October-December 2012

Biodiversity Heritage Library

Quarterly Report

BHL Surpasses 40 Million Pages!

In December, 2012, the Biodiversity Heritage Library reached a collections milestone: providing open access to over 40 million pages (translating to over 110,000 volumes) of freely-available biodiversity literature.

BHL officially launched in May, 2007, with just over 600,000 pages of primarily botanical literature previously digitized for the Botanicus program at the Missouri Botanical Garden. Today, over 5 years later, we've added over 39.4 million more pages, contributed from the collections of 14 BHL member institutions, 3 global partners (including China, Australia, and Europe), and 124 providers that make their content openly available in the Internet Archive.

In these past 5 years, BHL has also been working to make the scientific illustrations in its collections more accessible by exposing them via Flickr. The BHL Flickr currently provides access to over 64,000 images, available for free reuse via a Creative Commons license.

BHL continues to embrace strategies that allow us to reach new audiences on new platforms and expand user opportunities to interact with our collections. This includes featuring content on Twitter, Facebook, and Pinterest, as well as making select items available for free download in iTunes U.

BHL Fundraising Campaign

In December, 2012, BHL ran a fundraising campaign coordinated by BHL Program Manager Grace Costantino and the Smithsonian Libraries development staff person Tina Morrison. The campaign involved Tweets, Facebook Posts, and Blog Posts encouraging users to support BHL, as well as email appeals and a Facebook Advertising campaign. The fundraising campaign raised $616.36, as of Dec. 28, 2012. The Facebook Advertising Campaign had 452 clicks, appeared on Facebook pages 1,941,521 times, and had a click-through rate of .023%. Additional campaigns are being planned for 2013.

...highlights

BHL and iTunes U

In February, 2012, BHL launched the Biodiversity Heritage Library on iTunes U, allowing select BHL content to be downloaded for free via the iTunes interface. This November, BHL published its twelfth iTunes U collection, dedicated to Bone Wars - the infamous "battle between two renowned paleontologists for recognition as the world's leading expert on dinosaurs."

2013 BHL iTunes U Collections will include: "Notable Women in Natural History" (March 2013); "Field Notebooks" (May 2013); "Napoleon's Egyptian Campaign" (July 2013); and "Alfred Russel Wallace" (November 2013).

BHL staff are also currently working with Apple to develop iBooks featuring BHL content, which will also be freely available via iTunes.

BHL and Social Media

In August, 2012, BHL began running week-long publicity campaigns structured around various pop culture topics and related content in BHL. These campaigns were very successful at raising user engagement on BHL social media and increasing traffic to BHL from these platforms. From August-December, 2012, the campaigns increased the average traffic to BHL from social media by: Twitter: 47%; Facebook: 82%; Flickr: 39%; Blog: 13%; Pinterest: 158%. Additional campaigns are planned for 2013.

Steering Committee Dues Update

This quarter, BHL issued invoices to member libraries for the 2013 BHL Steering Committee Dues. To date, BHL has raised $180,000 via Steering Committee Dues for future development. These funds are annual dues contributed by those BHL member institutions that wish to be a part of the BHL Steering Committee, allowing them to vote on project decisions and funding allocations.

BHL and EOL

On November 29-30, BHL Program Director, Martin Kalfatovic , and BHL Program Manager, Grace Costantino, attended the EOL Team Meeting at Harvard to discuss strategies and goals for each EOL working group. Martin Kalfatovic presented on BHL's successes this year as well as strengths, opportunities and threats for the next few years. Grace Costantino met with EOL's outreach and education staff to brainstorm possible collaborative opportunities and ways to increase links to BHL on EOL webpages.

Staff Transitions

Smithsonian BHL Librarian JJ Ford accepted a position at the Smithsonian's Astrophysical Observatory in Cambridge. She plans, however, to continue contributing to BHL as a volunteer, writing blog posts and participating in workflow at Harvard, MCZ. Work to hire a replacement for JJ at the Smithsonian Libraries is underway.
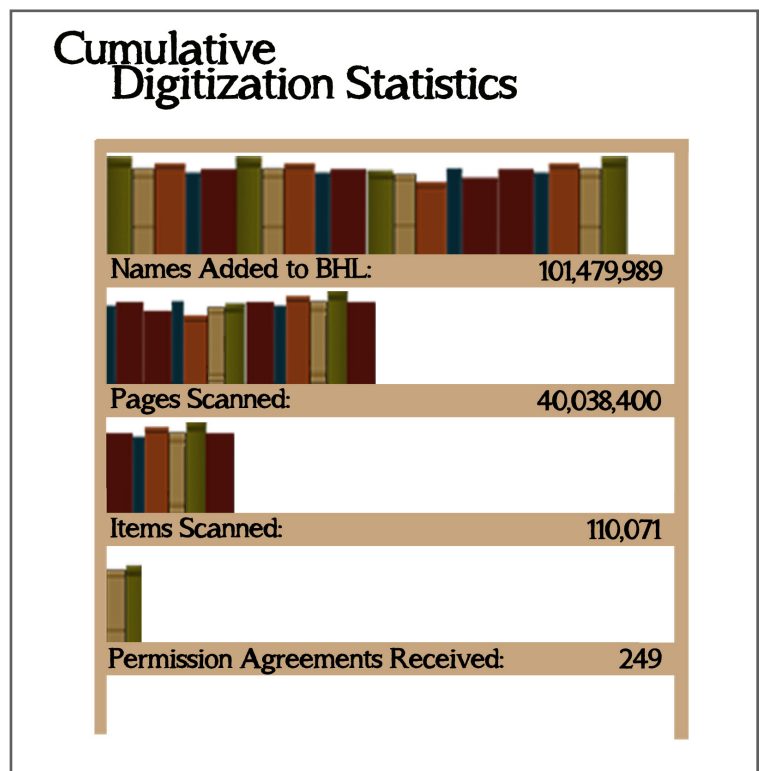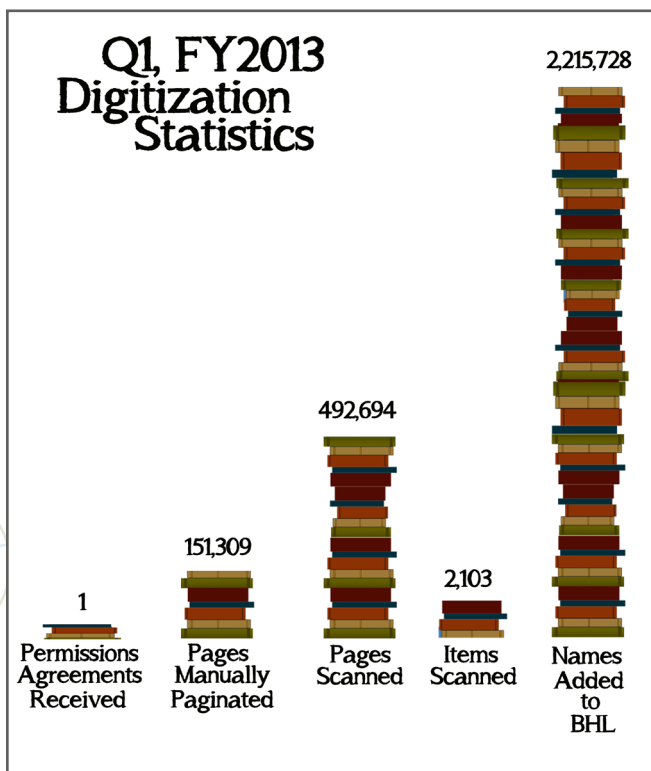
COLLECTION profile

"I cannot emphasise enough the importance of resources such as BHL to us here in New Zealand: a remote country far from the main research centres. My students and I constantly use BHL. Thank you for all the effort. It really does make a big difference to research."

■ R. Ewan Fordyce

Content for BHL is collected via a variety of methods. Primarily, BHL partner institutions scan items within their collection to build the BHL corpus. BHL also harvests materials from other digitization projects that match BHL collection criteria. Statistics presented below represent those of the BHL US/UK portal.

Q1, FY2013 Digitization Statistics

Category	Value
Permissions Agreements Received	1
Pages Manually Paginated	151,309
Pages Scanned	492,694
Items Scanned	2,103
Names Added to BHL	2,215,728

Cumulative Digitization Statistics

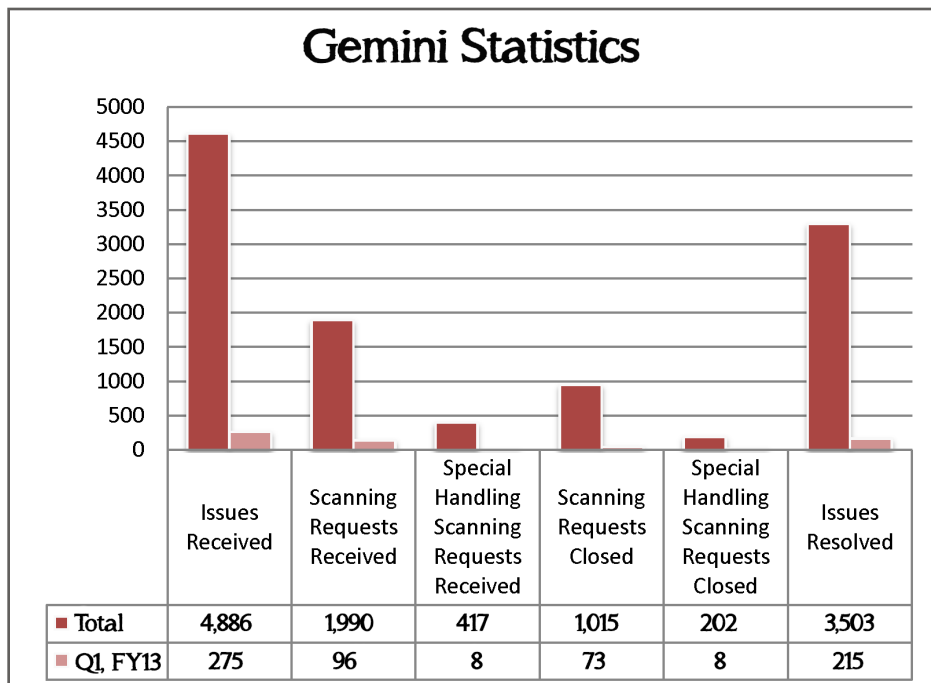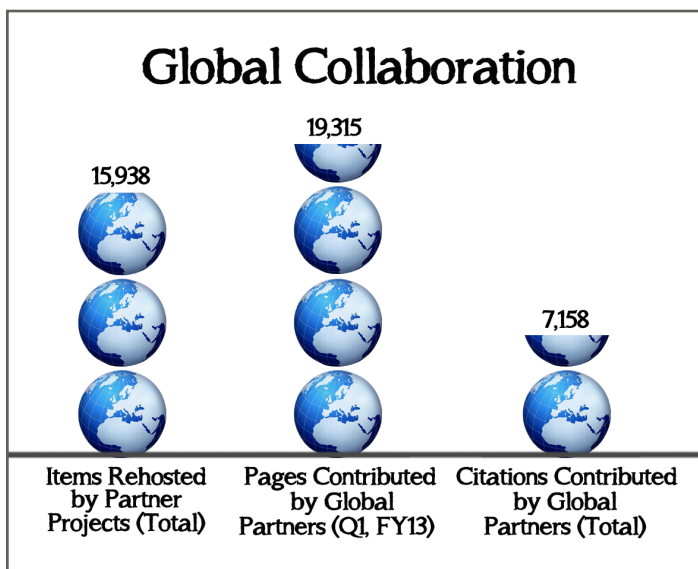| Category	Value
Names Added to BHL:	101,479,989
Pages Scanned:	40,038,400
Items Scanned:	110,071
Permission Agreements Received:	249

Collaboration Statistics

BHL's global partners currently include Europe, China, Australia, Egypt, and Brazil, with plans to announce a BHL-Africa in Spring, 2013.

As a global initiative, efforts are made to replicate scanned content among the variety of BHL nodes throughout the world. The goal is to ensure that content scanned for one global partner is available via all BHL portals. In the graph to the right, "pages" and "citations contributed" refers to content contributed by our global partners to BHL-US/UK. "Items rehosted" refers to BHL-US/UK content replicated in BHL global partner nodes.

Global Collaboration

- 15,938 — Items Rehosted by Partner Projects (Total)
- 19,315 — Pages Contributed by Global Partners (Q1, FY13)
- 7,158 — Citations Contributed by Global Partners (Total)

Gemini Statistics

	Issues Received	Scanning Requests Received	Special Handling Scanning Requests Received	Scanning Requests Closed	Special Handling Scanning Requests Closed	Issues Resolved
Total	4,886	1,990	417	1,015	202	3,503
Q1, FY13	275	96	8	73	8	215

BHL collects user feedback and collaborates to resolve this feedback using an issue tracking system called Gemini. User feedback includes notification of errors with scanned content, suggestions for service improvements, and requests for content to be scanned. Many scanning requests are considered "Special Handling" as they constitute requests for rare, oversized, or fragile material. Gemini is particularly helpful when coordinating the scanning of material for BHL among global partners.
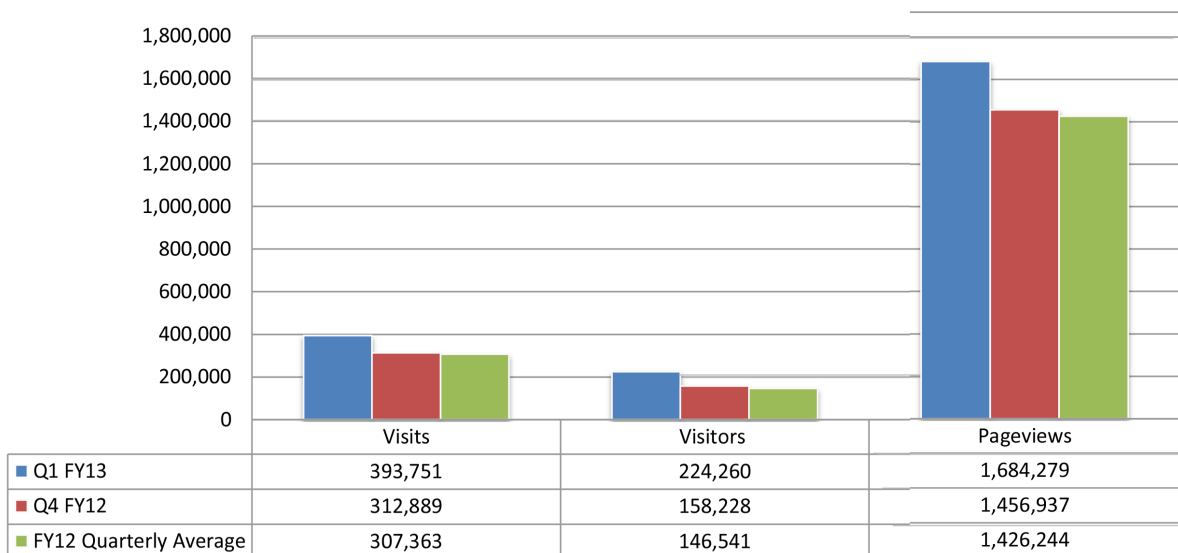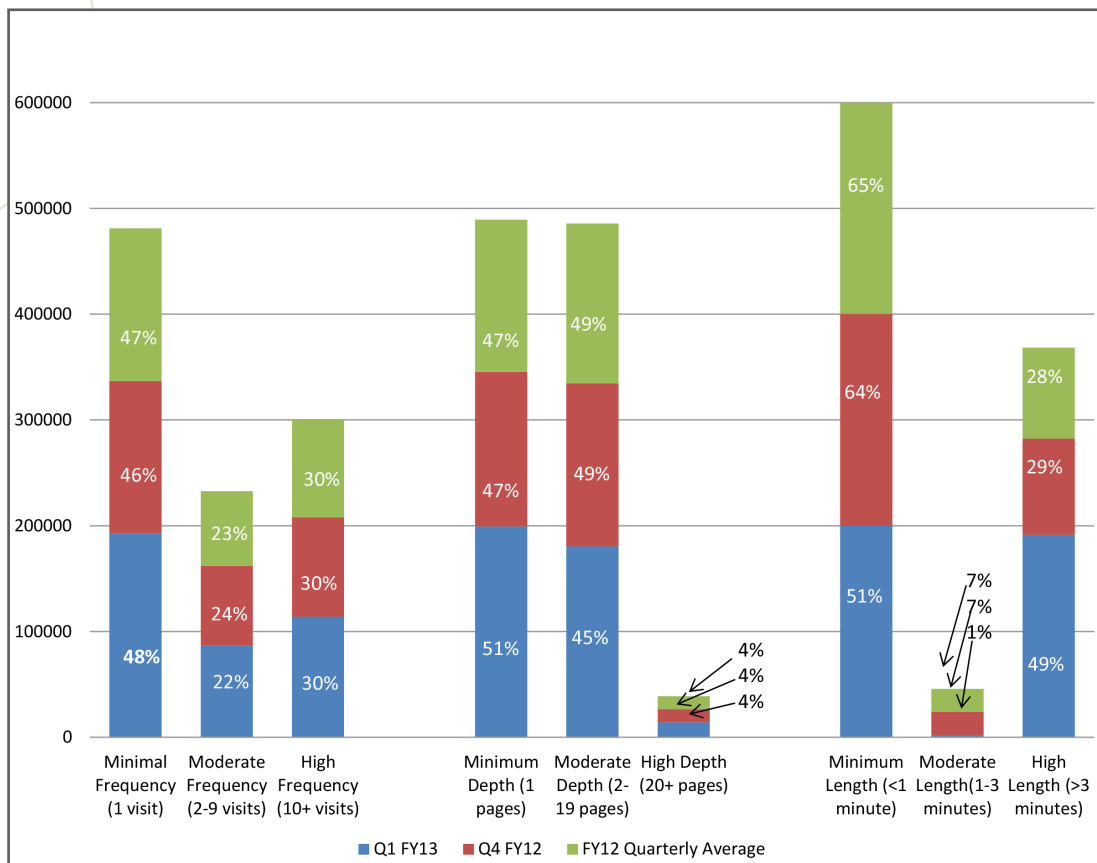
WEBSITE statistics

For Quarter 1, Fiscal Year 2013, BHL experienced a 26% increase in website visits as compared with our previous quarter, a 16% increase in website pageviews as compared with last quarter, and a 42% increase in unique visitors this quarter as compared with last. The graph below visually displays this quarterly comparison, as well as a comparison with the average quarterly numbers for FY12.

To measure BHL website use and user engagement, we track Frequency, Depth, and Length (see graph, page 6). Frequency refers to how often the same visitor returns to our website, demonstrating customer loyalty. For this quarter, 48% of our visits were from users who visited our site only once; 22% of our visits were from users who visited our website 2-9 times during the quarter; and 30% of our visits originated from users who visited BHL more than 10 times during Q1, FY13. These percentages hold steady when compared with last quarter and the FY12 quarterly average.

Depth speaks to how extensively visitors used our content during a visit - whether they came to BHL only to view a single page or navigated through many pages within BHL in a single visit. This quarter, 51% of our visits consisted of users viewing only a single page, while 45% of our visits involved viewing 2-19 pages in a

	Visits	Visitors	Pageviews
Q1 FY13	393,751	224,260	1,684,279
Q4 FY12	312,889	158,228	1,456,937
FY12 Quarterly Average	307,363	146,541	1,426,244

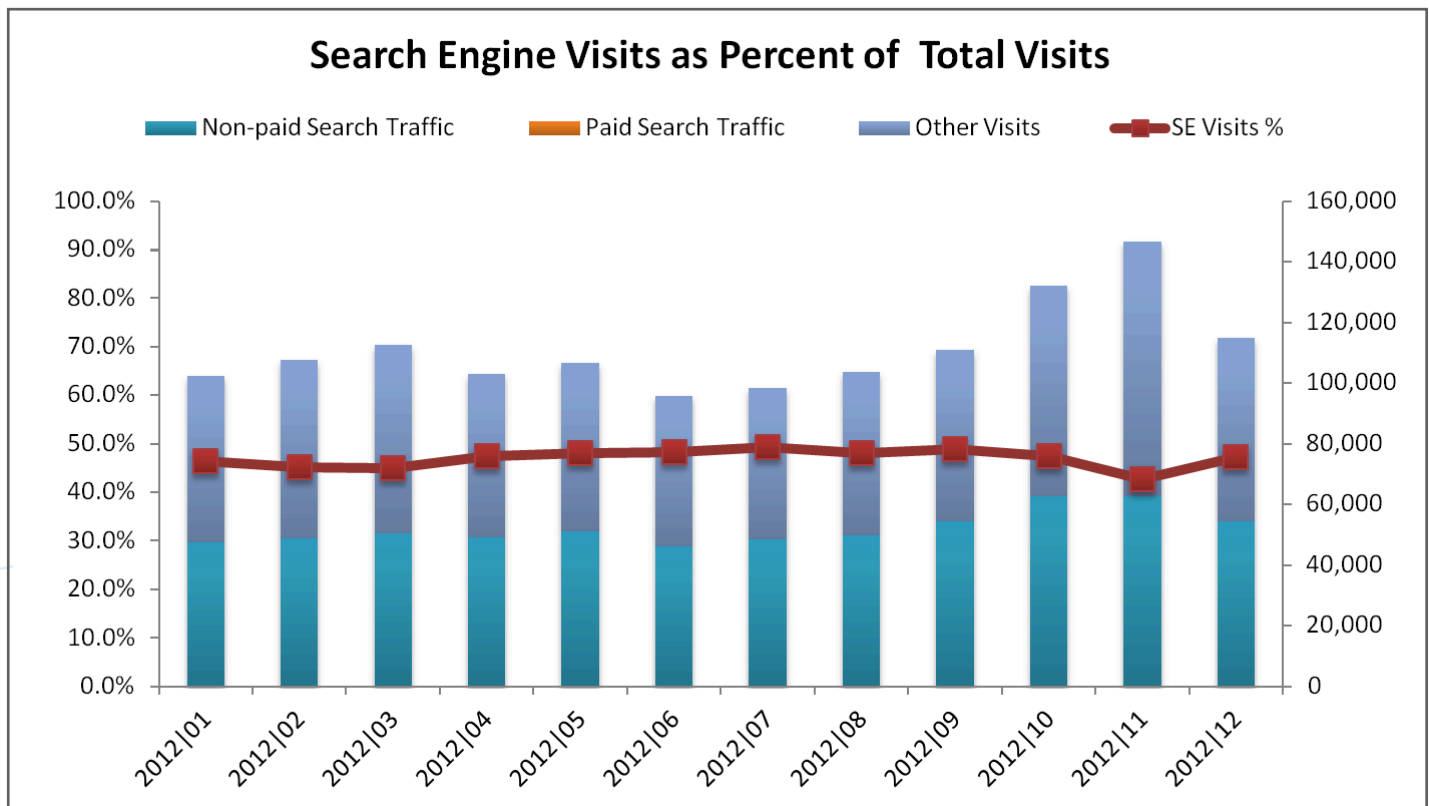Chart legend: Q1 FY13 · Q4 FY12 · FY12 Quarterly Average

single visit. Only 4% of our visits represented high depth engagement, or more than 20 pages viewed in one visit. This reflects a slight increase in minimum depth visits and a slight decrease in moderate depth visits as compared to the previous quarter.

Finally, length refers to the duration of a visit, and can be a good indicator of whether users are actually reading the content in BHL, or whether they quickly exit our website after arriving. This quarter, 51% of our visits lasted less than 1 minutes, while only 1% lasted 1-3 minutes. 49% of our visits had a duration greater than 3 minutes. This reflects a significant decrease in minimum and moderate length visits and a significant increase in maximum length visits when compared with last quarter and average FY12 quarter statistics. It is important to remember that a short visit does not necessarily mean the user did not glean anything from BHL; he or she may simply have downloaded the page visited to read later, without extending the length of the website visit.

WEBSITE statistics

It is also important to consider where our traffic is originating from: whether people are coming directly to BHL or being directed to our site via search engines. As the red line in the graph below indicates, approximately 50% of our traffic over this past year originated from search engines, with the other half resulting from visits directly to BHL or as redirected from a site other than a search engine. This indicates both a strong core community going directly to BHL to find what they need, and the opportunity to grow our user base through individuals that find BHL as a result of search engines. Organizations need an even balance of both traffic types to remain healthy, and BHL is happily demonstrating just such a balance.
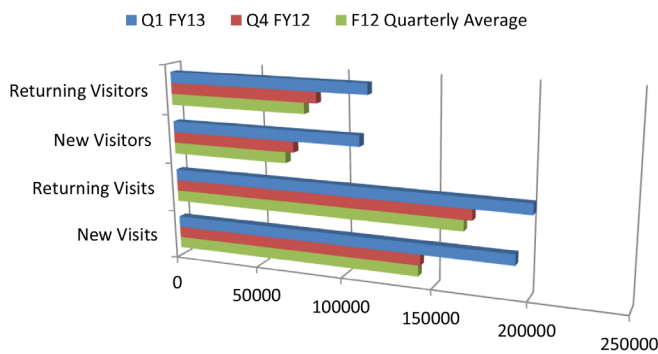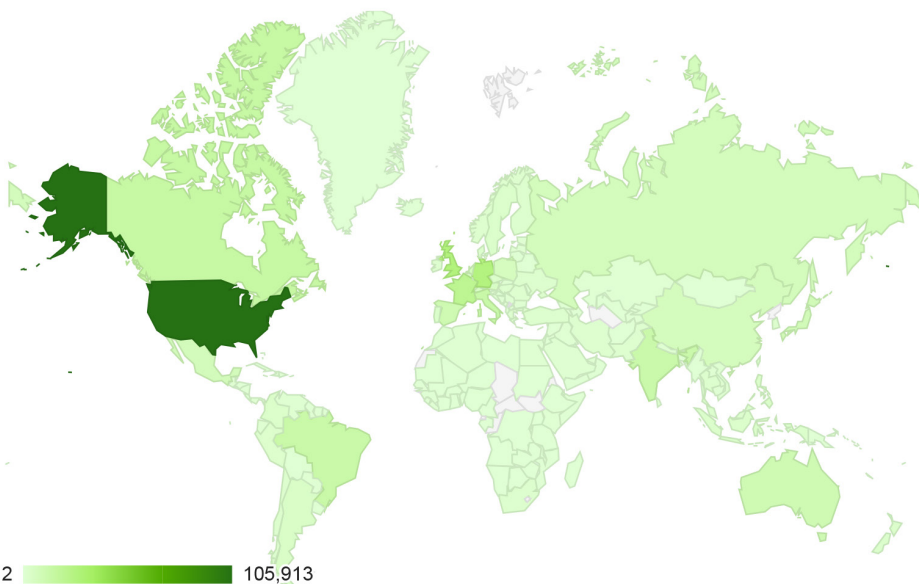
Search Engine Visits as Percent of Total Visits

Legend: Non-paid Search Traffic | Paid Search Traffic | Other Visits | SE Visits %

	New Visits	Returning Visits	New Visitors	Returning Visitors
■ Q1 FY13	192740	201011	109775	114485
■ Q4 FY12	142747	170142	72183	86045
■ F12 Quarterly Average	141595	165768	67511	79030

"I absolutely adore BHL! Keep on exploring life.
  - Baba Gali, via Facebook

"Who is the best #openaccess resources that you follow on Twitter? @BioDivLibrary because my work would be impossible without them."
  - @ Iteration23

For BHL, we're also interested in how many of our visitors are new visitors or returning visitors, what percentage of our visits are from new or returning visitors, and how this data trends over time. As shown in the graph above, this quarter, 51% of our visitors were returning visitors, while 49% were new visitors. This corresponds to 49% of our visits being "new visits."

Finally, as our goal is to repatriate biodiversity knowledge to all parts of the world, we want to monitor how frequently our content is being accessed globally. The map to the left shows this information for Q1, FY13. Not surprisingly, the highest percentage of our traffic from a single country, at 27%, comes from the United States. This quarter, the next highest country was the UK contributing 7% of our total traffic.

SOCIAL *media*

BHL has an active presence on a variety of social media platforms, including Twitter, Facebook, Flickr, and a blog. These outlets serve as the chief means through which BHL news and developments are communicated to users.

For each platform, BHL staff articulated goals and metrics by which to determine the effectiveness of outreach activities. This section presents the goals and metrics for each application for October-December, 2012. Ultimately, the goal for social media outreach is to drive traffic back to BHL itself. The success of this goal is measured by how many visits to BHL originate from each of our social media platforms each quarter.
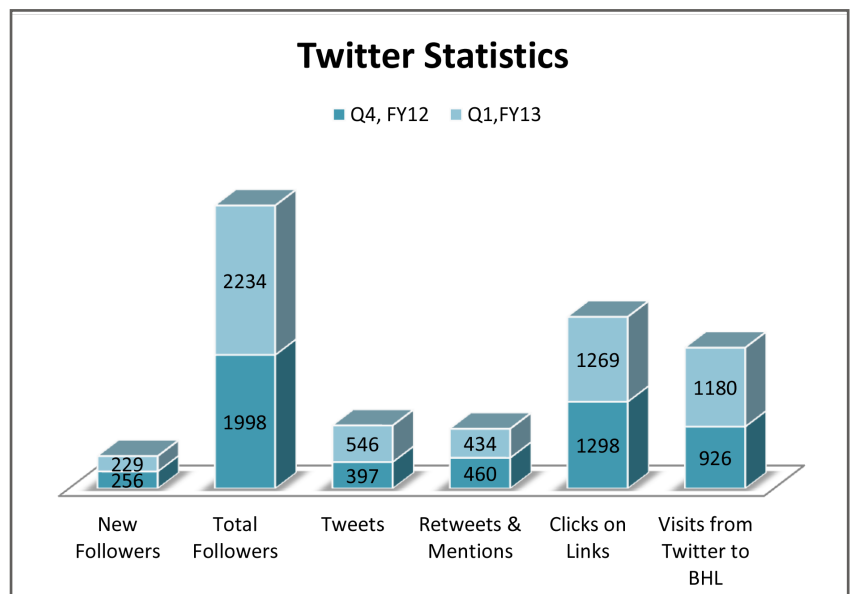
Twitter

@BioDivLibrary

BHL's goals for Twitter include fostering dialogue and promoting BHL resources.

Fostering dialogue refers to stimulating conversations about and increasing awareness of BHL via Twitter. This goal is measured by follower growth and retweets and mentions.

Promoting resources involves showcasing BHL content via Twitter. The effectiveness of staff efforts in this arena is measured by the number of clicks on links to BHL content within tweets and the number of tweets posted about BHL content.

Twitter Statistics

Legend: ■ Q4, FY12 ■ Q1,FY13

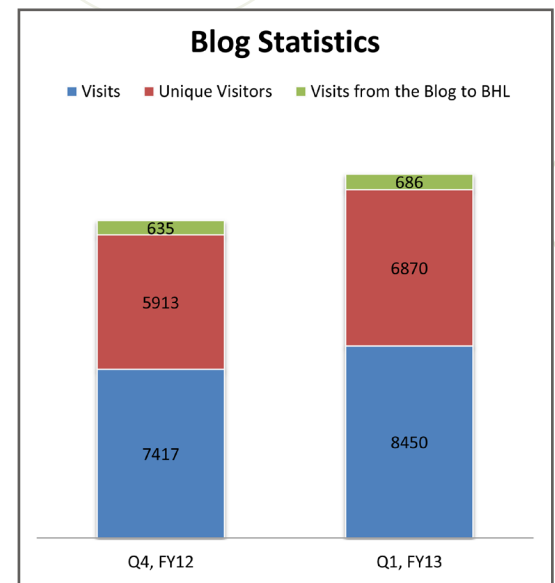| Category	Q4, FY12	Q1, FY13
New Followers	256	229
Total Followers	1998	2234
Tweets	397	546
Retweets & Mentions	460	434
Clicks on Links	1298	1269
Visits from Twitter to BHL	926	1180

Blog

BHL goals for blogging include fostering dialogue with our users and promoting our services and resources. Our effectiveness in meeting these goals is measured by the number of visits to the blog and the number of unique visitors.

The blog serves as a "press release" application for BHL. Staff publish posts about project updates via this outlet. The blog also gives staff the opportunity to showcase important items in the BHL collection (through the weekly series "Book of the Week") and learn more about the people using our resources (through user interviews presented via the monthly series "BHL and our Users").

blog.biodiversitylibrary.org

Blog Statistics

- Visits
- Unique Visitors
- Visits from the Blog to BHL

	Q4, FY12	Q1, FY13
Visits from the Blog to BHL	635	686
Unique Visitors	5913	6870
Visits	7417	8450

Facebook

www.facebook.com/BioDivLibrary
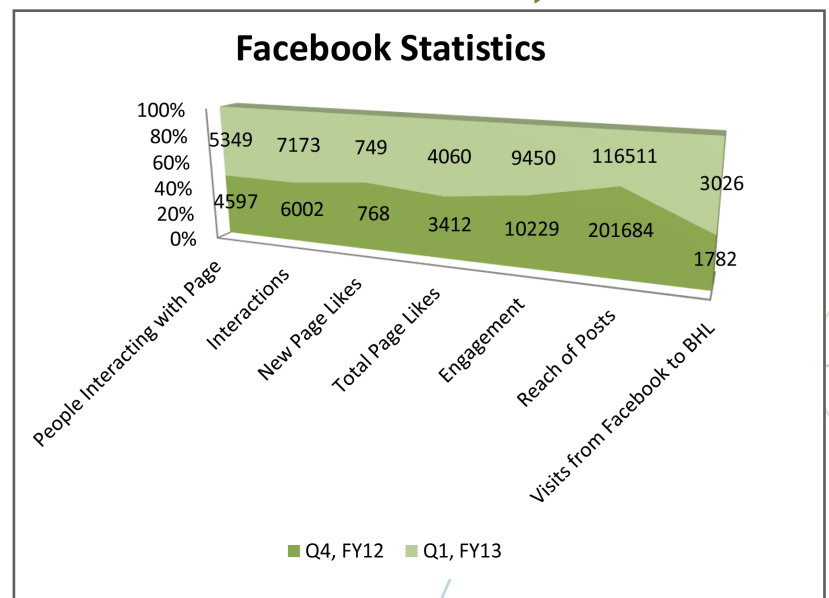
BHL's primary goals for Facebook include promoting resources and fostering dialogue. BHL staff hope to promote resources by showcasing BHL content within posts on the Facebook page, and hope that these posts will foster dialogue by generating conversations about BHL via the Facebook platform.

To measure Facebook goals, BHL keeps a number of statistics, including the number of people interacting with our page (either by liking posts, adding comments to posts, sharing posts, or answering trivia questions), the number of these interactions, the number of people liking our page, the number of engaged users (number of people performing any action described in "interacting" plus the number of people who simply clicked on a link in a post), and the reach of our posts (the number of people who have seen any content posted on our page).

Facebook Statistics

	People Interacting with Page	Interactions	New Page Likes	Total Page Likes	Engagement	Reach of Posts	Visits from Facebook to BHL
Q4, FY12	5349	7173	749	4060	9450	116511	3026
Q1, FY13	4597	6002	768	3412	10229	201684	1782

SOCIAL media

Flickr

"I wanted to thank you for providing a wonderful service. Allowing access to public domain images that are supposed to be "public" is crucial to promoting future creativity. As an artist, I am so grateful to have so much inspiration at my fingertips. What you all are doing is invaluable!"
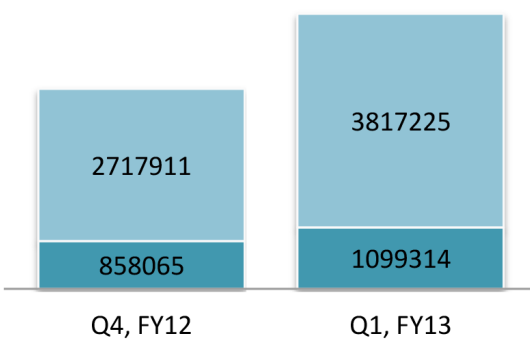
- Amelia Hutchins

The BHL collection contains thousands of scientific illustrations created over the past 500 years. In an effort to make these images more accessible to users, staff share many of them via the BHL Flickr account. In doing so, BHL has connected with new audiences, such as artists, who are using BHL content in new ways, including incorporating them into artwork, like invitations and even wallpaper.
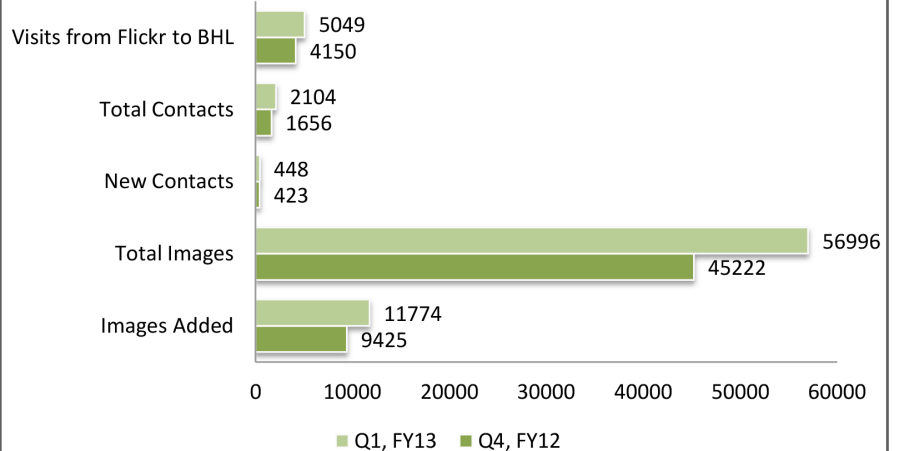
BHL's primary goals for Flickr are to document BHL visual resources used via other social media platforms (i.e. Facebook and Twitter), to provide a pool of image content for dissemination and promotional purposes, to promote BHL's visual resources to Flickr's user group, thus introducing BHL to a new community of users, and to foster interaction with BHL visual resources in new and innovative ways.

Views on Flickr Content

■ Views on Content   ■ Total Views

	Q4, FY12	Q1, FY13
Total Views	2717911	3817225
Views on Content	858065	1099314

Flickr Statistics

	Q1, FY13	Q4, FY12
Visits from Flickr to BHL	5049	4150
Total Contacts	2104	1656
New Contacts	448	423
Total Images	56996	45222
Images Added	11774	9425

■ Q1, FY13   ■ Q4, FY12
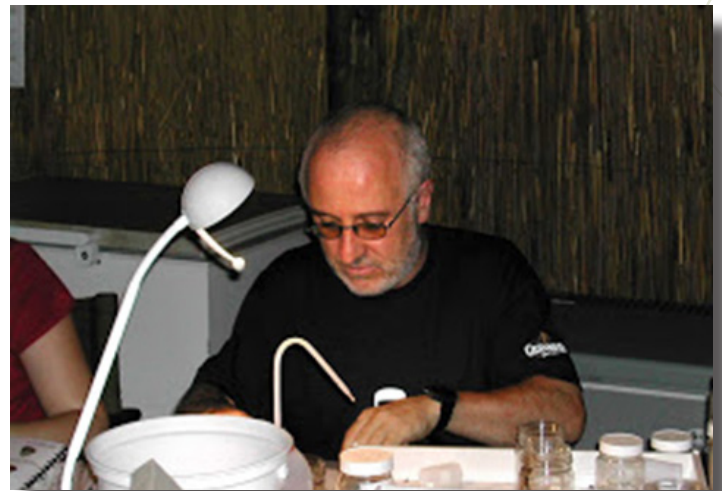
BHL Use Case

Facilitating the Study of Mollusca in Southern Africa

The Biodiversity Heritage Library is helping to improve the efficiency of scientific research around the world by providing free, global access to natural history literature, much of which can be found in only a few select libraries in the developed world.

Scientists everywhere feel the value of BHL, especially those in developing countries with limited access to large library collections, like BHL user Dr. Dai Herbert.

Chief Curator of Mollusca at the KwaZulu-Natal Museum, Pietermaritzburg, and Honorary Professor at the University of KwaZulu-Natal, Pietermaritzburg, Dr. Herbert's field of interest is molluscan diversity and biogeography in southern Africa, with an emphasis on taxonomy and systematics. As he explained, in work of this nature it is essential that one is fastidious and painstaking about accuracy. Consequently one often needs to go back to original sources to check information. These may sometimes be old and rare literature resources.

So, when asked about his opinion of BHL, Dr. Herbert enthusiastically replied, "BHL is a tremendous and extremely valuable resource. I frequently need to refer to the older literature, but before the advent of the internet and the BHL, this was usually a very frustrating task because much of the relevant material was not available in South Africa. This represented a considerable stumbling block and hindrance. The BHL has greatly alleviated this problem. Far more often than not, I am able to find what I need on the BHL. *This resource has done an enormous amount to enhance the capacity of developing countries to undertake taxonomic research on their biota.* I am extremely grateful to those who set up and manage this resource. Keep up the good work!"

Use cases like Dr. Herbert's demonstrate the importance of open access projects like BHL. We believe that removing boundaries to access, liberating knowledge from institutional silos, is one of the key responsibilities of cultural institutions in the 21st century. Together, we can ensure a better future for all biodiversity.

ABOUT
the bhl

The Biodiversity Heritage Library (BHL) is a consortium of natural history and botanical libraries that cooperate to digitize and make accessible the legacy literature of biodiversity held in their collections and to make that literature available for open access and responsible use as a part of a global "biodiversity commons."

The BHL consortium works with the international taxonomic community, rights holders, and other interested parties to ensure that this biodiversity heritage is made available to a global audience through open access principles. Today, in partnership with the Internet Archive and through local digitization efforts, BHL has digitized over 40 million pages of taxonomic literature, representing over 58,000 titles and 110,000 volumes (Dec. 2012).

The published literature on biological diversity has limited global distribution; much of it is available in only a few select libraries in the developed world. These collections are of exceptional value because the domain of systematic biology depends more than any other science upon historic literature. Yet, this wealth of knowledge is available only to those few who can gain direct access to significant library collections. Literature about the biota existing in developing countries is often not available within their borders. Biologists have long considered that access to the published literature is one of the chief impediments to the efficiency of research in the field. Among other results, free global access to digitized versions of the literature would repatriate information about the earth's species to all parts of the world.

Since 2009, the BHL has expanded globally. The European Commission's eContentPlus program has funded the BHL-Europe project, with 28 institutions, to assemble the European language literature. Additionally, the Chinese Academy of Sciences, the Atlas of Living Australia, Brazil (through SciELO and BIREME), and the Bibliotheca Alexandrina have created regional BHL nodes. A BHL-Africa program node will officially launch in April, 2013. These projects will work together to share content, protocols, services, and digital preservation practices.

Staff & Membership

Secretariat:
Program Director: Martin Kalfatovic
Program Manager: Grace Costantino
Collections Coordinator: Bianca Crowley

Technical Team:
Technical Director: William Ulate
Lead Developer: Mike Lichtenberg
Data Analyst: Trish Rose-Sandler

BHL Executive Committee:
Chair: Nancy Gwinn (Smithsonian Libraries)
Vice-Chair: Connie Rinaldo (MCZ Harvard)
Secretary: Susan Fraser (The New York Botanical Garden)

BHL Steering Committee Members:*
California Academy of Sciences
Harvard Univeristy Botany Libraries
Harvard University, Ernst Mayr Library, MCZ
Royal Botanic Gardens, Kew
Marine Biological Laboratory, Woods Hole
Missouri Botanical Garden
Natural History Museum, London
The New York Botanical Garden
Smithsonian Libraries
United States Geological Survey

* Institutions that contribute a $10,000 annual membership
   due to support BHL program development

> "BHL provides an amazing treasure of invaluable historical materials covering biological diversity from many resources formerly unavailable to most students and faculty engaged in life sciences research. As many of these items have very limited distribution, BHL will serve a central role in expanding the role of scientific exploration in the developing world, as well as in leading U.S. and European institutions."
>
> - *College and Research Library News*. v. 73, no. 10, pg. 626-627.

BHL Institutional Council Members:
American Museum of Natural History
Academy of Natural Sciences, Philadelphia
Cornell University
Field Museum

Global-BHL Executive Committee:
Chair: Ely Wallis (BHL-Australia)
Vice-Chair: Henning Scholz (BHL-Europe)
Secretary: Nancy Gwinn (BHL-US/UK)

Images:

Pages 1-2:
  Metamorphosis insectorum surinamensium. (1705), plate 1.
  Mammalia. Biologia Centrali-Americana. (1879-82), plate 4.
Pages 3-4:
  *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus
    artificiosissimis expressio, per universam physices historiam.*
    (1758), v. 3, plate 87.
Pages 5-6:
  Curtis's botanical magazine. (1845), v. 75 plate 4447.
Pages 7-8:
  Le monde de la mer. (1866), plate 21.
Pages 9-10:
  A monograph of the Trochilidæ, or family of humming-birds (1849-61), v. 2, plate 113.
Pages 11-12:
  *Description des reptiles nouveaux ou imparfaitement connus de la collection du
  Muséum d'histoire naturelle et remarques sur la classification et les caractères des
  reptiles.* (1852), plate 21.
Pages 13-14:
  La Pêche et les poissons. (1868), plate 18.
  Verzameling van uitlandsche en zeldzaame vogelen. (1776), v. 3, plate 78.