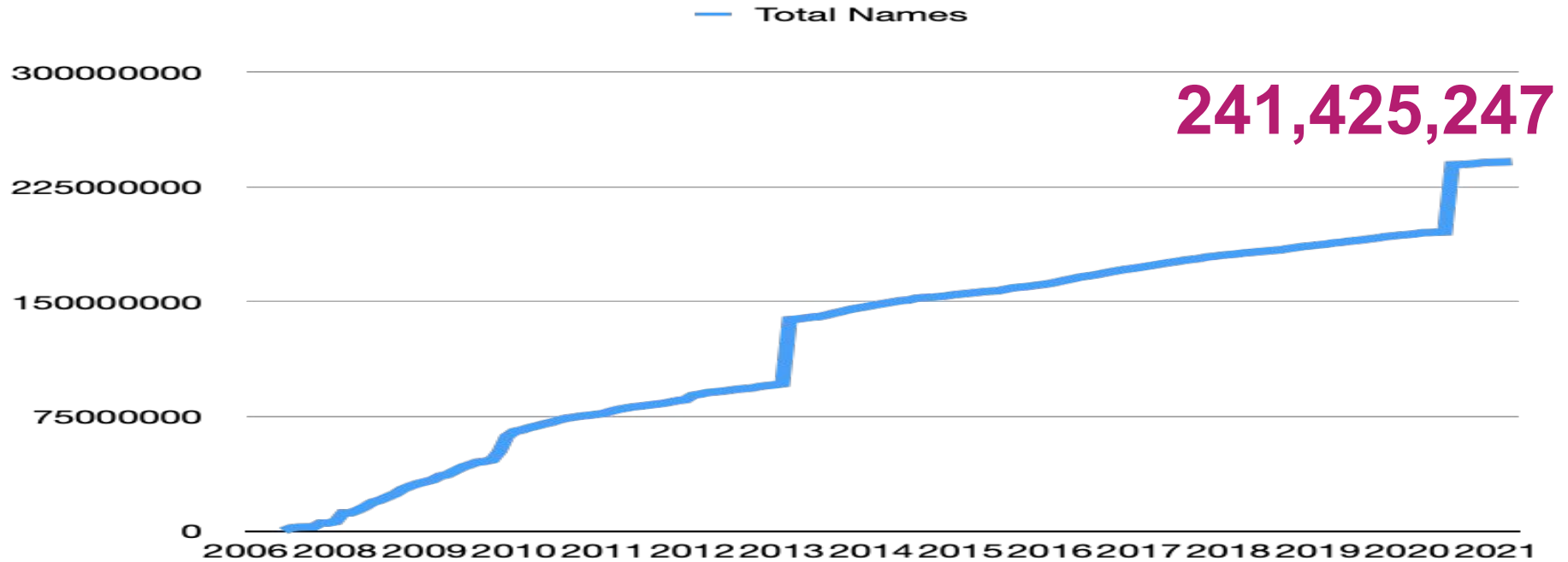
BHL Content Growth

Number of pages 2006-2021

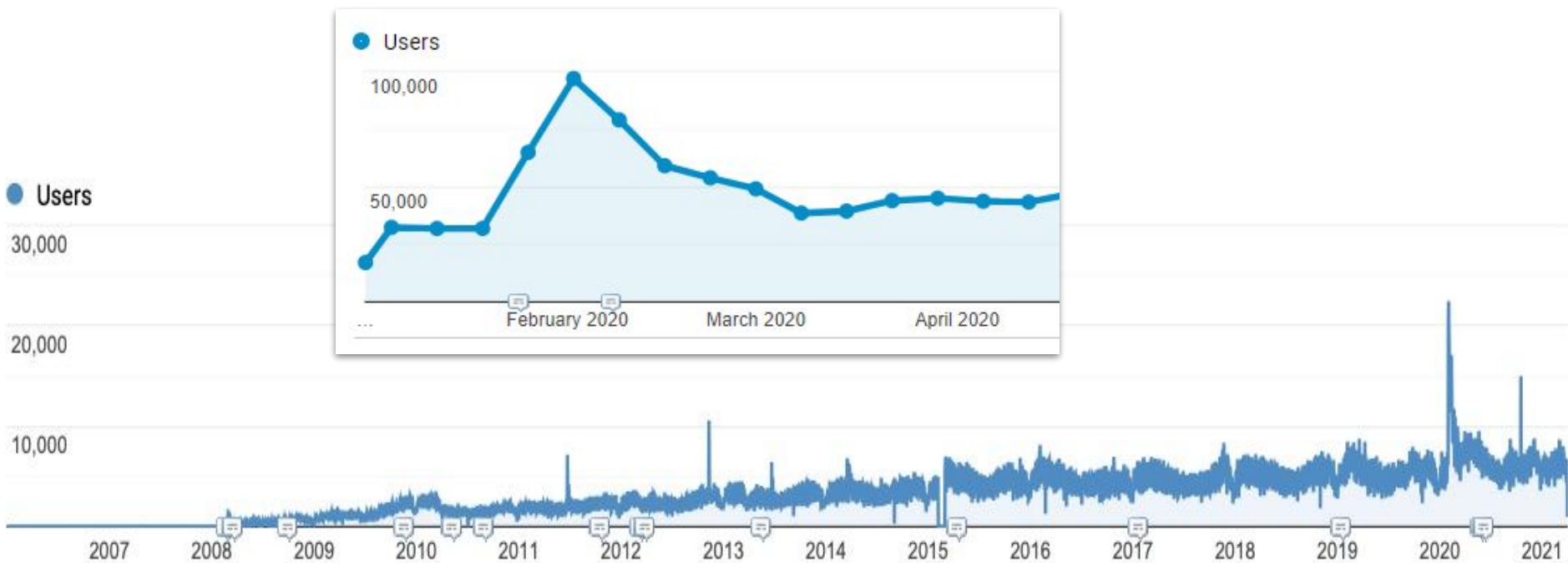


Nearly 60 Million pages
165,646 titles

Scientific Names

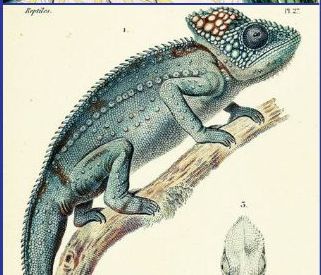


User Growth over 15 Years



“BHL supercharges the speed and efficiency of scholarly research...As a free, mobile archive for natural history literature, BHL is ideal for 21st century research, which can happen on the field, in a museum, or at a coffee shop, as long as there’s internet connectivity.”

Dr. Nicholas Pyenson
Paleontologist



BHL Partner reflections

Lessons learned and applying them to future developments.

BHL Partner “tour of the room” Teasers



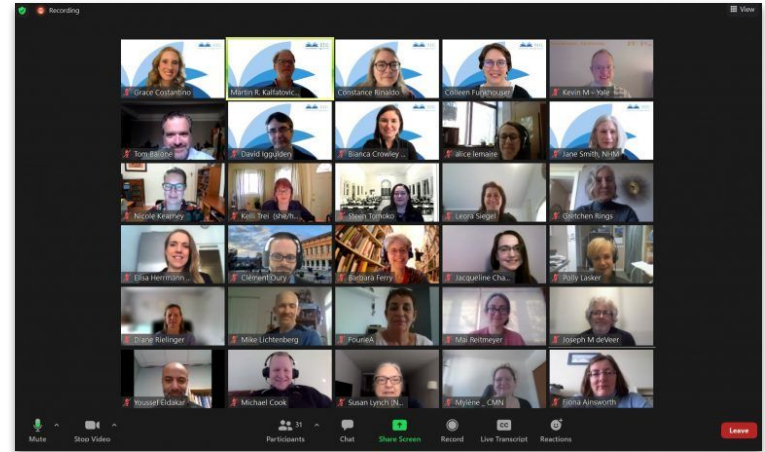
What was your institution's top lesson learned from 2020 that is most relevant for BHL?

- *Digital is essential.*



How has your thinking about BHL changed in response to the events of the past year?

- *BHL is more valuable to users than ever.*



Digital is essential

The BHL Partners' experiences mirror how the Pandemic has escalated the “digital shift”.

“Going digital is no longer an ‘option’.”

- *Internet Archive*

“Digital resources are vital, not only a convenience.”

- *Lenhardt Library, Chicago Botanic Garden*

“Virtual access of original sources is extremely crucial.”

- *Library of Congress*

Digital is essential

“This is not new, but perhaps it hit home that consistent and well-maintained access to electronic resources is paramount to scientific research and exploration.”

- *University of Illinois at Urbana-Champaign*

“Despite the closure of work centers, documentation centers and libraries, the commitment of BHL affiliates became clear as they did not stop sharing content.”

- *Comisión Nacional de conocimiento y uso de la Biodiversidad (CONABIO)*

BHL is more valuable than ever

Open knowledge - access to the content, the data, the expertise...

“The BHL, being a virtual library, now has the potential to serve an even more significant role in a world that is increasingly shifting to becoming dependent on remotely accessible knowledge.”

- *Bibliotheca Alexandrina*

“My institution's ability to provide access to rare and/or historical biodiversity materials continued largely unhindered partly due to all the work that had already gone into BHL for so many years.”

- *Cornell University*

BHL is more valuable than ever

"[T]his past year has affirmed and strengthened what I was already thinking...: that online access to the world's biodiversity knowledge is more critical than ever; that we need to make this knowledge as discoverable as possible (by adding article metadata and DOIs); and that BHL needs to bring its presentation of the historic literature in line with modern scholarly publishing standards (by delivering pre-generated PDFs and citations on its article landing pages)."

- *BHL Australia*

BHL & the pandemic: Museum für Naturkunde, Berlin

Museum für Naturkunde, Berlin

- Museum gradually opened according to situation, library not accessible to external users since March 2020
- BHL and Open Access literature vital for information supply
- Accelerated the digitization of workflows and shift to digital services
- Gradually returning to work in the museum, mixture of work onsite and at home
- What remains after pandemic:
 - expansion of digital services and electronic resources
 - enhancing digital/ technical skills



BHL & the pandemic: Royal Botanic Gardens, Kew

Royal Botanic Gardens, Kew

- Pandemic underlined the value and importance of BHL
- Gardens reopened relatively quickly as an outdoor space, but Library remained closed to staff and visitors
- BHL therefore essential in providing virtual access to Library collections
- New plans now being developed for significantly increased digitisation activity and content contribution to BHL



BHL & the pandemic: Smithsonian Libraries and Archives

- Digitization ceased as Smithsonian Institution shifted to “Emergency Telework Status” in March 2020
- Telework projects focused on metadata enhancement and uploading images to Flickr to increase discoverability of content and collections
- BHL infrastructure provided:
 - Cloud-based system
 - Issue tracking system
 - Documentation
 - Collective priorities



Smithsonian
Libraries and Archives

BHL & the pandemic: Natural History Museum

Natural History Museum London

- BHL key element in overall content and services for NHM internal and external users. Increased usage from March 2020
- Escalated the digital shift of service to internal and external users
- Gradual re-opening to visitors
- Support mixture of work onsite and at home, in the field.
- Library staff focused on metadata work to increase discovery of content/collections
- Reopening scanning of physical collections - priorities driven by user need



BHL Forges Ahead

- Strategic Plan 2020-2025
 - Implementation in process
 - Incorporating lessons from 2020-21
- Continued digitization
- Enhanced metadata for discoverability
- Leveraging BHL's strengths:
 - virtual + interconnected = resiliency

BHL Strategy 2020-2025:

- Incorporating lessons from the pandemic
- Relevant Content: Collection Policy Review
 - Social justice/Gaps/Historical context/Open knowledge
- Tools and services
 - Namefinding/Data/Persistent identifiers/Extended specimen network/
- User Engagement
 - Leverage global partners/widen the audience
- Partnerships and Alliances
 - Extending collaborations beyond science
- Mission enabling
 - Sustainable model/meaningful value for partners

Link to public strategy: <http://about.biodiversitylibrary.org/#StrategicPlan>

BHL's collective resiliency = value

- BHL actively plans for future developments
- Versatility is built in
- Technology constantly improving
- Focus on science, science challenges, open science
- Promotion of BHL as a cultural resource - wider role for/within open knowledge
- BHL aligns local and global missions for biodiversity
- Key strength is the community and joint resource planning



Thank you and questions

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