

Wait! Don't Digitize and Discard!
A White Paper on ALA COL Discussion Issue #1a
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"Many years ago GPO turned over its historical collection to the National Archives and almost immediately we began to regret the absence of a tangible collection." (Russell, 2003)

The ALA Committee on Legislation (COL) "Discussion Document" (Draft 6-17-13) asks as part of "Issue #1" concerning the digitization of FDLP collections if libraries should be allowed to **"de-accession and destroy" collections for the "greater good of broader on-line access."**

While there is much in the Discussion Document that is generally agreed upon in the FDLP community, Issue #1 is extremely problematic as it poses a false choice that unjustifiably equates discarding paper with digitization and better access.

The following provides background details and context that the COL Discussion Document lacks. We as a community need to have all the facts in order to discuss and decide on the fate and future of FDLP collections.

A False Choice.

The COL question implies that online access can only be achieved if libraries are allowed to de-accession and destroy paper collections. This is not true. There is no technical, legal, policy, or procedural requirement or need to destroy paper collections in order to digitize them and provide online access to them. It is not too extreme to say that it is misleading to phrase the question by implying that libraries can only digitize if they are willing to discard paper. If the greater good, online access, and supporting users are indeed the goals, no permission is needed to proceed.

Any library or group of libraries can digitize its FDLP print collections today and provide online access to those digitizations without discussing it with ALA and without asking for permission from GPO. This is "allowed" today.

FDLP libraries that wish to digitize and provide online access to their historical collections can and should move forward on that goal.

Why Link Digitization and Discarding?

Why do both the COL question and recommendation #1a link destruction of collections with digitization of those collections? It is troubling that COL connects these two very different activities without explanation or justification. This is however, not a new idea. In fact this is a rehash of old ideas that have been considered and discarded before. (Housewright, Jacobs).

A variety of reports over the last few years have used three excuses to link these two actions.

1. *Costs*. This argument appears in a number of variations: Paper collections are too costly to maintain; space is at a premium and libraries must remove books to repurpose space; providing digital access is cheaper than providing paper access. This is such a big topic that we examine it separately below, but, briefly: Those who say they cannot digitize unless they are allowed to discard paper collections should explicitly explain what if any cost savings digitization will bring about and how those savings will be spent. **If the cost savings are not spelled out, this argument should be treated, at best, as a starting point for a long discussion of costs rather than an ending point for policy making.**

2. *Technology*. Some digitization processes -- including "Google Books" -- destroy the original. This is sometimes done because the original item is tightly bound and the binding must be cut off to accurately scan individual pages. In other cases, digitization projects find it cheaper to unbind books than to use non-destructive methods of scanning. Even when destructive scanning is used, there is no reason to create an expansive policy that allows all libraries to destroy all copies of a book even if one library destroys one copy of that book during digitization.

3. *Law*. Because FDLP libraries must follow FDLP procedures that regulate what can be discarded and by whom, some argue that they won't digitize unless they are free to discard. There is nothing in Title 44 that prohibits any library that wants to provide online access to its paper FDLP collection from digitizing all or part of that collection. So, this argument does not provide a justification; it just asserts that libraries *want* to discard and relies on one of the above two arguments for justification. This rhetoric is, nevertheless, sometimes used to *imply* that digitizing and discarding are inseparable. They are not, and this is a false justification.

In short, the question in the COL document offers a false choice between digitizing and discarding on the one hand, and digitizing and not discarding on the other. The question as posed misleads; any serious consideration of it must be based on a clearer understanding of the issues that are glossed over in the brief text that accompanies COL Issue #1a.

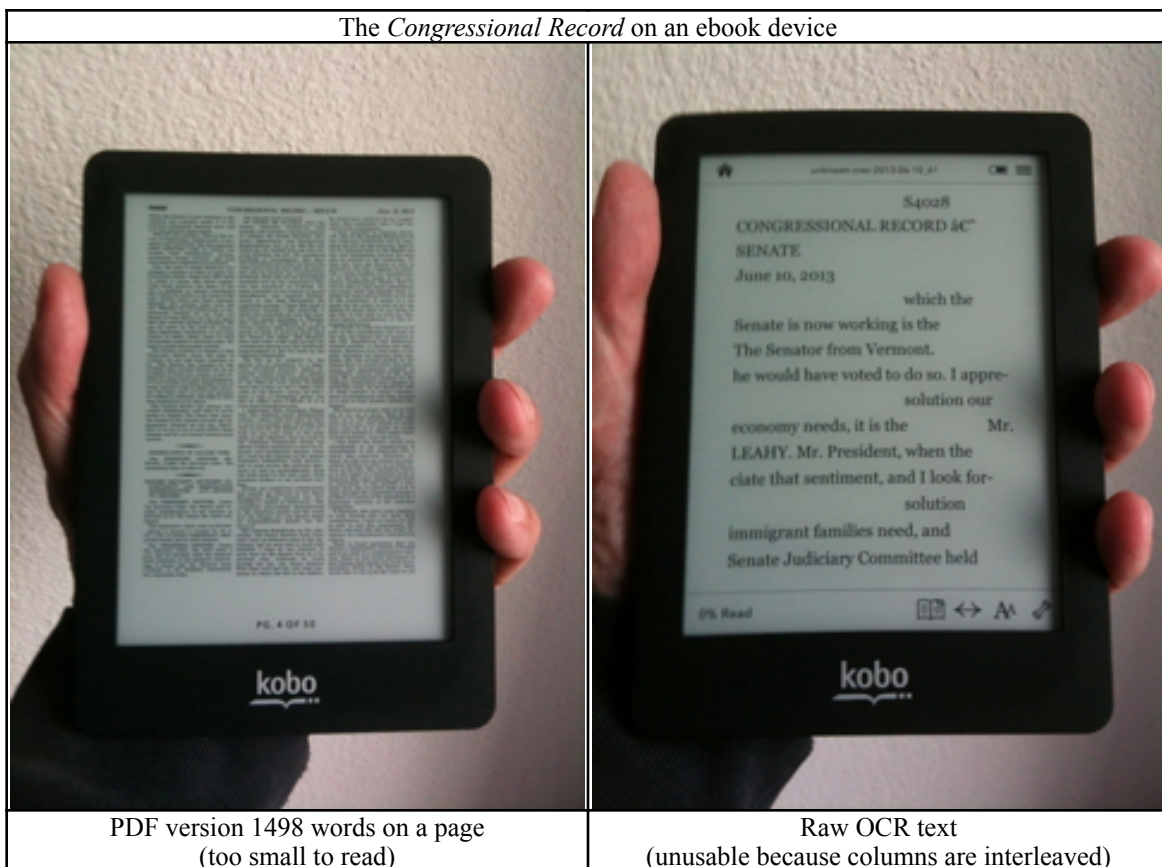
Access to Paper Copies Is Important.

The COL document apparently suggests that, once FDLP collections are digitized, libraries should be able to rely on the digital copies for access and thus be allowed to destroy their paper collections. This model ignores the need for paper access copies. A better approach to collection management and digitization would first study the advantages of and needs for access to paper copies rather than assume that they will be unnecessary or unwanted after digitization. That libraries should have paper copies for access is not a controversial idea. Even John Burger, the Executive Director of the Association of Southeastern Research Libraries, who

promotes such digitize-and-discard projects, says libraries need to retain an adequate number of paper copies for direct user examination. But the COL document apparently ignores such ideas.

COL implies that the number of paper copies in the world can be reduced to a small number for preservation and the rest can safely be de-accessioned and destroyed. This model of treating paper copies as emergency, *preservation* copies-of-last-resort in a vault is not the only available model, nor is it the best. An alternative model suggests that we should consider the need for users to have *access* copies of paper documents and that we should keep an adequate number of working, usable, loanable copies geographically near their users. In addition, FDLP libraries should strive to bibliographically connect digital copies with paper copies. "Every document its reader," and "every format its use" to paraphrase Ranganathan's 5 laws of library science.

These are not abstract or Luddite ideas; they come out of a common sense approach to collection management and digitization. There are at least two reasons for them. First, until and unless we can guarantee that our digital copies are one hundred percent accurate and complete, users will continue to need complete, undamaged paper copies. Second, some FDLP items will be difficult to deliver digitally and the paper copy will continue to be easier to use.



This may vary over time as there are changes in the user-computing environments that are widely-available and that are preferred by users. But current digitization practices do not even match the capabilities and limitations of some of today's popular technologies. For example, some items -- such as large format books with high text density, color plates, maps, etc., 1000-page documents with tabular data, or the Congressional Record(!) -- are not easily usable on small-screen, colorless, e-book devices.

Taken together, these ideas mean that some users will require and prefer the original paper format over the digital format. That means that libraries will need to provide access copies as well as preservation copies. Access copies are more subject to loss and damage than copies saved for preservation-only. That means we should also ensure we have enough copies to provide replacement access-copies for the long-term.

Before libraries consider destroying their paper collections, they should consider access as well as preservation as a reason to retain paper copies. This also raises another issue that we address below: How do we determine what "an adequate number" is?

Access Is Not Preservation.

The COL document provides a vague and confusing view of access and preservation. It says that "digitization can assist in preservation, but is not, itself, a preservation format" and it recommends having "enough" paper copies as determined (apparently) by a preservation plan. It therefore appears to be suggesting that libraries will rely on digital copies for access and a few paper copies as copies-of-last-resort for preservation. The document does not specifically advocate the preservation of digital copies or digital copies as a preservation format. Nevertheless, if libraries are to rely on digital copies for access, someone must assure that those digital copies are preserved or we will lose long-term access.

This creates two problems for the COL discussion point and recommendation. First, if COL is suggesting that libraries rely on paper copies as the only preservation format, then it should *not* recommend "allowing" the destruction of paper until we know how many paper copies we need to achieve the paper-as-preservation-format goal. It would only be logical to propose a policy of paper destruction *if* a "comprehensive preservation plan" eventually *determines* that the world needs fewer paper copies than we have. To propose such a policy without such a determination is both premature and reckless.

Second, creating digital copies solely for access is a different process than creating *preservable* digital copies, which takes more care and more expense. If COL does indeed intend these to be preservable long-term digital copies, it should be more explicit about that. Proposing digitizing for access when digitization for preservation is needed would be shortsighted and foolhardy and would confuse the cost issue.

Access is not *preservation* and *digital access* (the stated purpose of digitization in the COL document) is not the same as *digital preservation*. Even the word *digitization* is a vague term that can mean many things (FAGDI). Digitization does not magically preserve the original information. In fact, the information captured in many digitizations of books is often either incomplete or damaged or both. (One of many examples of this is shown in a recent FGI post about a Department of Commerce publication "Commercial Handbook of China" [<http://freegovinfo.info/node/3960>].)

Even the narrow function of "access" requires more of a commitment to standards than the COL document provides. This is necessary in order to ensure that the *information* in the original is not corrupted or lost during digitization. The OAIS digital preservation standard has a specific set of criteria for migrating information from one format to another. This involves identifying the "Transformational Information Properties" of the original Content Information. (Consultative Committee for Space Data Systems 2012). The standard for Trusted Digital Repositories (TDR) requires that such repositories verify ingested content for completeness and accuracy (Consultative Committee for Space Data Systems 2011). Proposing the destruction of the original information packages (the books) without also proposing the application of such standards would almost certainly result in the permanent loss of information.

Proposing destruction of paper copies to achieve digital access is simply a bad idea unless the concepts outlined here are also addressed. Assuming that a few paper copies will be "enough" for preservation is questionable. Advocating a policy that encourages destruction of paper collections before addressing the issues of preservation and access is premature.

How many copies?

The COL document implies that it will be acceptable to discard our paper FDLF collections when we have a comprehensive preservation plan and "enough tangible copies." While it is true that the FDLF community does not yet have a comprehensive preservation plan, there is no evidence that warrants COL's apparent prediction that we will need fewer paper copies in the future.

Until we know how many paper copies are needed to ensure long-term preservation and access, it is unwise to propose policies that will have the effect of destroying paper collections. The existing studies that address this issue (e.g., Schonfeld, Schottlaender, Yano) do not provide adequate information to apply them to our FDLF paper collections. Those studies mostly focus on substituting digital surrogates for paper journal articles, which are a relatively homogeneous body of literature about which we can make generalizations. We do not have a study that examines the accuracy of digitizing and preserving a very heterogeneous body of literature such as government publications that vary widely in age, format, size, original paper quality, and many of which have brittle and yellowed paper and contain much information that is difficult to accurately digitize (e.g., tables of statistical information, charts, graphs, photographs, drawings, foldout maps). It will, in fact, be difficult to generalize about such a

heterogeneous body of literature.

As noted above, if we choose to ignore the need for paper copies for access as well as for preservation (as the COL document apparently does), we may destroy copies that we later need for access. This would be unwise, to say the least.

A rational digitization process must consider how decisions we make today may limit or expand our ability to deliver content both today and in the future and consider the potential need to re-digitize in the future. Re-digitization may be desirable as technologies for digitization improve and as the technologies for digital delivery and digital use and re-use evolve. Future digitization technologies may require destructive digitization. To be able to meet future needs we will need to keep enough paper copy originals for more than one re-digitization.

In short, there are many reasons to keep paper copies and too many unresolved research questions to suggest that we know enough to destroy our paper collections.

Quality of Digitization.

Before libraries consider discarding and destroying paper collections they should address the issues surrounding the quality of digitizations. Although there are many standards for digital production, we need to also consider user-based standards to ensure that the production standards we choose will produce digital objects that meet the needs of users. There are many ways to digitize and they result in different products with different utility. Before we discuss destroying paper collections based on unspecified promises of unspecified digitization processes we should first consider two specific user-oriented issues related to the quality of any digitizations we might wish to rely on.

First, we must be sure that any page-image digitizations that we wish to rely on are accurate and complete (Jacobs and Jacobs). As noted above, the physical and content characteristics of government publications make them difficult to digitize adequately at a reasonable cost (GPO, 2004).

Second, we must be sure that text-extraction from digital page-images is accurate and complete and meets the use requirements and expectations of increasingly sophisticated users of digital content. Our experience so far with digitization provides ample evidence of widespread incomplete and inaccurate Optical Character Recognition (OCR). Currently, there is no standard for expressing the accuracy and completeness of OCR.

Allowing Destruction or Breaking a Commitment?

As noted above, COL question #1a uses the word "allow" and the recommendation only implies

that destruction will occur. Neither the question nor the recommendation requires destruction. Those who support this proposition will undoubtedly argue that it will provide all libraries with more flexibility and will not require any library to discard anything. Indeed, some libraries have repeatedly expressed the desire for the flexibility to substitute digital copies for paper copies. There is, however, a serious problem with such an argument.

Every FDLP library has made a commitment to the government and to the American People to provide access to FDLP information (Hoduski). The commitment to access, combined with the administration of the program, has also successfully preserved this information. The FDLP program has a demonstrated history of successful long-term preservation and access.

Before suggesting that libraries renege on their existing, successful commitment, they should present a reasonable substitute plan that assures long-term preservation and access. COL provides neither. We have no comprehensive preservation plan so it is premature to suggest that we can assure long-term digital preservation. And, COL provides no substitute plan for maintaining (much less improving) access. Although we agree that it is *possible* to enhance access (and service) to paper collections through digitization, and *possible* to provide long-term digital preservation, it would be irresponsible to destroy our ability to provide access to paper without a specific plan that creates a *new commitment* to levels of access and service.

Replacing an existing commitment with no commitment is simply unacceptable.

Service.

When libraries consider digitization, they should consider service for those collections as well as access to those collections. The COL Issue #1a does not mention service. This is a significant omission. Arguably, digital collections need as much attention to service -- if not more -- as paper collections do. The OAIS model provides a minimal service model, but even it specifies that digital collections need collection management, preservation planning, and services for discovery and delivery of content. A more complete and realistic model for service provision for a digital collection will include the provision of user-friendly interfaces, APIs, and discovery tools. A more library-oriented model will recognize the need for dedicated staff with collection experience and knowledge who can provide interactive services and respond to user feedback in order to develop new tools over time. Collections without services or with inadequate services should not be an option for libraries seeking to provide value to their user communities. This again brings us to the question of costs.

Cost.

As noted above, the argument for the destruction of paper collections often boils down to economics. Libraries will argue that they cannot afford to provide preservation and access to both digital and paper collections. Indeed, providing adequate services, access, and delivery of

digital information can be expensive when done well. But it is disingenuous to claim that libraries have to digitize and discard because of costs if one does not also account for the full costs of providing the new service. It is misleading to claim cost savings without showing which costs will be saved and how much will be saved, and without specifying how the savings will be used. To propose an irreversible policy (destroying collections) before providing such details is irresponsible.

Although we have seen proposals that casually suggest that digitization won't cost more than twelve cents per page, such suggestions are at best over-simplified and misleading. At worst, they are grossly inaccurate by orders of magnitude.

Although cost-tradeoffs can be complex and can vary from library to library, it is easy to grasp the essential issues involved. No digitization policy should be based on vague promises of low costs or cost savings. Any claims of cost savings that do not account for *all* the costs that a digitization project will incur are incomplete. Any proposal that does not describe the effects of the policy on collections and services is incomplete. Incomplete proposals should not be used as a basis for policy.

Purpose, Functionality, and Intended Use of Digitization.

Before planning a digitization project, it is vital that the project specify the intended purposes of the digitizations. As noted above, the COL document does not do so. There are different costs associated with different uses. For example, a higher quality of digitization is needed if they are meant to replace rather than supplement paper copies. Accounting for intended use and user needs should also include the entire life-cycle of the digitizations. In planning for use, it is necessary to anticipate and account for changing user needs and expectations and changing computing environments. Projects that fail to accurately account for changing computer capabilities can cause problems or additional costs later in the life of the information (Marks).

The Costs of Digitization.

The costs of digitizing have been demonstrated to be anywhere from twenty-two cents per page (University of Michigan) to more than eight *dollars* per page (Nichols). One study of digitizing statistical tables (of which there are many in government publications) demonstrated a cost as high as \$3.55 per *table*. The reason for these variations is that there is no one, single, standard procedure that everyone uses and that has a known, fixed cost. Every digitization project must make many decisions and each decision affects the quality and utility of the resulting digital object. Projects must choose procedures and methods and hardware and software and how to chain them together. Even with all these choices made, there are choices of standards and choices of outputs. Every one of those decisions is associated with a cost. Some of these costs are not within the control of the digitizing project. For example, the cost of

digitization varies with the quality, size, and nature of the original material being digitized. It is unlikely that a single cost-per-page estimate can accurately account for the digitization requirements of a large body of heterogeneous literature like the FDLP collections. No digitization project should be undertaken without a *realistic* specification of the costs and a *tested* specification of the quality of output *based on the target collection* to ensure that it matches the *intended purposes* of the digitizations.

The Cost of the Life-Cycle of information.

The cost of digitization is only the first of many costs. Studies have shown that the cost of digitization is only about one third of the life cycle cost (University of Michigan, UNESCO). In addition to the creation of digital objects a project must account for the costs of keeping and providing access to the digitizations. Some of these costs may be more expensive for digital collections than for paper collections. One study demonstrated that digital books are 208 times more expensive to store than printed books (Chapman). The OAIS model for preservation specifies six such functional activities: Ingest, Storage, Management, Administration, Preservation Planning, and Access. In addition to these, a library should also include a Service Function. The "cost of digitization" should factor in all these functions, not just initial creation of digital objects.

Long-term Costs.

In addition to accounting for the costs of the life-cycle of information (ingest, preservation and management, discovery and delivery), it is also necessary to account for the costs of the *life span* of the information. Projects that intend to provide long-term access must account for the ongoing functional costs for the life of the information. This may be longer than the life span of any individual library or archive.

Use of Cost Savings.

If a policy can demonstrate cost-savings, it should also specify how those cost-savings will be used. If, for example, there is a demonstrable cost savings from the destruction of FDLP collections, will the cost-saving be earmarked for digital FDLP collections and services, or will they be redirected to other collections and other services? It is also important to note that cost-avoidance may not produce any funds for replacing lost collections or services. Studies that examine and promote the cost-avoidance and cost savings accrued when libraries reduce their physical inventory recognize that cost-avoidance does *not* mean that cost-savings "would actually be available for redirection in support of other operations" (Malpas)

Non-monetary Costs: Measuring the Value of the Library.

Most if not all FDLP libraries are non-profit organizations. They measure their worth in their

value to their users. It is, therefore, essential that individual libraries include how a policy will affect their value to their users. Some of the literature that examines and advocates "consolidation" of paper collections (i.e., discarding copies) and managing a centralized, digitized collection explicitly promotes outsourcing of collections and services. Malpas, for example, assumes that the cost savings would come from outsourcing the management of digitized books. Libraries should determine if policies such as the COL proposal would shift the value that users get away from the individual library and toward the outsourced services. In the long run, this will reduce the role of the individual library to that of a business office that buys services from the outsourcing vendors.

The value of an individual library is increased when it selects and controls its collection and provides services and collections to its designated communities. If a library reduces its monetary costs but in so doing loses its ability to select and control a collection designed for its user community, it pays a non-monetary cost and loses value to its users.

Librarians that are considering digitizing and discarding their collections should examine what the role of their library will be in the resulting future. Will their library have control over what is in the new digitized library or will some other agency or company have the control over what is added and what is discarded? Will their library have control over the selection of information provided to their users, or will they have to present a large, monolithic collection made up of "everything" contributed by many libraries? Will they have control over discovery tools and user interface, or will those too be controlled by others? Will they have control over the digital objects delivered to their users and the usability of those objects, or will someone else decide what is an acceptable level of usability? Will they be able to integrate their new digitized collections with other digital collections, or will they create another walled-off silo of information? Will they have control over the APIs to their collections, or will someone else provide a generic API?

In short, who will control what users get? Will they be substituting a monolithic one-size-fits-all library for a library designed for designated communities? As we think nationally, will it be good to provide the same collection and the same tools to undergraduates and graduate students and K-12? Will lawyers and physicians find the same collections and the same tools for access equally user-friendly and effective? Will those who want to find the current population of their city and those who want to analyze demographic data over time both be satisfied with a single collection with a single user-interface?

Conclusion.

The digitization of FDLF historical collection promises many things: better discoverability, enhanced usability, better access, and more. We believe strongly that the digitization of the Public's historic collections should and will happen. We also believe that it is important to move into this new future by thoughtfully planning to deliver those promises. To propose that we

must destroy our paper collections in order to digitize them without a clear plan to meet our commitments for long-term preservation, access, and service is unjustified. To insist this is the only path to digitization is misleading and irresponsible.

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