



Documents for a Digital Democracy: A Model for the Federal Depository Library Program in the 21st Century

December 17, 2009

Authors:

Roger C. Schonfeld (Manager of Research) & Ross Housewright (Analyst)

This report was funded by the Association of Research Libraries and the Chief Officers of State Library Agencies



Ithaka S+R (www.ithaka.org/ithaka-s-r) is the strategy and research arm of ITHAKA, a not-for-profit organization dedicated to helping the academic community use digital technologies to preserve the scholarly record and to advance research and teaching in sustainable ways. The Ithaka S+R team supports innovation in higher education by working with initiatives and organizations to develop sustainable business models and by conducting research and analysis on the impact of digital media on the academic community as a whole. Insights from these efforts are shared broadly, with more than a dozen reports freely available online. JSTOR, an accessible archive of more than 1,000 scholarly journals and other content, and Portico, a service that preserves content published in electronic form for future generations, are also part of ITHAKA.

TABLE OF CONTENTS

ACKNOWLEDGMENTS 2
EXECUTIVE SUMMARY 3

1. INTRODUCTION AND BACKGROUND 10
2. THE STATE OF TODAY’S FDLP 22
3. MODELING THE FUTURE 34
4. CONCLUSION 50

APPENDIX A: INTERVIEWS CONDUCTED AND WORKS CITED 51
APPENDIX B: SHORT-TERM PRESSURE REDUCTIONS FOR
REGIONAL LIBRARIES 60

A C K N O W L E D G M E N T S

In conducting this project, we have been fortunate to receive the support of a number of people. Prudence S. Adler of the Association of Research Libraries and GladysAnn Wells of the Arizona State Library, Archives and Public Records (and representing the Chief Officers of State Library Agencies) have been invaluable advisors and sounding boards throughout this process, as well as providing many essential introductions to diverse parts of this community. We also appreciate the time and effort that GPO staff – especially Cynthia L. Etkin and Richard G. Davis – have devoted to assisting us during the course of the project. Numerous members of the Federal Depository Library Program community generously submitted themselves to formal interviews (as listed in Appendix A) as well as informal conversations that provided the essential basis for this project. Finally, our colleagues at Ithaka S+R have also contributed valuably to the creation of this report, and we especially thank Thomas I. Nygren for providing his feedback and advice throughout this process. We have striven at all times to take a balanced perspective that accurately reflects the complexity of the program and have received much support in doing so, but all shortcomings remain our responsibility alone.

EXECUTIVE SUMMARY

In June 2009, the Association of Research Libraries (ARL) and the Chief Officers of State Library Agencies (COSLA) retained Ithaka S+R to propose a comprehensive framework for the Federal Depository Library Program (“FDLP” or the “Program”) in response to changes in the environment for information dissemination and usage. For this project, Ithaka S+R staff interviewed nearly 90 individuals from 40 libraries, the Government Printing Office (GPO), and a number of other key organizations. The FDLP serves a variety of needs across a number of communities, and in this project Ithaka S+R has taken a system-wide perspective in an attempt to understand the needs of all stakeholders. This summary presents a high-level overview of the project’s findings and recommendations, and is followed by a complete report.

The FDLP is the mechanism for 1,240 academic, state, public, and law libraries to work as partners in the distribution of federal publications to, and their access by, the general public. The FDLP is administered by GPO under the authority of a federal law that was last significantly updated in 1962. Today, 50 regional federal depository libraries (the “regionals”) collect FDLP materials comprehensively in print format and provide services to the 1,190 federal depository libraries that collect FDLP materials selectively (the “selectives”), in both cases without financial support from the federal government. The documents distributed to libraries are known as “tangible” documents, and this category includes printed texts, maps, posters, microfilm, CD-ROMs, and other miscellaneous formats. For simplicity, all such materials are referred to as print documents.

The Program’s core mission of providing no fee “permanent public access” to government documents is just as important today as it ever has been, and indeed it should play a key role in the Obama administration’s vision for a more open and transparent government. Access to the workings of the government by members of the public is imperative to the success of our democracy and to the public’s understanding of our government. But the incentives that motivated libraries to participate in the Program, reasonably well aligned in a print environment, are decreasingly appropriate to the digital, networked environment. Over the last two decades, the ways that people store, access, and use information has changed dramatically. Researchers, students, and even many members of the general public, are eschewing print for digital access, which has reduced demand for historical print materials. The ease of dissemination on the web also puts the provision of permanent public access for newly issued government information at great risk, as distributed and uncoordinated production will not adequately address community access and preservation priorities. If there is strong and compelling interest in continuing the goals and objectives of the Program, the community needs collectively to commit to putting in place a fundamentally new framework for government information.

The state of today’s FDLP

Background research and interviews revealed that there are numerous challenges endemic to the Program today. In order to describe the current state of the FDLP, the Program is broken down into six constituent components, which collectively comprise a system with significant interdependencies. This section analyzes the current state of and challenges related to each of these components as the environment makes the transition to digital.

1. *Born-digital government information:* Approximately 97% of new government documents are available digitally in 2009, tremendously improving public access, and approximately three-quarters exist *exclusively* in digital form. With the development of GPO Access and FDsys, access is increasingly being provided directly by GPO. GPO has developed mechanisms that successfully address previous concerns about authenticity of online documents, although these are not yet uniformly applied. However, agencies are increasingly taking responsibility for online publishing without GPO’s assistance, with stand-alone

static documents often giving way to less structured and more dynamic information sources, a substantial share of which is not ingested into GPO's new content management system, FDsys.* In many cases, the originating agencies manage this information appropriately in other government systems, working in formal partnership with GPO. In other cases, however, there is no provision for permanent public access to documents and/or information products. Although GPO has experimented with harvesting strategies to ingest these materials, a scaled approach has not yet proven feasible.

2. *Digitized print documents:* Many print government materials have been or will be digitized by libraries, by vendors, and by mass digitization programs, dramatically enhancing the potential accessibility of these materials. Unfortunately, some of the most valuable digitized collections are not freely available (e.g. those of commercial vendors) and thus do not contribute to permanent *public* access. And indeed, the share of documents digitized in general is small in comparison to the size of the entire legacy collection, and as a result many components of the historical collections are neither discovered nor used as information-seeking workflows have migrated online. The lack of coordination, including the absence of a title-level registry of digitization efforts, has resulted in a set of digitized collections that are far from comprehensive while also containing significant duplication, and that also range widely in quality.

3: *Digital collections management:* The digital materials that are incorporated into the FDLP are managed with the intention of providing permanent public access. Many of these materials are hosted on FDsys, which builds upon the successes of GPO Access in providing permanent public access to digital materials, or through partnership agreements. These programs are generally believed to offer a preservation solution for digital and digitized collections, although external verification of their efficacy and third-party preservation partnerships are missing. What little is known about the preservation state of materials that are held neither on FDsys nor under such a partnership agreement leads to concern about their permanence.

4. *Print documents production:* Although users have demonstrated a very strong preference for accessing materials in digital form, some user needs may be better served by print rather than digital versions. For example, maps, posters, and certain other visually intensive materials may be most easily used for certain purposes in print form. In addition, broadband is not uniformly available even at public libraries in certain areas of the country. GPO continues to produce some print materials, with decision-making about what materials are thus produced remaining, as it always has been historically, distributed across the originating agencies. As a byproduct, decision-making about print production is not sufficiently responsive to user needs.†

5. *Print collections management:* Historical print collections are significantly underutilized relative to their value because information-seeking workflows have migrated online. As usage has declined and volume counts are no longer a primary measure of a library's "value," many directors, especially at academic libraries, would like to reassign space to more frequently used collections or new service-based initiatives such as information commons. In recent years, hundreds of selectives have left the FDLP altogether and many more have reduced their print holdings significantly. Many regional library directors stated a strong need for more flexibility in collections management. In the long term, this trend is clear:

* FDsys, the successor to GPO Access, remains under active development and has only been released as a beta product to date. Ithaka S+R anticipates the continuing successful development of FDsys and as such this summary often refers simply to FDsys rather than necessarily reflecting the current transition between GPO Access and FDsys. Congress authorized GPO Access via Public Law 103-40, the "Government Printing Office Electronic Information Access Enhancement Act of 1993." GPO Access launched publicly in June 1994.

† Other examples of why print remains important include brochures and other materials designed principally for the use of the general public as opposed to dissemination and preservation via the FDLP.

there will be little remaining incentive for many regional libraries to participate in the Program under restrictive conditions that force them to retain a decreasingly used format. Although selectives presently depend on regionals to be able to withdraw print materials and for other services, they are unlikely to contribute resources that would provide an incentive for regionals to continue in this role.

6. *Discovery, outreach, and support*: User expectations for disintermediated, seamless discovery environments have skyrocketed in recent years. Government information – in both physical and digital form – has generally been segregated into discrete and fragmented service points, bibliographic infrastructure, and discovery tools. Some librarians are supporting the use of government information well beyond documents and through programs well beyond the FDLP. Others are trying to provide innovative new services taking advantage of the online environment. Still, many users with demand for government information do not succeed in discovering, obtaining, or successfully using information that would have value to them.

Although the Office of the Superintendent of Documents has worked diligently and with notable successes to migrate the FDLP to the digital environment, the diversity of stakeholders and complexity of the Program has impeded adequate strategic change.

The future of the FDLP

A system that supports the historic goal of permanent public access to government information in ways that are relevant to today's user needs will have to be dramatically different from the Program that operates today. Based on the interviews and other research conducted for this project, a vision is suggested for the Program: government information is seamlessly available to the range of potential users without charge at their point of need and is preserved appropriately for future generations. To achieve such a vision, the FDLP community must address five key goals:

1. Newly issued government information must be made freely available in digital form and must be preserved for the long term.
2. To provide this permanent public access for the historical collection, a significant program of retrospective digitization is required.
3. Print will play a significantly reduced role for access by users to the historical collections, so some original print copies must continue to be preserved even though fewer depository library collections overall will be required.
4. The print format will continue to have advantages for certain subsets of material types and user communities, so the Program must provide appropriate access to certain historical and new materials in print form, where appropriate via print on demand.
5. Depository libraries must reemphasize their commitment to serving user needs for outreach, discovery, and access.

To achieve these goals, a model for the Program's future is proposed.

A proposed model

Historical collections: digitization and local flexibility

Although there is great potential value in the historical collections, users will not realize this value if materials are not available in digital formats. **To make the rich historical collections useful, they must be digitized comprehensively and at a sufficiently high level of quality.** With only modest funding for

digitization provided by the federal government, user needs indicate that other creative solutions should be pursued. For this reason, in addition to library digitization projects, mass digitization initiatives (involving a number of libraries sometimes in cooperation with Google, the Internet Archive, or other non-library partners) will be especially important.

It is imperative that the FDLDP leverage all possible digitization programs to provide permanent public access to the new format, which can happen via one of two models:

1. Digitized materials should be deposited whenever possible into FDsys, documenting chain of custody and digitization standards, to maximize bibliographic control, ensure ease of access, and provide workflows for associated print collections management.
2. When this is not possible, GPO should provide coordination including standard bibliographic control via formal partnership agreements with other government agencies and outside institutions.

Digitization can be expected to dramatically expand access to and use of historical collections.

As more materials are available digitally, a growing share of access needs will be best met via digital collections, dramatically reducing the need for print collections to enable access at many selective libraries. Print will, however, remain important in serving the access needs of certain populations, and, at least for now, some material types may remain most useable in print format. Decisions at selective libraries about retaining materials in print form will continue to be driven by local needs and priorities, and may vary widely based on differing missions and user needs.

Access needs are already being met to a large degree by online versions, thereby allowing for the reduction of significant amounts of print at selectives, but the threshold for a digital surrogate to substitute for a print original for preservation purposes is higher. Different thresholds are appropriate for different material types, depending on expected use cases, but high-quality digitization and an adequate digital preservation environment are important in every case.

With declining local need for print to enable access to government information, many regionals crave the same flexibility to manage their collections according to local usage priorities as selectives have long enjoyed. The law today makes it impossible for them to do so while continuing their role as regionals, and consequently additional regionals have indicated that they are likely to withdraw from the Program in the coming years. Digitization presents an opportunity to reexamine the role of print collections and rethink how to achieve their preservation.

For that share of materials that are digitized at a sufficient level of quality, are primarily textual, and are adequately preserved and made reliably accessible in digital form, the expected continuing access needs for print collections are minimal in the long run. For such materials, over time, print collections become important exclusively for their preservation role – for example, to serve as a source of materials for re-digitization to correct errors in the digital edition. Once digital surrogates meet preservation thresholds, remaining **preservation objectives for the print format will require fewer copies than are currently provisioned via the regional libraries**, with the precise number needed varying by several characteristics including material type, digitization quality, and digital preservation assurances. As a result, there can be a reallocation of responsibility among the regional depository libraries, which will inevitably include a reduced number of regional collections, as well as the possibility of sharing print management responsibilities across multiple regional libraries. If executed correctly, this transition will yield an overall

improvement in the preservation of the print format, since responsibility and resources can be allocated more appropriately.

No single comprehensive print collection exists, making the mechanism for the reallocating responsibility among the regionals an especially important choice. Ithaka S+R sees three models for how this could be pursued:

1. Legislative change could empower GPO to manage appropriate deaccessioning of print materials across regional collections as preservation thresholds are achieved for digitized versions. Legislative change is the preferred alternative, because it will provide the greatest assurance against materials losses while enabling flexibility.
2. Until appropriate legislation is enacted, regionals could work together to coordinate their downgrades or departures, perhaps on a geographical or consortial basis. Proper coordination would be challenging and in the long run there might be inadequate incentives to motivate sufficient regional participation, but this model is legal under today's statute.
3. Without system-level coordination by GPO or the regional libraries, incentives for many individual regionals to continue to withdraw from the Program will be overwhelming. This alternative is the least desirable, because it will be essentially uncoordinated and could have deleterious effects on preservation, but in the absence of one of the other two models is inevitable.

Digitization of the historical collection will enable users to discover and access government information in their format of choice, while also allowing depository libraries to adjust resource allocations to the highest-value functions for serving government information needs in their local environment.

Coordinating and preserving prospective government information

To ensure permanent public access to newly produced government information in the future, **GPO should coordinate the preservation of born-digital government information.** These issues, already complicated enough for the FDLP in a print environment, are far more complex in the digital environment. Several models exist for GPO's role:

1. GPO should continue to work with federal agencies to have their digital publications accessible to the FDLP through deposit in FDsys.
2. Sometimes, especially in the case of dynamic publications or interactive online applications, rather than seeking direct deposit into the FDLP's FDsys platform, GPO should, as the agency does today, provide coordination via formal partnership agreements with federal agencies, to support and audit their work to ensure long-term preservation and persistent access.
3. In the absence of one of the first two options, which are the preferred alternatives, GPO will need to develop internal capacity, or external partnerships, to harvest content directly from agency websites for incorporation into the FDLP.

Although most users of new government information will prefer to access materials in digital form, print versions of some material types, such as maps and other image-intensive materials, may best serve user needs. A carefully designed study of the actual uses of print government documents, examining a variety of document types and a variety of user communities, is therefore recommended. Based on the outcomes

of such a study, GPO should advocate that certain materials be produced in print format, offer print on demand via the content management capabilities of FDsys, or recommend that print production cease.

Digital infrastructure: preservation and discovery

Both for the historical collection (once digitized) and prospective government information, access will increasingly be provided in digital form. In this shift, there is an opportunity to enhance preservation and discovery as part of the GPO-library partnership. To effectively support this transition, the **FDLP must ensure the integrity and preservation of born-digital and digitized collections**. Towards this end, FDsys should serve as a key platform and aggregator as one part of a broader ecosystem. Where digitized or born-digital materials are not held in FDsys due to partnership agreements with other federal agencies or archives such as HathiTrust, providing for discovery will be a critical consideration.

To enable a broader range of innovative uses of these materials, GPO's FDsys development plans should prioritize the creation of APIs (allowing others to program interfaces and discovery tools of their own) and bulk download methods (allowing for "digital deposit" or other more sophisticated discovery and access options). Its partnership agreements with other agencies and archives should encourage if not provide for such bulk access as well.

While GPO should manage these materials according to state-of-the-art preservation practices, greater assurance about its work in this area should be provided via outside auditing and certification. Even so, the sensitivity and importance of these materials, along with community best practices, indicates the need for the FDL community or other entities to preserve digital copies outside GPO. GPO's partnership agreements with other agencies and archives should mandate similar preservation practices and partnerships.

Users increasingly expect to find information on their own, so seamless online discovery is imperative. **Libraries, non-profits, and vendors should develop new and revamped discovery environments based on the anticipated needs of specific groups of users**. Some of these may be crafted as added-value businesses targeted at specific market segments (such as lawyers), while others may be created by librarians or others who are seeking to address a local need. FDsys should not be expected to serve as a single discovery resource for all government information but rather should, as GPO understands, facilitate various access channels and thereby contribute to a broader discovery and use ecosystem.

Outreach and use: rethinking the role of the librarian

Just as books and journals are shifting from being physical objects to digital files, libraries are evolving from being institutions optimized for storing those objects to enterprises focused on providing information services. As print collection management declines as a priority, government documents librarians heretofore occupied with such work can direct an increasing share of their energy to the public services that will only increase in importance. Some at the vanguard have already successfully redefined their role in this way.

In this transition, **librarians should take on an expanded role as government information librarians rather than government documents librarians**, repurposing existing expertise to support users working with government information and data no matter its source or format.

Some appropriate roles may be unique to the digital environment. For example, as mentioned above, librarians should be partners in the creation of value-added discovery tools for government information, created by libraries, library organizations, or non-profit or private sector entities. In addition, librarians should support users seeking to make innovative use of digital government data, such as by helping them

with combining information from multiple sources or developing computationally intensive research methodologies. Other roles less closely tied to the digital environment, such as supporting more complex research questions, will also prove to be important.

An increasingly significant role for government information librarians should be focused on raising awareness of government information. These librarians should emphasize training other librarians within their library and in their broader local community, so government information may be better integrated into general reference support across the library community. As more and more public libraries position themselves to serve as government information libraries, there is a critical role for the FDLP's library participants to provide training, assistance, and deeper expertise.

For many federal depository libraries, renewed incentives to participate in the Program will be found in these services. The services provided by their government information librarians in helping users and other librarians work effectively with this material will be their principal contribution to permanent public access.

In sum

The FDLP's mission of providing permanent public access to government information remains imperative for the digital environment, and the model for the future presented in this report provides a feasible framework for meeting the challenge posed by the digital era. The FDLP supports one of the cornerstones of American democracy. Its disappearance would be a significant loss.

1. INTRODUCTION AND BACKGROUND

In June 2009, the Association of Research Libraries (ARL) and the Chief Officers of State Library Agencies (COSLA) retained Ithaka S+R to propose a comprehensive framework for the Federal Depository Library Program (“FDLP” or the “Program”) in response to a rapidly changing environment for information dissemination and usage. The Program must take advantage of the opportunities presented by today’s digital and networking technologies to deliver services to users more effectively, more broadly, and at lower cost. The FDLP serves a variety of needs across a number of communities, and in this project Ithaka S+R has taken a system-wide perspective in an attempt to understand the needs of all stakeholders.

The FDLP is the mechanism for 1,240 academic, state, public, and law libraries to work as partners in distributing, providing access to, and preserving federal publications for use by the general public. The FDLP is administered by GPO under the authority of a federal law that was last significantly updated in 1962. Today, 50 regional federal depository libraries (the “regionals”) collect FDLP materials comprehensively in print format and provide services to the 1,190 federal depository libraries that collect FDLP materials selectively (the “selectives”), in both cases without financial support from the federal government. The documents physically distributed to libraries are known as “tangible” documents, including printed texts, maps, posters, microfilm, CD-ROMs, and other miscellaneous formats. For simplicity, this report often refers to all such materials as print documents.

The Program’s core mission of providing no fee “permanent public access” to government documents is just as important today as it ever has been, and indeed it should play a key role in the Obama administration’s vision for a more open and transparent government.¹ Access to the workings of the government by members of the public is imperative to the success of our democracy and to the public’s understanding of our government. But the incentives that motivated libraries to participate in the Program, reasonably well aligned in a print environment, are decreasingly appropriate to the digital, networked environment. Over the last two decades, the ways that people store, access, and use information has changed dramatically. Researchers, students, and even many members of the general public, are eschewing print for digital access, which has reduced demand for historical print materials. The ease of dissemination on the web through multiple channels also puts the provision of permanent public access for newly issued government information at great risk, as distributed and uncoordinated production will not adequately address community access and preservation priorities. If there is strong and compelling interest in continuing the goals and objectives of the Program, the community needs collectively to commit to putting in place a fundamentally new framework for access to and preservation of government information.

1.1. Methodology

ARL and COSLA represent many of the largest libraries participating in the FDLP, but they asked Ithaka S+R to engage with a broad range of perspectives in this project. This project has therefore attempted to incorporate the views of as many stakeholders as possible, with an objective of making recommendations around which consensus might be able to develop so that all relevant communities could push for change in concert.

Ithaka S+R was asked to exclusively consider the structure and future of the FDLP as a program, and specifically not to undertake a wholesale reimagining of government information dissemination and management programs. For this reason, this project has not engaged with how FDLP might potentially interrelate with the activities of other government information agencies such as the Library of Congress or the National Archives and Records Administration.

After a thorough review of the existing literature in the field, project staff conducted an extensive series of interviews and site visits with FDLP participants. The Ithaka S+R team interviewed 29 librarians from 15 of the regional libraries, including state libraries, academic libraries, and a public library. The team also interviewed 33 librarians from 25 of the selective libraries, including state libraries (including one that recently downgraded its status from regional to selective), larger and smaller academic libraries, law libraries (mostly academic but also one county law library), and public libraries (including one that recently withdrew from the Program and another that recently downgraded its status from regional to selective). The team did not interview any of the federal library participants. Because of the significant number of academic selectives in the Program, this group was underrepresented. Table 1 and Table 2 summarize the interviews performed in comparison with the Program as a whole, and Appendix A provides a complete list of interviewees. Typically, Ithaka S+R engaged with either the government documents coordinator or the library director, often speaking with both. These interviews covered the nature of their work with the FDLP, the community they serve and its needs, their views on the state of the FDLP today, and their assessment of future needs. The project team was fortunate to be able to engage with seven of the forty libraries in person, which provided the opportunity for a number of tours of stack, processing, and public services areas. In selecting interview subjects, Ithaka S+R sought to engage with a diverse sample of libraries with a variety of roles, priorities, and pressures, and to speak to librarians with a wide range of opinions on the Program, including a number of current and past members of the Depository Library Council, a diverse group of community members who “advise the Public Printer on matters relating to the Federal Depository Library Program.”²

Table 1 – Interviews by library type, compared with Program totals*

Type of library	Academic	Federal	State	Public	Law	Total
Total libraries in the Program	718	55	42	224	201	1240
Number of libraries interviewed	20 (2.8%)	0 (0%)	7 (16.7%)	9 (4.0%)	5 (2.5%)	40 (3.2%)

Table 2 – Interviews by library role, compared with Program totals

Type of library	Regional	Selective
Total libraries in the Program	50	1190
Number of libraries interviewed	15 (30%)	26 (2.2%)

* Statistics about participation – here and elsewhere in this paper – are current as of early November, 2009. Up-to-date information may be found in the Federal Depository Library Directory, <http://catalog.gpo.gov/fdlpdir/FDLPdir.jsp>.

Ithaka S+R also worked hard to understand user needs, although it did not conduct a formal user needs assessment. Because of the challenges of conducting the bulk of the research during the summer, project staff were only able interview 8 faculty members and graduate students from three universities, and most of these were concentrated in political science, journalism, international studies, and history. The project team also spoke to two users of state libraries, both employed in state government. In addition to speaking with users directly, interviews with librarians, and especially with librarians at public and state libraries, focused extensively on their understanding of user needs. Finally, the project team spoke with a number of public interest organizations that work with government information and the general public, often using technology to make government information useful in new ways, to understand their perception of user needs.

To understand the work of GPO and its place within broader federal initiatives, Ithaka S+R interviewed a number of individuals at GPO itself, including the Public Printer and the Acting Superintendent of Documents, as well as the Obama administration's Deputy CTO for Open Government.

Finally, Ithaka S+R spoke with a number of other individuals with an interest in government information, including representatives of library associations and consortia, public interest advocates, and for-profit companies that work with government information. A full list of all interviews conducted may be found in Appendix A.

Ithaka S+R's interim findings and recommendations were released on October 15, 2009.³ The project team presented these interim findings and recommendations at the ARL Membership Meeting and the Fall Depository Library Council meeting, both in October 2009.⁴ Discussion at these meeting and online provided the opportunity to gather feedback from a wider range of perspectives for incorporation into this final report.

1.2. Background and structure

The FDLP involves the government, two distinct types of libraries, and other stakeholders collectively serving the needs of a number of user communities through a variety of formal and informal mechanisms. GPO distributes print documents to the library participants in the Program for preservation and access, but the balance of responsibilities is not yet settled for born-digital documents. This background section provides some basic history on the Program and reviews plans for its further development, as well as examining the Program's fundamental organizational structure and stakeholder communities.

In 1813, a Congressional resolution mandated the distribution of Congressional documents and publications to colleges and historical societies in order to provide public access to information about the workings of the U.S. government.⁵ This distribution evolved throughout the 19th century, and an 1895 act of Congress established many of the structures of the modern FDLP.⁶ From the inception of the FDLP's earliest predecessor, the general structure has been: "government creates the information, depository libraries house and service it for public use, and the public gets to use the information for free."⁷

Originally, there was only one class of federal depository library. "Until 1922, all designated depository libraries received all publications" – a range of Congressional and agency reports and publications.⁸ In 1922, the "Classified List of United States Government Publications" was developed, which allowed libraries to select which materials they wished to have sent to them. But "when allowed to choose, only 48 of the [418] depositories selected everything, causing consternation as some states had several complete collections while others had none."⁹ Compounding the problem, depository libraries "had to

retain what they selected forever.”¹⁰ With libraries “running out of shelf space for new publications,” a new framework was needed.¹¹

1.2.1. The two-tiered depository library model

In 1962, the Program was legislatively overhauled, introducing the current two-tiered model with the objective of providing maximum flexibility to the vast majority of participating libraries (the selectives). The two tiers of libraries have since remained substantially unchanged:

- Regional libraries receive all print government publications and must retain them in perpetuity. Regional libraries also are responsible for a variety of services to selective libraries in their region, including assistance in materials de-accessioning, reference support, and interlibrary loan.¹² Some also provide coordination or leadership for training, mentorship, outreach, and marketing. Regional libraries are theoretically comprehensive, but for a variety of reasons, few if any regional libraries can in fact be said to be truly historically comprehensive. * All regional libraries are housed in public institutions: state libraries, academic libraries at public universities, or large public libraries. There are currently 50 regional libraries located in 43 states.
- Selective libraries receive, based on a self-defined selection profile, a subset of government publications, and with the permission of the regional may de-accession unwanted materials five years after receiving them.[†] Academic libraries at both public and private institutions, public libraries, federal and state government agency libraries, and law libraries, are among the principal types of selectives. Their acquisitions range from 10% or less of new publications in the Program up to virtually comprehensive collecting, according to local institutional and user needs. In recent years, some selectives have begun to select more materials in electronic form only, usually adding records to their catalogs that link to a digital copy held elsewhere but not actually accessioning a physical item, according to understandings of local needs and priorities. There are currently 1,190 selective libraries located in every state and most U.S. territories¹³

Although “the legislative intent of the Depository Library Act of 1962 was to have a regional depository in every state and the State Library was to serve as the regional depository, this has not come to pass.”¹⁴ Instead, the majority of regional depositories are in academic libraries located within public universities, many are in state libraries, and a few are in public libraries. Many academic libraries became regionals because of a sense that no other local libraries had the resources to take on this role. For many regionals, their initial participation was motivated by a call to public service on behalf of their state, as well as the perceived prestige of serving in this role.

The distribution of regional responsibilities varies significantly. Several states have had two regionals, which share responsibilities for their state in a variety of ways. For example, in some cases, one regional is a sort of “junior partner,” collecting comprehensively but not performing any other regional duties. In other states, however, the division of labor may be more nuanced and balanced. In addition, not all states have regional libraries and so selective libraries from one state may be under the auspices of a regional library from another state. For example, the State Library of Connecticut supervises selective libraries in both Connecticut and Rhode Island. Wyoming is unique within the system, as the state’s sole regional

* Three of the most important reasons a regional may not offer a completely comprehensive print collection: because some did not select 100% of available documents before becoming a regional, because some younger libraries did not exist in the earlier days of the FDL, and because of incidental losses or damaged materials.

† Selectives are also allowed to substitute qualified electronic versions of documents for print originals, discarding the print original, if they have the approval of their regional and have held the print document for at least one year. Further details may be found at <http://www.fdlp.gov/collections/claims/141-substitution-guidelines>.

downgraded its status to selective, leaving its selectives, including the former regional, unable to withdraw any print collections under the current law that defines the regional role.*

The distribution of responsibilities among selectives is also in flux, as any selective can withdraw from the Program at any time for any reason. Although the selective must at least offer to return all of its print collections to the government, many of those that have withdrawn have been allowed to retain whatever parts of their collections they still value. At its height in 1992, over 1,350 selective libraries participated in the Program, but a significant number have left the Program since (although about 40 libraries have joined over this time period), for a net loss of about 12% – there are currently 1,190 selectives remaining. Although the availability of information digitally has been a contributing factor to most of these decisions, other factors – such as “staffing priorities, space constraints, or the retirement of a documents librarian” – have usually been the immediate cause of the decision to change status.¹⁵ Libraries that had previously selected a relatively small number of documents have been the most likely to leave the Program.¹⁶ Many justify their decision to leave by pointing to the ability of users to access documents either online, through interlibrary loan, or at a nearby repository, and there is little indication that users have found the change in status particularly problematic.¹⁷ Generally, many decisions to cease serving as a selective library have gone “virtually without complaint or comment.”¹⁸

Pressures that might otherwise lead selectives to leave the Program are mitigated by their ability to withdraw print holdings from their collections after retaining them for at least five years. Many selectives have actively weeded their collections over time, but withdrawals of print holdings have greatly accelerated in recent years. Historically, many selectives elected to receive a wide range of materials beyond anticipated local user needs, because the Program enabled the free acquisition of large quantities of materials. In an age when collection size was a competitive differentiator between libraries, participating in the FDLP offered an easy way to add substantially to a library’s volume count and the likelihood of meeting user needs rapidly. But in recent years, there has been a sea change in library thinking about collection size, in large part due to the growth in electronic access and the declining use of print collections, and consequently library directors have reexamined the role of print holdings in meeting user needs. With space a key asset that many see as poorly allocated for today’s needs, directors have sought to maximize the value of their space by developing information commons or teaching and study areas. This has contributed to widespread interest at both selective and regional libraries in reducing the size of government documents print collections.

Unlike selectives, regional libraries cannot deaccession materials that are part of the regional collection, leading to some regional libraries choosing to fall back to selective status to be able to more flexibly manage their collections. But regional libraries face a more difficult calculus in changing their status than do selectives considering continuation of participation. Without a regional library, no depositories in the state can withdraw print collections. Consequently, if a regional library downgrades its status, it does not gain any flexibility, unless another library can step up to take on the regional responsibilities.[†] Many regionals report that this dynamic has inhibited them from leaving the Program, since they would not gain any flexibility in their management of existing print collections but they would cause gridlock for other libraries in the state.

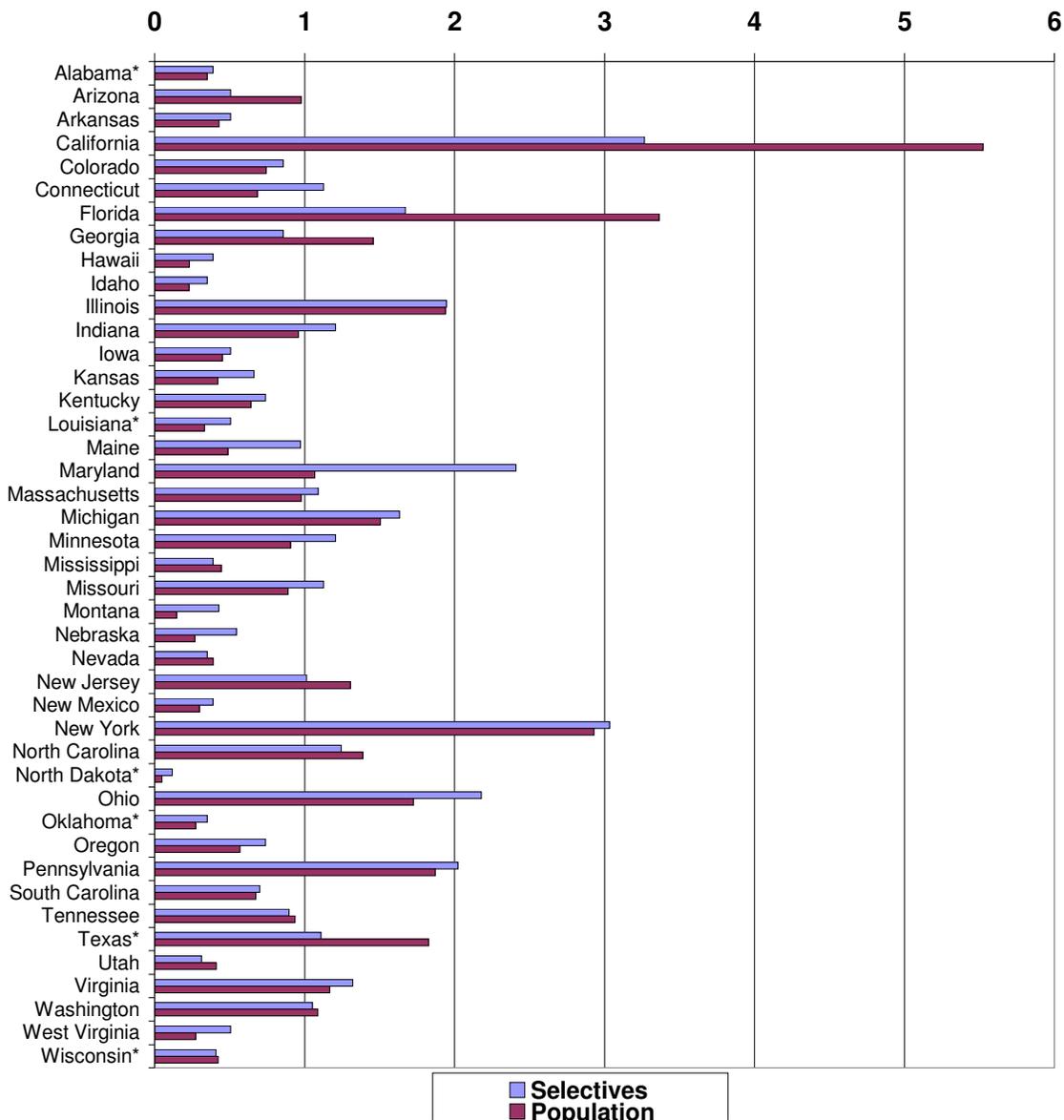
* Even though selectives cannot de-accession holdings without a regional library, there is a procedure in place for them to withdraw from the program altogether. In such a circumstance, the GPO supervises the disposition of print collections itself or through a designated agent.

† Consequently, it is unsurprising that three of the four regional libraries that have in recent years downgraded to selective status have been in states with more than one regional library, allowing them still to withdraw from their print collections.

Still, several regional libraries – both second regionals in a state and sole regionals – have downgraded to selective status due to the burdens of participation. When this occurs, GPO addresses the issue on a case-by-case basis, depending on the alternative possibilities in the state or nearby, geographical distribution concerns, and other factors.¹⁹ Four regional libraries have stepped down in recent years, although in all cases an alternative arrangement has been found to continue regional service. According to a 2008 GPO survey of regional library directors/deans, a substantial number– up to 20% of the then 52 regionals, virtually all of them at academic institutions – are considering the possibility of relinquishing their regional status. On the other hand, almost 30% of regional libraries expressed willingness to serve as regional library for selectives in other states, a role that several already play.²⁰

Given these complexities, it is no surprise that the system has long been criticized for the inefficiency of distributing regionals based on state lines rather than on population or number of libraries served, which created dramatic inequalities between the duties of regional libraries. According to a 1993 GPO report, “nine out of [the then] 51 regionals [served] 40% of all depositories,” while “nine regionals [served] only 6% of the libraries in the depository system.”²¹ Figure 1 clearly demonstrates these widely varying responsibilities, charting both the number of selectives and the population served by each regional against the national averages (where an index of 1 represents the national average).

Figure 1 - Population per region and number of selectives per region indexed against national averages*



The costs of serving as a regional library have been widely noted (selective libraries have also experienced rising costs associated with new indices and tools to make collections more usable, as well as taking on the substantial costs of processing and providing access to materials).²² In 1993, it was asserted that “the [then] 52 regional depository libraries alone are spending more money to support their depository collections than the Federal Government is to run the entire program.”²³ This same report noted that regional libraries “spend five times as much annually as the value of the collection received in the same period in order to fulfill their responsibilities.”²⁴ A 2008 report by regional library coordinators found that regional libraries spent an average of \$330,000 on “staff, cataloging and processing of collections, additional databases and reference materials in support of FDLP collections, and

* Regions served by two regionals are marked in this chart with asterisks, and for purposes of simplicity, each such regional is assumed to take responsibility for half of the selectives and half of the population.

equipment/supplies, such as computers, microform equipment, and collections maintenance supplies” and “approximately \$700,000 in yearly amortized costs for facilities to house the [FDLP] collections.”²⁵

Historically these costs were offset by “not only ... free documents but also a sense of exclusivity because citizens had to come to their local depository library to get no-fee access to government information.”²⁶ And even in a digital environment “no one argues the valid need for multiple ‘complete’ depository collections.”²⁷ Still, as early as 1993, the Depository Library Council warned that “the burdens on the regional libraries are causing a breakdown in the system.”²⁸ And as the Program has come to be perceived as increasingly out of step with the needs of users and pressures facing libraries in the digital era, the attention of many library directors has come to focus on “the cost of the Program instead of its value to the public.”²⁹ Both the library community and GPO itself have come to recognize that the law that governs the FDLP, as currently written, is insufficiently flexible, especially with respect to regionals. GPO states that “there have not been corresponding revisions to Chapter 19 [44 USC 1901-1916, the authority that controls the FDLP] to provide regional and selective depository libraries the flexibility required to operate in an online and networked environment,” concluding that “Chapter 19 needs ‘an expansive feature.’”³⁰

Several legislative efforts have been made since 1962 to update the FDLP, without substantial success. Perhaps the most substantive recent effort was S. 2288, the Wendell H. Ford Government Publications Office Reform Act of 1998. This bill, which built upon principles developed by the Inter-Association Work Group on Government Information, a cooperative group of library associations, focused on strengthening government-wide participation and bringing a broader range of materials into the FDLP. Unlike many other efforts to revise Title 44, substantial consensus developed around S. 2288,³¹ but the bill was ultimately unsuccessful. As S. 2288 demonstrates, even with broad consensus the effective accomplishment of legislative change is a lengthy and uncertain process. Other efforts short of legislative change to revise selected aspects of the FDLP (e.g. interstate regional depository libraries) have garnered less support from across the library community and have been challenging due to the complicated GPO governance structure via the Joint Committee on Printing.³²

1.2.2. Plans for the digital age

The scope of the Program has expanded dramatically with the development of online dissemination mechanisms. Even in the absence of legislative change, regulations have been updated so that the scope of the FDLP is said to encompass “all published Federal information products, regardless of format or medium, which are of public interest or educational value or produced using Federal funds.” This includes “all Federal information dissemination products published on an agency’s (or an agency’s official partner’s) publicly accessible Web site and originating from or funded by the agency.”³³ Systems have therefore been needed to incorporate digital documents into the Program.

In 1993, Congress passed the Government Printing Office Electronic Information Access Enhancement Act of 1993 (Public Law 103-40), which instructed GPO to: “maintain an electronic directory of Federal electronic information,” “provide a system of online access to the Congressional Record, the Federal Register and other appropriate publications,” and “operate an electronic storage facility for Federal electronic information.”³⁴ To accomplish these goals, GPO created GPO Access, which was launched on June 8, 1994, initially offering access to government information via the WAIS protocol. At its inception, GPO Access was a fee-based subscription service, although it was made freely available to depository libraries. Soon after its launch, however, GPO Access was made freely accessible to all via a web-based interface. With the introduction of GPO Access, GPO began to provide end users with direct access, unmediated by depository libraries, to government information, an early information service on the internet.

GPO is currently in the process of rolling out the Federal Digital System (FDsys), with a mission to “organize, manage and output authenticated content for any use or purpose and to preserve the content ... for the benefit of future generations” – the centerpiece of GPO’s “Strategic Vision for the 21st Century.”³⁵ FDsys is in many ways primarily intended to serve as a content management system for GPO and its partner agencies, transitioning many of GPO’s publishing processes “from a print to an electronic focus.”³⁶ FDsys is also intended to “verify and track versions; assure authenticity; and provide permanent public access”³⁷ – becoming FDLP’s digital platform, continuing the move away from partner libraries performing these roles for born-digital as well as, perhaps, for digitized print documents. Over time, FDsys will take on and expand many of the roles of GPO Access, which will be phased out.

GPO is releasing FDsys in five phases, with the first beta version released in January 2009. Although in an early stage of its development, initial reactions have been positive. The first release of FDsys focuses on offering modernized and updated versions of the same basic sorts of public-facing services provided by GPO Access – discovery through search and browse mechanisms and access to and authentication of materials, as well as digital preservation capabilities. According to GPO, “the migration of information from GPO Access into FDsys will be complete in 2009 ... [and] the migration is occurring on a collection-by-collection basis,”³⁸ and although many collections have been transitioned, this migration is not yet complete.*

In its eventual mature form, FDsys will acquire content through three main methods. Many of these are dependent on tools that have not yet been implemented in the beta version of FDsys, but are on a planned development path:

- Many materials will be submitted directly in digital form by the governmental entity that created them, streamlining the process of submission to mitigate against agencies choosing alternative means of publishing.³⁹ These functionalities, beginning with Congressional submission of materials, will begin to be introduced in Release 2.
- Digitized content (or, as it is often called by GPO, “converted” content) will also be ingested, including conceivably both materials digitized by GPO and by external partners. For digitized materials to be included in FDsys, they must be digitized “at a level of quality that is adequate to support preservation as well as future iterations of derivative products through which GPO will provide public access.”⁴⁰ GPO has propagated a specification defining how materials must be digitized to produce a digital copy of sufficient quality,⁴¹ although they emphasize that specific implementation processes will continue to evolve. These functionalities will begin to be introduced in Release 3.
- Some materials – which are not published by GPO – will be harvested from their agency’s web site and ingested into FDsys for centralized access and preservation. When government agencies sidestep GPO in their information dissemination processes, documents might never be integrated into the FDLP. GPO currently has a small staff dedicated to manually identifying and importing such fugitive documents into FDsys, and it has experimented with automatically harvesting materials by crawling agency webpages. Early experiments have indicated that this is a complex problem, and a long-term goal is to develop tools that will be integrated into agencies’ web publications processes in order to automatically alert GPO to new publications that should be

* FDsys.gov contains an up-to-date listing of the collections that are currently available in FDsys.

included in FDsys with minimal effort on the part of the agency. These functionalities will begin to be introduced in Release 4.

Beyond content ingest functionalities, important as they are, GPO also plans to release advanced access, preservation, and content management processes. Additional back office functionalities will be provided in Release 5. Although both Release 2 and Release 3 are scheduled for 2010, estimated dates of completion for Releases 4 and 5 have not yet been made public.^{42*}

In some cases, materials are included in FDLP but are not ingested into FDsys or GPO Access. GPO has developed a number of partnership agreements with other government agencies, under which materials are made accessible by partner agency websites. These agreements define standards and practices for the maintenance of partner collections, generally requiring that material be offered to GPO if the hosting agency is no longer willing or able to provide access to them. Through these partnerships, GPO can exercise oversight over many materials for which access is better provided through a platform other than FDsys or GPO Access.

Although FDsys currently remains a beta program, its planned feature set is widely seen as promising. Still, the technical elements of FDsys and the organizational elements of integrating it into government information production and dissemination workflows are both complicated. GPO's ability to execute on both elements will determine how central a role it plays in the future of government information and whether it can improve on the FDLP as it has operated over the past half century.

1.2.3. Stakeholders and user needs

While FDLP participants are formally classified as regional or selective libraries, the stakeholders outside the federal government that provide government documents and associated services fall into a number of different defined communities. Each of them has an obligation to serve the needs of the general public.

The general public uses government information in a vastly diverse set of ways. The breadth of this use is difficult to clearly characterize, but widespread anecdotal examples of journalists, unaffiliated historians, genealogy buffs, individuals involved in legal disputes, and a host of other users were related to the Project Team. Among some segments of the general public, the digital age may pose particular challenges: some may lack adequate access to the internet, or may simply be uncomfortable with computers or information in digital form. At the same time, however, highly technically adept members of the public have engaged with digital government information in unique new ways, developing tools and services that process, combine, and visualize government data sources out of a broadly defined sense of the public interest and the technical challenge of doing so.

And, although serving the general public is at the heart of the FDLP, stakeholders directly serve a variety of specific communities and, consequently, are faced with differing incentives that inform a range of priorities for the future. Key stakeholder groups include:

Academic libraries participate in the FDLP primarily to ensure that their campus communities have access to government documents and services to help them use the collections. Academic users, including undergraduates, graduate students, and faculty members, make substantial use of government information in the course of research and teaching. Citation analyses clearly demonstrate that government information

* Ithaka S+R anticipates the continuing successful development of FDsys and as such future sections of this report omits reference to the precise point in the release cycle where we are today and often refers simply to FDsys rather than necessarily reflecting the current state of transition between GPO Access and FDsys.

is widely used by scholars across a range of disciplines to address a variety of challenges.⁴³ Government documents can have importance in virtually all fields, providing statistics for economists, primary sources for political scientists, soil surveys for agronomists, maps for geographers, and so forth, although use of documents varies tremendously. Some disciplines – such as, for example, political science – make particularly extensive use of government information, but reports and data distributed through the FDLP find their way into a vast range of scholarly fields. Other fields use government documents incidentally if at all. The collection is not, however, of uniform value to these users. Some materials are heavily used across a range of disciplines, while others may be of significant value primarily to scholars focused on a specific topic. Other materials may be of only occasional interest, although they may be of great value to certain niche audiences. Furthermore, some academics only care about the most recent materials, while others delve deeply into historical collections. In some areas of the country, an academic library may be the sole print collection that can serve the public, while in other areas it may be more focused on their campus community, with the needs of the general public served by nearby public libraries. Some public universities' academic libraries have a decidedly public-minded role, providing a variety of services to their community or state, while private institutions' libraries, and even those at some public institutions, tend to be more focused on the needs of their local campus community.

Law libraries and the court system have a significant but concentrated interest in federal government documents. Their overall collections are often heavily focused in three key categories: current and historical statutes and the US Code; current and historical versions of the Federal Register and Code of Federal Regulations; and court decisions. Legal scholars and law students use these materials in a variety of ways, including for research projects, journal editing, and in the preparation of court submissions. For judicial purposes in particular, these materials are essential records of the operation of the federal government, in many ways more like archival documents than general-interest publications. The court system, including lawyers, judges, and support staff, may be interested in current or historical versions of these materials, so superseded editions may continue to hold great value for users interested in understanding how the law stood at a particular point in time. Some – although not all – law librarians express a special concern over the authentication of these materials in digital form.

Public libraries participate in the FDLP to provide services to their community. Public libraries in towns and smaller cities (and even some state libraries) may enter and leave the Program depending on their financial circumstances and the needs of the community. Larger public libraries are often more fundamentally committed to the Program as a public service, even though budgets can swing wildly as public finances fluctuate.

State libraries serve a variety of roles in the Program, including thirteen that serve as regional libraries. Many state libraries serve as research and legal libraries for their state government, and so may play roles similar to law or academic libraries, with the concerns and priorities of these communities. Some state libraries also play a significant direct public service role, like a public library. And many state libraries play a major outreach and coordinating role across the libraries in their state and, especially for public libraries, can serve as the hub in the overall state system. In general, state libraries are very committed to the Program, but unstable budgets have threatened the ability of some state libraries to continue to play their historical roles.

Public interest organizations provide online access to government information, often by re-packaging digital versions of government documents and other government information into more useful formats to help make the work of the government more transparent to the public. Their work generally requires bulk access to raw digital materials. Key organizations in this category include the Internet Archive, the Sunlight Foundation, and public.resource.org.

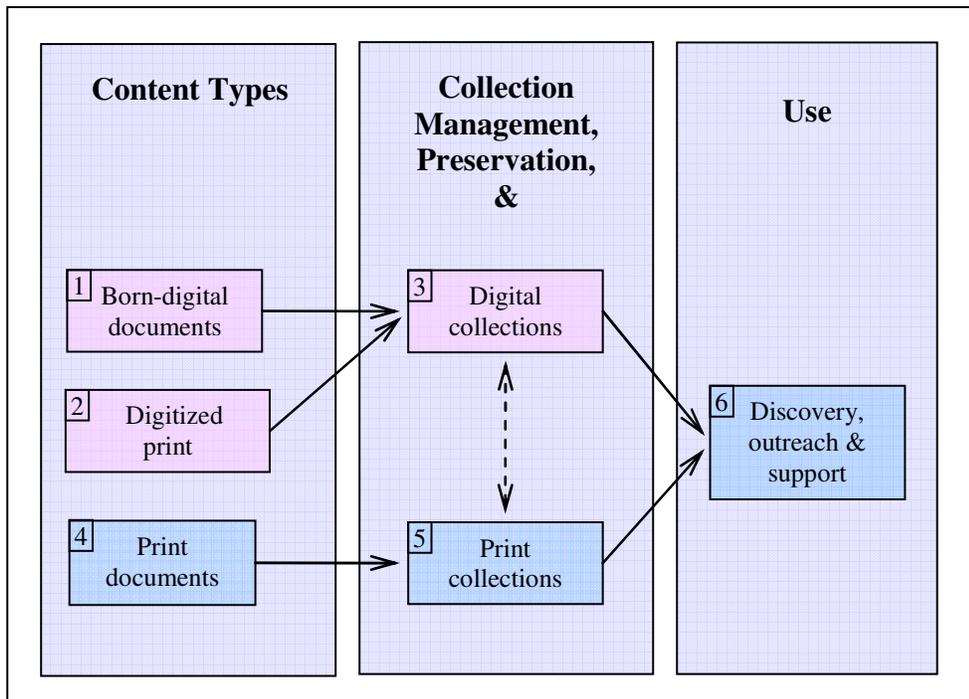
Commercial firms have long played a role in the government documents ecosystem, reformatting documents and offering value-added services for the legal community (most notably Lexis and WestLaw) or providing cataloging data to libraries (MARCIVE). More recently, commercial firms have digitized portions of the historical collections beyond core legal materials, such as the Serials Set (Readex). These are cases where, notwithstanding the free availability of the underlying material through the FDLP, third parties can add value to address the needs of libraries, attorneys, scholars, and others. Many of these digital collections are relatively expensive, and thus only available to a subset of libraries; success in licensing these collections despite their high prices does suggest, however, that certain parts of the historic government documents collection are indeed valuable to many libraries.

2. THE STATE OF TODAY'S FDLP

A candid analysis of the strengths and weaknesses of the current system is imperative in order to assess potential changes to the system. It is especially important to integrate the various perspectives that exist across the community, as different libraries and librarians in different roles see the FDLP in dramatically different lights. Much of the research for the project examined the current state of the FDLP through a literature review and interviews with librarians and other relevant parties. Based on that research, this section examines the state of the FDLP today and project forward its likely future in the absence of structural changes. Some of the problems that emerge will certainly be familiar to members of the government documents community, but different segments of this community will recognize different problems. Ithaka S+R has sought to integrate these diverse perspectives into a single holistic description of the challenges that face this community, rather than approaching the problem from the point of view of any particular interest group.

Six core elements comprise the production, management, dissemination, and use of government documents from a system-wide perspective. These elements provide a framework for the research, analysis, and recommendations that follow. The six elements fall into three sequential phases of sources of content, collection management, and use, as illustrated in Figure 2. These elements are not meant to suggest anything about the existing or future organization of actions or responsibilities but rather to break the problem down into a set of manageable elements for analytic purposes. As the arrows in the graphic indicate, certain dependencies flow between elements.

Figure 2 - The fundamental elements of the government documents system



The first phase is comprised of the three different types of materials, shown as the three left-most boxes in Figure 2: new born-digital collections, digital materials produced through the digitization of print collections, and materials in print formats. In the past, the majority of print documents were produced by GPO on behalf of other federal agencies. GPO performs the same service for some born-digital documents, but many others are produced directly by a multiplicity of agencies across the government. The digitization of print documents, to the extent that it is occurring, is even more fragmented, as it is carried out by a multiplicity of actors both within and outside of the government, including commercial

publishers, universities, and other educational or cultural institutions. Data from 2007 make clear that the number of new born-digital documents dramatically outstrips new print production; at that time, only 7% of new government publications were made available only in tangible form, 71% were available only in electronic form, and 22% were available in both tangible and electronic form. This share available digitally has increased in the intervening years. And libraries continue to hold substantial historical print collections, many of which are not available in digital form.

The second phase shown in Figure 2 focuses on collections management, for digital as well as print materials, and includes preservation and dissemination. As indicated by the two arrows converging on box three, this framework emphasizes that management practices for all digital collections should be considered together, regardless of provenance. Similarly, the appropriate management of print collections clearly depends heavily on the continuing state of print production. It is also closely related to the extent to which historical materials have been digitized and appropriately preserved in digital form, since the need for print collections might be expected to decline as digital collections grow in importance. This inter-connected relationship is indicated by the dashed line connecting boxes three and five. Historically, the management of print collections has been a primary focus of the FDLP participating libraries; as described above, the implementation of FDsys builds upon GPO's efforts – begun with GPO Access – to assume a more significant role in managing FDLP collections in the digital age.

Finally, the management of both digital and print collections feeds into the third phase, use. Outreach practices, discovery environments, and support services must incorporate both print and digital materials in order to serve user needs. In the current system, government document librarians at FDLP participating libraries have been the primary providers of these services.

Based on this framework, the following sections examine how today's FDLP is addressing each of these six elements and projects how the future is likely to unfold if no reforms are implemented. For ease of reference, each section is numbered to correspond to the boxes in Figure 2.

2.1. Production of born-digital documents

Today, the vast majority – about 97 percent – of new government publications are made available digitally, either exclusively or in addition to a print version.⁴⁴ Many of these publications continue to flow into the FDLP and are thus made available through FDsys or under a partnership agreement with their originating agency. GPO has a strong institutional commitment to maintaining the permanent public accessibility of these items, and it has clearly defined policies and procedures to ensure that these materials are maintained for the long term. Although FDsys's preservation methods have not yet been independently verified, GPO is heavily committed to assuring the long-term availability of these materials. In addition, FDsys provides central hosting for many of these materials in common file formats and in a shared dissemination framework. And these materials are maintained with a careful eye towards integrity, including both technical standards and policy practices that seek to ensure that materials are not modified inappropriately. Some materials have been formally authenticated using processes that “provid[e] the assurance that these electronic documents have not been altered since GPO disseminated them;”⁴⁵ GPO intends to continue to perform and expand this function.

The problem of federal documents not making their way into the FDLP is long standing. Today, a large number of new government publications never make it to GPO but are instead self-published by the producing agencies in digital form, hosted on their own websites according to their own policies and procedures and without a partnership agreement with GPO.⁴⁶ Many agencies have little incentive to contribute materials to FDsys or to form partnership agreements with GPO, realizing few concrete benefits by doing so. Materials that are neither hosted in FDsys nor held under a partnership agreement

are widely seen as relatively transient. Many agencies lack a commitment to permanent public access, and there are numerous examples of agencies routinely removing materials from their websites. Materials not hosted in FDsys are distributed in a wide range of different formats and through a diverse set of means.

Furthermore, the very substance of the FDLP is changing. The 1962 law envisioned government information provided as static published documents “either in print or microfacsimile form,” a notion that is challenged by a shift to more dynamic or interactive data-driven applications. More recent guidance to federal agencies, OMB Circular A-130, notes, “the increasingly distributed nature of information in electronic environments” (Appendix IV), introducing a new term, separate from publications, “information dissemination product,” which includes “all information that is disseminated by Federal agencies.... and “makes no distinction based on how the information is delivered.” This shift is far more dramatic than a simple print to electronic transition and incorporates fundamentally new and dynamic material types, including “blogs, wikis, social networking sites, cloud applications, and virtual worlds.” But “FDLP’s current structure of production and distribution has no clear way in which to deal with these new forms of government information.”⁴⁷ Such materials may be difficult or inappropriate to effectively ingest into FDsys, and so partnership agreements may be particularly important for these types of government information products. The long-term preservation of such materials poses a number of unique challenges, and will require ongoing attention from GPO as well as other preservation-oriented organizations.

Future prospects: Looking forward, agencies may continue to publish materials without depositing them into the FDLP. An increased emphasis on partnership agreements and the continuing development of FDsys may partially stem this flow, but, without structural reforms, a substantial amount of government information may remain outside the auspices of the FDLP and thus not subject to any sort of long-term preservation strategy whatsoever. Although some of these materials may be captured by NARA or other agencies, such after-the-fact approaches may miss valuable materials and pose discoverability and access challenges.

The critical issue, then, is *insufficient participation in FDLP by government agencies as they increasingly shift to independent digital production of documents*. Materials that are not ingested into FDsys or hosted under clearly defined partnership agreements are not subject to any common set of standards and practices, and thus cannot be said to be permanent. It is unrealistic to imagine that the wide range of government agencies that produce materials will invest heavily in providing permanent public access to materials; thus, the goal must be the inclusion of a broader range of materials in FDLP, thereby providing greater long-term security.

2.2. Digitization of print documents

Already today, substantial digitization of FDLP materials has taken place, but far from comprehensively and using a variety of standards and practices. For-profit companies like Lexis and Readex have digitized many of the highest-value historical materials. Although their collections are often very expensive, some user groups have found these collections immensely valuable. And several other portions of the historical collection have been digitized according to the local priorities of a university or library, often focusing on regional issues or a particular topical interest. There is little coordination across digitization efforts to avoid duplication, and the quality of digitization has been distinctly mixed. Most materials have been digitized with a goal of access in mind; few, if any, collections reach preservation quality, and many may fall far short. No digitizers have asserted the authenticity of their digitized materials, and the benefits of doing so are unclear from their perspective. And the resulting files are presented in a variety of different formats, according to the needs and priorities of their digitizers.

At the same time, large quantities of historic print collections simply have not been digitized at all. Recently, Google and the Committee on Institutional Cooperation (CIC), a consortium of 12 Midwestern research libraries, have begun to collaborate on the mass digitization of historic government information as a part of the Google Books project. So far approximately 70,000 documents have been digitized, but this project may eventually digitize a relatively large share of the historical collection. Google's goal in this project is access and not preservation, and Google project staff expressed their discomfort with libraries de-accessioning materials on the basis of their digitization through this program. The Public Printer expressed similar concern about libraries de-accessioning based on digitization processes not run under the auspices of GPO, out of concern for their long-term preservation.

To address this need, GPO has repeatedly requesting funding from Congress for digitization, although little prospect of receiving sufficient funds has been seen. Seeking to proceed in the absence of adequate funding, GPO recently sought a partner organization to fund and implement a comprehensive digitization program at no cost to the government. This approach would have allowed for a degree of centralized coordination of this digitization process. Although there was at least one strong bid for this project,⁴⁸ GPO was unable to issue an award. As a result, GPO has recently described a shift in digitization strategy towards leveraging and coordinating disaggregated and independent digitization programs.

Future prospects: Looking forward, digitization is likely to ramp up due to mass digitization projects currently underway, but the collective set of digitization initiatives is unlikely to result in a comprehensive, high-quality digital surrogate. Some materials, especially higher value collections, will continue to be digitized duplicatively. And the uncertainties about the size and content of the historical collections ensure that certain other portions of the FDLF – including, potentially, some with relatively high value – will not be digitized at all. Many libraries expressed that this lack of coordination has held them back from digitizing government documents locally. Over the long run, even mass digitization projects that capture large quantities of government documents will not achieve comprehensiveness, and there will be no mechanism for filling in the lacunae. Furthermore, materials will continue to be digitized at a wide range of quality standards, from those that aim for preservation quality to those that prioritize speed. In sum, no high-quality comprehensive surrogate is likely to be created if the Program stays on its current course.

Such uncoordinated digitization ***will not result in comprehensive digitization***. As a result, user needs for discovery and access will be inadequately met, as print materials are increasingly out of contemporary information workflows. At the same time, ***many of the resulting digitized resources will not be adequate substitutes for the original print materials***. Consequently, as libraries' widespread format migration plays itself out, digitized versions will not provide a sufficient surrogate to ensure adequate levels of preservation.

2.3. Management of digital collections

Both born-digital and digitized materials are currently held across a broad range of platforms. A subset of born-digital documents is incorporated into FDsys, which ensures a common and relatively satisfactory set of services are available. GPO has made a commitment to preserve materials in FDsys, although there is as yet no third-party verification of FDsys's preservation strategy or functionality, and the recent sustained downtime of GPO's mission-critical PURL resolution server suggests the need to for external verification of assurances that technology infrastructure is sufficient. Only a subset of materials in FDsys

is currently formally authenticated,^{*} although GPO holds uniform metadata and assertions of provenance, and all materials are carefully managed to ensure that they are not tampered with or altered inappropriately. GPO has clearly defined processes by which materials may be formally withdrawn from the FDLP, but the originating agency retains ultimate decision-making authority. Although GPO endeavors to ensure that materials are not withdrawn inappropriately, some librarians are concerned that materials may be withdrawn in a way that is counter to the public interest.

Content in FDsys is presented through a common toolset, but the development of rich user-facing tools is a relatively low priority for GPO. And although some interest groups like the Sunlight Foundation have described the potential value of programmatic access to FDLP materials, they are generally not (yet) accessible through an API[†] or bulk data downloads. A promising exception, GPO and the National Archives and Records Administration (NARA) recently released the Federal Register in bulk-downloadable XML form. This release has met with widespread praise, and tools like Fedthread.org have already begun to use these XML files to enable users to interact with this information in innovative ways. The development of an API is on the official development path for FDsys, and GPO is actively involved in a legislative branch Bulk Data Task Force to evaluate the future potential for bulk data access.

Some FDLP materials are not hosted in FDsys, but are instead held under partnership agreements with the originating agency. Although not presently enforcing the same uniformity of digital preservation and long-term access assurances, such partnership agreements may be especially important for data-driven web applications and other materials that would not be best served by inclusion in FDsys. The partnership approach allows GPO to provide a greater degree of assurance over how materials are held, typically including provisions that materials will be made available to GPO if the hosting agency is unable or unwilling to continue to maintain them. Although they clearly establish responsibility for preservation, partnership agreements generally do not provide specific preservation standards or establish audit processes.

Materials not integrated into FDLP through either FDsys or partnership agreements are provided in a bewildering array of different fashions by libraries, commercial entities, federal agencies, and not-for-profit entities. The availability and accessibility of materials may range broadly. Some materials – especially the highest value digital collections such as those produced by Lexis and Readex – are only available through those libraries that pay fees to license them, but these collections are presented in highly tailored interfaces developed with a deep awareness of user needs. Libraries may or may not license tools at their own discretion, based on their evaluation of the utility of these tools and collections to their users relative to the availability of funding; they are in no way obliged to do so. These materials do not contribute to the goal of permanent *public* access as they are not available uniformly to the public. As such, they should not be considered as playing any role in the long-term preservation infrastructure for government information. Many other materials are available freely, but under a wide range of conditions. Some few are available in structured data formats via APIs or bulk downloads, while most are made available simply as PDFs or text on a website. In addition, disaster recovery strategies and policies range widely, from those that rely on single servers without adequate backup or continuity of operations strategies to relatively robust infrastructure that can ensure near-continuous uptime. Although these other collections serve a variety of critically important roles for users of government information, often making up for inadequacies in the FDLP, they remain fundamentally separate from the FDLP.

^{*} GPO is implementing Public Key Infrastructure (PKI) technologies to digitally sign PDF versions of some materials in FDsys, thereby certifying that these materials have not been edited since their creation.

[†] An Application Programming Interface (API) facilitates the creation of applications around a centralized platform offering services and collections.

Future prospects: The digital materials that are incorporated into the FDLP are managed with the intention of providing permanent public access. Many of these materials are hosted on FDsys, which builds upon the successes of GPO Access in providing permanent public access to digital materials, or through partnership agreements. These programs are generally believed to offer a preservation solution for digital and digitized collections, although external verification of their efficacy and third-party preservation partnerships are needed. What little is known about the preservation state of materials that are held neither on FDsys nor under such a partnership agreement leads to concern about their permanence. Especially for independently published materials, *issues of digital preservation and integrity have not yet been fully addressed.*

2.4. Production of print documents

Today, although most users overwhelmingly prefer to access government information in digital form, print remains an important format in some situations. This limited set of needs is often underserved, as there is no strategy for providing print in response to all of these needs. For certain use cases, print materials may be far more usable than born-digital copies, especially while digital versions are only provided as large PDFs rather than as structured data. Some users – especially those in rural or economically disadvantaged areas – may lack reliable high-speed internet access and thus be poorly served by digital surrogates. Some other users may simply be uncomfortable with digital tools. There is no strategy, however, for evaluating these needs or determining how to meet them.

GPO continues to produce print materials in large but dwindling quantities, as “federal agencies are publishing more items directly to the Web – without creating paper documents at all – and are doing more of their printing and dissemination of information without using GPO services.”⁴⁹ GPO has little control over what materials are produced in print form; this decision is entirely up to the originating agencies. According to GPO’s 2007 metrics, only about a third of all FDLP publications are made available in print form. Although GPO strongly advocates for certain materials to remain available in print, this is driven by a rough sense of the importance of classes of materials rather than any formal assessment of user needs.* Some materials that would almost certainly have continuing value in print format are no longer incorporated into the Program, while at the same time GPO continues to produce many materials that have relatively little value in print form. As more materials migrate to exclusively online distribution, users with limited internet connectivity may be poorly served.[†]

Additionally, the selection process for materials in print form by selectives is deeply flawed. Selective libraries place standing orders with GPO using a system that groups together classes of materials under so-called item numbers. As a result, libraries frequently must receive (and retain for five years) a variety of materials of no interest to them or their users, in order to obtain an item of interest. In addition, the ordering process is not intended to expedite high-interest items or allow libraries to increase their selection of them in a timely fashion.

Future prospects: Looking forward, decision-making about what materials are made available in print will likely only grow more fragmented and disorganized. Agencies may independently decide to produce some materials in print form, but these decisions will be idiosyncratic and will reflect little coherent

* GPO has developed a list of titles whose “availability ... for selection in paper format has been deemed essential to the purposes of the FDLP.” “Essential Titles for Public Use in Tangible Format” (Government Printing Office), http://www.gpo.gov/su_docs/fdlp/pubs/estitles.html.

† In addition, there is an important set of federal information materials, such as informational brochures, instruction sheets, and forms that should continue to be printed and made available through libraries and other sources not so much for the Program itself but for the direct use of the general public.

strategy about what value remains for print documents. GPO may continue to produce some core Congressional materials in print form, and in the short term may continue to produce some agency materials in print form. GPO is attempting to address library selection processes as new management technology is introduced.

A fundamental uncertainty about which documents users need in print format is one of the factors yielding a *lack of coordination between GPO and agencies about what materials to issue in print*. Furthermore, GPO's ability to repurpose capacity away from print and towards new priorities will be limited to the extent that it is required to produce large numbers of print documents. Efforts to do so in the past have been met with resistance from some in the library community.

2.5. Management of print collections

Although users overwhelmingly prefer digital materials, many materials are simply unavailable in digital form. As such, print collections continue to serve an important – if often largely theoretical – access role as well as providing the basis for system-wide preservation efforts. Many historical documents have not been digitized, so the print version may be the only possible means of access to the document. And because digitization thus far has generally been inadequate for preservation purposes, the print collections continue to serve an essential role in the preservation of knowledge. Strong user preferences for digital materials, however, often mean that these materials are dramatically underutilized, often only being used if they can be accessed through expensive commercial licensed products.

Print collections are of declining importance for access purposes. Mirroring broad trends across other library collection types, few of the academic users of government information interviewed for this project make any significant use of print collections, relying instead on the digital resources available to them. Given user avoidance of print collections and the lack of digitization of historical collections, these materials are dramatically under-utilized relative to their value.

Consequently, in recent years, many libraries have substantially de-accessioned their print holdings of government documents, partially in response to the availability of digitized versions and partially due to a need to reassign the collections storage space to higher-value collections or programmatic uses such as information commons and other service-based initiatives. Such deaccessioning appears to have been prevalent both at academic and public libraries. In doing so, their decision-making is generally driven by local needs and pressures. But, lacking sufficient digitization, print collections continue to be the only means of access for many historical materials. Interviews with selective libraries that have pursued such de-accessioning strategies as well as articles describing print migrations elsewhere provide little indication that users have found cause for complaint in these eliminations of local print resources. But, as selective libraries leave the Program altogether or de-accession significant print holdings, a growing share of the print access and preservation burden has fallen, and is likely to fall increasingly, on the regionals.

As selectives continue their inexorable format migration and regionals take up the slack for access to print versions, the system is increasingly imbalanced. As a result, interviews with regional library directors yielded as a common refrain the desire for greater flexibility in print collections management. Perceptions of inflexibility exist among both selective and regional depository libraries.

Selectives must follow certain rules in their de-accessioning processes: they are unable to de-accession very recent materials and must receive permission for other materials. Regionals are more constrained, as they may not de-accession print materials at all except in very limited circumstances (such as superseded

editions or when they are withdrawn by GPO^{*}). Many regional libraries do not take full advantage of the flexibility available to them, sometimes due to volitional choices around comprehensive collection building and in other cases due to misunderstandings by librarians or library leadership. Many libraries in both categories wish for greater flexibility in managing their collections, and the potential loss of coordination and strategy in system-wide collections management seems of little concern. Some library directors question why they should “treat government publications different from other resources,” and suggest that their interest in withdrawing print government information is driven by “shifting information-seeking patterns” of users.⁵⁰ The ultimate flexibility available to regional libraries is the ability to downgrade to selective status, but doing so may be politically and practically complex, especially since unless another regional is found, the former regional will be unable to withdraw materials at all. Several regional libraries expressed that they did not feel comfortable downgrading to selective as they did not want to abandon their selective libraries, despite the unwanted burdens that accompany the fulfillment of these responsibilities.

In addition to formal requirements, expectations have accreted over time within the FDLP community that constrain participating libraries. For example, most regionals attempt to supervise the withdrawals process for their selectives actively rather than simply “assisting” them, as the law mandates. In addition, most regionals also choose to hold all print collections locally even though they are permitted to hold them cooperatively with other participants in their region. There is widespread misunderstanding at all levels about what the FDLP actually requires of participating libraries; community practices have been codified in the minds of many librarians as requirements.

Given that little of the digitization to date has provided for preservation needs, print collections remain critical for the preservation of, especially, the historical collection. In this respect, the regional collections are especially important as the preservation bulwarks of the system, although virtually everyone interviewed for this project agreed that fewer print copies of any given document are needed for preservation purposes than are currently provided by the 50 regional libraries. Library directors at regional libraries are growing increasingly frustrated with their role with respect to print collections, and as a result several have already downgraded their status, and more are likely to do so in the future. Notwithstanding the importance of some number of print collections for preservation purposes, no real standards are required of the regionals in the maintenance of print collections, and conditions vary widely across the system from preservation-grade climate-controlled storage to open shelves in public spaces. Although the system is imperfect – many materials slip through the cracks and are not held across all regionals, and conditions of maintenance vary widely – it offers a level of formality and assured retention that is rare among library collections.

Efforts to reduce the amount of print in the system responsibly have been constrained by the poor availability of cataloging data. Without good cataloging, materials cannot be removed to an off-site storage facility, as items must be cataloged in order to be discovered and retrieved, and withdrawals must be managed at least semi-manually, as selective librarians cannot accurately compare their intended withdrawals against regional holdings. In addition to assisting in collections management, cataloging is imperative for access purposes, especially as print documents are often no longer held locally and

^{*} As mentioned above, GPO has internal processes for the withdrawal of materials from the FDLP (Withdrawal of Federal Information Products from GPO’s Superintendent of Documents (SuDoc) Programs, Superintendent of Documents Policy Statement 110). Although GPO may request clarification and discuss alternate options, the ultimate decision about what is withdrawn rests with the originating agency. Historically, some documents librarians have viewed withdrawal requests with skepticism, suggesting that some materials have been inappropriately withdrawn due to political concerns. The centralization of power over withdrawals in the digital age is a concern for some librarians.

discovered with the help of a librarian but increasingly held remotely at regional libraries or elsewhere, discovered via metadata (in the absence of full text), and accessed, if at all, using interlibrary loan.

Most government documents from 1976 and after have been cataloged through the MARCIVE service (among other places), and catalog records for these materials seem to be very widely held and generally acceptable for community needs. Cataloging of documents from before 1976, however, is far less sufficient. Although catalog records for the vast majority of pre-1976 documents are in fact available through OCLC, the quality and potential utility of these records ranges widely. Several efforts offer hope of alleviating this situation. The first, led by GPO, is a recently-launched initiative to digitize GPO's historic shelf list. Another, led by the University of Montana, focuses on aggregating batches of records from individual libraries. Finally, the CIC, through its work with Google, is cataloging or obtaining cataloging records for those government documents that are being digitized, which should significantly increase the amount of cataloging data available. All such collaborative cataloging efforts, however, face challenges as many government documents librarians are wary about the quality of government documents cataloged elsewhere; government information is viewed as especially complex, and many do not trust that records produced elsewhere will be up to local standards.

Future prospects: Looking forward, there will remain a role, albeit a changing one, for print collections, even as the pressures libraries face to move away from print increases. As more documents are available in some form digitally, and more importantly, as users come to rely more exclusively on digital materials and lack awareness of print collections, materials only available in print form will grow ever more increasingly invisible and underutilized. As such, print collections will continue to have theoretical value that far outstrips their practical levels of use.

Selective libraries will likely continue to reduce their print holdings or leave the Program altogether, and over time many regionals will come to the realization that the prestige of their role does not justify its burdens and downgrade their status. The number of copies of materials will decline substantially and unevenly. Some materials may be maintained in relatively large quantities, while others may only remain available at the declining population of regional libraries. No strategic system-level thought will be given to the question of what materials are retained in what quantities. Some users with less mainstream needs may find it increasingly difficult to find needed materials, if they have not been digitized but have been discarded by most libraries. Moreover, as regionals leave the Program, in many states the services they provide to selectives, including necessary assistance with the print withdrawals process, may not be replaced.

Due to the perceived importance of receiving print materials, managing local collections, and supporting the withdrawals process, *many participating libraries currently devote significant but unsustainable staff resources to print collections management*. And given the continuing importance of regionals in the preservation of government information alongside the decreasing incentives for regionals to continue to support these roles, *the burden felt by many regional libraries in terms of their print responsibilities must be balanced against the need for formal assurances of preservation*.

2.6. Outreach, discovery, and support

Looking across the FDLDP, the needs of users are insufficiently addressed. Historically, government information has been segregated within libraries into independent physical collections and service points, with inadequate discovery infrastructure. It has consequently been long under-utilized. This dynamic is not being sufficiently addressed in the transition to digital: few users are aware of centralized tools such as FDsys, cataloging remains spotty, historical collections are invisible in today's discovery workflows, and time and energy of too many government documents librarians is taken up with the management of

print collections, leaving too little time available to provide user services. Notwithstanding several important initiatives to address these concerns and numerous librarians attempting to take action themselves, government information is too often invisible or challenging to use for its potential great value to be fully realized.

Discovery today is inadequate to support many user needs and is likely to grow increasingly problematic in the future. Users require a seamless experience that incorporates, at least, all formats of government documents from both historical and prospective collections from all providers, cutting across libraries, commercial providers, FDsys, and other entities. The bright spot is that search engines provide reasonable full-text searching on born-digital government documents, but beyond this the picture is bleak. Efforts to bring MARC records into library catalogs for online government information address some user discovery needs, but ultimately the local catalog is supplanted by network-level discovery services. Many government documents librarians view cataloging records for historic government documents in bibliographic utilities such as WorldCat to be inadequate. In addition, there is widespread uncertainty about the share of the historic cataloging records that are available through such services, because of the challenges of identifying FDLR records through such utilities. Even if MARC records are useful for discovery purposes they are certainly insufficient in a full-text environment. Finally, there is no discovery platform that brings together all government documents, using metadata or full-text; thus users face a fundamentally fragmented experience.

Staff resources devoted to government information have declined noticeably at many libraries in the past two decades. And several directors expressed frustration that staff time is devoted in large part to the building and maintaining of print collections in lieu of direct service to local and regional users. At regionals, in particular, both directors and many documents librarians share the perception that it is “extremely difficult to find resources for future service when statutory requirements drive all attention to old models.”⁵¹ An important step in moving basic reference services to the network level is Government Information Online, a GPO-endorsed collaborative effort of a number of depository libraries to provide reference services online.⁵²

The common segregation of experts into independent service points has often reduced their profile and thus the application of their expertise. But efforts to reduce such segregation has not always been without challenges. In recent years, many libraries have consolidated service points (and even whole subject libraries) that had previously been decentralized, an accelerating trend given recent budget shortfalls. As library directors have increasingly viewed the continuing value of an independent service point devoted to government information with skepticism, many documents librarians have been merged into general reference desks. Sometimes these reorganizations recognize and build on existing expertise, bringing together valuable e-government services at public libraries and providing more integrated research support at academic libraries. In other cases, expertise is lost through attrition, and the significant accumulated knowledge of these librarians is applied ineffectively.

Both digitally and physically, most government information is presented with the assumption that it will be read by a human end user rather than processed or manipulated by machine, and so there are few tools to support different types of interactions. Some documents may be presented, either by an originating government agency or by an added value reseller, in tailored formats for specific known uses, but there is little ability for the community or an individual user to develop new tools. Groups like the Sunlight Foundation stress the potential transformative effect of treating government information as data that can be remixed and combined in new ways, but such efforts are currently minimally supported by digital

information systems. The Obama administration's efforts to encourage the provision of data in structured formats through its data.gov initiative^{*} have been promising, but the expansion and permanence of this program is far from assured. And although some government documents teams have been brought together in natural partnership with data librarians (since the federal government generates so much quantitative data), in many other cases analytical tools and expertise in their use is not available to depository library users.

Finally, there is widespread understanding of the importance of coordinating reference services across a specified region, training other librarians in government information services, and marketing government information to librarians and end users alike. Many regional coordinators see this as a key element of their role but stress that they lack the resources to pursue this work, often because onerous regional collections management tasks are seen as first priorities. Even basic outreach to and community-building with their selective libraries appears to have declined over time. Several programs have in recent years attempted to develop new models for regional training and coordination, such as Government Information in the 21st Century, which although quite successful has proven difficult to sustain.⁵³

Future prospects: Looking forward, the mix of print collections, digitized surrogates, and born-digital collections will grow only more fragmented, so outreach, discovery, and support efforts will continue to be inefficient. Several government documents librarians stressed to us the continuing complexity of navigating government documents, from the discovery process through interpretation and use, warning that without government information experts, many needs will go unmet. Those libraries that will be most successful in conserving this expertise will do so by integrating it into user workflows rather than continuing to stand alone. But as other government documents librarians continue to focus on collection management, motivated by the theoretical value of comprehensiveness in these print collections for integrity and potential use, many library directors will continue to grow increasingly frustrated to see this time and space go to collections that are rarely consulted. Eventually, many government documents positions may be eliminated alongside their collections, and librarians merged into general reference staff or eliminated through attrition.

For a variety of reasons such as confusion about legal requirements, , ***libraries allocate too high a share of limited staff resources to collection management and therefore devote insufficient staff resources to support the use of government documents***, all too often favoring collecting and collections roles rather than service and outreach support. Consequently, marketing and outreach functions are underprovided, and documents librarians and library leadership alike agree that even the most clearly valuable government documents are underutilized. For the historical collections, even notwithstanding the hope held out by mass digitization, ***cataloging is likely to remain limited and discovery flawed***.

2.7. Conclusion

The FDLP unquestionably needs to be reinvigorated at a structural and strategic level. In the long run, there remains little incentive for many of the largest research-oriented libraries to remain in the Program, and a gradual, unplanned withdrawal by them would be crippling. GPO has been unable to mount a preservation-level digitization program, resulting in access-level initiatives driven by the priorities of a variety of private corporations serving as the likely basis for much online access and a substantial format migration that is inevitable. Finally, incentives and opportunities for line librarians to provide innovative

* Data.gov is a catalog, developed by the White House, of sources of information in machine-readable formats from across the government.

new services are often obscured by their place in the library organization and a traditional understanding of their role.

Efforts at reform have already been attempted. Although the Office of the Superintendent of Documents has worked diligently and with notable successes to migrate the FDLP to the digital environment,⁵⁴ the diversity of stakeholders and complexity of the Program has impeded adequate strategic change. To some observers, the situation appears bleak and seems irreparable. But notwithstanding the diverse stakeholders to the Program, there are opportunities to contemplate structural change.

3. MODELING THE FUTURE

The fundamental vision for government information held by stakeholders – permanent no fee public access– remains essentially unchanged in the transition to the digital age. Stakeholders told us again and again that they would like to see a world in which *government information is seamlessly available to the range of potential users without charge at their point of need and is preserved appropriately for future generations*. The digital transformation will only be successful if it conserves and enhances the ability to achieve this vision.

To achieve this vision, interviewees indicated that any new strategy for the FDLP in the digital era should address the following key needs:

1. To dramatically expand access and discovery and enable a wide range of innovative uses of government information, it must be made freely available in digital form and must be preserved for the long term. The Program must accommodate the changes in format and dissemination currently underway, to include the transformation of static documents such as PDFs into dynamic sources of government information such as GIS.
2. To provide this range of benefits not only prospectively but also for the historical collection, a coordinated program of retrospective digitization is required. Digitized materials must be made freely available online, thus dramatically expanding discovery, access, and use, and preserved in their digitized form.
3. The historical print collection must be preserved, even though following digitization it will play a significantly reduced role for access by users. In an appropriate preservation environment, fewer print copies will be required at both selective and regional depository libraries and substantial systemwide space savings and processing cost reductions can thereby be achieved.
4. Still, print formats will continue to have advantages for certain material types and user communities. Providing access to print materials, both historically and prospectively, where appropriate via print on demand, will remain imperative.
5. As resources devoted to print collections management decline dramatically, user-facing functions will become increasingly important. As the static and collection-driven nature of government documents gives way to a broader understanding of government information, librarians will similarly redefine and expand their role. In addition to new service roles, librarians can also encourage and facilitate use of government information through training exercises to raise awareness of the potential value of government information among their peers and their user communities.

In this section, Ithaka S+R proposes a model that could achieve these outcomes. In examining options for this model, an objective was to balance the optimal against the feasible, at times offering a variety of alternatives and evaluating their advantages. The proposed model consists of four major components.

3.1. Historical collections: digitization and local flexibility

Historical collections of government information are dramatically underutilized relative to the value they could offer users. Historical government information must therefore be digitized and made freely available online. Digitization will expand discovery, access, and use dramatically, eventually generating new flexibility for print collection management.

3.1.1 Digitization

A growing majority of users prefer to discover and access government information online rather than in print format, just as they do with other information resources. Given the poor state of the discovery environment for the pre-1976 historical collection, the aphorism “if it’s not online, it doesn’t exist” holds even more strongly for government information than it does for almost all other library collections. As a result, the valuable historical collections of government information that exist only in print have gone increasingly underutilized. For the value of these historical collections to be realized by most end users, they must be digitized and made available online.

But whereas digitization of other historical collections, such as journal backfiles, has been widely and successfully conducted by a variety of private and public sector initiatives, government information is a special case due to the importance of making materials freely available to all. Commercial firms have digitized some high-value government information, especially but not exclusively to meet the needs of the legal community, which are made available through licensed digital products. But the often heavy fees associated with these products mean that they do not contribute to the ultimate goal of permanent *public* access. If historical government information is to be accessible through the FDLR not only in principle but also in practice, then digitization and online availability must be provided without charge.

Although held in libraries nationwide, the historic print collections are in fact owned by the government, and, to some, their digitization should therefore be seen as a federal responsibility. GPO has repeatedly requested funding to perform such digitization, and Congress appears to have finally budgeted some modest funds towards digitization for Fiscal Year 2010. Even so, GPO has appropriately elected to proceed in parallel with a strategy for digitization that focuses on “coordinating projects among institutions,”⁵⁵ making it clear that there will be no single, centrally-managed digitization of the historical collection in the near-term future.

Rather, in addition to recent funds from Congress, GPO will seek to leverage, facilitate, and coordinate the substantial digitization is already being performed, albeit in a disaggregated and largely uncoordinated fashion. Many libraries are individually or collaboratively pursuing digitization projects, often focusing on specific subsets of documents of interest. For example, the Great Western Library Alliance and the Center for Research Libraries have digitized a substantial number of historic federal technical reports, which are made available online through the Technical Report Archive and Image Library.⁵⁶ And Google, in partnership with the CIC, is currently engaged in a mass digitization program to create digital versions of a wide swath of government documents held in CIC member libraries (having already digitized government information in other libraries including Stanford).

Many valid concerns have been raised about this uncoordinated approach to digitization, which collectively suggest the need for greater coordination. Standards will vary across multiple projects, so quality, format, and metadata, will differ. Libraries do not want to waste resources by duplicating digitization efforts, but there is currently no effective way for digitization projects to compare their collections and collection development plans with each other. Similarly, there is no efficient way to collaboratively identify and address gaps between and within collections. As it seems unlikely that any digitization program will, in the near future, be centralized or comprehensive, the community must find ways to leverage these disaggregated and uncoordinated digitization programs so that they can serve user needs.

GPO should exercise greater leadership over disaggregated digitization efforts in the following ways:

- GPO has developed an RFP for the retrospective conversion of its shelflist to provide cataloging records for the pre-1976 collection, which can play a valuable role in improving discovery for the historical collection. GPO should ensure that the output of this effort is linked to existing cataloging records in WorldCat, adding SuDocs numbers to existing records that in many cases may contain subject headings already, thereby adding significant value to the library community and making cataloging records more useful to users.
- GPO has already propagated a set of digitization standards.⁵⁷ GPO should revisit these standards to ensure that they meet user needs and community expectations, and should offer clear guidance to digitizers about what is required and recommended in order to effectively meet the standards. GPO already provides different digitization standards for different material types, but in revisiting these standards it should also evaluate whether offering standards for a wider range of material types would enable greater flexibility while maintaining appropriate quality. GPO should consider propagating several tiers of digitization standards, clearly defining both minimum standards and recommended preservation-level standards for digitization projects. In addition to digitization quality standards, GPO should also propagate metadata standards – again, providing both basic and recommended standards – to ensure that digitized collections can be reconciled and treated coherently.
- In conjunction with GPO’s formal partnership agreements with digitization partners, GPO should develop a standard policy for ensuring the integrity and preservation of digitized materials via FDLP.
 - In many cases, GPO should ingest digitized documents directly into FDsys. The objective should be to ingest as much appropriate content as possible as rapidly as it is digitized. At the policy level, it is necessary to define chain of custody issues to ensure the integrity of the collections and quality standards (perhaps using several tiers because, as discussed below, there will be opportunities to upgrade quality over time). GPO must develop the technical capacity for such ingest (as is planned for a future FDsys release), as well as the procedures to manage this workflow, as soon as possible. FDsys must meet standards for accessibility and preservation (as discussed below in section 3.3).
 - In other cases, it may be appropriate for digitized materials to be maintained and made available by another government agency or outside institution (such as HathiTrust), under a formal partnership with GPO. Such agreements should ensure that digitized materials held outside FDsys are nevertheless freely available to the public as part of FDLP. The partner should meet essential standards of accessibility and preservation (as discussed in section 3.3 below).
- GPO should maintain centralized bibliographic control over all digitized materials incorporated into FDLP, both those held in FDsys and by partner institutions. An item-level registry of digitized materials will enable disaggregated digital objects to be treated as part of a single, holistic collection by end users and by libraries. Beyond serving as a tool for discovery and collections management by users and librarians, such an item-level registry would provide a lightweight centralized framework to coordinate digitization activities. The ability to quickly determine what materials have been digitized or are slated for digitization by a particular project will enable better prioritization and decision-making by digitizers. In addition to reducing duplicated effort, such an item-level registry will make it easier for smaller-scale digitizers to contribute, by identifying and filling in gaps.

Those in the library community engaged in digitization efforts should plan to make contributions to the digitization of the historic collection in the context of system-wide activities and needs:

- There is wide variance in value between different parts of the historic collection, but mass digitization programs have often selected materials for digitization primarily based on convenience. Greater curation in the digitization process, emphasizing digitizing complete collections of high priority materials based on an assessment of the value of the resulting digital collections, is not likely to be significantly more expensive than other approaches and can be implemented relatively easily, thereby improving the short-term utility of digitized collections.
- Certain digitization projects, focused on access requirements, create digital collections insufficient for community preservation needs. Nevertheless, given the scale of such projects, a significant number of high-quality digital copies are being produced; if identified, these copies may be adequate for preservation purposes. It is important to consider how high-quality materials can be highlighted and the remaining errors in these collections identified and addressed. Crowdsourcing this error detection and re-digitization effort, by enabling librarians to review collections, flag errors, and upload replacement digital surrogates where necessary, can enable the steady creation of a set of digital materials that have been verified as complete and accurate by librarians and can serve community preservation needs. GPO's formal partnership agreements should in some cases incorporate a process of quality improvement over time. A shared infrastructure for error management and resolution should be developed for depository libraries to allow them, when necessary, to enhance the quality of digitization under such partnership agreements.
- In order to support digitization workflows and collection management, additional investment will be needed in bibliographic control for print collections.⁵⁸ Cataloging efforts should build on the retrospective conversion of the shelflist linked to existing records in WorldCat. Digitization will dramatically improve discoverability, so subject headings and other means to enhance bibliographic accessibility via cataloging will often be prohibitively expensive relative to the value they bring and should not be prioritized. Given the focus on cataloging for collections management, libraries should minimize original cataloging in favor of copy cataloging, even if existing records diverge from local standards. Cataloging efforts should be prioritized to match digitization efforts, and should go hand-in-hand with efforts to create basic metadata for digitization.

The outcome of all these efforts will be a steadily increasing amount of freely available digitized government documents. User needs for discovery and access will be positively addressed as this result is realized and the historic collections will grow more visible to end users.

3.1.2. Impact of retrospective digitization on selectives

As more materials are available digitally, a growing share of access needs will be best met via digital collections, dramatically reducing the need for print collections to enable access at many selective libraries. Print will, however, remain important in serving the access needs of certain populations, perhaps most significantly in rural areas that lack good internet connectivity even at public libraries. And at least for now, some material types may remain most useable in print format – large-format visual materials are an example. For many users and material types, however, access will inevitably shift significantly to digitized versions, with minimal need for residual access to the print through their local federal depository library.

Decisions at selective libraries about retaining materials in print form will continue to be driven by local needs and priorities, and may vary widely based on differing missions and local user needs. Institutional needs and local resource-management tradeoffs will, as always, be an important consideration, in conjunction with a given library's efforts to serve the government information needs of the portion of the general public for which it has taken responsibility.

Although each selective will have a great deal of flexibility to pursue its own priorities, several broad trends can be predicted. This overview of selectives' diverse needs with respect to print collections management is not intended to mask more granular differences but rather to emphasize that selectives should continue, as they always have, to manage their collections according to local needs.

- Academic selectives are likely to want to manage collections principally according to local academic priorities. Generally, they will apply similar collection management philosophies to government documents as they do to other types of published collections. For example, if a library typically maintains a teaching collection for monographs and relies on ILL to support research needs, it should feel comfortable doing so similarly for government documents. On the other hand, a library that maintains a print monograph collection at research levels for certain fields may wish to do so for government documents in those same fields.
- Public selectives vary significantly depending on the user populations they serve, so collections management decisions will vary based on an analysis of community interests. Especially in rural or economically disadvantaged areas where broadband connectivity remains inadequate even at the library itself, a reliance on print versions can be expected to remain for some time. In addition, many public libraries will probably want to maintain print versions of certain core historical materials and collections of local relevance.
- Some law libraries will be fairly cautious in dealing with the focused set of materials of principal interest to them, viewing core legal materials (including, for example, superseded materials that other libraries – even regionals – may discard as a matter of course) as the vital records of their profession rather than as published materials to be treated like general collections. For some law libraries, high thresholds for authenticity will militate against withdrawal even when high-quality digitized copies are freely available, while for others these concerns will be overtaken by the opportunity to reassign space to higher-value purposes.
- State libraries vary widely in goals and priorities. Although they generally share a common role supporting state-wide library programs, their other roles are often idiosyncratic. Many act as law libraries serving state government, and some serve a broader role as a research library for the residents of their state. Depending on their unique combination of roles, state libraries may have different print collections priorities. Many will wish to retain materials relevant to their state or region, while some that serve as law libraries may also wish to maintain print collections of core legal materials, including superseded materials.

3.1.3. Impact of retrospective digitization on regionals

In contrast with the significant diversity across selective libraries, the regional libraries have several common characteristics that help to inform the impact of digitization. All the regional libraries are large research institutions (in some cases with public or law responsibilities as well), on campuses or in cities with good internet connectivity and above-average digital usage demographics. While all are publicly-supported institutions, they also are tasked with serving enormously diverse research needs and face substantial tradeoffs in doing so.

With declining local need for print to enable access to government information, many regionals crave the same flexibility to manage their collections according to local usage priorities as selectives have long had available to them.* The law today makes it impossible for them to do so while continuing their role as regionals, and consequently additional regionals are likely to withdraw from the Program in the coming years. The strict structure of the regional tier that coordinates the maintenance of print collections of government documents is relatively unique among library materials, and a source of frustration for many regional library directors. But the coordinated nature of this Program provides for a greater ability to strategically manage change than is possible for most types of library collections. Digitization presents an opportunity to reexamine the role of print collections and rethink how to achieve their preservation.

Digitization will, over time, allow a growing majority of access needs to be met via online versions. For that share of materials that are digitized (and therefore cataloged) at a sufficient level of quality, are primarily textual, and are adequately preserved and made reliably accessible in digital form, the expected continuing access needs for print collections are minimal in the long run. For such materials, over time, print collections become important exclusively for their preservation role – for example, to serve as a source of materials for re-digitization to correct errors in the digital edition. In analyzing community preservation objectives and their implications for collection management, other recent work by Ithaka S+R is instructive.⁵⁹

Once materials are adequately digitized and preserved in digital form, remaining preservation objectives for the print format will require fewer copies than are currently provisioned via the regional libraries. Ithaka S+R recently commissioned a study executed by a team led by Candace Yano, an operations researcher at UC Berkeley, to determine how many copies of an item are required to give a high rate of confidence that at least one will survive over a given time period. This model was developed for journals, but with conservative estimates it can provide a general framework for thinking through the issues in question for government documents collections as well.

In this model, clearly defined parameters are needed – targets for how long materials must be maintained in print form and what level of confidence in success is needed to meet community needs. Setting out to maintain materials “forever” is an unworkable goal, both in this model and in preservation planning more broadly: it is a goal that can never be achieved for any tangible format, and will inevitably result in failure. In modeling the appropriate number of regional collections, it is posited that community needs for re-digitization will require not more than 99.9999% confidence that at least one copy of each document survives for at least one hundred years.[†] The model suggests that 15 copies are sufficient to offer the needed level of confidence that *at least* one copy will survive for *at least* this time period. These 15 copies could be provided in a number of ways, not necessarily through fifteen individual and comprehensive collections.

The analysis that provides the figure of 15 copies for well-digitized, digitally-preserved, text-only materials, utilizes sufficiently conservative estimates that it should provide a useful basis for community planning. Today, there are 50 regional libraries, and, although some government documents are not held at all 50 regionals, they hold more copies of numerous text documents than would eventually be needed. Similar analyses, yielding different numbers of copies, can be conducted for other material types as

* Many regionals do not take full advantage of the flexibility available to them under the law. Appendix B provides some concrete suggestions for how regional libraries might, in the short term, reduce the burdens of the regional role.

† Ithaka S+R assumed an annual loss rate of .5%, although data to inform this input need to be collected in order to be used for this purpose. It is also important to emphasize that the Yano team’s model calls for at least two page-verified, dark archived copies of the print materials in question.

access needs are provisioned via digitized versions, ideally informed by data specific to government documents collections such as loss rates over time.

Given the pressures facing regional libraries as described in the Project Team's interviews with several directors, it is inevitable that a number of additional regional libraries will in the short-term downgrade their status to selective. There are few if any likely candidates to step in to take their spots. For those materials where there is need for fewer print copies in the long run than are currently held across the regionals, modifications to provide greater flexibility for the regional depository libraries would provide an improved incentive for them to remain in such a role. In the absence of additional flexibility, in the long run far more regionals, perhaps an unsustainable number, will feel compelled to downgrade their status. The specific method by which print collection management responsibilities evolve will therefore make a substantial difference in both efficacy and efficiency, more or less successfully conserving print collections sufficient to support preservation needs. There are three possible approaches through which this process might proceed:

- Individual regionals will withdraw from the Program without system-level coordination by GPO or the other regional libraries. In the past, such withdrawals have not impacted regional service except in Wyoming, but in the future fewer other libraries are likely to be willing to step up to the regional role, leaving government documents collections and services without coordination. This model is the least desirable, because it will have deleterious effects on participation and preservation, but, in the absence of a more structured model, it is inevitable. If this occurs, however, a regional wishing to step down should give its selectives advance notice of its intentions to do so, and encourage its selectives to take advantage of this time period to aggressively de-accession unwanted materials under an extremely lightweight set of processes. In order to then deaccession unwanted portions of its own collections, the regional library should find another regional willing to take nominal responsibility for its region, at least on a temporary basis, to provide permission for the former regional to withdraw print holdings.
- A somewhat more coordinated approach would be possible, even under the current legal structure that governs the FDLP. Amongst themselves and without requiring centralized guidance or permission, regionals could work together to coordinate their downgrades or departures, perhaps on a geographical or consortial basis. The regionals would identify the appropriate number of comprehensive collections that would remain (a challenge given that the right number of copies will vary by material type). They would then provide a limited window of time for their selectives to withdraw print holdings, and provide regional services to one another to enable appropriate deaccessioning. Proper coordination would be challenging and in the long run there might be inadequate incentives to motivate sufficient regional participation to ensure preservation and access needs, but this model is legal under today's statute.
- The best approach, however, would see legislative change to empower GPO to manage a reallocation of collections management responsibility across regional depository libraries as preservation thresholds are achieved for digitized versions, including a responsible program of materials deaccessioning. Regionals would reduce their holdings of certain portions of their collections in response to actual preservation requirements in a coordinated manner. Incentives such as funding might be made available to the smaller number of participants retaining print preservation responsibilities. Legislative change should not institutionalize a new fixed framework that will inevitably be the source of frustration as needs change in the future, but

rather should allow GPO the flexibility to manage the Program as needed to maintain incentives and accomplish its mission.* (Proposals to create new comprehensive print preservation repositories are broadly consistent with this recommendation, for example the “National Collection of Last Resort”⁶⁰ related planning.⁶¹ But little concrete progress has been made in the development of such a collection and even if implemented might not have adequate copies for preservation thresholds. Print materials are more likely to be preserved effectively in concert with an expected format migration among regional collections.) Legislative change is the preferred alternative, because it will provide the greatest assurance against materials losses while enabling flexibility. Legislative change may, however, be difficult to achieve in the near-term future, in which case one of the two alternatives described above will proceed.

If executed correctly, this shift will result in an overall improvement in the preservation of print versions. For example, a greater share of state library agencies and public libraries has expressed willingness to continue in the regional role than have academic regionals. If responsibility can be allocated to those libraries that want to continue as regionals, the incentives motivating participation will be more appropriate and resources can be more effectively focused on an adequate number of copies to achieve community objectives.

3.1.4. In sum

The opportunities presented by digitization will play a transformative, positive role in allowing users of government information increased discovery and access, allowing these valuable collections to find relevance in the online environment. In parallel, if digitization and digital collections are managed correctly, libraries will also achieve dramatically increased flexibility in their management of the historical print collection, allowing them to adjust resource allocations to the highest-value functions in their library and for the community they serve. Digitization can thereby be beneficial in two very different ways.

3.2. Coordinating and preserving prospective government information

Federal government information is now available online, more broadly than ever before. Numerous agencies are directly disseminating information about their work, circumventing the FDLP, directly to the general public. Long-term questions about preservation and integrity in this online government publishing system must be resolved.

The vast majority of new government publications are made available in digital form, either exclusively or complemented by print versions. But many agencies have taken advantage of the ease of self-publishing to distribute materials without the involvement of GPO and without deposit with FDLP. To address short-term user needs for a coherent discovery and access environment as well as to lay the groundwork for long-term preservation of government information, “agencies should provide appropriate electronic information dissemination products to GPO for inclusion in the depository library program.”⁶²

* Reform of only two provisions of Title 44 is required. Section 1912 speaks to retaining “at least one copy of all Government publications in either printed or microfacsimile form.” This provision, in conjunction with section 1911, calls for regional depositories to “retain Government publications permanently in either print or microfacsimile form.” These requirements to retain one publication in regional depositories should be replaced with language empowering the GPO to allow regionals to reduce their print holdings pending the achievement of appropriate digitization and print preservation thresholds. This would allow for better collection management of the legacy collection to reallocate resources from a focus on the “collection” to service. A major reform of Chapter 19, Title 44 is not required. Limiting reform to only two aspects of the Program could alleviate the fears of some that opening up Title 44 could be a problematic endeavor. But it imperative to engage in limited reform if the FDLP is to be relevant and effective in the 21st Century.

To effectively coordinate the dissemination of a broad range of government publications, GPO should pursue a combination of the following three tactics, depending on what is possible in each case:

- Pursuant to existing law and regulation, GPO should continue to work with federal agencies to have their digital publications accessible to the FDLP through deposit in FDsys. GPO should continue to lower the cost of participation by developing new tools that simplify submission to FDsys and integrate into agencies' existing web production processes. And to create stronger incentives, GPO should explore possible ways to increase the value of deposit, perhaps providing value-added services to agencies in exchange for their contribution in FDsys. For example, FDsys might be able to serve as a content management service for production and not just publication of materials.
- Materials that do not take the form of a traditional static document or webpage but instead exist as dynamic or interactive online applications are not well served by inclusion in FDsys and pose an important challenge. Especially in these cases, GPO should provide coordination via formal partnership agreements with federal agencies that have a public dissemination mandate, rather than necessarily seeking deposit into the FDLP's FDsys platform. In these cases, GPO should continue to actively engage with its partners to support and audit their work to ensure long-term preservation and persistent access.
- The first two options are preferred, but implementing them will take time and is outside the direct control of GPO. Consequently, GPO will need to develop internal capacity or external partnerships such as the Cyber Cemetery⁶³ to harvest content directly from agency websites for incorporation into the FDLP, typically via ingest to FDsys or a partner's platform. This process is technically challenging, and may be impossible for more dynamic or interactive databases and applications.

Although most users of new government information will prefer to access materials in digital form, it may remain important to issue print versions of some material types when these best serve user needs. Some users may desire print access to regularly used reference sources, in order to keep a copy at hand for easy use. In other cases, digital materials may have more serious functional limitations. For example, some content types are unwieldy as PDFs, such as large-format visual materials. Others require expertise with technologies such as GIS that may not be widely available, so certain maps might still need to be issued in print.

Currently, though, print production is rarely guided by evidence as to the value of materials in tangible form. Rather, decisions are exclusively based on the preference of the originating agency. A carefully designed study of the actual uses of print government documents, examining a variety of document types and a variety of user communities is recommended, to help GPO to understand the categories of materials that are likely to have continuing value in tangible form.* Since user needs will continue to evolve, this study should be updated at least every decade.

Based on the outcomes of such a study, GPO would be positioned to advocate that certain materials be produced in print format, or to recommend that such production cease. GPO has created lists of materials that should be maintained in print form previously,⁶⁴ which have been only of limited benefit in lobbying

* The University of California Collections Management Initiative has had enduring utility in explaining user preferences for the format migration for scholarly journals and could serve as a model in developing such a study for government documents. See <http://www.ucop.edu/cmi/>.

agencies, so a more scientific approach might be more persuasive. But it is possible that without structural change to allow GPO greater flexibility, materials that would have continuing value in print form will be offered only in electronic form.

Moreover, there is a major opportunity to combine the content management capabilities of FDsys with print on demand technology. In taking a more aggressive posture to reduce the amount of print in the FDLDP, GPO should at the same time allow any born-digital FDLDP materials to be made available on demand in print format. This would simply shift the burden of deciding what materials are needed in print form to librarians or on demand to users themselves, allowing for greater variance between needs across different types of institutions and over time. Finally, it would provide libraries a significantly greater degree of flexibility in their ordering process, recognizing that different libraries may have different local priorities for print.

In any event, GPO should accelerate its development of a new ordering process that allows participating libraries to obtain desired print documents without being compelled to receive (and retain) undesired documents as is currently the case. As demand for print falls, a shift towards item-level selection may be especially appropriate.

Although the digital environment enables efficient distributed production and publication of new government information, there remains substantial value to be realized through the continuance of GPO's traditional role in working to aggregate the publications of federal agencies into the Program. By overseeing both digital and print production of new government information, GPO can ensure the provision of a coherent discovery environment for users and lay the groundwork for long-term preservation of government information.

3.3. Digital infrastructure: preservation and discovery

However production of digital materials is centralized or disaggregated, in order to adequately address the goal of permanent public access, structures must be put in place to preserve these materials over the long term as well as to make them discoverable and accessible. In a print environment, these preservation and access roles were primarily provided by depository libraries, which maintained and facilitated the use of government document collections. With the introduction of GPO Access in 1994, responsibility for these roles began to shift to GPO. As reliance on print materials for new government information falls, it is appropriate for GPO to take much greater primary responsibility for coordinating access to and preservation of government information for the long term. There remain, however, important roles for a wide range of partners – libraries, government agencies, non-profits, and commercial vendors – to support and build upon GPO's core roles to provide added value discovery and access tools as well as to provide added assurance of the preservation and integrity of digital collections.

3.3.1. Preservation

No standard definition exists for digital preservation.⁶⁵ But for government documents, several concerns are especially prominent:

- Materials must be preserved for the long-term in order to ensure their enduring discoverability, accessibility, and usability, through techniques such as media refreshment, replication, integrity checks, and format migration.
- The need to ensure the integrity of digital information, defined by some as the need for certain classes of materials to have “been verified by a government entity to be complete and unaltered when compared to the version approved or published by the content originator.”⁶⁶

- In addition to concerns about the mutability of digital materials, the FDLP withdrawals policy is self-policing, and therefore digital collections not distributed widely to libraries may not be able to address concern about these materials being withdrawn inappropriately.* Although GPO has clearly defined processes by which materials may be formally withdrawn from the FDLP, this policy assigns ultimate decision-making authority to the originating agency, leaving concerns among some librarians that materials may be withdrawn in a way that is counter to the public interest. Ensuring the integrity of collections, and not just of individual documents, is therefore imperative.

Assurances of preservation will be most straightforward when more centrally coordinated by GPO for materials in FDsys.

- GPO asserts that FDsys will itself constitute an adequate preservation solution for digital and digitized FDLP content. This assertion should be tested by submitting FDsys and its organizational home at GPO to the CRL's digital repository certification procedures, the Digital Repository Audit Method Based on Risk Assessment (DRAMBORA), or similar processes, to establish confidence that materials will be available over the long term.⁶⁷
- Even if FDsys can be successfully assessed and certified by the DRAMBORA or CRL procedures, additional reassurance is unquestionably needed that the integrity of government information is maintained. GPO should develop formal partnerships with a small number of dedicated preservation entities – such as organizations like HathiTrust or Portico[†] or individual libraries – to preserve a copy of its materials. This will distribute responsibility for preservation and integrity across a wider range of independently managed archives with different approaches to preservation and different sources of funding, so that “the failure of one node ... does not mean a complete loss of information.”⁶⁸ Preservation archives already have existing workflows for corrections or changes to their content, so they can serve as an integrity check that any withdrawals appropriately follow GPO procedures.
- GPO's efforts to digitally sign and authenticate documents represent an important and successful effort to address concerns about authenticity, but rolling out these processes more universally has proven costly and difficult. It is undeniable that a very high level of verification of integrity is required for a relatively small set of core legal materials – statutes and the US Code, the Federal Register and Code of Federal Regulations, and federal court decisions – and GPO should continue to invest in authenticating these materials according to its highest standards. But other materials clearly are less sensitive – such as informational posters and brochures – and therefore may not require such rigorous and formal authentication. There is a large spectrum between these two extremes that may suggest other tiers for authenticity. Whatever authentication processes are applied, provenance and other information relevant to evaluating the authenticity of a document should be maintained in standard form in metadata.

When digitized or born-digital materials are hosted outside FDsys for access purposes, similar preservation issues obtain but in a less controlled environment. GPO should have a key role in ensuring the preservation of such materials. GPO partnership agreements should clearly define policies to support preservation. These agreements should mandate partnerships with third-party preservation repositories

* It is outside the scope of this project to evaluate the withdrawals policy itself.

[†] Portico, like Ithaka S+R, is a part of ITHAKA.

that are subjected to the DRAMBORA assessment, CRL certification process, or similar procedures. In addition, they should define how materials will be transferred to GPO if the partner is no longer willing or able to maintain them. GPO should periodically audit partners, to ensure that requisite standards and processes are being observed and thereby enhance confidence in materials held outside FDsys. GPO's operational experience in managing FDsys as a large-scale hosting and preservation platform will position it to advise and evaluate partners in planning for and executing long-term maintenance of digital government information.

3.3.2. Discovery and access

While preservation must be considered on a repository by repository level, discovery and access must cut across all repositories to serve user needs. A multiplicity of discovery and access environments should be allowed, and indeed encouraged, to flourish. Libraries, partner organizations, commercial entities, and others, all can have a role. To support a vibrant ecosystem, GPO should provide – and arrange for the provision of, through partnership agreements – access to government information through APIs and bulk data downloads.

The “digital deposit” movement encourages libraries to curate and preserve local collections of government documents. This movement is related in some ways to the work that Los Alamos National Laboratory, OhioLINK, and others have taken on to build local collections of scholarly content. At Los Alamos, locally loading collections has enabled the provision of advanced discovery and alerting services designed around individualized analysis of user needs.⁶⁹ While digital deposit of government documents has not yet resulted in similar service opportunities, there is every reason to believe that such services could be developed. As with scholarly materials, however, the challenge is to develop the value-added services, which are expensive to create, beyond simply loading or depositing materials redundantly.⁷⁰ To enable the opportunities associated with digital deposit and other service models, GPO should build upon its recent successes in releasing the Federal Register in XML form via free bulk download of all its digital holdings. To support such work, it may be useful for GPO to staff a developer services position, as has been recently suggested.⁷¹

To enable a wider range of players to develop tools and services with government information, GPO should also provide access to its collections via an API. Fully-featured APIs for FDsys and other sources of government information will enable the lightweight production of applications integrating government data. A carefully-designed API should allow librarians, non-profit and commercial entities, and other interested parties to easily produce targeted discovery for specific communities or to create collections with specialized analysis tools, as well as to combine government information with other data sources to produce innovative visualizations and user experiences. Making use of an API to create web applications that access government data may be less expensive and require relatively little technological infrastructure, and the development of a wide ecosystem of targeted tools and services may prove a valuable future role for some government information librarians.

Such third-party discovery tools will play an important role in making government information discoverable. Although GPO has developed a strong generic discovery tool in FDsys, and many users will encounter government information primarily through Google or other general purpose discovery tools, there remains an important role for targeted and value-added discovery environments. Discovery environments that focus on specific academic fields should integrate appropriate government information. Vendors and others who develop disciplinary discovery tools will better be able to serve their constituents by integrating certain targeted pieces of government information, and so will be incentivized to work with FDsys. And targeted discovery environments that focus exclusively on certain collections of government information should also be developed by libraries, non-profits, and vendors, based around the anticipated

needs of specific groups of users of interest to the creator. Some of these may be crafted as value-added businesses targeted at specific market segments (such as lawyers), while others may be created by librarians or others who are seeking to address a local need. Although many new discovery tools will be free, some added value tools – for example, tools like Lexis that provide highly targeted support for the needs of a specific demographic – may appropriately continue to come with premium costs.

3.4. Outreach and use: rethinking the role of the librarian

As access to information has shifted from print to electronic format, the role of the librarian has begun to evolve across the board. At all types of institutions and for a wide range of collection types, librarians have evolved from a collections-oriented role to a service-oriented role, identifying opportunities to provide value-added services to their constituents in an increasingly competitive environment. With the time that can be freed up by automating or foregoing print collections development and management responsibilities, librarians can position themselves to pursue the service-oriented directions outlined in this section. There is a special opportunity, but also a special responsibility, for those who care most passionately about the permanent public access to government information to make this transition themselves.

A diminished focus on collections management is seen by some as “a moment of liberation,” enabling librarians to “become ‘curators’ of knowledge who package and explain related information resources” in “a complex of intermingled paper and digital information environments.”⁷² In this role, government information librarians may “function more as civic guides to finding and thinking critically about government information,”⁷³ serving as advocates for and interpreters of government information to their user communities. In addition to extending their traditional roles in guiding users in the discovery and use, however, there are a variety of new roles that government information librarians may play.

A previous section emphasized that the very nature of government information has changed, with discrete documents giving way to dynamic and at times interactive information sources. Just as the content is changing and its scope expanding, so the role of the librarian must expand to incorporate this broader mandate. Rather than remaining government *documents* librarian, focused on the interpretation and discovery of individual documents, they have the opportunity to become government *information* librarians, assisting in the re-use and manipulation of government information for innovative new uses. Depending on local user needs, a diverse range of roles may be appropriate. For example, government information librarians can:

- Take advantage of APIs that provide access to government information to curate digital government information resources, portals, and other kinds of services appropriate for their communities.
- Help researchers to analyze government information in new and more powerful ways, by constructing and supporting the use of computational and text-mining tools.
- Provide rich online offerings to the general public, following the model of Government Information Online,⁷⁴ in addition to integrating into their local library’s online reference presence.

To facilitate this transition, libraries and library schools alike should recognize the need to evolve the skill set of the government information librarian. Library organizations such as ALA’s Government Documents Roundtable (GODORT) should emphasize mid-career education to help government documents librarians identify new roles and services that they can provide in the digital environment and to share relevant skills between peers. And library schools should emphasize services around government

information rather than simply education about how to find and interpret these documents in order to prepare students to serve as government information librarians. GPO already provides a variety of training and support programs to help librarians develop and expand their services roles. It should invest significantly greater resources in this area as an incentive for libraries to continue their formal participation in the Program.

Structurally, libraries should seek to better integrate government information into mainstream operations while recognizing its unique challenges and opportunities. Rather than either maintaining their historic separation or being subsumed entirely by general reference departments, government information librarians may be able to take on clearly defined roles as subject specialists with an emphasis on government information in a general reference department. This would broaden the use of government information by mainstreaming service while maintaining expertise that enables deep analysis. Some libraries, where it is a sufficient local priority, may choose to build out larger groups focused on specific aspects of government information – for example, a school with a strong emphasis in political science may require a larger government information staff with strengths in particular areas.

Another increasingly significant role for government information librarians should be raising awareness of government information. Currently, government information often goes unnoticed and underutilized by users who might realize significant value from it. Simply making government information available is not sufficient; to encourage libraries and others in this ecosystem to continue to play their roles in ensuring the permanent public accessibility of government information, the practical value of government information must be realized through use.

To increase the use of government documents, government documents librarians should be positioned more visibly and tasked with increasing the use of government information, which becomes possible as a result of reduced focus on print collections management. Although there may be some costs to depository libraries to reposition their staff to accomplish this, these short-term expenses will pay long-term dividends by enhancing the use and value of libraries' collections of government information and by better serving patron needs. Some new approaches to raise awareness and improve services around government information may include:

- Government information librarians taking a more active role in outreach and marketing to their user communities. For example, in an academic setting partnering with faculty for teaching purposes may be one effective strategy; in a state library promoting outreach through a network of public libraries might be more appropriate.
- Government information can serve as a valuable resource for addressing a vast range of reference queries, if librarians are suitably apprised of its potential. Some libraries have found ways to use government information to assist in addressing almost all reference requests,⁷⁵ and librarians have stressed the need to more fully integrate government information into mainstream reference queries at a much wider range of libraries that historically may not have had deep awareness of government information.⁷⁶ As such, government documents librarians should also work to develop basic government documents literacy among their peer librarians within their institution and in their broader local community. This will help a broader range of users to learn that they might find value in government information, and drive users to the government documents specialist. A model for this can be found in the IMLS-funded “Government Information in the 21st Century,” a collaboration of the regional libraries in five southwestern states.

Many government documents librarians have already embraced this shift. But current incentives are not always appropriately aligned to help move the community forward. For example, at least some librarians consider the regional coordinator roles to be more prestigious than serving at a selective, but regional coordinators typically find themselves occupied with collection management and regional withdrawals issues. If reward and recognition structures are not shifted to emphasize and value innovation and service, or if the regional coordinators are not enabled to take on more user-oriented coordination roles, some of the most innovative librarians may find themselves unable to provide for the next generation of service needs. While the vanguard of librarians is innovating in a variety of ways as discussed in this section, library leaders must do more to empower government document librarians to take on new roles. Library directors should empower them to develop innovative programs, reducing emphasis on collections management and encouraging capacity to be devoted to new public-facing services.

To realize the value of government information, government documents librarians will have a combination of familiar and new roles to play, while the organizational context that supports them will need to evolve. Through such aggressive redefinition of the role of the government documents librarian, substantially greater value may be realized from these collections while simultaneously channeling the expertise of the documents librarian to higher-impact roles.

3.5. Incentives for participation

In the long run, rebalancing the incentives associated with FDLP participation is the only way to ensure the Program's revitalization as a collaboration between government, libraries, and other organizations. The Ithaca S+R framework for the FDLP presented in this report would rebalance the incentives affecting federal depository libraries, allowing libraries to realize costs savings by reducing expenditures on less valuable activities while also redirecting resources to purposes and functions that have high value to their user communities. By reducing negative incentives while expanding positive incentives, libraries otherwise at risk of departing the Program altogether will be positioned to continue this vital collaboration, ensuring that permanent free public access remains available to all.

3.5.1. Cost reductions

GPO has estimated that a comprehensive FDLP collection would constitute approximately 2.3 million volumes (although no individual library collection is believed to be comprehensive).⁷⁷ A 2007 survey found that regional libraries in practice spend, on average, "\$700,000 in yearly amortized costs for facilities to house [FDLP] collections."⁷⁸ If materials are made comprehensively available online, however, the Project Team's estimates for text suggested that 35 of the 50 copies of materials could be de-accessioned. Assuming that each of those 35 former regionals were to then choose to deaccession 75% of print holdings to match local needs, a system-wide savings of as much as 60.375 million volumes, or over \$18 million per year in amortized facility costs, will be realized.

The opportunity to reclaim numerous runs of shelving for higher-value purpose should serve as a real motivation (not to mention the desire to provide vastly improved discovery and access). Whether the space saved allows libraries to prioritize non-collections use of the space, or to bring collections back onto campus that would have been less accessible, space is a highly valued commodity at all libraries, and the opportunity to reclaim so much of it provides a real incentive for the regional libraries, in particular, to work together to rationalize the structure of the FDLP in the long-term.

3.5.2. Service provision

With the resources freed up from collections management, depository libraries will have the ability to provide new forms of discovery and usage-support services that are more highly valued by their user community. As the historical collections are digitized, the Program's historical collections will be

revitalized and these materials will be more discovered and used. Librarians will seize the opportunity to provide rich discovery environments (whether built on APIs or taking advantage of bulk data downloads and “digital deposit”), and they will develop advanced services for the growing number of users of government information. As government information librarians expand their provision of new and innovative services, their importance and relevance within the context of other units of their library will become clearer. And, the enhanced training and support resources that GPO will provide can serve as a significant positive incentive to motivate FDLP participation by libraries, even for those without significant locally-held collections.

4. CONCLUSION

The FDLP's mission of providing permanent public access to government information remains imperative in the digital environment. While the provision of permanent public access is today under threat, the model for the future presented in this report provides a feasible framework for meeting the challenge posed by the digital era. No stakeholder will find the approach outlined here to be perfect; tradeoffs and compromises are inevitable in attempting to transform a system of this complexity. But by taking a system-wide approach that recognizes the interdependencies among all stakeholders, the Program's problems can be resolved, leading to a solid foundation for the future. On the other hand, if no coordinated action is taken, the Program will continue an inevitable slide to irrelevance. This failure may take years to be fully apparent, but the time for action is now, while appetite to bolster and reinvigorate the Program remains. The FDLP supports one of the cornerstones of American democracy. Its disappearance would be a significant loss.

APPENDIX A: INTERVIEWS CONDUCTED AND WORKS CITED

FDLP Interviews – regionals

Regional state libraries

- Arizona State Library, Archives and Public Records
 - GladysAnn Wells, Director and State Librarian
- California State Library
 - David Cismowski, Head, Government Publication Section
- Connecticut State Library
 - Kendall Wiggins, State Librarian
 - Nancy Peluso, library specialist for federal documents
 - Nancy Lieffort, library specialist for state documents
- New York State Library
 - Bernard Margolis, State Librarian & Assistant Commissioner for Libraries
 - Cynthia Conway, federal documents coordinator
 - Loretta Ebert, Research Library Director
 - Liza Duncan, Technical Services and Systems
 - Jeff Sohn, Associate Librarian, Documents and Digital Collections
 - Cara Janowsky, Section Head, Circulation/Stacks
 - Mary Redmond
- Oregon State Library
 - Arlene Weible, Government Documents and Technical Services Librarian

Regional academic libraries

- University of Colorado Boulder
 - James F. Williams II, Dean of Libraries
 - Margaret (Peggy) Jobe, Department Head, Government Publications
- University of Florida
 - Judith Russell, Dean of University Libraries
 - Jan Swanbeck, Chair, Government Documents Department
- University of Hawaii
 - Paula Mochida, Interim University Librarian
 - Gwen Sinclair, Librarian, Government Documents/Maps, Public Services
- University of Kansas
 - Lorraine Haricombe, Dean of Libraries
 - Carmen Orth-Alfie, Coordinator, Government Information Services
- University of Minnesota
 - Wendy Lougee, University Librarian, McKnight Presidential Professor

- University of Montana, Missoula
 - Jennie Burroughs, Associate Professor and Government Documents Librarian
- University of Nebraska
 - Joan Giesecke, Dean of Libraries
- University of North Carolina-Chapel Hill
 - Sarah Michalak, Associate Provost and University Librarian
- University of South Carolina
 - Bill Sudduth, Head, Documents & Microforms Department

Regional public library

- Newark Public Library (New Jersey)
 - Wilma Grey, director
 - Laura Saur, federal documents coordinator
 - Heidi Cramer, director of Central Library Services, General Programs and Exhibitions, and Public Relations

FDLP Interviews – Selectives

Selective state libraries

- New Mexico State Library
 - Laurie Canepa, Public Services Bureau Director
- State Library of Wyoming
 - Lesley Boughton, State Librarian

Selective academic libraries

- Brooklyn College Library
 - Stephanie Walker, library director
 - Susan Vaughn, head of collections
 - Jane Cramer, government documents librarian
- Colorado State University
 - Patrick Burns, Vice President for Information Technology and Interim Dean of Libraries
 - Jeff Bullington, Coordinator, Library Liaisons
- University of Connecticut
 - Brinley Franklin, Vice Provost for University Libraries
 - Steve Batt, Liaison Librarian to the Departments of Journalism and Political Science & Federal Documents Librarian
 - Peter Allison, Collection Development Librarian
- University of Denver
 - Nancy Allen, Dean and Director, Penrose Library
 - Christopher C. Brown, Reference Technology Information Librarian; Government Documents Librarian, Penrose Library

- University of Illinois, Chicago
 - John Shuler, Documents Librarian and Assistant Professor
- University of Indiana
 - Lou Malcomb, Head, Government Information and Kent Cooper Services (ET2) and Librarian for the Geology Library and Geography and Map Library
- Michigan State University
 - Clifford Haka, Director of Libraries
- University of North Texas
 - Cathy Hartman, Assistant Dean, Digital and Information Technologies
- Southern Oregon University
 - Paul T. Adalian Jr., director, Lenn and Dixie Hannon Library
- Stanford University
 - James R. Jacobs, Government Information Librarian
- University of Wyoming
 - Maggie Farrell, Dean

Selective public libraries

- Arcadia Public Library (California)
 - David Dolim, Librarian
- Benton Harbor Public Library (Michigan)
 - Fred Kirby, Director
- Denver Public Library (Colorado)
 - Robert Jackson, Senior Collections Specialist, Government Documents
 - Susan Kotarba, Director of Public Services
- Downey City Library (California)
 - Dan Rooker, Librarian
- Farmington Public Library (New Mexico)
 - Dori Molletti, Librarian
- Phillipsburg Free Public Library (New Jersey)
 - Ann DeRenzis, Director
 - Valerie Patti, Senior Library Assistant
- Trenton Public Library (former selective) (New Jersey)
 - Peter Pappentick, Librarian
- Tulsa City-County Library (Oklahoma)
 - Robbie Sittel, government documents librarian

Law libraries

- Harvard Law School

- John Palfrey, Henry N. Ess III Professor of Law and Vice Dean, Library and Information Resources
- Law Library for San Bernardino County
 - Larry Meyer, director
- University of Maryland School of Law
 - Bill Sleeman, associate library director for technical services
- University of Michigan Law School
 - Margaret Leary, library director
- Wake Forest University Law School
 - Marian Parker, library director

Users

- Arizona Department of Transportation
 - Nick Prizner, Engineering Geologist
- Arizona Attorney General's Office
 - Barbara Bailey, Attorney
- University of Colorado, Boulder
 - Len Ackland, Associate Professor, Journalism and Mass Communications
 - E. Scott Adler, Associate Professor, Political Science
- University of Connecticut
 - R. Kent Newmyer, Professor of Law and History, School of Law
 - Michael Neagle, Ph.D. student, Department of History
- University of Denver
 - Lynn Holland, Adjunct Professor, Joseph Korbel School of International Studies
 - Frank Laird, Associate Professor of Technology and Public Policy and Director, Joseph Korbel School of International Studies
 - Jonathan Moyer, Ph.D. student, Joseph Korbel School of International Studies
 - Arianna Nowakowski, Ph.D. student, Joseph Korbel School of International Studies

GPO

- Richard G. Davis, Acting Superintendent of Documents
- Cynthia L. Etkin, Senior Program Planning Specialist
- Laurie Hall, Director, Library Technical Information Services
- Robin Haun-Mohamed, Director, Collection Management & Preservation
- Robert Tapella, Public Printer
- Michael Wash, CIO
- Kate Zwaard, Program Manager

Other

- American Association of Law Libraries

- Mary Alice Baish, Director, Government Relations Office
- Center for Library Initiatives Committee on Institutional Cooperation
 - Mark Sandler, Director
- Google
 - Ben Bunnell, Manager, Library Partnerships Team, Google Book Search
 - Kurt Groetsch, Technical Collections Specialist, Google Book Search
- OCLC
 - Robert Bremer, database specialist
 - Susan Walker, director, GovDoc service
- Public.Resource.Org
 - Carl Malamud, President
- Sunlight Foundation
 - John Wonderlich, Policy Director
- White House Office of Science and Technology Policy
 - Beth Simone Noveck, Deputy Chief Technology Officer for Open Government

Works Cited

“A Strategic Vision for the 21st Century.” Government Printing Office, December 1, 2004.

<http://www.gpo.gov/pdfs/congressional/04strategicplan.pdf>.

Adler, Prudence S. “The Federal Depository Library Program: Background and Call to Change.” EBSCO, January 25, 2009. <http://www2.ebsco.com/en-us/NewsCenter/publications/vantagepoint/Documents/30467-vantage-point.pdf>.

Ahrens, Aric, and Luke Griffin. “Deposits & Withdrawals: A Survey of Depository Libraries That Have Recently Changed Status” presented at the Depository Library Council Meeting, Reno, Nevada, April 8, 2003. http://www.fdlp.gov/home/repository/doc_download/693-deposits-a-withdrawals.

“An Act Providing for the Public Printing and Binding and the Distribution of Public Documents.” 28 U.S. Statutes at Large 601, January 12, 1895.

Arrigo, Paul A. “The reinvention of the FDLP: A paradigm shift from product provider to service provider.” *Journal of Government Information* 30, no. 5-6 (2004).

Baish, Mary Alice. “Washington Brief.” American Association of Law Libraries, July 30, 1998. <http://www.aallnet.org/aallwash/lu0998.asp>.

Brunvand, Amy, and Tatiana Pashkova-Balkenhol. “Undergraduate Use of Government Information: What Citation Studies Tell us About Instruction Strategies.” *portal: Libraries and the Academy* 8, no. 2 (2008): 197-209.

Burroughs, Jennie. “Flexibility is the Future and Complete Cataloging is the Key.” *Documents to the People* 37, no. 1 (Spring 2009).

———. “What users want: Assessing government information preferences to drive information services.”

- Government Information Quarterly* 26, no. 1 (January 2009): 203-218.
- Caswell, Thomas Reed. "Studies on government publications' use, 1990–1996." *Government Information Quarterly* 14, no. 4: 363-371.
- Cismowski, David. "You Don't Have to be Rich: Practical Ways Depositories Can Mine the Intangible Wealth of Community" presented at the Federal Depository Library Council Meeting, April 16, 2007.
- "Concept of Operations (ConOps v2.0) for the Future Digital System (FDsys)." Government Printing Office, May 16, 2005. http://www.gpo.gov/pdfs/fdsys-info/FDsys_ConOps_v2.0.pdf.
- "CyberCemetery." <http://govinfo.library.unt.edu/>.
- Davis, Richard. "What Will the Future of the FDLP Look Like?" presented at the American Library Association 2008 Annual Conference, Anaheim, CA, June 28, 2008.
http://www.fdlp.gov/home/repository/doc_download/528-what-will-the-future-of-the-fdlp-look-like-ala-2008.
- "Decision Framework for Federal Document Repositories." Government Printing Office, April 12, 2004.
http://www.gpo.gov/su_docs/fdlp/pubs/decisionmatrix.pdf.
- "Depository Library Council." <http://www.fdlp.gov/component/contact/54>.
- Depository Library Council. "Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council," September 1993. http://www.fdlp.gov/home/repository/doc_download/1092-alternatives-for-restructuring-the-depository-library-program.
- . "Federal Depository Library Program Strategic Plan, 2009-2014 (Draft Discussion Document, 04/17/2009)." Government Printing Office, April 17, 2009.
http://www.fdlp.gov/component/docman/doc_download/37-fdlp-stratigic-plan-2009-2014-draft-3?ItemId=45.
- "Essential Titles for Public Use in Tangible Format." Government Printing Office.
http://www.gpo.gov/su_docs/fdlp/pubs/estitles.html.
- FDLP Listserv. Letter. "GPO & Digitization of Historical Depository Collection," October 7, 2009.
- "FDsys Operational Specification for Converted Content (Version 3.3)." Government Printing Office, February 2006. http://www.fdlp.gov/home/repository/doc_download/821-gpos-digitization-specification-33-final.
- "Federal Depository Library Legal Requirements." Government Printing Office, 6, 2009.
<http://www.arl.org/bm~doc/fdlp-legal-reqs-jun2009.pdf>.
- Fessender, Ann T. Letter. "AALL Letter," May 14, 2008.
http://www.fdlp.gov/component/docman/doc_download/40-aall-letter?ItemId=45.
- "Government Information in the 21st Century." <http://www.webjunction.org/gi21>.

- “Government Information: A Topic for All Librarians.” American Library Association, July 10, 2009.
- “Guidance for Federal Depository Libraries Relinquishing Regional Designation.” *Administrative Notes: Newsletter of the FDLP* (December 2008). http://www.gpo.gov/su_docs/fdlp/pubs/adnotes/ad11-12-1508.html#3.
- Hernon, Peter, and Laura Saunders. “The Federal Depository Library Program in 2023: One Perspective on the Transition to the Future.” *College and Research Libraries* 70, no. 4 (July 2009).
- Jacobs, James A., James R. Jacobs, and Shinjoung Yeo. “Government Information in the Digital Age: The Once and Future Federal Depository Library Program.” *The Journal of Academic Librarianship* 31, no. 3 (2005).
- Kessler Jr., Ridley R. “A brief history of the Federal Depository Library Program: a personal perspective.” *Journal of Government Information* 23, no. 4 (1996): 369-380.
- Kirchoff, Amy. “Digital preservation: challenges and implementation.” *Learned Publishing* 21, no. 4 (October 2008). <http://dx.crossref.org/10.1087/095315108X356716>.
- Koontz, Linda D. “Government Printing Office: Technological Changes Create Transformation Opportunities.” General Accounting Office, April 24, 2004. <http://www.gao.gov/new.items/d04729t.pdf>.
- Lev, Yvonne T., Mary Gilbert, Carl Olson, and Nancy Gonce. “Making the Decision to Relinquish U.S. Document Depository Status.” *portal: Libraries and the Academy* 2, no. 3 (2002).
- Luce, Rick, and Mariella Di Giacomo. “Personalized and Collaborative Digital Library Capabilities: Responding to the Changing Nature of Scientific Research.” *Science & Technology Libraries* 24, no. 1/2 (2004): 135-152.
- “Major Capabilities of FDsys Releases.” <http://www.gpo.gov/fdsysinfo/capabilities.htm>.
- Matthews, Richard J., and Mary Alice Baish. “State-by-State Report on Authentication of Online Legal Resources.” American Association of Law Libraries, March 2007. http://www.aallnet.org/aallwash/authen_rprt/AuthenFinalReport.pdf.
- McGarr, Sheila M. “Snapshots of the Federal Depository Library Program.” Government Printing Office, 1994. http://www.gpo.gov/su_docs/fdlp/history/snapshot.html.
- “National Collection of U.S. Government Publications,” Spring 2005. www.gpo.gov/su_docs/fdlp/council/briefing_topics/05sp/nationalcollection.pdf.
- Priebe, Ted, Amy Welch, and Marian MacGilvray. “The U.S. Government Printing Office's initiatives for the Federal Depository Library Program to set the stage for the 21st century.” *Government Information Quarterly* 25, no. 1 (January 2008).
- Rawan, Atifa, Cheryl Knott Malone, and Laura J. Bender. “Assessing the virtual depository program: The Arizona experience.” *Journal of Government Information* 30, no. 5-6 (2004).
- “Regional depositories; designation; functions; disposal of publications.” 44 U.S. Code 1912.

- “Regional Depository Libraries in the 21st Century: A Time for Change?.” Government Printing Office, June 2008. http://www.fdlp.gov/component/docman/doc_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45.
- “Regional Depository Libraries in the 21st Century: Regional Librarians' Joint Perspective.” Government Printing Office, May 19, 2008. http://www.fdlp.gov/component/docman/doc_download/57-regional-librarians-joint-perspective?ItemId=45.
- “Resolution for the Printing and Distribution of an Additional Number of the Journals of Congress, and of the Documents Published Under Their Order.” 3 U.S. Statutes at Large 140-141, December 27, 1813.
- “RFP for Mass Digitization.” Government Printing Office, August 12, 2008. <https://www.fbo.gov/utills/view?id=f7b91b5d64929fa2ac7f3719fa6e0510>.
- Schecker, Jay. “The Unseen Scholars: Researching Information in the Digital Age.” *1663: Los Alamos Science and Technology Magazine*, December 2008. http://www.lanl.gov/1663/files/documents/Item/627/1663_dec08_dialogue.pdf.
- Schonfeld, Roger C., and Ross Housewright. “What to Withdraw? Print Collections Management in the Wake of Digitization.” *Ithaka S+R*, September 29, 2009. <http://www.ithaka.org/ithaka-s-r/research/what-to-withdraw>.
- “Scope of Government Information Products Included in the Cataloging and Indexing Program (C&I) and Disseminated Through the Federal Depository Library Program (FDLP).” Superintendent of Documents Policy 300.
- Shuler, John A. “The civic contours of a national digital reference service: the research implications of the Government Information Online project.” *Library Quarterly* 78, no. 4 (2008): 459-466.
- Shuler, John A., Paul T. Jaeger, and John Carlo Bertot. “Implications of harmonizing the future of the federal depository library program within e-government principles and policies.” *Government Information Quarterly* 27, no. 1 (January 2010): 9-16.
- “Status Report: GPO Access: A service of the U.S. Government Printing Office.” Government Printing Office, June 30, 1994. <http://www.gpoaccess.gov/biennial/1994/report.pdf>.
- Tapella, Robert C. Letter. “Public Printer's Letter to President Obama Regarding Transparency in Government,” March 9, 2009. http://www.gpo.gov/pdfs/news-media/letter_030909.pdf.
- “Technical Report Archive and Image Library.” <http://digicoll.manoa.hawaii.edu/techreports/index.php?c=1>.
- “US Government Printing Office - FDsys.” <http://www.gpo.gov/fdsys/search/home.action>.
- Weech, Terry L. “The Use of Government Publications: A Selected Review of the Literature.” *Government Publications Review* 5 (1978): 177-184.
- Weech, Terry L., and Beth Postema. “The Use of Government Publications: A Twelve Year Perspective.” *Government Publications Review* 18 (1991): 223-238.

Yano, Candace Arai, Z.J. Max Shen, and Stephen Chan. "JSTOR Seeks Efficiency and Security for Print Backups of Online Journals." *Interfaces* (2009, under review).

APPENDIX B: SHORT-TERM PRESSURE REDUCTIONS FOR REGIONAL LIBRARIES

In order to mitigate the short-term pressures on regional libraries, allowing more time for a coordinated solution – potentially involving legislative change – to be implemented, all regional libraries should investigate ways to streamline their processes and reduce their burdens that are possible within the existing system. Three major areas stand out as offering possible relief:

- Regional library directors and depository staff should collaboratively review withdrawal processes for the region. Most regional libraries have instituted withdrawal plans that go well above and beyond what is required by law, prioritizing rigorous local collection-building over efficiency. There is in fact no legal obligation for regionals to “supervise” withdrawals of tangible materials, but just to “assist” in this process. With director-level involvement, regional libraries should work with their selectives to develop a more streamlined process that meets the needs of all libraries involved. By ending the practice of supervising withdrawals manually, staff resources will be freed up both at selectives and at regionals and can be reassigned to high-value functions such as providing public services for government information.
- Similarly, regional libraries should review their space allocation to FDLP collections and determine what level of local holdings they are interested in maintaining. While regional libraries are prohibited from withdrawing tangible collections once acquired, they are under no obligation to hold those collections locally. Oregon and Indiana have outlined paths whereby certain collections remain the formal responsibility of the regional library, but as a matter of practice are housed in multiple institutions according to local programmatic needs. Many regional libraries report that some of the tangible materials they hold are irrelevant to their needs, and in some cases these collections can probably receive better use elsewhere. Although selectives are rapidly deaccessioning significant amounts of print, some libraries may be willing to take on more formal responsibilities for collections they wish to retain in tangible form anyway. For example, a selective with a strength in agriculture might be willing to have their agricultural collections considered as officially part of the regional collection. Even if this only were to reduce space usage at a regional to a moderate degree, at many regionals this might be enough to relieve immediate pressure.
- Regional libraries are allowed to remove superseded materials from their collections, but not all take full advantage of this possibility, in part due to a lack of clarity in the community about their requirements to do so. Although superseded materials may remain of great value to certain users, regionals may be able to save a modicum of space by taking greater advantage of their ability to deaccession superseded materials, ceding responsibility for their long-term maintenance to those libraries whose users actually require access to them.

¹ Some see a role for the Program even beyond its essential provision of no-fee permanent public access. See for example Robert C. Tapella, "Public Printer's Letter to President Obama Regarding Transparency in Government," March 9, 2009, http://www.gpo.gov/pdfs/news-media/letter_030909.pdf.

² "Depository Library Council," <http://www.fdlp.gov/component/contact/54>.

³ The interim summary remains available at <http://www.arl.org/bm~doc/summary-fdlp-10-15-09.pdf>, although this document supersedes the findings and recommendations presented there.

⁴ A transcript of the DLC meeting is available at http://www.fdlp.gov/component/docman/doc_download/1107-transcripts-from-the-fall-2009-dlc-meeting, while proceedings from the ARL meeting are available at <http://www.arl.org/resources/pubs/mmproceedings/155mm-proceedings/index.shtml>.

⁵ "Resolution for the Printing and Distribution of an Additional Number of the Journals of Congress, and of the Documents Published Under Their Order" (3 U.S. Statues at Large 140-141, December 27, 1813).

⁶ "An Act Providing for the Public Printing and Binding and the Distribution of Public Documents" (28 U.S. Statues at Large 601, January 12, 1895).

⁷ Ridley R. Kessler Jr., "A brief history of the Federal Depository Library Program: a personal perspective," *Journal of Government Information* 23, no. 4 (1996): 371.

⁸ Sheila M. McGarr, "Snapshots of the Federal Depository Library Program" (Government Printing Office, 1994), http://www.gpo.gov/su_docs/fdlp/history/snapshot.html.

⁹ *Ibid.*

¹⁰ *Ibid.* They were not, however, obligated to retain superseded editions.

¹¹ "Regional Depository Libraries in the 21st Century: A Time for Change?" (Government Printing Office, June 2008), 2, http://www.fdlp.gov/component/docman/doc_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45.

¹² "Regional depositories; designation; functions; disposal of publications" (44 U.S. Code 1912).

¹³ Full details of the responsibilities of each type of library may be found in "Federal Depository Library Legal Requirements" (Government Printing Office, 6, 2009), <http://www.arl.org/bm~doc/fdlp-legal-reqs-jun2009.pdf>.

¹⁴ "Regional Depository Libraries in the 21st Century: A Time for Change?," 3.

¹⁵ Yvonne T. Lev et al., "Making the Decision to Relinquish U.S. Document Depository Status," *portal: Libraries and the Academy* 2, no. 3 (2002): 419.

¹⁶ Aric Ahrens and Luke Griffin, "Deposits & Withdrawals: A Survey of Depository Libraries That Have Recently Changed Status" (presented at the Depository Library Council Meeting, Reno, Nevada, April 8, 2003), http://www.fdlp.gov/home/repository/doc_download/693-deposits-a-withdrawals.

¹⁷ Atifa Rawan, Cheryl Knott Malone, and Laura J. Bender, "Assessing the virtual depository program: The Arizona experience," *Journal of Government Information* 30, no. 5-6 (2004).

- ¹⁸ Lev et al., "Making the Decision to Relinquish U.S. Document Depository Status," 416.
- ¹⁹ "Guidance for Federal Depository Libraries Relinquishing Regional Designation," *Administrative Notes: Newsletter of the FDLP* (December 2008), http://www.gpo.gov/su_docs/fdlp/pubs/adnotes/ad11-12-1508.html#3.
- ²⁰ "Regional Depository Libraries in the 21st Century: A Time for Change?," 14.
- ²¹ Depository Library Council, "Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council," September 1993, http://www.fdlp.gov/home/repository/doc_download/1092-alternatives-for-restructuring-the-depository-library-program.
- ²² Kessler Jr., "A brief history of the Federal Depository Library Program: a personal perspective."
- ²³ Depository Library Council, "Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council."
- ²⁴ Ibid.
- ²⁵ "Regional Depository Libraries in the 21st Century: Regional Librarians' Joint Perspective" (Government Printing Office, May 19, 2008), 6, http://www.fdlp.gov/component/docman/doc_download/57-regional-librarians-joint-perspective?Itemid=45.
- ²⁶ Paul A. Arrigo, "The reinvention of the FDLP: A paradigm shift from product provider to service provider," *Journal of Government Information* 30, no. 5-6 (2004): 686.
- ²⁷ "Regional Depository Libraries in the 21st Century: Regional Librarians' Joint Perspective."
- ²⁸ Depository Library Council, "Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council."
- ²⁹ Prudence S. Adler, "The Federal Depository Library Program: Background and Call to Change" (EBSCO, January 25, 2009), 4, <http://www2.ebsco.com/en-us/NewsCenter/publications/vantagepoint/Documents/30467-vantagepoint.pdf>.
- ³⁰ "Regional Depository Libraries in the 21st Century: A Time for Change?," 18.
- ³¹ Mary Alice Baish, "Washington Brief" (American Association of Law Libraries, July 30, 1998), <http://www.aallnet.org/aallwash/lu0998.asp>.
- ³² Adler, "The Federal Depository Library Program: Background and Call to Change," 4.
- ³³ "Scope of Government Information Products Included in the Cataloging and Indexing Program (C&I) and Disseminated Through the Federal Depository Library Program (FDLP)" (Superintendent of Documents Policy 300).
- ³⁴ "Status Report: GPO Access: A service of the U.S. Government Printing Office" (Government Printing Office, June 30, 1994), <http://www.gpoaccess.gov/biennial/1994/report.pdf>.
- ³⁵ "A Strategic Vision for the 21st Century" (Government Printing Office, December 1, 2004), 4, <http://www.gpo.gov/pdfs/congressional/04strategicplan.pdf>.
- ³⁶ "Concept of Operations (ConOps v2.0) for the Future Digital System (FDsys)" (Government Printing Office, May 16, 2005), 6, http://www.gpo.gov/pdfs/fdsys-info/FDsys_ConOps_v2.0.pdf.

- ³⁷ Ted Priebe, Amy Welch, and Marian MacGilvray, "The U.S. Government Printing Office's initiatives for the Federal Depository Library Program to set the stage for the 21st century," *Government Information Quarterly* 25, no. 1 (January 2008): 49.
- ³⁸ "US Government Printing Office - FDsys," <http://www.gpo.gov/fdsys/search/home.action>.
- ³⁹ "Concept of Operations (ConOps v2.0) for the Future Digital System (FDsys)." (specifically, see section 4)
- ⁴⁰ Ibid.
- ⁴¹ "FDsys Operational Specification for Converted Content (Version 3.3)" (Government Printing Office, February 2006), http://www.fdlp.gov/home/repository/doc_download/821-gpos-digitization-specification-33-final.
- ⁴² "Major Capabilities of FDsys Releases," <http://www.gpo.gov/fdsysinfo/capabilities.htm>.
- ⁴³ Terry L Weech, "The Use of Government Publications: A Selected Review of the Literature," *Government Publications Review* 5 (1978): 177-184; Terry L Weech and Beth Postema, "The Use of Government Publications: A Twelve Year Perspective," *Government Publications Review* 18 (1991): 223-238; Thomas Reed Caswell, "Studies on government publications' use, 1990-1996," *Government Information Quarterly* 14, no. 4: 363-371; Amy Brunvand and Tatiana Pashkova-Balkenhol, "Undergraduate Use of Government Information: What Citation Studies Tell us About Instruction Strategies," *portal: Libraries and the Academy* 8, no. 2 (2008): 197-209; Jennie Burroughs, "What users want: Assessing government information preferences to drive information services," *Government Information Quarterly* 26, no. 1 (January 2009): 203-218.
- ⁴⁴ Depository Library Council, "Federal Depository Library Program Strategic Plan, 2009-2014 (Draft Discussion Document, 04/17/2009)" (Government Printing Office, April 17, 2009), 4, http://www.fdlp.gov/component/docman/doc_download/37-fdlp-stratigic-plan-2009-2014-draft-3?ItemId=45.
- ⁴⁵ Ann T. Fessender, "AALL Letter," May 14, 2008, http://www.fdlp.gov/component/docman/doc_download/40-aall-letter?ItemId=45.
- ⁴⁶ Linda D. Koontz, "Government Printing Office: Technological Changes Create Transformation Opportunities" (General Accounting Office, April 24, 2004), 11, <http://www.gao.gov/new.items/d04729t.pdf>.
- ⁴⁷ John A. Shuler, Paul T. Jaeger, and John Carlo Bertot, "Implications of harmonizing the future of the federal depository library program within e-government principles and policies," *Government Information Quarterly* (2009).27, no. 1 (January 2010): 9-16.
- ⁴⁸ James R. Jacobs, "Internet Archive proposal for mass digitization," *Free Government Information*, August 26, 2009, available at <http://freegovinfo.info/node/2701>.
- ⁴⁹ Koontz, "Government Printing Office: Technological Changes Create Transformation Opportunities," 10.
- ⁵⁰ Peter Herson and Laura Saunders, "The Federal Depository Library Program in 2023: One Perspective on the Transition to the Future," *College and Research Libraries* 70, no. 4 (July 2009).
- ⁵¹ Jennie Burroughs, "Flexibility is the Future and Complete Cataloging is the Key," *Documents to the People* 37, no. 1 (Spring 2009).
- ⁵² John A. Shuler, "The civic contours of a national digital reference service: the research implications of the Government Information Online project," *Library Quarterly* 78, no. 4 (2008): 459-466.

⁵³ “Government Information in the 21st Century,” <http://www.webjunction.org/gi21>.

⁵⁴ See for example Richard Davis, “What Will the Future of the FDLP Look Like?” (presented at the American Library Association 2008 Annual Conference, Anaheim, CA, June 28, 2008), http://www.fdpl.gov/home/repository/doc_download/528-what-will-the-future-of-the-fdpl-look-like-ala-2008.

⁵⁵ FDLP Listserv, “GPO & Digitization of Historical Depository Collection,” October 7, 2009.

⁵⁶ “Technical Report Archive and Image Library,” <http://digicoll.manoa.hawaii.edu/techreports/index.php?c=1>.

⁵⁷ “FDsys Operational Specification for Converted Content (Version 3.3).”

⁵⁸ Burroughs, “Flexibility is the Future and Complete Cataloging is the Key.”

⁵⁹ Roger C. Schonfeld and Ross Housewright, “What to Withdraw? Print Collections Management in the Wake of Digitization” (Ithaca S+R, September 29, 2009), <http://www.ithaka.org/ithaka-s-r/research/what-to-withdraw>. For the operations research paper, see Candace Arai Yano, Z.J. Max Shen, and Stephen Chan, “JSTOR Seeks Efficiency and Security for Print Backups of Online Journals,” *Interfaces* (2009, under review).

⁶⁰ Depository Library Council, “Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council.”

⁶¹ “Decision Framework for Federal Document Repositories” (Government Printing Office, April 12, 2004), http://www.gpo.gov/su_docs/fdpl/pubs/decisionmatrix.pdf; “National Collection of U.S. Government Publications,” Spring 2005, www.gpo.gov/su_docs/fdpl/council/briefing_topics/05sp/nationalcollection.pdf.

⁶² OMB Circular A-130, available at <http://www.whitehouse.gov/omb/rewrite/circulars/a130/a130.html>.

⁶³ “CyberCemetery,” <http://govinfo.library.unt.edu/>.

⁶⁴ “Essential Titles for Public Use in Tangible Format.”

⁶⁵ But see the definition proposed by ALA’s Working Group on Defining Digital Preservation, available at <http://www.ala.org/ala/mgrps/divs/alcts/resources/preserv/defdigpres0408.cfm>. Detailed consideration about preservation definitions can be found on pages 286-287 of Amy Kirchoff, “Digital preservation: challenges and implementation,” *Learned Publishing* 21, no. 4 (October 2008), <http://dx.crossref.org/10.1087/095315108X356716>.

⁶⁶ Richard J. Matthews and Mary Alice Baish, “State-by-State Report on Authentication of Online Legal Resources” (American Association of Law Libraries, March 2007), http://www.aallnet.org/aallwash/authen_rprt/AuthenFinalReport.pdf.

⁶⁷ More details are available at <http://www.repositoryaudit.eu/> and <http://www.crl.edu/archiving-preservation/digital-archives>, respectively.

⁶⁸ James A. Jacobs, James R. Jacobs, and Shinjoung Yeo, “Government Information in the Digital Age: The Once and Future Federal Depository Library Program,” *The Journal of Academic Librarianship* 31, no. 3 (2005).

⁶⁹ See for example Rick Luce and Mariella Di Giacomo, “Personalized and Collaborative Digital Library Capabilities: Responding to the Changing Nature of Scientific Research,” *Science & Technology Libraries* 24, no. 1/2 (2004): 135-152; Jay Schecker, “The Unseen Scholars: Researching Information in the Digital Age,” *1663: Los Alamos Science*

and Technology Magazine, December 2008,

http://www.lanl.gov/1663/files/documents/Item/627/1663_dec08_dialogue.pdf.

⁷⁰ Jacobs, Jacobs, and Yeo, "Government Information in the Digital Age: The Once and Future Federal Depository Library Program."

⁷¹ Carl Malamud, Letter to Michael L. Wash, October 5, 2009, page 4, available at <http://bit.ly/6IPBJV>.

⁷² Shuler, "The civic contours of a national digital reference service: the research implications of the Government Information Online project."

⁷³ Shuler, Jaeger, and Bertot, "Implications of harmonizing the future of the federal depository library program within e-government principles and policies."

⁷⁴ Shuler, "The civic contours of a national digital reference service: the research implications of the Government Information Online project."

⁷⁵ David Cismowski, "You Don't Have to be Rich: Practical Ways Depositories Can Mine the Intangible Wealth of Community," April 16, 2007.

⁷⁶ "Government Information: A Topic for All Librarians" (American Library Association, July 10, 2009). Report forthcoming.

⁷⁷ "RFP for Mass Digitization" (Government Printing Office, August 12, 2008), <https://www.fbo.gov/utills/view?id=f7b91b5d64929fa2ac7f3719fa6e0510>.

⁷⁸ Cited in "Regional Depository Libraries in the 21st Century: Regional Librarians' Joint Perspective."