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This study analyzes the websites of fifty-nine natural history museums accredited by the American Alliance of Museums in order to determine current practices in online collection information for natural history museums and its relationship to institutional qualities.

Using a heuristic content analysis, this study looks at what collection information museums put on their own websites and external websites, search and browsing features for collection information, and whether they include written policies about loans and research visits using collection materials. Using a chi-square test, this information was analyzed in relation to demographic information, such as whether the museum is a non-profit, affiliated with a college or university, government operated, or charges for admission. The findings of this study indicate no significant relationship between these demographic factors, but strong relationships between a museum's likelihood to put collection information online and information about lending and research policies.

Headings:

Museums

Museum collection catalogs

Collection management (Museums)

Digitization of museum collections

Biological databases

Knowledge management

ONLINE COLLECTIONS FOR NATURAL HISTORY MUSEUMS: A HEURISTIC ANALYSIS

by
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Approved by

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Introduction

In this study, I will be examining the current practices of natural history museums for organizing information about their collections on museum websites. For this purpose, I will be conducting a heuristic content analysis of the websites of natural history museums in the United States that are accredited members of the American Alliance of Museums (AAM). This study will determine what browsing and searching tools are available on museum websites and explore what taxonomies are used within online catalogs and collection information.

This study has grown out of an interest in best practices in museum collection cataloging, usability testing in library catalogs, and sharing of images of museum collections on outside platforms, such as Flickr Commons or ArtSTOR. Like many fields and industries, the practices of museums using computer technology has shifted significantly as technology has developed. In the late 1990s and early 2000s, some museum created publically accessible computerized catalogs, which they would sell on CD-ROM or make available in computer kiosks in the museum building (Booth, 1998, p. 149; Coburn and Baca, 2004, p. 15). Other museums have created online catalogs of their collections, which allow users to peruse items in the collection off-site, though the extent of the information available in online catalogs varies significantly, ranging from accession data—the basic info museums collect about object in their collections for

record-keeping and identification—to detailed historical info and photographs of many or all items in the collection.

Some museums have incorporated *Web 2.0 technologies*—interactive components, such as social networks and personalized museum collections and exhibits—into their websites. One Web 2.0 feature used by several museums, including the Brooklyn Museum and Steve.Museum project, is the incorporation of *social tagging*, in which users are allowed to apply their own tags to items in the online catalog. The assumption is that tags improve the findability of items in the collection (Bernstein, 2008; Trant, 2009). These features have been studied extensively in the context of search features and crowd-sourced projects.

Similarly, some museums have incorporated interactive features into their websites by allowing users to create personalized collections of objects from the museum catalog; for example, users might save and organize images or catalog information in a favorites list or virtual exhibit. These features are a form of *folksonomy*, in which many users can label resources with an informal, organic assembly of related terms, which, when shared with other users, may serve to identify resources that fit certain categories (Trant, 2009). While many museums have hoped these projects would increase public engagement with their collections, and allow for more pluralistic and democratic narratives of art and human history, the real-world use of these features has been somewhat underwhelming. One study found the majority of museum website users who created accounts to make personal digital collections never logged into their accounts again (Marty, 2011, p. 211, quoting Fantoni, 2009).

In recent years, there have been a rising number of museums contributing photographs and information about items in their collections to shared online repositories outside their own websites. One such repository is Flickr Commons—a project on the photo-sharing website Flickr, in which cultural institutions such as archives, government agencies, and museums are permitted to upload an unlimited number of photos to the site, so long as all the images have no known copyright restrictions (Stvilia & Jörgensen, 2010). The Flickr Commons project also includes a social-tagging feature, in which any user can add searchable tags to images in the commons. One organization involved in this project, the Smithsonian Institute, published a detailed analysis of how their images were used after they were added to the Flickr Commons, how they were tagged, and how these uses compare to how images were used when they were hosted on the Smithsonian's own website (Kalfatovic et al. 2008).

With this in mind, there have been several recent studies on searchability, user experience, and functionality of museum websites. Some studies have also examined the needs of museum visitors and scholarly researchers using museum websites, with the intention of improving museums and museum websites as information utilities (Coburn & Baca, 2004; Marty, 2011). There has also been significant research into the Library and Information Science (LIS) knowledge and training of museum staff (Marty, 2006a, 2006b, 2007).

While this literature has covered many topics in museum staff information needs and museum website user needs, much of it has focused on art and human history museums, or otherwise has focused on practical aspects of cataloging workflow. For this reason, I am examining the practices of natural history museums, which have largely

been left out of scholarly studies of museum cataloging. It is my hope to determine what information practices are common in these institutions, and determine best practices in building natural history museum websites going forward.

Literature Review

Frameworks of Museum Website User Studies

In considering how to develop and design natural history museum websites that benefit both their audience and the museum itself, it is necessary to consider the motivations and goals of both these stakeholders, and what role the museum website plays in relation to both parties.

While many museums have deliberately developed a web presence to meet the perceived goals of their audience, determining who is the intended or actual audience of a website poses some challenges, as does determining their motivations for visiting the site and deciding what goals the museum should facilitate. At the 2007 *Museums and the Web* conference, two researchers at the Museum Victoria (MV) in Australia presented an argument that most research into developing, designing, and evaluating museum websites up to that time was based on a set of assumptions about web audiences drawn from other fields (Peacock & Brownbill, 2007). Specifically, they argued that most user-studies and website evaluations were based upon some combination of:

- *Audience studies*, drawn from broadcast mass media, which seeks to increase the number of viewers based on demographics and taste.
- *Visitor studies*, based on museum's ethnographic studies of who visits their physical museums and their responses to what they experience.

- *Market research*, based on consumer models of human interactions, which seeks to sell more products to more consumers.
- *Usability studies*, which grew from software design and engineering practices, which measures the ability of users to perform set tasks with a given tool.
- *Evaluation methods*, drawn primarily form education and government program evaluations, which measure the effectiveness and efficiency of different interventions.

While each of these paradigms have some analogy to the experiences of museum website users, they make several assumptions human behaviors that are not always applicable to users in a web context, and a more holistic understanding of web-user motivations is needed (Peacock & Brownbill, 2007). Based on MV's own user-studies, Peacock and Brownbill went on to identify four categories of visitors to their website:

- *Visitors*: people using the web site to plan or follow up a visit to a museum
- *Searchers*: people using the web site to locate specific subject-based info
- *Browsers*: people who access the web site as part of browsing activities on the web
- *Transactors*: people who use the web site to interact or transact with MV.

By identifying these motivations of museum's web audiences, it may be easier to design websites to fulfill these motivations, including conducting usability studies to meet the needs of each of these heterogeneous groups.

Many libraries, archives, and museums (also called LAMs, or cultural heritage institutions for short) have chosen to digitize part or all of their collections. This has taken the form of online galleries, virtual exhibits, and online catalogs, often featured on

the institution's own website. Some LAMs have also opted to contribute digital resources to shared or collaborative collections, such as the Flickr Commons project, ArtSTOR, Europeana, and iDigBio. Marty (2014) has called this trend towards online blending of separate LAM collections *digital convergence*. Marty argues that this trend has blurred the lines between archive, museums, and libraries as separate categories of institution, and blurs lines between the public identities of separate institutions (p. 614). These projects have focused on meeting user's expectations and desires for how they can access LAM resources, which can increase audience exposure collection content; this increased exposure and use may be a positive thing in terms of a LAM institution's cultural goals. As Marty states:

> "By bringing together our shared resources, we can help cultural heritage organizations collect, preserve, and disseminate the very information resources that make these institutions more than a collection of records and objects, but the sum total of what it means to be human. By bridging curricula and educational programs, we help break down existing academic silos and give our students the tools they need to ignore our differences and focuses on our similarities." (2014, p. 625)

While this arrangement may benefit users, it may not necessarily benefit the collecting institutions. Marty (2014) points out that a breakdown in public perception of collections belonging to a particular institution may result is fewer visitors to an institution's own website or physical location, which may result in reduced funding (p. 615). Marty advocates raising audience awareness of the labor of that goes into information work (p. 622-3) as well as further research into how audiences use LAM resources (p. 624). For this reason, my study will examine: (1) whether natural history museums place collection information on their own website or on a shared repository, and (2) whether these motivations correlate to funding sources of these museums.

How Museum Website Users Interact with Museum Web Content

With this holistic understanding of museum website user motivations in mind, museums that aim to create websites that are useful to both the museum and their audience may benefit from examining what information museum website users seek and why; this information will allow museums to design websites not only to meet the task-based goals of museum website users, but also to foster mutually beneficial relationships with these users. To find this information, several methods have been used by different museums.

In one example of a museum website user study, researchers at the Indianapolis Museum of Art (IMA) studied the motives and behaviors of users of the IMA website using a combination of surveys and log data. In the first survey, website visitors were asked "what is your main reason for visiting the IMA website today?" and given a text-box in which to answer in their own words. From these responses, the researchers determined that the motivations of IMA website visitors largely matched the audience four categories proposed by Peacock and Brownbill for the Museum Victoria's website users (Fantoni et al., 2012).

In a second survey, the researchers reiterated the same question as the first, but this time had the respondent choose between five different reasons: plan a visit to the museum; find specific information for research or professional purposes; find specific information for personal interest; engage in casual browsing without looking for something specific; make a transaction on the website. These options are based on Peacock and Brownbill's four categories, but also make a distinction between information-seeking for personal interest versus research or professional reasons.

Following the second survey, the researchers used Google Analytics API to track aspects of the user's behavior on the website, including how long they stayed on the site, what pages they viewed, and what search tools they used (Fantoni et al., 2012).

From this data, Fantoni et al. found that half of the website visitors were there to plan a visit to the museum, followed by 21% seeking information for personal interest, 16% seeking information for professional reasons, 10% to browse, and 2.6% to make a transaction. They also found that users who were there to make a transaction spent the most time on the site, while those planning a visit spent the least. Additionally, they found that users who were on the website in order to seek information for professional reasons were more likely to be accessing the website from outside the US than any other motivational category. Fantoni et al. concluded that further research was needed to understand users' experiences with the search engine on the site and their levels of satisfaction (Fantoni et al. 2012). This study supports Peacock and Brownbill's framework of motivations of museums website visitors, and demonstrates the use of a combination of methods that may be effective for museums to determine the needs of their end users, even when the identities of those users are unknown.

Another method for identifying website user motivations is to combine surveys and in-person interviews. In 2014, Mette Skov and Peter Ingwersen published a two-part study on the information-seeking behavior of users of the website for the National Museum of Military History in Copenhagen, Denmark. In the first part of this study, the researchers conducted an open-ended survey of museum website users, which they distributed through the museum's website, a newsgroup, and a printed journal (Skov & Ingwersen, 2014, p. 92-3). Though this survey was not intended to provide a

representative sample of all museum's website users, it did provide significant qualitative data, which the researchers coded and analyzed using inductive content analysis. From this data, the researchers categorized survey respondents based on Robert Stebbin's taxonomy of leisure pursuits, concluding that most hobbyist users of the website fell into the 'collector' and 'liberal arts enthusiast' classes of hobbies (Skov, 2013).

Skov and Ingwersen also used this survey to recruit participants in the second part of the study, in which they interviewed twenty-four of the survey participants and had them conduct four search tasks using the museums' online catalog. From the data collected, the researchers identified four characteristics of online visitors' searching behavior: "(a) a highly visual experience, (b) exploratory behaviour, (c) broad known item/element search, and (d) meaning making." (Skov & Ingwersen, 2014, p. 97). These conclusions, as well as Stebbin's taxonomy of leisure pursuits, may well be applicable to non-professional researchers using the online catalogs of natural history museums.

While few studies have been conducted on the motivations and information behavior of museum website users for natural history museums, it may be possible to generalize some domain-specific motivations for these kinds of museums from visitor studies of these museums. One such museum, the Science Museum in London (one of three museums in the National Museum of Science and Industry, or NMSI), conducted a study of in-person visitors (Booth, 1998, p. 139). From earlier studies, the Science Museum determined that most—75%—of their visitors were either young children, or adults accompanying young children, followed by 'general visitors,' with a maximum of 10% of their visitors being 'specialists or enthusiasts' (p. 140). In order to improve their information resources on-site, the museum partnered with an advertising agency, Simons

Palmer, to study the information needs of their visitors. The advertising agency then used interviews with adult museum visitors to identify four categories of visitor: 'boffins & eccentrics,' 'professionally interested,' 'day trippers,' and 'students,' (p. 141). The agency then went on the identify the information needs of these groups, and to make recommendations as to how the museum could better meet these needs.

While the Science Museum's study found motivations analogous to those found by researchers at the Museum Victoria, the IMA, and the Military Museum, it does not provide significant insight into how these motivations may be fulfilled in a web context, or how the motivations of a science museum visitor may differ from an art or history museum visitor.

Effect of Museum Digital Resources on Audiences

Another emerging trend in museum projects is the creation of digital educational tools that engage users with collections offsite. One example of this is the Habitat Tracker project developed at Florida State University in partnership with the Tallahassee Museum (Florida State University, n.d.) (Marty et al., 2013, p. 407). For this project, researchers at FSU designed a three-week curriculum for elementary school students, which began with students learning about Florida wildlife and their habitats using an iPad app in a classroom setting (p. 411). The students used the information in the app to make observations and form hypotheses about animal behavior, which they discussed as a class and recorded in the journal component of the app. Later, the students took a field trip to Tallahassee Museum to see the same wildlife they learned about from the app, make observations, and revise hypotheses (p. 412-416).

This project was designed to teach both scientific inquiry and digital literacy skills, which the designers have argued that teachers in formal learning environments (i.e., schools) have been reticent to teach, but can be made easier and more appealing when connected to informal learning environments such as museums and wildlife centers (p. 408). In order to evaluate the efficacy of this application for teaching these skills, researchers observed fourth- and fifth-grade students from twelve public elementary schools in north Florida during three rounds of testing, in which they gathered data from 263 students in alpha testing, 1170 students in beta testing, and 385 in pilot testing. To study how students used the application, researchers collected data by observing students' interactions with the app within the museum and in classrooms, and by collecting students' journal entries and data from interactive technologies in the app (Marty et al., 2013, p. 417-8). These results were coded to match a matrix of curriculum goals for the application (p. 418).

From these results, researchers concluded that students were successfully able to use the application to fulfill the National Research Council's criteria for scientific inquiry (p. 409), including making observations, posing scientific questions, conducting background research, designing investigations, using tools to conduct investigations, proposing hypotheses, explanations, and predictions, and communicating results (p. 419-20). For each of these scientific inquiry goals, researchers also observed that students fulfilled Hobbs' five digital literacy competencies—the abilities to access, analyze/evaluate, create, reflect, and act upon information (p. 410; 419-20). This project provides a case study in how a science-focused museum might use interactive technology

to teach structured lessons while providing unstructured information about museum collection and topic area.

Methods

This study is a content analysis of the websites of natural history museums in the United States that are accredited members of the American Alliance of Museums (AAM). For purposes of this study, *museums* are defined as cultural institutions that maintain and display collections of non-living artifacts for educational purposes, which are accessible to the general public. This definition fits with a traditional understanding of museums as collecting institutions, while excluding collections of artifacts that are not open to the public. This definition also excludes some institutions that are members of the AAM that display living organisms, such as zoos, aquariums, and botanical gardens. This definition also excludes any AAM members whose institution does not include a material collection, as some science centers and other exhibition spaces do not.

In this study, *natural history museums* are defined as museums that display collections in the natural sciences—such as biology, chemistry, or geology—or non-anthropogenic aspects of history. This definition includes museums that cover multiple subjects so long as natural sciences are included as a subject.

To study current practices in natural history museum websites, this study analyzes a sample group of all museums in the US in the category of "Natural History Museum" as listed in the AAM "find a museum" search tool, as well as some museums categorized there as "General or Multi disciplinary (several subjects)."

To select my sample, I first created a list of all museums in these two categories, and conduct an initial visit to their websites to determine if they fit the definition of a

natural history museum as I am using it; to determine whether they met selection criteria, I read homepages, mission statements, about pages, history pages, and collection pages to determine if non-anthropogenic natural history was included in the museums subject areas, and whether the museum had a collection and was open to the public. Figure 1 shows an example of a museum whose mission statement indicated that it did meet the criteria of a natural history museum. After removing all museums that did not fit the inclusion criteria, or that did not have websites, I assigned a number to each museum in the list. Using the RANDBETWEEN function in Microsoft Excel, I then chose random numbers in the list until one third of the museums had been selected.

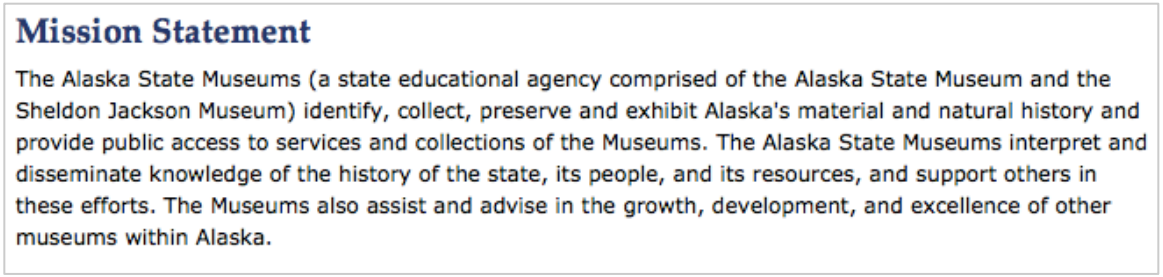

Figure 1Mission Statement from Alaska State Museums

After identifying my sample, I visited the website of each museum selected in order to determine what collection information is available on their website and how this information may be searched. This data was recorded in a spreadsheet for later coding and analysis:

- A full or partial catalog of all objects in the natural history collections
- An option to browse the collection(s)
- An option to search the collection(s)
- Finding aides or thesauri for searching features

- For biological collections: options for searching by scientific name and/or common or English names
- Taxonomic structure within browsing or searching options (e.g., options to search or browse biological collections by both genus and species)
- Images included with object information
- Information about or links to other repositories containing collection catalogs or information (e.g., iDigBio, VertNet, Flickr Commons)
- Information about loan requests or research visits to use collections

For gathering this data, I initially looked for pages named "collections," "research," and looked for information on each of these features on these pages (see figures 2, 3, and 4 for examples). If this information could not be found on these pages, or if there were no pages for these subjects, I also examined exhibits pages for collection information, and contact and collection policy pages for information about loans and research visits. If this information was not found on these pages, I then examined all pages on the website with the exception of blogs, news pages, and museum store pages. If I was not able to locate information on these features from these pages, I concluded that they were not available on the website.

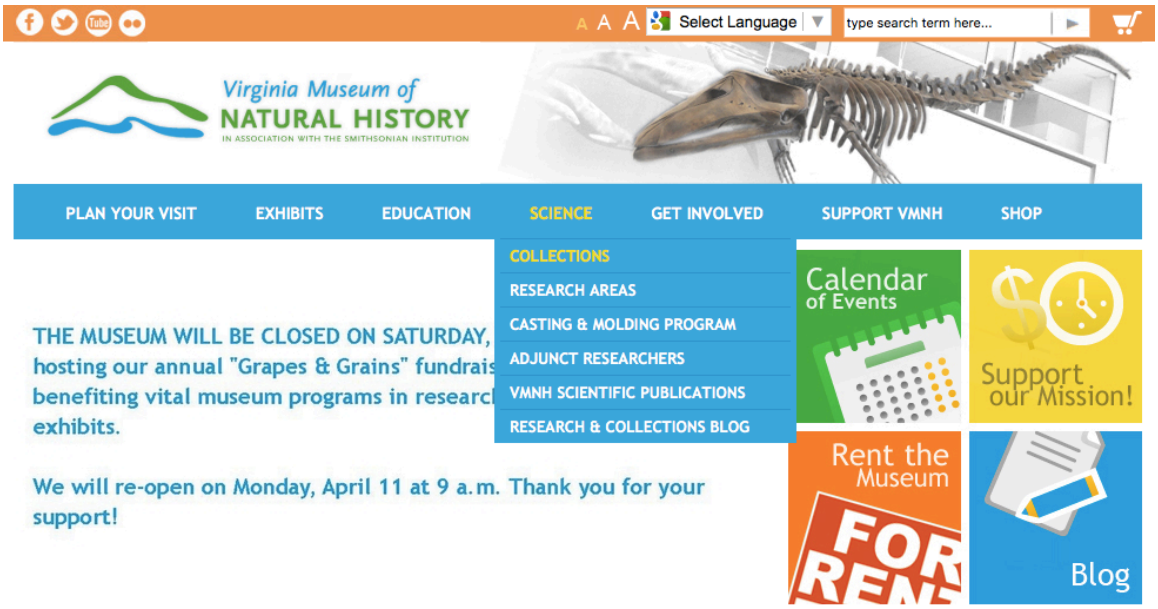

Figure 2: Locating collection information from the Virginia Museum of Natural History website homepage

Some museum websites listed multiple collections, or multiple catalogs for different collecting areas, which in some cases included different searching and browsing features. For these museums, information was first collected for each collection or database individually, and evaluated together to determine what information was available for all natural history collections at the museum taken together. If these collections had a complete catalog for only some natural history collections, but not others, these were coded as partial catalogs; similarly, if they featured images for all items in one, but not all catalogs, they were coded as including some images. If any collections included searching, browsing, search help/thesauri, taxonomic searching or browsing, loan information, or research visit information, the museum was coded as having these features. If a museum allowed searching by English/common names in at least one biological collection, and searching by scientific names in at least one other such collection, it was coded as allowing searching for both scientific and common names.

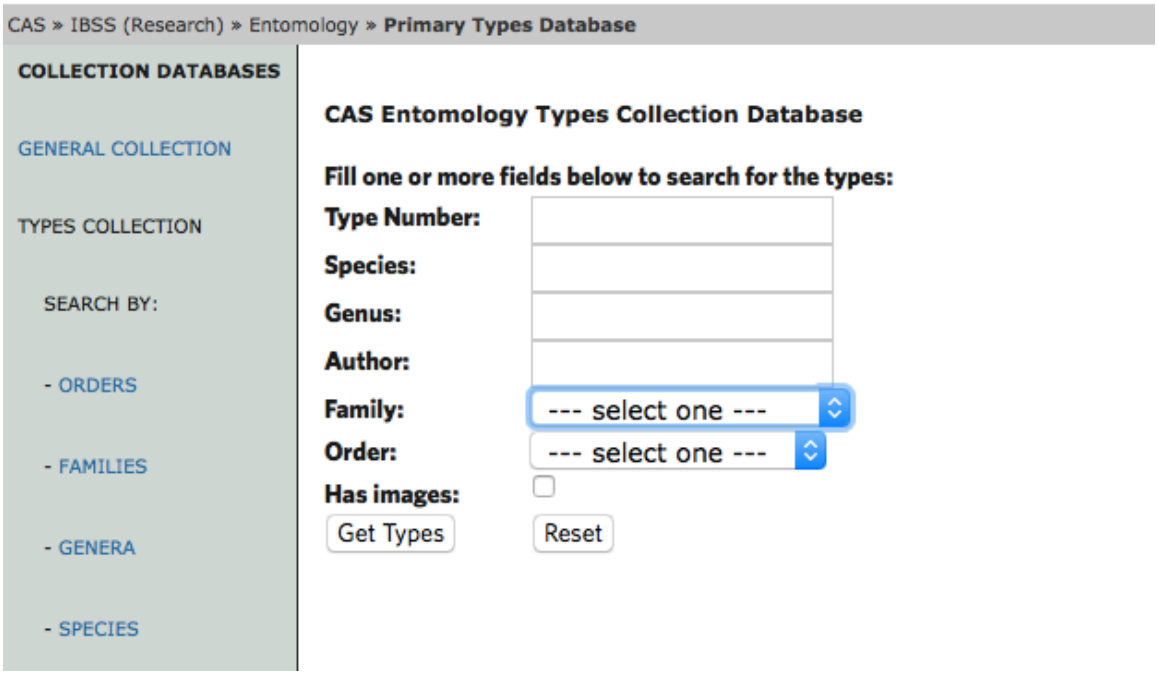

Figure 3: An example of a searchable collection with taxonomic searching options: California Academy of Sciences' Entomology Primary Types Database.

Additionally, my study gathered demographic information about each institution from its website, including whether the museum:

- Is a non-profit institution
- Is state-run or privately operated
- If state-run, by what level of government (i.e., federal, state, or municipal)
- Is affiliated with a college or university
- Does or does not charge for admission

To determine this information, I first looked at pages any pages labeled "about," "mission," "history," "visit," "donate," "support the museum," and "contact." If these pages did not provide this information, I also looked at all other pages on the website except for news, blog, and museum store pages.

From this information, I determined common features of these online collections for natural history museums, and cross-tabulated the catalog features with each demographic category and ran chi-square analyses to determine whether there is a relationship between these features and the design of the museum website.

Results

For this study, I analyzed the websites of fifty-nine of the one hundred seventy-four museums in the AAM that met the selection criteria. Of this sample, twenty-seven had at least a partial online catalog, while the other thirty-two had no online catalog—a nearly even split in half.

Of the museums with an online catalog, most only included part of their natural history collections in their online catalog or catalogs, either by covering only some collections, or only some of their natural history collections. Only two museums had an online catalog covering all of their natural history collection items; twenty-two had a partial catalog, and three had online catalogs that did not specify the completeness of their coverage.

Thirteen museums named an external platform on which they shared information about their collection, while forty-six did not mention posting their collection information on other platforms.

Twenty-five museums identified their organization as a non-profit or not-for-profit organization on their website. Both terms were coded as “non-profit” organizations. The remaining thirty-four organizations were coded as “not stated” for their non-profit status.

Twenty-three of the museums stated on their website that they were run by a government agency—Eighteen at the state level, and three at the municipal level, and one by a shared state and county partnership. All museums that operated as part of a state-run university were coded as government-run at the state level. Thirty-four of the museums in this study stated that they were privately operated, or stated that they were a 501(c)(3) organization, or were operated as part of a private college, university, or high school; these thirty-four museums were categorized as private, non-governmental organizations. Two museums did not give enough information on their website to determine whether or not they were government-run, and were categorized as "unclear" for government operation.

Twenty-one of the museums in this study stated an affiliation with a college or university, while twenty-eight were considered not affiliated with a college or university.

Forty-two museums stated that they charge for admission, while thirteen stated that admission was free. Four did not explicitly state whether or not they charged for admission.

Using the CHITEST feature in Microsoft Excel, I conducted a chi-square test to determine if there was a significant relationship between many of these factors, as described in Table 1—each quality in column A was tested with each quality listed in column B to determine if there was a relationship between the two qualities.

<table>
<tr><th>A</th><th>B</th></tr>
<tr><td>Non-profit status</td><td>Having a catalog on the museum website</td></tr>
<tr><td>Private or government-run</td><td rowspan="2">Completeness of catalog on museum website</td></tr>
<tr><td>For government-run museums: the level of government (state or municipal)</td></tr>
<tr><td>Affiliated with a college or university</td><td rowspan="3">Whether the museum mentioned hosting catalog information on an outside platform</td></tr>
<tr><td>Charging for admission</td></tr>
</table>

Table 1

Additionally, I conducted a test between each quality listed in Table 2 in all combinations.

Having a catalog on the museum website
Whether the museum mentioned hosting catalog information on an outside platform
Having loan information on the museum website
Having research visit information on the museum website

Table 2

Among these qualities, the only combinations that had a statistically significant ($p < 0.05$) relationship between the two variables were:

- Museums with a full or partial catalog on the museum's own website were more likely to contribute catalog information to a shared repository (e.g. GBIF, VertNet, iDigBio) than museums with no catalog information on their sites (X^2 (2, N=59) = 14.5537, p<.01).
- Museums websites with full or partial catalogs were more likely to also have information about loan policies (X^2 (2, N=59) = 8.6042, p<.01) and/or have information about using collection materials for on-site research (X^2 (2, N=59) = 7.1227, p<.01) than museums websites with no catalog information.
- Museums that contributed catalog information to shared repositories were also more likely to have information on loan (X^2 (2, N=59) = 14.5968, p<.01) and research visit (X^2 (2, N=59) = 13.3392, p<.01) policies than museums that did not mention contributing catalog information to shared repositories.

All other variables compared did not have a statistically significant relationship.

Additionally, this study collected information on which search and browsing features were available for the twenty-two museums. The percent of museums with each of these features is listed in Tables 3, 4, and 5.

Of museums analyzed (n=59), availability of catalog, loan, and research visit policy information		
	Count	Percentage
Full catalog	2	3.39%
Partial catalog	22	37.29%
Catalog available, but not stated if this is full or partial	3	5.08%
Loan policy information	23	38.98%
Research visit policy information	24	40.68%

Table 3

Of museums with online catalogs (n=27), percent with each feature		
	Count	Percentage
Browse	22	81.48%
Search	16	59.26%
Thesauri or search help	13	48.15%
Images for some or all objects in the catalog	20	74.07%
Images for all objects in the catalog	4	14.81%
Taxonomic structure	14	51.85%

Table 4

Of museums with searchable catalogs (n=16), scientific and English/common names		
	Count	Percentage
Scientific name	5	31.25%
English/common names only	2	12.50%
Scientific or English/common	9	56.25%

Table 5

Among the thirteen museums that mentioned contributing catalog information to an external website, thirty-seven external sites were mentioned. The most popular of these is the Global Biodiversity Information Facility (GBIF), with six museums contributing data from their collections, followed by iDigBio—five museums, and VertNet and HerpNet—four museums each. The full list of platforms named and number of museums using them appears in Figure 4.

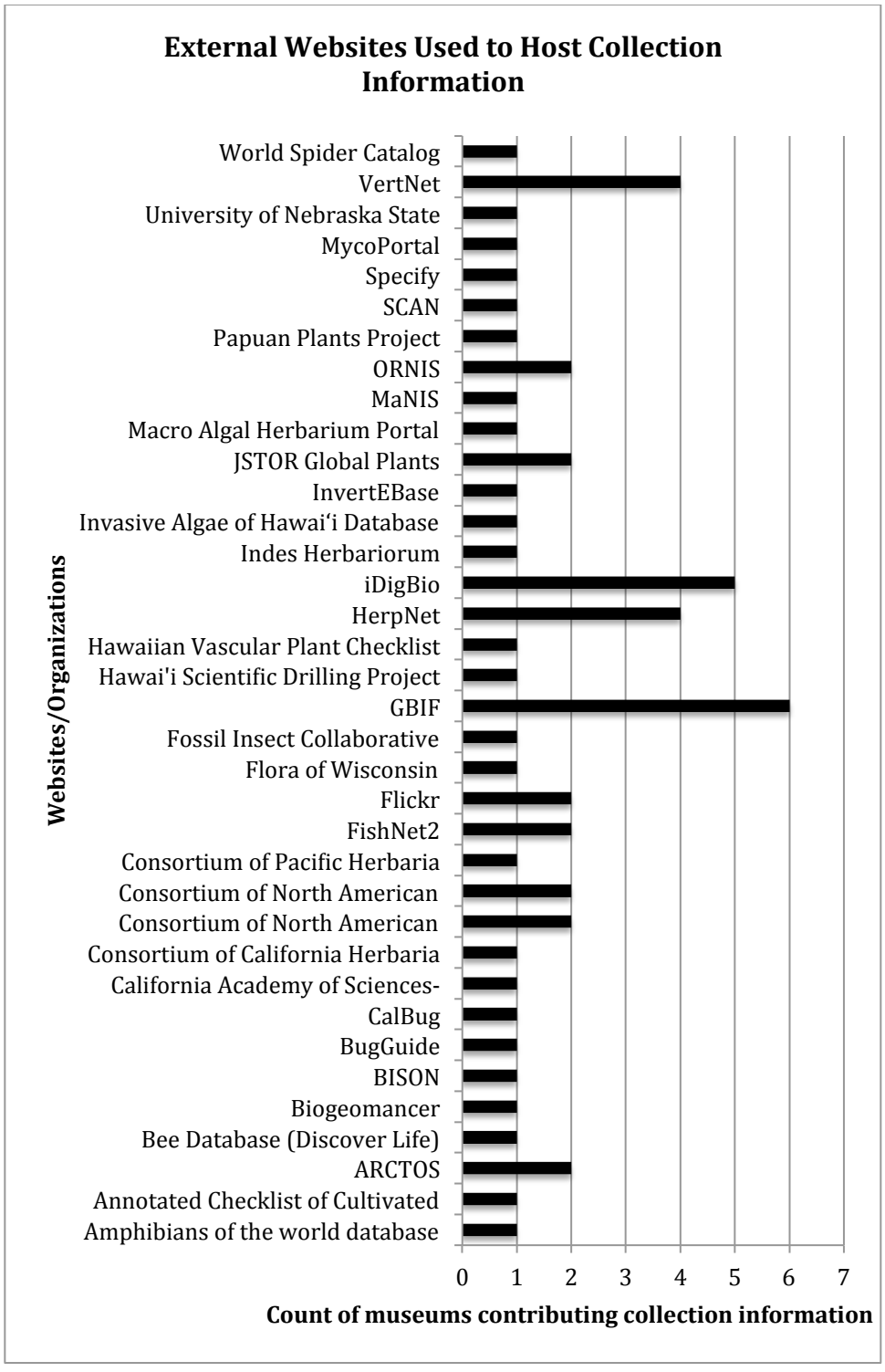
External Websites Used to Host Collection Information
World Spider Catalog
VertNet
University of Nebraska State
MycoPortal
Specify
SCAN
Papuan Plants Project
ORNIS
MaNIS
Macro Algal Herbarium Portal
JSTOR Global Plants
InvertEBase
Invasive Algae of Hawai‘i Database
Indes Herbariorum
iDigBio
HerpNet
Hawaiian Vascular Plant Checklist
Hawai'i Scientific Drilling Project
GBIF
Fossil Insect Collaborative
Flora of Wisconsin
Flickr
FishNet2
Consortium of Pacific Herbaria
Consortium of North American
Consortium of North American
Consortium of California Herbaria
California Academy of Sciences-
CalBug
BugGuide
BISON
Biogeomancer
Bee Database (Discover Life)
ARCTOS
Annotated Checklist of Cultivated
Amphibians of the world database
Websites/Organizations
0 1 2 3 4 5 6 7
Count of museums contributing collection information

Figure 4

Limitations

The results of this study were limited to the pages that I, as one researcher, was able to locate on the websites of each museum included, while excluding news and blog pages. This may have excluded catalog information, loan and research visit policies, and demographic information that was located on pages I did not encounter. This also excludes information about museums that is available elsewhere online, such as on social media, the websites of shared repositories of collection information, and other sites to which these museums contribute. As such, this study provides a picture—though an imperfect one—of what information museums make most visible on their institutional websites, but not necessarily all the methods of sharing collection information that museums are using.

This study was also limited by the accuracy and currency of the websites included in the study, which may provide incomplete, outdated, or incorrect information about their operations or collections. One area where this limitation created particular difficulty in processing data was when collection catalogs were available on a museum website, but it was not stated whether this catalog included all or only some of the museum's holdings. Similarly, some museums did not state whether they were privately or government operated, or did not state whether they charge for admission. Each of these cases of incomplete data created a third category in a variable that was intended to be binary, creating difficulties in analyzing the data.

Due to the low number of museums fitting some categories examined, the results of the chi-square tests used in this study may not be valid, and may undercount significant relationships. Particularly, because there were only two museums in this study

with a full catalog, all chi-square tests involving the completeness of museum catalogs had expect cross-tabulated values of less than five, making the test less valid. Similarly, the low numbers of museums run by municipal governments (four) or state-county partnership (one) governments made all tests involving the level of government less valid, even when the state-county partnership category was grouped with state government museums for analysis. The validity of the chi-square test for these variables may be improved by increasing the sample size for this population in future studies.

Discussion and Conclusions

Based on the results of this study, it appears that the likelihood of a natural history museum putting collection information online, whether on its own websites or on a shared platform, is not related to whether that museum is government-run, non-profit, affiliated with a college or university, or charges for admission to their museum site. Instead, a museum's likelihood of making collection information available online is most closely related to whether that museum has stated on their website that objects in their collection are available to be loaned out or used in research on-site.

Taken together, these factors may be an indication that natural history museums that make their collection information available online are doing so in order to facilitate scientific research with their collections, rather than as a means to increase museum attendance or revenue. It also appears to indicate that a museum's willingness to take the time to make collection information available is not driven by expectations of higher education institutions, or by expectations of government service or transparency.

One question that remains to be answered is whether scientific researchers are the only audience group interested in natural history collection holdings, or whether, like art

and human history museum audiences, there might be a significant group of hobbyists who would like to know about the collection, and whether it would be beneficial to the museum to make this information freely available.

Similarly, more user and usability studies are needed to determine what searching and browsing structures for museum collections fit the needs of researchers wishing to use items in natural history collections. It also remains to be seen whether museum-specific catalogs or shared platforms for collection information are better for researchers for finding and accessing natural history items, and whether these shared platforms sufficiently benefit the institutions that contribute to them.

This study has also revealed a mixed set of approaches to online natural history collections. Slightly fewer than half of museums analyzed had any catalog of their collection on their website at all, and very few had full catalogs available. While many of these museums have some images included in their catalog information, only four had images for all cataloged items, and none of these had a full catalog available. A little over half of the searchable catalogs had taxonomic search structures, but under half had thesauri or searching instructions, making it harder to use these features.

On the whole, it appears that about half of US natural history museums have begun to make information about their collections as a whole available online, and that, even among this half, only partial information has been made available. This information may be enough to facilitate research using these collections, especially if researchers are willing to contact the museums to inquire about the rest of the collection, but online catalogs are not detailed enough to become a surrogate for the actual museum collection or substitute for visiting the museum.

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Appendix A: List of Museums from American Alliance of Museums' "Find a Museum" Tool

Key
Gray: museum does not meet selection criteria, or is duplicated elsewhere in the list and was removed.
† Museum, as listed on AAM's Find A Museum, actually maintains multiple museums, which are listed below.
* Museum was selected for analysis

Name	Location	Fits category?	URL
General or multi disciplinary (several subjects)			
New York State Museum	Albany, NY	Yes	http://www.nysm.nysed.gov
Albuquerque Museum of Art & History	Albuquerque, NM	No: art, history of people of the southwest	http://www.cabq.gov/museum
Besser Museum for Northeast Michigan	Alpena, MI	Yes	http://www.bessermuseum.org/
Anchorage Museum	Anchorage, AK	Yes	https://www.anchoragemuseum.org
The Gilb Museum of Arcadia Heritage	Arcadia, CA	No: community heritage museum	http://www.arcadiaca.gov/government/city-departments/museum
National Center for Civil and Human Rights	Atlanta, GA	No: website down 2/7/16	http://civilandhumanrights.org/ (broken 2/7)
*Maine State Museum	Augusta, ME	Yes	http://www.mainestatemuseum.org
KidsQuest Children's Museum	Bellevue, WA	No: no collection	http://www.kidsquestmuseum.org/
High Desert Museum	Bend, OR	No: living animals and historical reenactment	http://www.highdesertmuseum.org/
Roberson Museum & Science Center	Binghamton, NY	Yes	http://www.roberson.org/
Kentucky Museum	Bowling Green, KY	No: art and human history	http://www.wku.edu/kentuckymuseum/
*Museum of the Rockies	Bozeman, MT	Yes	https://www.museumoftherockies.org
Reuel B. Pritchett Museum Bridgewater College	Bridgewater, VA	No: website down 2/7/16	
†Brigham City Museum-Gallery	Brigham City, UT	http://www.boxeldermuseum.org/	
Brigham City Museum		No: city history	http://brighamcity.utah.gov/museum
Box Elder Museum		Yes	https://www.bridgewater.edu/index.php?id=236
Texas Cotton Gin Museum	Burton, TX	No: human history	http://www.cottonginmuseum.org/

Name	Location	Fits category?	URL
†Harvard Museums of Science and Culture	Cambridge, MA	http://hmsc.harvard.edu/	
Collection of Historical Scientific Instruments		No: human artifacts	
Harvard Museum of Natural History		Yes (duplicate)	http://hmnh.harvard.edu/
Harvard University Herbaria		No: not a museum	http://huh.harvard.edu/
Mineralogical & Geological Museum		Yes (duplicate)	http://mgmh.fas.harvard.edu/
Museum of Comparative Zoology		Yes (duplicate)	http://www.mcz.harvard.edu/
Harvard Semitic Museum		No: cultural history	
Peabody Museum of Archaeology & Ethnology		No: human history	https://www.peabody.harvard.edu/
MIT Museum	Cambridge, MA	No: history of MIT	http://web.mit.edu/museum/
Panhandle-Plains Historical Museum	Canyon, TX	No: human history	http://www.panhandleplains.org/pages/home.asp
*University Museum - Southern Illinois University	Carbondale, IL	Yes	http://museum.siu.edu/about/index.php
Cincinnati Museum Center at Union Terminal	Cincinnati, OH	http://www.cincymuseum.org/	
Cincinnati History Museum		No: local history	http://www.cincymuseum.org/historymuseum
Duke Energy Children's Museum		No: no collection	http://www.cincymuseum.org/childrensmuseum
Museum of Natural History & Science		Yes (duplicate)	http://www.cincymuseum.org/sciencemuseum
Customs House Museum & Cultural Center	Clarksville, TN	No: human history	http://customshousemuseum.org/
Buffalo Bill Center of the West	Cody, WY	Yes	http://centerofthewest.org/
Colorado Springs Pioneers Museum	Colorado Springs, CO	No: cultural history	http://www.cspm.org/
Museum of Art & Archaeology, University of Missouri - Columbia	Columbia, MO	No: art, human history	https://maa.missouri.edu/
McKissick Museum - University of South Carolina	Columbia, SC	Yes	http://artsandsciences.sc.edu/mckissickmuseum/mckissick-museum
*South Carolina State Museum	Columbia, SC	Yes	http://scmuseum.org/
Coopersville Area Historical Society & Museum	Coopersville, MI	No: human history	http://www.coopersvillehistoricalmuseum.org/
Coral Gables Museum	Coral Gables, FL	No: art, architecture	http://coralgablesmuseum.org/
Johnson-Humrick house Museum Roscoe Village	Coshocton, OH	No: cultural history	www.jhmuseum.org
Dallam-Hartley Historical Association XIT Museum	Dalhart, TX	No: human history, technology	http://www.xitmuseum.com/
Wyoming Pioneer Memorial Museum	Douglas, WY	No: cultural history	http://wyoparks.state.wy.us/Site/SiteInfo.aspx?siteID=32
*Michigan State University Museum	East Lansing, MI	Yes	http://www.museum.msu.edu/
University Museum - Southern Illinois University Edwardsville	Edwardsville, IL	No: cultural history	http://siue.edu/community/museum.shtml

Name	Location	Fits category?	URL
Heritage of the Americas Museum	El Cajon, CA	Yes	http://www.cuyamaca.edu/campus-life/arts-culture/museum/default.aspx
Northeastern Nevada Museum	Elko, NV	Yes	http://museumelko.org/index.php/about/
Museum of Culture and Environment - Central Washington University	Ellensburg, WA	Yes	http://www.cwu.edu/museum/
Fairfax County Park Authority Resource Management Division	Fairfax, VA	No: not a museum	http://www.fairfaxcounty.gov/parks/resource-management/
Farmington Museum	Farmington, NM	No: art, culture	http://www.fmtn.org/248/Farmington-Museum-at-Gateway-Park
Rokeby Museum	Ferrisburg, VT	No: underground railroad history	http://rokeby.org/
Florence Museum	Florence, SC	Yes	http://www.flocomuseum.org/
*Imaginarium Science Center	Fort Myers, FL	Yes	http://www.i-sci.org/
Table Mountain Rancheria	Friant, CA	No: no website	
Fullerton Museum Center	Fullerton, CA	No: culture, technology	http://cityoffullerton.com/gov/departments/museum/default.asp
Cook County Historical Society	Grand Marais, MN	No: human history	http://www.cookcountyhistory.org/
*Grand Rapids Public Museum	Grand Rapids, MI	Yes	http://www.grpm.org/
Neville Public Museum of Brown County	Green Bay, WI	Yes	http://www.nevillepublicmuseum.org/
†Colgate University Museums	Hamilton, NY	http://www.colgate.edu/about/facilities-at-colgate/the-arts/museums-and-galleries	
Clifford Gallery		No: art and art history	
Longyear Museum of Anthropology		No: anthropology	
*Linsley Geology Museum		Yes	http://www.colgate.edu/academics/departments-and-programs/geology/facilities/linsley-geology-museum
Picker Art Gallery		No: art	
Teaching Museum South	Hapeville, GA	No: could not find website	
Harpers Ferry National Historical Park	Harpers Ferry, WV	No: American, technological history	https://www.nps.gov/hafe/index.htm
State Museum of Pennsylvania	Harrisburg, PA	Yes	http://statemuseumpa.org/
The Amistad Center for Art and Culture at the Wadsworth Atheneum Museum of Art	Hartford, CT	No: art and culture	http://www.amistadcenter.org/
Fruitlands Museum	Harvard, MA	No: transcendentalist, shaker, Native American, art history	http://www.fruitlands.org/
Frying Pan Farm Park	Herndon, VA	No: farming museum	http://www.fairfaxcounty.gov/parks/fryingpanpark/

Name	Location	Fits category?	URL
Pratt Museum - Homer Society of Natural History	Homer, AK	Yes	http://www.prattmuseum.org/
Burritt on the Mountain	Huntsville, AL	No: historic park, barnyard, and nature trails	http://www.burrittonthemountain.com/
Museum of the Red River	Idabel, OK	Yes	http://www.museumoftheredriver.org/
University Museum Indiana University of Pennsylvania	Indiana, PA	No: material history and arts	http://www.iup.edu/museum/
†MDAH - Museum Division	Jackson, MS	http://mdah.state.ms.us/new/	
Charlotte Capers Building		No: not a museum	http://mdah.state.ms.us/new/visit/capers-building/
Eudora Welty House and Garden		No: restored historical house	http://mdah.state.ms.us/new/visit/eudora-welty-house/
GM&O Depot		No: not a museum	http://mdah.state.ms.us/new/visit/gmo-depot/
Grand Village of Natchez Indians		No: Natchez historical site	http://mdah.state.ms.us/new/visit/grand-village-of-natchez-indians/
Historic Jefferson College		No: historic landmark, not museum	http://mdah.state.ms.us/new/visit/historic-jefferson-college/
Manship House Museum		No: restored historical house and archive site	http://mdah.state.ms.us/new/visit/manship-house-museum/
Mississippi Governor's Mansion		No: historic landmark, not museum	http://mdah.state.ms.us/new/visit/governors-mansion/
Mississippi State Capitol		No: historic landmark, not museum	http://mdah.state.ms.us/new/visit/mississippi-state-capitol/
Old Capitol Museum		No: civic history	http://mdah.state.ms.us/new/visit/old-capitol-museum/
William F. Winter Archives & History Building		No: not a museum	http://mdah.state.ms.us/new/visit/william-f-winter-building/
Winterville Mounds		No: Native American pre-history	http://mdah.state.ms.us/new/visit/winterville-mounds/
Missouri State Museum	Jefferson City, MO	Yes	https://mostateparks.com/park/missouri-state-museum
Reece Museum East Tennessee State University	Johnson City, TN	No: Appalachian history, art, culture	http://www.etsu.edu/cas/cass/reece/
*Alaska State Museums	Juneau, AK	Yes	http://museums.alaska.gov/
The Wyman Tavern	Keene, NH	No: human history	http://hsccnh.org/wyman-tavern/
Museums, Archives and Rare Books - Kennesaw State University	Kennesaw, GA	No: not a museum	https://archives.kennesaw.edu/
Kemper Center	Kenosha, WI	No: art, local history	http://www.kempercenter.com/
*McClung Museum of Natural History and Culture	Knoxville, TN	Yes	http://mcclungmuseum.utk.edu/
Landis Valley Village & Farm Museum	Lancaster, PA	No: human history, material culture	http://www.landisvalleymuseum.org/

Name	Location	Fits category?	URL
†Las Cruces Museum System	Las Cruces, NM	http://www.las-cruces.org/museums	
Branigan Cultural Center		No: artistic, cultural, and historic heritage	http://www.las-cruces.org/en/departments/community-and-cultural-services/museum-system/branigan-cultural-center
Museum of Art		No: art	http://www.las-cruces.org/en/departments/community-and-cultural-services/museum-system/museum-of-art
Museum of Nature and Science		Yes (duplicate)	http://www.las-cruces.org/en/departments/community-and-cultural-services/museum-system/museum-of-nature-and-science
Railroad Museum		No: railroad history	http://www.las-cruces.org/departments/community-and-cultural-services/museum-system/railroad-depot-museum
*Nevada State Museum, Las Vegas	Las Vegas, NV	Yes	http://museums.nevadaculture.org/
Museum of the Great Plains	Lawton, OK	No: human history of the great plains	http://www.discovermgp.org/
Thanksgiving Point Institute	Lehi, UT	Yes	http://www.thanksgivingpoint.org/
California African American Museum	Los Angeles, CA	No: African American history, art, culture	http://www.caamuseum.org/
FIDM Museum & Galleries	Los Angeles, CA	No: fashion history	http://fidmmuseum.org/
New Museum Los Gatos	Los Gatos, CA	No: art, local history	http://www.numulosgatos.org/
*Flint Hills Discovery Center	Manhattan, KS	Yes	http://www.flinthillsdiscovery.org/
Campus Martius Museum	Marietta, OH	No: human history	http://campusmartiusmuseum.org/
Memphis Pink Palace Family of Museums	Memphis, TN	Yes	http://www.memphismuseums.org/
Cuban Museum	Miami, FL	No: Cuban diaspora	http://www.cubanmuseum.org/
Museum of the Southwest	Midland, TX	No: art, archaeology	http://www.museumsw.org/
Morris Museum	Morristown, NJ	Yes	http://www.morrismuseum.org/
Minnetrista	Muncie, IN	No: historic archives, garden, nature area	http://www.minnetrista.net
Lakeshore Museum Center	Muskegon, MI	Yes	http://www.lakeshoremuseum.org/
Tennessee State Museum	Nashville, TN	No: social, political, economic, cultural history of TN	http://www.tnmuseum.org/
New London Public Museum	New London, WI	Yes	http://www.newlondonwi.org/departments/new_london_public_museum.php
Intrepid Sea-Air-Space Museum	New York, NY	No: human history, technology	http://www.intrepidmuseum.org/

Name	Location	Fits category?	URL
Oakland Museum of California	Oakland, CA	Yes	http://museumca.org/
Florence Griswold Museum	Old Lyme, CT	No: art, human history	http://www.flogris.org/
Yager Museum of Art and Culture	Oneonta, NY	No: cultural heritage	http://www.hartwick.edu/campus-life/arts-culture/yager-museum/
I.P. Stanback Museum & Planetarium - South Carolina State University	Orangeburg, SC	Yes	http://www.scsu.edu/researchoutreach/ipstanbackmuseumandplanetarium.aspx
Oshkosh Public Museum	Oshkosh, WI	No: regional history and culture museum	http://www.oshkoshmuseum.org/
Wharton Esherick Museum	Paoli, PA	No: restored artist's studio	http://www.whartonesherickmuseum.org/
Brookgreen Gardens	Pawleys Island, SC	No: sculpture museum and garden	http://www.brookgreen.org/
Peoria Riverfront Museum	Peoria, IL	Yes	http://www.peoriariverfrontmuseum.org/
Babbie Rural and Farm Learning Museum	Peru, NY	No: farm museum	http://www.babbiemuseum.org/
American Philosophical Society Museum	Philadelphia, PA	Yes	http://www.apsmuseum.org
Founder's Hall at Girard College	Philadelphia, PA	No: human history	http://www.girardcollege.edu/page.cfm?p=834
Goldsmith Museum at Chizuk Amuno Congregation	Pikesville, MD	No: Jewish history, art	http://www.chizukamuno.org/about/the-goldsmith-museum/
Fort Pitt Museum	Pittsburgh, PA	No: PA, revolutionary war history	http://www.heinzhistorycenter.org/fort-pitt/
Museum on Main	Pleasanton, CA	No: local history	http://www.museumonmain.org/
Museum of the White Mountains	Plymouth, NH	Yes	http://www.plymouth.edu/museum-of-the-white-mountains/
Ralph Foster Museum College of the Ozarks	Point Lookout, MO	No: human history	http://www.rfostermuseum.com/
Calhoun County Museum	Port Lavaca, TX	No: human history	http://calhouncountymuseum.org/
†Portsmouth Museums	Portsmouth, VA	http://www.portsvacation.com/portsmouth-museums/	
Children's Museum of Virginia		No: no collection	http://www.childrensmuseumva.com/
Portsmouth Art & Cultural Center		No: art	http://www.portsmouthartcenter.com/
Jewish Museum & Cultural Center		No: Jewish history, culture	http://www.jewishmuseumportsmouth.org/
Lightship Portsmouth Museum		No: historic site, not museum	http://www.portsmouthnavalshipyardmuseum.com/
Portsmouth Community Colored Library Museum		No: local, African American history	http://www.portsvaafricanamericanheritage.com/about.html
Portsmouth Naval Shipyard Museum		No: closed	http://www.portsmouthnavalshipyardmuseum.com/
Virginia Sports Hall of Fame and Museum		No: sports history	http://www.vshfm.com/

Name	Location	Fits category?	URL
†Portsmouth Museums (continued)			
Hill House		No: restored historical house	http://www.thehillhousemuseum.org/
Fresnel Lens		No: lighthouse lens	No website; see http://www.portsvacation.com/portsmouth-museums/
Cedar Grove Cemetery		Not a museum	No website; see http://www.portsvacation.com/portsmouth-museums/
The Railroad Museum of Virginia		No: railroad history	http://www.railroadmuseumofvirginia.com/
Potsdam Public Museum	Potsdam, NY	No: local history	http://www.potsdampublicmuseum.org/
*Sharlot Hall Museum	Prescott, AZ	Yes	https://www.sharlot.org/
Karshner Museum and Center for Culture & Arts	Puyallup, WA	No: cultural history	http://www.puyallup.k12.wa.us/pages/Puyallup_School_District/Activities___Resources/Museum
*Reading Public Museum	Reading, PA	Yes	http://www.readingpublicmuseum.org/
San Bernardino County Museum	Redlands, CA	Yes	http://www.sbcounty.gov/museum/
Maymont: An American Estate	Richmond, VA	No: restored house, live animals, nature center	https://maymont.org/
Riverside Metropolitan Museum	Riverside, CA	Yes	http://www.riversideca.gov/museum/
George Eastman Museum	Rochester, NY	No: photography, cinema	https://www.eastman.org/
Rochester Museum & Science Center	Rochester, NY	Yes	http://www.rmsc.org/
†Culture & Heritage Museums	Rock Hill, SC	http://www.chmuseums.org/	
Historic Brattonsville		No: revolutionary war site	http://www.chmuseums.org/brattonsville/
Museum of York County		No: revolutionary war history	http://www.chmuseums.org/mccelvey/
McCelvey Center		Yes	http://www.chmuseums.org/myco/
Main Street Children's Museum		No: no collection	http://www.chmuseums.org/childrens/
Fulton County Schools Teaching Museum	Roswell, GA	Yes	http://www.fultonschools.org/en/divisions/acd/learnteach/Pages/TeachingMuseum.aspx
Roswell Museum and Art Center	Roswell, NM	No: art, history	http://roswellmuseum.org/
Seneca Iroquois National Museum	Salamanca, NY	No: Native American heritage	https://www.senecamuseum.org/Default.aspx
Peabody Essex Museum	Salem, MA	No: art	http://www.pem.org/
Utah Division of Arts & Museums	Salt Lake City, UT	No: not a museum	https://heritage.utah.gov/utah-division-of-arts-museums

Name	Location	Fits category?	URL
SFO Museum	San Francisco, CA	No: representing "diversity of human achievement"	http://www.flysfo.com/museum
†Museum of New Mexico	Santa Fe, NM	http://www.museumofnewmexico.org/index.php	
New Mexico Museum of Space History	Alamogordo, NM	No: technological history	http://www.nmspacemuseum.org/
New Mexico Museum of Natural History and Science	Albuquerque, NM	Yes (duplicate)	http://www.nmnaturalhistory.org/
New Mexico Museum of Art	Santa Fe, NM	No: art	http://www.nmartmuseum.org/
New Mexico History Museum	Santa Fe, NM	No: human history	http://www.nmhistorymuseum.org/
New Mexico Farm & Ranch Heritage Museum	Las Cruces, NM	No: farm museum	http://www.nmfarmandranchmuseum.org/
Museum of International Folk Art	Santa Fe, NM	No: art	http://www.newmexicoculture.org/museums/museum-of-international-folk-art
Museum of Indian Arts & Culture	Santa Fe, NM	No: Native American heritage	http://www.newmexicoculture.org/museums/museum-of-indian-arts-culture
Resources Division	Santa Fe, NM	Not a museum	http://www.emnrd.state.nm.us/
The Museums of New Mexico Department of Cultural Affairs	Santa Fe, NM	Not a museum	http://www.newmexicoculture.org/
EMP Museum	Seattle, WA	No: popular culture	http://www.empmuseum.org/
Nordic Heritage Museum	Seattle, WA	No: Nordic history, culture	http://nordicmuseum.org/
Louisiana State Exhibit Museum	Shreveport, LA	No: art, Native American artifacts, architecture	http://www.sos.la.gov/HistoricalResources/VisitMuseums/LouisianaStateExhibitMuseum/Pages/default.aspx
Sioux City Public Museum	Sioux City, IA	No: local, regional history	http://www.siouxcitymuseum.org/
Washington Pavilion of Arts and Science	Sioux Falls, SD	Yes	https://www.washingtonpavilion.org/Online/default.asp
Northwest Museum of Arts & Culture Eastern Washington State Historical Society	Spokane, WA	No: human history, culture, art	http://www.northwestmuseum.org/
†Springfield Museums Association	Springfield, MA	https://springfieldmuseums.org/	
George Walter Vincent Smith Art Museum		No: art	https://springfieldmuseums.org/about/smith-art-museum/
Springfield Science Museum		Yes (duplicate)	https://springfieldmuseums.org/about/springfield-science-museum/
Michelle and Donald D'Amour Museum of Fine Arts		No: art	https://springfieldmuseums.org/about/museum-of-fine-arts/
Lyman and Merrie Wood Museum of Springfield History		No: local history	https://springfieldmuseums.org/about/museum-of-springfield-history/
Calhoun County Museum	St Matthews, SC	No: local history and art	http://www.calhouncountymuseumandculturalcenter.org/

Name	Location	Fits category?	URL
Georgia Southern University Museum	Statesboro, GA	Yes	http://academics.georgiasouthern.edu/museum/
Haggin Museum	Stockton, CA	No: fine art and history	http://hagginmuseum.org/
Tallahassee Museum of History & Natural Science	Tallahassee, FL	Yes	http://tallahasseemuseum.org/
New Jersey State Museum	Trenton, NJ	Yes	http://www.state.nj.us/state/museum/
Tuckerton Seaport & Barnegat Baymen's Museum	Tuckerton, NJ	No: maritime history	http://www.tuckertonseaport.org/
†University of Alabama Museums	Tuscaloosa, AL	http://www.museums.ua.edu/	
Alabama Museum of Natural History		Yes (duplicate)	http://almnh.ua.edu/
The Gorgas House Museum		No: restored historical house	http://gorgashouse.ua.edu/
Moundville Archaeological Park		No: Native American pre-history	http://moundville.ua.edu/
Mildred Westervelt Warner Transportation Museum		No: transportation history	http://www.mwwtm.com/
Discovery Park of America	Union City, TN	Yes	http://www.discoveryparkofamerica.com/
University of Mississippi Museum and Historic Houses	University, MS	No: art and human history	museum.olemiss.edu
*Arthur F. McClure Archives and University Museum	Warrensburg, MO	Yes	https://www.ucmo.edu/archmusm/
Ford's Theatre Society	Washington, DC	No: theater and human history	http://www.fords.org/splash
Office of Art and Archives - U.S. House of Representatives	Washington, DC	No: congressional history	http://history.house.gov/
U.S. Department of the Interior Museum Program	Washington, DC	No: not a museum	https://www.doi.gov/museum
U.S. Department of Interior Museum	Washington, DC	Yes	https://www.doi.gov/interiormuseum/
†Grout Museum District	Waterloo, IA	https: //www.groutmuseumdistrict.org/	
Sullivan Brothers Iowa Veterans Museum		No: veteran's museum	https://www.groutmuseumdistrict.org/sites-exhibits/sullivan-brothers-iowa-veterans-museum/
*Grout Museum of History and Science		Yes	https://www.groutmuseumdistrict.org/sites-exhibits/grout-museum-of-history-and-science/
Carl A. and Peggy J. Bluedorn Science Imaginarium		No: no collection	https://www.groutmuseumdistrict.org/sites-exhibits/carl-a-and-peggy-j-bluedorn-science-imaginarium/
Renssellaer Russell House Museum		No: restored historical house	https://www.groutmuseumdistrict.org/sites-exhibits/renssellaer-russell-house-museum/
Snowden House		No: restored historical house	https://www.groutmuseumdistrict.org/sites-exhibits/snowden-house/

Name	Location	Fits category?	URL
Golden Ball Tavern Museum	Weston, MA	No: restored historical tavern	http://www.goldenballtavern.org/
Desert Caballeros Western Museum	Wickenburg, AZ	No: art and cultural history	http://westernmuseum.org/
Wilmington Town Museum	Wilmington, MA	No: restored historical tavern	http://www.town.wilmington.ma.us/Pages/WilmingtonMA_Museum/index
Natural History Museum			
Alaska Museum of Science & Nature	Anchorage, AK	Yes	http://www.alaskamuseum.org/
*University of Alaska Museum of the North	Fairbanks, AK	Yes	http://www.uaf.edu/museum/
Sheldon Jackson Museum	Sitka, AK	No: ethnography	http://museums.alaska.gov/sheldon_jackson/sjhome.html
Museum of the Aleutians	Unalaska, AK	No: cultural heritage	http://www.aleutians.org/
Maxine & Jesse Whitney Museum	Valdez, AK	Yes	http://mjwhitneymuseum.org/
*Anniston Museum of Natural History	Anniston, AL	Yes	http://www.annistonmuseum.org/
Cook Museum of Natural Science	Decatur, AL	No: website says "coming soon" (4/25/16)	http://www.cookmuseum.org/
Alabama Museum of Natural History	Tuscaloosa, AL	Yes	http://almnh.ua.edu/
Arkansas State University Museum	State University, AR	Yes	http://www.astate.edu/museum/
Museum of Northern Arizona	Flagstaff, AZ	Yes	https://musnaz.org/
International Wildlife Museum	Tucson, AZ	Yes	http://www.thewildlifemuseum.org/
Catalina Island Museum	Avalon, CA	No: human history of the island	http://www.catalinamuseum.org/
Gemological Institute of America Museum	Carlsbad, CA	No: sculpture, jewelry (anthropogenic)	http://www.gia.edu/gia-museum
Gateway Science Museum	Chico, CA	Yes	http://www.csuchico.edu/gateway
*Raymond M. Alf Museum of Paleontology	Claremont, CA	Yes	http://www.alfmuseum.org/
*Western Science Center	Hemet, CA	Yes	http://www.westerncentermuseum.org/
Page Museum at the La Brea Tar Pits	Los Angeles, CA	Yes	http://www.tarpits.org/
Great Valley Museum at MJC	Modesto, CA	Yes	http://www.mjc.edu/instruction/sme/gvm/
Pacific Grove Museum of Natural History	Pacific Grove, CA	Yes	http://www.pgmuseum.org/
The Bunny Museum	Pasadena, CA	No: live bunnies, anthropogenic artifacts	http://www.thebunnymuseum.com/
World Wildlife and Natural History Museum	Sacramento, CA	No website	
David W. May Gallery, University of San Diego	San Diego, CA	No: anthropology	http://www.sandiego.edu/galleries/collections/david-w-may-collection.php

Name	Location	Fits category?	URL
San Diego Natural History Museum	San Diego, CA	Yes	http://www.sdnhm.org/
*California Academy of Sciences	San Francisco, CA	Yes	http://www.calacademy.org/
Global Museum - San Francisco State University	San Francisco, CA	No: museum coming soon according to website (4/25/16)	http://museumstudies.sfsu.edu/new-global-museum
Santa Barbara Museum of Natural History	Santa Barbara, CA	Yes	http://www.sbnature.org/index.php
*Santa Barbara Museum of Natural History Sea Center	Santa Barbara, CA	Yes	http://www.sbnature.org/twsc/2.html
Santa Cruz Museum of Natural History	Santa Cruz, CA	Yes	http://www.santacruzmuseum.org/
The Lindsay Wildlife Museum	Walnut Creek, CA	No: live animals.	http://lindsaywildlife.org/
Hi-Desert Nature Museum	Yucca Valley, CA	No: website down 4/28/16	http://hidesertnaturemuseum.org/
*Museum of Natural History, University of Colorado	Boulder, CO	Yes	http://cumuseum.colorado.edu/
Denver Museum of Nature & Science	Denver, CO	Yes	http://www.dmns.org/
†Museum of Western Colorado	Grand Junction, CO	Yes; now "Museums of Western Colorado"	https://www.museumofwesternco.com/
Museum of the West	Grand Junction, CO	No: wild west (human) history	https://www.museumofwesternco.com/museum-of-the-west/
*Dinosaur Journey	Fruita, CO	Yes	https://www.museumofwesternco.com/dinosaur-journey/
Cross Orchards Historic Site	Grand Junction, CO	No: human history	https://www.museumofwesternco.com/cross-orchards/
Lloyd Files Research Library	Grand Junction, CO	No: not a museum	https://www.museumofwesternco.com/about/locations/
Whitman Educational Center	Grand Junction, CO	No: no website	
*Yale Peabody Museum of Natural History	New Haven, CT	Yes	http://peabody.yale.edu/
National Museum of Natural History - Smithsonian Institution	Washington, DC	Yes	http://naturalhistory.si.edu/
*Iron Hill Museum of Natural History	Newark, DE	Yes	http://www.ironhill-museum.org/
*Florida Museum of Natural History - University of Florida	Gainesville, FL	Yes	http://www.flmnh.ufl.edu/
The Poozeum	Jacksonville, FL	Yes	http://www.poozeum.com/
Jay I Kislak Foundation	Miami Lakes, FL	No: human history	http://www.kislakfoundation.org/
Bailey-Matthews Shell Museum	Sanibel, FL	Yes	http://www.shellmuseum.org/
*Fernbank Museum of Natural History	Atlanta, GA	Yes	http://www.fernbankmuseum.org/

Name	Location	Fits category?	URL
*Gwinnett Environmental & Heritage Center	Buford, GA	Yes	https://gwinnettehc.org/
Georgia College Museum of Natural History	Milledgeville, GA	Yes	http://www.gcsu.edu/nhm
*Bishop Museum	Honolulu, HI	Yes	http://www.bishopmuseum.org/
Koke'e Natural History Museum	Kekaha, HI	Yes	http://www.kokee.org/index.php?the-natural-history-museum-menu
*University Museum - UNI Museums	Cedar Falls, IA	Yes	http://museum.library.uni.edu/
*Sanford Museum & Planetarium	Cherokee, IA	Yes	http://sanfordmuseum.org/
*University of Iowa Museum of Natural History and Old Capitol Museum	Iowa City, IA	Yes; now two museums: Old Capitol Museum and University Museum of Natural History	http://mnh.uiowa.edu/
Orma J. Smith Museum of Natural History	Caldwell, ID	Yes	http://www.collegeofidaho.edu/cultural-institutions/orma-j-smith-museum-natural-history
Idaho Museum of Natural History	Pocatello, ID	Yes	http://imnh.isu.edu/home/
Herrett Center For Arts and Science and Faulkner Planetarium	Twin Falls, ID	Yes	http://herrett.csi.edu/
*Field Museum of Natural History	Chicago, IL	Yes	https://www.fieldmuseum.org/
Oriental Institute Museum University of Chicago	Chicago, IL	No: human history, art, archaeology	http://oi.uchicago.edu/museum-exhibits
Dickson Mounds Museum	Lewistown, IL	No: American Indian burial site.	http://www.museum.state.il.us/ismsites/dickson/
*Jurica-Suchy Nature Museum	Lisle, IL	Yes	http://www.ben.edu/museum/
*Fryxell Geology Museum	Rock Island, IL	Yes	http://www.augustana.edu/academics/majors--areas-of-study/geology/fryxell-geology-museum?ss=printcss
*Illinois State Museum	Springfield, IL	Yes	http://www.museum.state.il.us/
Midwest Museum of Natural History	Sycamore, IL	Yes	http://www.mmnh.org/
Sternberg Museum of Natural History	Hays, KS	Yes	http://sternberg.fhsu.edu/
KU Biodiversity Institute & Natural History Museum	Lawrence, KS	Yes	https://biodiversity.ku.edu/
Museum of Prairiefire	Overland Park, KS	Yes; named Museum at Prairiefire	http://museumatpf.org/
Kansas Museum of History	Topeka, KS	No: history of people of KS	http://www.kshs.org/p/kansas-museum-of-history/19578
Anthropology Museum Northern Kentucky University	Highland Heights, KY	No: anthropology	http://anthropologymuseum.nku.edu/
Robert S. Peabody Museum of Archaeology	Andover, MA	No: Native American archaeology	http://www.andover.edu/Museums/MuseumOfArchaeology/Pages/default.aspx

Name	Location	Fits category?	URL
*Cape Cod Museum of Natural History	Brewster, MA	Yes	http://www.ccmnh.org/
Harvard Semitic Museum	Cambridge, MA	No: museum of the cultures of Semitic languages	http://semiticmuseum.fas.harvard.edu/
*Mineralogical and Geological Museum	Cambridge, MA	Yes	http://mgmh.fas.harvard.edu/
Harvard Museum of Natural History	Cambridge, MA	Yes	http://hmnh.harvard.edu/
Museum of Comparative Zoology	Cambridge, MA	Yes	http://www.mcz.harvard.edu/
Springfield Science Museum	Springfield, MA	Yes	https://springfieldmuseums.org/about/springfield-science-museum/
*EcoTarium	Worcester, MA	Yes	http://www.ecotarium.org/
Maine Mineral and Gem Museum	Bethel, ME	Yes	http://www.mainemineralmuseum.org/
L.C. Bates Museum	Hinckley, ME	Yes	http://www.gwh.org/lcbates/LCBatesMuseum.aspx
Hudson Museum - University of Maine	Orono, ME	No: ethnographic, archaeological objects from the Americas	http://umaine.edu/hudsonmuseum/
Kelsey Museum of Archaeology	Ann Arbor, MI	No: archaeological artifacts	http://www.lsa.umich.edu/kelsey/
University of Michigan Museum of Natural History	Ann Arbor, MI	Yes	http://www.lsa.umich.edu/ummnh
Bell Museum of Natural History - University of Minnesota	Minneapolis, MN	Yes	http://www.bellmuseum.umn.edu/
Mississippi Museum of Natural Science	Jackson, MS	Yes	https://www.mdwfp.com/museum.aspx
Dunn-Seiler Geology Museum	Mississippi State, MS	Yes	http://www.geosciences.msstate.edu/dunn-seiler-museum/
Two Medicine Dinosaur Center	Bynum, MT	Yes	http://www.tmdinosaurcenter.org/main.html
Old Trail Museum	Choteau, MT	Yes	http://www.oldtrailmuseum.org/
Asheville Museum of Science	Asheville, NC	Yes: now named Colburn Earth Science Museum	http://colburnmuseum.org/
Schiele Museum of Natural History	Gastonia, NC	Yes	http://www.schielemuseum.org/
Natural Science Center of Greensboro	Greensboro, NC	Yes	http://www.greensboroscience.org/
North Carolina Museum of Natural Sciences	Raleigh, NC	Yes	http://naturalsciences.org/
Standing Rock Museum of Natural History	Fort Yates, ND	Yes	http://standingrock.org/
Hastings Museum of Natural and Cultural History	Hastings, NE	Yes	http://hastingsmuseum.org/
University of Nebraska State Museum	Lincoln, NE	Yes	http://www.museum.unl.edu/

Name	Location	Fits category?	URL
*Ashfall Fossil Beds State Historical Park	Royal, NE	Yes	http://ashfall.unl.edu/
New Mexico Museum of Natural History and Science	Albuquerque, NM	Yes	http://www.nmnaturalhistory.org/
National Cave & Karst Research Institute	Carlsbad, NM	No: museum planned, but still listed as coming soon as of 3/25/16	http://www.nckri.org/
*Museum of Nature and Science	Las Cruces, NM	Yes	http://www.las-cruces.org/departments/community-and-cultural-services/museum-system/museum-of-nature-and-science
Las Vegas Natural History Museum	Las Vegas, NV	Yes	http://www.lvnhm.org/
Slate Valley Museum	Granville, NY	Yes	http://www.slatevalleymuseum.org/
Longyear Museum of Anthropology	Hamilton, NY	No: cultural heritage museum	http://www.colgate.edu/campus-life/arts-on-campus/longyear-museum-of-anthropology/about-the-museum
Roger Tory Peterson Institute of Natural History	Jamestown, NY	No: nature art, live animals	http://rtpi.org/
George Gustav Heye Center National Museum of the American Indian	New York, NY	No: American Indian history	http://nmai.si.edu/visit/newyork/
*American Museum of Natural History	New York, NY	Yes	http://www.amnh.org/
The Wild Center	Tupper Lake, NY	Yes	http://www.wildcenter.org/
Museum of Natural History & Science	Cincinnati, OH	Yes	http://www.cincymuseum.org/sciencemuseum
*Cleveland Museum of Natural History	Cleveland, OH	Yes	https://www.cmnh.org/
Fort Recovery	Columbus, OH	No: human history	http://www.fortrecovery.org/
Fort Ancient Museum	Oregonia, OH	No: human history	http://www.fortancient.org/plan-your-visit/the-museum
Robert A. Hefner Museum of Natural History	Oxford, OH	Yes	http://miamioh.edu/cas/academics/centers/hefner-museum/about/index.html
Serpent Mound Museum	Peebles, OH	No: archaeological site	https://www.ohiohistory.org/visit/museum-and-site-locator/serpent-mound
Sam Noble Oklahoma Museum of Natural History	Norman, OK	Yes	http://samnoblemuseum.ou.edu/
Museum of Natural and Cultural History - University of Oregon	Eugene, OR	Yes	http://natural-history.uoregon.edu/
Tillamook County Pioneer Museum	Tillamook, OR	No: human history	http://tcpm.org/

Name	Location	Fits category?	URL
Mercer Museum - Bucks County Historical Society	Doylestown, PA	No: human history	https://www.mercermuseum.org/
Gilman Museum	Hellertown, PA	Yes	http://www.lostcave.com/
*North Museum of Nature and Science	Lancaster, PA	Yes	http://www.lostcave.com/
Oakes Museum of Natural History	Mechanicsburg, PA	Yes	http://www.messiah.edu/Oakes/
Wagner Free Institute of Science	Philadelphia, PA	Yes	http://www.wagnerfreeinstitute.org/
Academy of Natural Sciences of Drexel University	Philadelphia, PA	Yes	http://www.ansp.org/
Carnegie Museum of Natural History	Pittsburgh, PA	Yes	http://www.carnegiemuseums.org/
*Everhart Museum of Natural History, Science & Art	Scranton, PA	Yes	http://everhart-museum.org/
Matson Museum of Anthropology - Pennsylvania State University	University Park, PA	No: human history	http://anth.la.psu.edu/matsonmuseum
Museum of Natural History and Planetarium	Providence, RI	Yes	http://www.providenceri.com/museum
Bob Campbell Geology Museum, Clemson University	Clemson, SC	Yes	http://www.clemson.edu/public/geomuseum/
Museum of York County	Rock Hill, SC	Yes	http://www.chmuseums.org/myco/
*Mammoth Site of Hot Springs	Hot Springs, SD	Yes	http://mammothsite.com/
Museum of Geology South Dakota School of Mines & Technology	Rapid City, SD	Yes	http://www.sdsmt.edu/Academics/Museum-of-Geology/Home/
East Tennessee State University Natural History Museum and Gray Fossil Site	Gray, TN	Yes	http://www.etsu.edu/naturalhistorymuseum/
Caddo Mounds State Historic Site	Alto, TX	No: Hasinai history	http://www.thc.state.tx.us/historic-sites/caddo-mounds-state-historic-site?page=2
University of Texas Vertebrate Paleontology Collection	Austin, TX	Not open to the public	http://www.jsg.utexas.edu/vpl
Bandera Natural History Museum	Bandera, TX	No: no website	
Brazos Valley Museum of Natural History	Bryan, TX	Yes	http://www.brazosvalleymuseum.org/
Brazosport Museum of Natural Science	Clute, TX	Yes	http://bcfas.org/museum2/, http://bcfas.org/museum2014/
Centennial Museum University of Texas El Paso	El Paso, TX	Yes	http://admin.utep.edu/Default.aspx?tabid=59900
*Houston Museum of Natural Science	Houston, TX	Yes	http://www.hmns.org/
*Naranjo Museum of Natural History	Lufkin, TX	Yes	http://naranjomuseum.org/
Witte Museum	San Antonio, TX	Yes	http://www.wittemuseum.org/
*HMNS at Sugarland	Sugar Land, TX	Yes	http://www.hmns.org/hmns-at-sugar-land/
*Mayborn Museum Complex	Waco, TX	Yes	http://www.baylor.edu/mayborn

Name	Location	Fits category?	URL
Edge of the Cedars State Park Museum	Blanding, UT	No: American Indian history	http://stateparks.utah.gov/parks/edge-of-the-cedars/
*Museum of Moab	Moab, UT	Yes	http://www.moabmuseum.org/
USU Eastern Prehistoric Museum	Price, UT	Yes	http://usueastern.edu/museum/
*Monte L. Bean Life Science Museum - Brigham Young University	Provo, UT	Yes	http://mlbean.byu.edu/
Natural History Museum of Utah - University of Utah	Salt Lake City, UT	Yes	https://nhmu.utah.edu/
*Virginia Museum of Natural History	Martinsville, VA	Yes	http://www.vmnh.net/
Lora Robins Gallery of Design from Nature	Richmond, VA	Yes	http://museums.richmond.edu/about/lora-robins-gallery-of-design-from-nature.html
Fairbanks Museum & Planetarium	St Johnsbury, VT	Yes	http://www.fairbanksmuseum.org/
Southern Vermont Natural History Museum	Wilmington, VT	Yes	http://www.vermontmuseum.org/
The Whale Museum	Friday Harbor, WA	Yes	http://whalemuseum.org/
REACH Museum	Richland, WA	Yes	http://visitthereach.org/
Burke Museum of Natural History & Culture	Seattle, WA	Yes	http://www.burkemuseum.org/
*Cable Natural History Museum	Cable, WI	Yes	http://cablemuseum.org/
*Dinosaur Discovery Museum	Kenosha, WI	Yes	http://www.kenosha.org/wp-dinosaur/
UW Geology Museum	Madison, WI	Yes	http://www.geologymuseum.org/
Milwaukee Public Museum	Milwaukee, WI	Yes	https://www.mpm.edu/
*UWSP Museum of Natural History	Stevens Point, WI	Yes	http://www.uwsp.edu/cols-ap/museum/Pages/default.aspx
Werner Wildlife Museum	Casper, WY	Yes	http://www.caspercollege.edu/werner-wildlife-museum
Tate Geological Museum	Casper, WY	Yes	http://www.caspercollege.edu/tate-geological-museum
Fossil Butte National Monument	Kemmerer, WY	No: website blank 3/25/16	https://www.nps.gov/fobu/index.htm

Appendix B: Other platforms used to host collection information

Name of Museum	Other platforms
Alaska State Museums	None mentioned
American Museum of Natural History	Bee Database (Discover Life), World Spider Catalog, Hawai'i Scientific Drilling Project, Amphibians of the world database
Anniston Museum of Natural History	None mentioned
Arthur F. McClure Archives and University Museum	None mentioned
Ashfall Fossil Beds State Historical Park	University of Nebraska State Museum
Bishop Museum	Global Plants on JSTOR, Macro Algal Herbarium Portal, Consortium of Pacific Herbaria Portal, GBIF, iDigBio, Papuan Plants Project, Hawaiian Vascular Plant Checklist, Annotated Checklist of Cultivated Plants of Hawai‘i, Invasive Algae of Hawai‘i Database
Cable Natural History Museum	None mentioned
California Academy of Sciences	Consortium of California Herbaria, CalBug, HerpNet, VertNet, GBIF, Flickr
Cape Cod Museum of Natural History	None mentioned
Cleveland Museum of Natural History	Specify, InvertEBase
Corpus Christi Museum of Science & History	None mentioned
Dinosaur Discovery Museum	None mentioned
Dinosaur Journey	None mentioned
EcoTarium	None mentioned
Everhart Museum of Natural History, Science & Art	None mentioned
Fernbank Museum of Natural History	None mentioned
Field Museum of Natural History	HerpNet and GBIF
Flint Hills Discovery Center	None mentioned
Florida Museum of Natural History - University of Florida	JSTOR Global plants, iDigBio, Consortium of North American Bryophyte Herbaria, Consortium of North American Lichen Herbaria, The Macrofungi Collections Consortium (mycoportal)
Fryxell Geology Museum	None mentioned
Grand Rapids Public Museum	None mentioned
Grout Museum of History and Science	None mentioned
Gwinnett Environmental & Heritage Center	None mentioned
HMNS at Sugarland	None mentioned
Houston Museum of Natural Science	None mentioned
Illinois State Museum	None mentioned
Imaginarium Science Center	None mentioned
Iron Hill Museum of Natural History	None mentioned
Jurica-Suchy Nature Museum	None mentioned
Linsley Geology Museum	None mentioned
Maine State Museum	None mentioned

Name of Museum	Other platforms
Mammoth Site of Hot Springs	None mentioned
Mayborn Museum Complex	None mentioned
McClung Museum of Natural History and Culture	None mentioned
Michigan State University Museum	GBIF, iDigBio, HerpNet, ORNIS, FishNet2, and VertNet
Mineralogical & Geological Museum	None mentioned
Monte L. Bean Life Science Museum - Brigham Young University	None mentioned
Morrison Natural History Museum	None mentioned
Museum of Moab	None mentioned
Museum of Natural History, University of Colorado	iDigBio, Consortium of North American Bryophyte Herbaria, Consortium of North American Lichen Herbaria, California Academy of Sciences - Catalogue of Diatom Names, SCAN, GBIF, Fossil Insect Collaborative (iDigBio/iDigPaleo), Biogeomancer, ARCTOS
Museum of Nature and Science	None mentioned
Museum of the Rockies	None mentioned
Naranjo Museum of Natural History	None mentioned
Nevada State Museum, Las Vegas	None mentioned
North Museum of Nature and Science	None mentioned
Raymond M. Alf Museum of Paleontology	MorphoSource, Figshare
Reading Public Museum	None mentioned
Sanford Museum & Planetarium	None mentioned
Santa Barbara Museum of Natural History Sea Center	ORNIS, VertNet, MaNIS, FishNet2, HerpNet, GBIF, iDigBio, BISON
Sharlot Hall Museum	None mentioned
South Carolina State Museum	None mentioned
University Museum - Southern Illinois University	None mentioned
University Museum - UNI Museums	None mentioned
University of Alaska Museum of the North	ARCTOS, Flickr, BugGuide, Indes Herbariorum, VertNet
University of Iowa Museum of Natural History	None mentioned
UWSP Museum of Natural History	Flora of Wisconsin (Consortium of Wisconsin Herbaria)
Virginia Museum of Natural History	None mentioned
Western Science Center	None mentioned
Yale Peabody Museum of Natural History	None mentioned