Disseminating and Preserving Digital Public Information Products Created by the U.S. Federal Government: A Case Study Report

Prepared by the
Federal Research Division, Library of Congress
under an Interagency Agreement with the
Library Services and Content Management Directorate,
U.S. Government Publishing Office

August 2018

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PREFACE

As the agency charged with "*Keeping America Informed*," the U.S. Government Publishing Office (GPO) seeks to gain a better understanding of how Federal organizations disseminate, catalog, and preserve their digital public information products.[1] To advance this goal, GPO entered into an interagency agreement with the Federal Research Division (FRD) within the Library of Congress to conduct a study on these agencies' dissemination and preservation policies.

The information for this study was gathered primarily through structured interviews with senior managers in agency communications roles. Respondents were asked about a range of topics, including how born-digital information products are published, released, and distributed; the content types, formats, and dissemination channels used; agency practices for preserving digital information products; external partnerships and public access to federally funded research publications; and awareness of GPO's statutory information programs. The findings presented within this report provide insights to Federal publishing strategies in light of the central role played by websites, social media, and other internet-based dissemination channels.

FRD provides customized research and analytical services on domestic and international topics to agencies of the U.S. Government, the government of the District of Columbia, and authorized federal contractors on a cost-recovery basis. The division has a well-established reputation for utilizing a full range of primary materials, data, scholarly works, and other resources to provide impartial and comprehensive analysis to its partners.

[1] U.S. Government Publishing Office (GPO), "Mission, Vision, and Goals," accessed April 11, 2018, https://www.gpo.gov/who-we-are/our-agency/mission-vision-and-goals.

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INTRODUCTION

The statutory authority for the public information programs managed by the U.S. Government Publishing Office (GPO) obligates the Superintendent of Documents (SOD) to provide no-fee permanent public access to and comprehensive indexing of tangible and digital information products created by U.S. Government agencies, and to maintain an online system of access for digital content.[2] Federal agencies' shift from tangible to digital products has drastically impacted these programs.

The U.S. Government produces tens of thousands of unique information products each year to meet the informational needs of the American people. As Federal agencies have transitioned to mostly digital information dissemination, websites have become the primary channels for publishing U.S. Government information. In addition to websites, agencies use other digital information channels, such as RSS feeds and social media, to share public information.

In the digital era, direct-to-web publishing expands opportunities for smaller units within agencies to become content originators, disseminating information to the public directly. Off-the-shelf commercial web content management systems allow agency program offices to develop and disseminate digital information products with minimal support from other agency components or from GPO, the traditional Federal publication distribution service. Headquarters communications/public affairs offices, meanwhile, continue to provide strategic guidance, editorial and information quality assurance support, and agency-wide content.

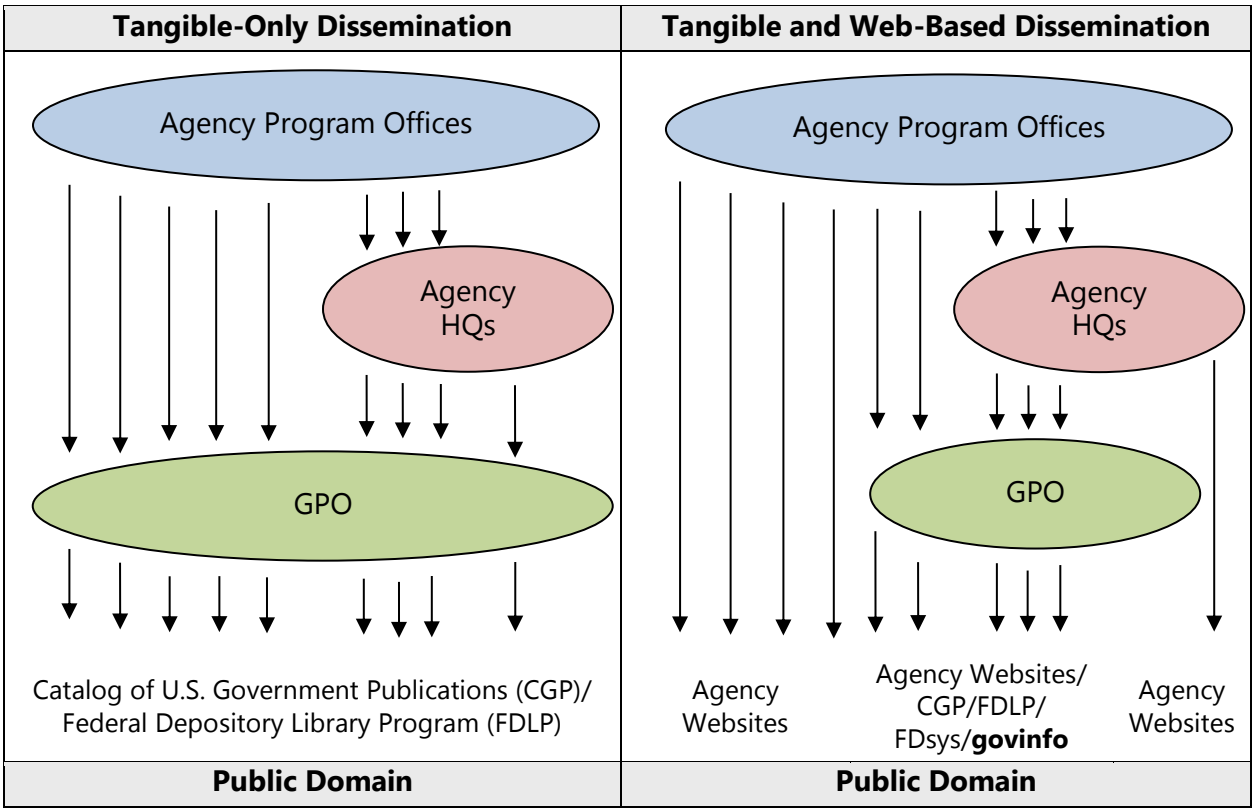
Understanding how Federal agencies have adapted and applied their information policies and strategies, as well as their public information products and practices, is critical to the SOD's mission to:

- Ensure all in-scope content is acquired for the Federal Depository Library Program (FDLP), the Cataloging & Indexing Program, and GPO's System of Online Access.
- Develop strategies to improve and transform its operations and services to facilitate increased discovery and access to Government information in the digital age.
- Foster productive, collaborative relationships with agencies.

While GPO has been proactive in identifying and acquiring agency content within scope of the SOD's programs, the identification and acquisition of content are substantially more complex undertakings in the digital age as compared to the ink-on-paper era. Before the onset of Federal web publishing, agencies' procurement of printing services through the GPO ensured that a large proportion of Federal publications would be reported to SOD and made available to the FDLP and Cataloging and Indexing (C&I). The onset of direct-to-web publishing, together with the diminishing share of publications in print, weakened the link between Federal publishing and the deposit of documents for FDLP distribution, as is shown in Figure 1.

[2] These public information programs include the Federal Depository Library Program, the Cataloging and Indexing Program, and GPO's System of Online Access; their statutory authority can be found in 44 U.S.C. §§ 1710–11, 1901–16, and 4101–4 (2016). GPO's International Exchange and By-Law Distribution services are also part of the Superintendent of Documents' (SOD's) purview but they were not included in, nor will they be affected by, this study.

Figure 1. Tangible-Only vs. Tangible and Web-Based Dissemination of Public Information Products



GPO's mission of "*Keeping America Informed*" and the FDLP's mission to provide readily discoverable and free public access to Federal Government information, now and for future generations, guide these organizations' efforts to strategically and thoughtfully create and use tools of the digital age to enhance that mandate.

Public Information Programs of the Superintendent of Documents

The Founding Fathers thought it essential that the citizenry be informed about its government and its workings so as to allow for effective participation in the democratic process. They also viewed information dissemination as pivotal to the success of a new nation. Established by Congress, the FDLP traces its roots to 1813 and continues to serve the public by ensuring no-fee localized access to Federal Government information.[3]

The Printing Act of 1895 centralized printing for all three branches of Government within GPO; provided authorization for distribution to designated libraries; transferred the responsibilities of the SOD to GPO from the U.S Department of the Interior; and established a program of cataloging and indexing Federal Government publications.[4]

[3] Federal Depository Library Program (FDLP), "A Brief History of the FDLP," last updated January 26 2018, https://www.fdlp.gov/about-fdlp/mission-history/a-brief-history-of-the-fdlp.
[4] An Act Providing for the Public Printing and Binding and the Distribution of Public Documents, 53rd Cong., 3rd sess., Chap. 23, 28 Stat. 593, 601–24 (1895).

The need for a catalog from which direct access to every publication from the executive, legislative, and judicial branches of Government could be provided was discussed as early as 1845. It was advocated that a catalog would greatly facilitate inquiry into the proceedings of the Government and its numerous agents.[5] GPO is mandated, through statute dating back to the 1895 act, to publish such a comprehensive catalog. A monthly printed catalog was published through December 2004, at which time it was replaced by a web-based catalog, the Catalog of U.S. Government Publications (CGP).[6]

GPO's role as the provider of printed U.S. Government information products historically has been leveraged to collect, catalog, distribute, and preserve Federal Government information. With an increasing share of Federal publications and other information products being released exclusively online, GPO has diversified its operations to capture digital information from agency websites. However, the rapid growth of this information, combined with the sprawling nature of Federal Government websites, make GPO's information-capture goals increasingly challenging and difficult to achieve at the desired level of comprehensiveness.

Under Title 44 of the U.S. Code, Sections 1710–11 and 1901–3, and Office of Management and Budget (OMB) Circular A-130, "Managing Federal Information as a Strategic Resource," Federal agencies should make all of their publications, in all produced formats, available to the SOD for distribution to Federal depository libraries, and for cataloging and inclusion in the CGP.[7]

Despite these statutory mandates and Federal information policies, fugitive documents—Federal public information products within scope of the FDLP that have not been identified, cataloged, or disseminated to Federal depository libraries—abound.[8] It is impossible to know how many fugitive documents exist, but over the years they have been estimated to represent as much as 50 percent of the universe of Federal printing. Some observers, however, believe this estimate is conservative.[9]

The problem of fugitive documents affects both print and digital publishing. In the case of print publications, the most common sources of fugitive documents are agencies that do not procure GPO's printing services. Digital fugitives, on the other hand, result from the tremendous volume of digital content being produced, the diversity of formats being used to

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[5] Ben; Perley Poore, *Descriptive Catalogue of the Government Publications of the United States, September 5, 1774-March 4, 1881* (Washington, DC: Government Printing Office, 1885), III.
[6] GPO, SOD, "Catalog of U.S. Government Publications (CGP)," accessed May 22, 2018, https://catalog.gpo.gov/.
[7] White House, Office of Management and Budget (OMB), "Circular No. A-130: Managing Federal Information as a Strategic Resource," 14–15, accessed May 22, 2018, https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A130/a130revised.pdf.
[8] These publications include tangible or digital products such as ink-on-paper printouts, microforms, websites, CD-ROMs, and DVDs. *Authors' Note*: This definition is updated from the one listed in the glossary of GPO's "Federal Digital System (FDsys) Requirements Document (RD), Public Release Version 3.2" (December 4, 2007, 125, https://www.govinfo.gov/media/FDsys_RD_v3.2.pdf).
[9] Gil Baldwin, "Fugitive Documents—On the Loose or On the Run" (Presentation, American Association of Law Libraries Conference, Seattle, WA, July 15, 2003), *Administrative Notes* 24, no. 10 (August 15, 2003): 4–8, https://www.fdlp.gov/file-repository/historical-publications/administrative-notes/2003-adnotes/904-administrative-notes-vol-24-no-10.

create information products, the inconsistency of website designs across the Government, and Federal agencies' failure to notify the SOD of newly released information products.[10]

Given the numerous challenges to comprehensively cataloging Federal information products, GPO's public information program staff have developed improved processes and workflows that allow for proactive identification and acquisition of fugitive documents. This activity takes place in tandem with outreach efforts to educate Federal communications and publishing staff about agencies' statutory obligations to facilitate content acquisition for FDLP dissemination, and cataloging and indexing.

Background of the Study

GPO entered into an interagency agreement with the Federal Research Division (FRD) of the Library of Congress to conduct research on the Federal digital publishing landscape and to develop and pilot a methodology for identifying Government publishing workflows and participants as a first step in evaluating the scope, volume, and diversity of digital content within Federal agencies.

The transition toward the web-based dissemination of Federal public information products and the diversification of the content originator role within agencies pose challenges to GPO's ability to capture Government information.[11] As the agency charged with ensuring timely and equitable public access to such information, in accordance with its statutory obligations, GPO and the SOD seek to gain a better understanding of how Federal agencies disseminate and preserve their digital publications.

As a result of this study:

- The SOD will have a better understanding of the information dissemination policies, strategies, and practices of Federal agencies.
- A baseline information and discussion guide will support the development of a proactive agency liaison program.
- Federal agencies will be more aware of and contribute their content to the SOD's public information programs.
- Outcomes will inform the planning and implementation of action items found in GPO's *National Plan for Access to U.S Government Information.*[12]

[10] A 2017 blog post by the U.S. General Services Administration (GSA) observes that while it is able to count the number of top-level Federal domains, "as far as we can tell, no Federal agency has a complete government-wide list of subdomains, and most individual agencies of any significant size do not have a complete central inventory of their own subdomains" (Eric Mill, "Tracking the U.S. Government's Progress on Moving to HTTPS," *18F*, January 4, 2017, https://18f.gsa.gov/2017/01/04/tracking-the-us-governments-progress-on-moving-https/).

[11] A 2017 report by GPO's Office of Inspector General notes that "the transition to digital information raises a number of issues resulting in more diverse responsibilities for GPO" (*Additional Information Needed for Ensuring Availability of Government Information Through the Federal Depository Library Program*, Audit Report 18–01, October 12, 2017, 1, https://www.gpo.gov/docs/default-source/inspector-general/audits/2018/18-01.pdf).

[12] GPO, SOD, *National Plan for Access to U.S. Government Information: A Framework for a User-Centric Service Approach to Permanent Public Access* (Washington, DC: GPO, February 2016), https://www.fdlp.gov/file-repository/about-the-fdlp/gpo-projects/national-plan-for-access-to-u-s-government-information/2700-national-plan-for-access-to-u-s-government-information-a-framework-for-a-user-centric-service-approach-to-permanent-public-access.

METHODOLOGY FOR CASE STUDIES

To gain greater knowledge about how Federal agencies currently disseminate and preserve their public information products, structured interviews were conducted with senior managers in areas typically involved in web publishing and agency communications roles. The interagency agreement stipulated that the FRD research study would obtain information about:

- Top-level stakeholders in agency publishing.
- Agency communication principles and strategies for sharing information with the public.
- Top-level workflows for publishing agency content.
- Strategies and operational goals governing web publishing initiatives.
- Preservation policies for publications, especially born-digital materials.
- Agency awareness of GPO's Title 44 requirements; OMB's Circular No. A-130, "Managing Information as a Strategic Resource"; and other governing compliance requirements.

It was agreed that using the case study approach on Federal agencies of varying sizes would provide a good baseline for this information.

Preliminary Landscape Study

As a first step toward developing an interview discussion guide and identifying candidate agencies, FRD conducted a brief landscape study of Federal digital publishing (see Appendix I). The research team reviewed statistics on web-based publishing across the U.S. Government, which were provided through Federal web metrics services and periodic domain surveys.[13] Next, FRD consulted key publishing statutes and directives to develop an understanding of the mandates that govern Federal information dissemination and open government policies. The research team also obtained examples of internal agency guidance on how to comply with GPO's Title 44 requirements and other statutory and non-statutory guidance on the dissemination of public information. Finally, FRD reviewed several web archives to document examples of agency-led digital preservation efforts.

Interview Discussion Guide

Following the completion of the landscape scan, FRD and GPO jointly developed an interview discussion guide (see Appendix II). The topics of interest were developed based on the initial findings of the landscape scan, as well as in discussions with GPO project managers. Staff from GPO's Library Services and Content Management Business Unit also provided question topics. The interview questions covered five areas:

- Agency information dissemination activities and policies,

[13] In particular, the researchers reviewed metrics from analytics.usa.gov, a Federal web analytics site managed and hosted by GSA's Technology Transformation Service; the Internet Systems Consortium's January 2017 domain survey; and the End of Term Web Archive to assess the scope and extent of the agencies' web publishing activity.

- Information product formats and dissemination channels,
- Product preservation activities and policies,
- Use of external information repositories and dissemination partnerships, and
- Awareness of GPO's statutory public information programs.

Agency Selection and Recruitment

In March 2017, LSCM staff developed a preliminary list of 27 agencies to be approached for interviews. All three branches of government were represented; agencies with varying levels of technological advancement, agencies of varying sizes, and agencies with regional offices were also included. Per the project plan, "big data" and defense agencies were excluded. To compile this list, the following sources were consulted:

- "Digital Case Studies Candidate List," which was based upon domain popularity data and supplied by FRD.
- "GPO's Cataloged Digital Content for FY [fiscal year] 2016," a spreadsheet summarizing the number of publications cataloged by department and agency.
- "Participating Agencies and Agency Subcomponents," a list of Federal agencies—grouped as being very large, large, medium, small, and very small—that participated in the U.S. Office of Personnel Management's (OPM's) 2017 "Federal Employee Viewpoint Survey"; this information was then used to determine the size of the agencies not included as survey participants.

Once these agencies were identified, FRD consulted online Government directories and agency leadership pages to find suitable candidates for interviews. FRD named up to three senior-level officials for each candidate agency, focusing on three defined areas typically involved in web publishing: communications/public affairs, IT/web services, and printing officer/publishing official (i.e., GPO liaison) for print publications.

First contact with interview candidates was established through email. The email, sent by FRD, included an introductory message explaining the purposes of the study, the reasons why the individual was selected for participation, and FRD's role as the data gathering and analysis organization working on behalf of GPO. The email contained an attached invitation letter signed by the Acting Superintendent of Documents and the Federal Research Division Chief (see Appendix III).

FRD's efforts to recruit interviewees met with little initial success. Few candidates responded to the research team's invitation email. Possible reasons for the low response rate include the timing, as the invitations were sent during a transition between presidential administrations and turnover of senior agency personnel. For example, a substantial number of the communications managers listed in agency directories appeared to no longer be in their positions by the spring of 2017. Other factors potentially reducing participation may have included recipients' hesitancy to open the attached letter from GPO because of information security concerns; targeting of the wrong agency personnel (i.e., individuals who did not believe they could address the topics

covered in the discussion guide); and reluctance among recipients to discuss internal organizational matters during a presidential transition.

In light of the low number of responses to the initial wave of invitations, the research team took two additional steps to encourage participation. First, the Acting Superintendent of Documents sent a follow-up invitation to interview candidates confirming FRD's role as administrator of the study and underscoring the importance to GPO's mission of obtaining agencies' input on their publication practices (see Appendix IV). Second, FRD attached the discussion guide to its email and invited recipients to share it with colleagues who might want to contribute. The purpose of sharing the guide was to allay potential concerns about the content of the interviews, to make it possible for respondents to collect information and develop responses to the questions ahead of the interviews, and to facilitate input from multiple respondents. These steps appeared to improve response rates modestly as additional interview candidates were contacted.

Between May and October 2017, FRD invited more than 100 communications managers to participate in interviews. Twelve interviews were completed during that time with senior leaders (see Table 1) in 11 agencies from the executive branch and one from the legislative branch. Ten interviews, lasting approximately 45 minutes, were conducted by telephone; one was conducted in person; and one respondent opted to provide their answers in writing.

Table 1. Occupational Titles of Interview Respondents

Title	Section/Division/Office
Chief	Office of Communications
Director	Division of Print and Electronic Publishing, Office of Communications
Director	Division of Communication Services, Office of the Associate Director of Communication
Director	Division of Design Services
Director	External Affairs
Deputy Director	Office of Communications and Publishing
Assistant Director	Communications
Assistant Administrator	Communications
Manager	Editing Section
Manager	Office of Public Communications, Office of Public Affairs
Program Manager	Educational and Outreach Programs
Program Manager	Web Technology

All but one of the Federal organizations represented during the interviews are subcomponents of a larger agency.[14] However, the respondents frequently referred to their parent agency's policies on information dissemination and preservation in their responses to the interview questions. The agencies and subcomponents represented were:

[14] The exception is the Federal Reserve System's Board of Governors, which is an independent agency.

AHRQ	Agency for Health Research and Quality, U.S. Dept. of Health and Human Services
CDC	Centers for Disease Control and Prevention, U.S Dept. of Health and Human Services
CMS	Centers for Medicare and Medicaid Services, U.S. Dept. of Health and Human Services
EIA	Energy Information Administration, U.S. Dept. of Energy
ESA	Economics and Statistics Administration, U.S. Dept. of Commerce
FHWA	Federal Highway Administration, U.S. Dept. of Transportation
FRB	Board of Governors, Federal Reserve System
GSFC	Goddard Space Flight Center, National Aeronautics and Space Administration
NPS	National Park Service, U.S. Dept. of the Interior
USCO	U.S. Copyright Office, Library of Congress
USGS	U.S. Geological Survey, U.S. Dept. of the Interior
VHA	Veterans Health Administration, U.S. Dept. of Veterans Affairs

The subcomponents—hereafter referred to as agencies—vary dramatically in size. The smallest has approximately 30 staff members, while the largest has nearly 300,000. Using data from the Partnership for Public Service's 2017 "Best Places to Work in the Federal Government" rankings, along with several agency websites, the research team calculated their respective sizes based on the categories provided by OPM's 2017 "Federal Employee Viewpoint Survey" (see Table 2).[15] A comparison of agency digital publishing practices by agency size was originally intended as part of this study, but the small sample size of responses prevented this type of analysis.

Table 2. Number of Employees and Size Category by Agency

Agency	No. of Employees (as of 2016)*	OPM Size Category†
AHRQ	253	Small
CDC	9,137	Medium
CMS	6,066	Medium
EIA	~370‡	Small
ESA	~30§	Very Small
FHWA	2,671	Medium
FRB	2,972**	Medium
GSFC	3,141	Medium
NPS	12,596	Large
USCO	~400††	Small
USGS	6,546	Medium
VHA	295,838	Very Large

* Unless otherwise indicated, these numbers come from the information provided in the 2017 "Best Places to Work in the Federal Government" rankings ("Participating Agencies and Agency Subcomponents," accessed April 11, 2018, http://bestplacestowork.org/BPTW/rankings/all_agencies).

† OPM, *2017 Federal Employee Viewpoint Survey*, 1.

‡ EIA, "Mission and Overview," accessed April 11, 2018, https://www.eia.gov/about/mission_overview.php.

§ ESA, "ESA Offices," accessed April 11, 2018, http://www.esa.doc.gov/content/esa-offices.

** FRB, "Structure of the Federal Reserve System," last updated April 5, 2018, https://www.federalreserve.gov/aboutthefed/organization-charts-accessible.htm#bog.

†† USCO, "Overview of the Copyright Office," accessed April 11, 2018, https://www.copyright.gov/about/.

[15] The agency size categories are: very large (>75,000 employees); large (10,000–4,999 employees); medium (1,000–9,999 employees); small (100–999 employees), and very small (<100 employees).

Interviews and Transcription

Respondents were provided with the discussion guide in advance of the interviews and were told that the discussion would adhere closely to the guide's contents. At least two FRD team members participated in each interview, with one serving as the primary interviewer and the other serving as the primary note-taker.

After each interview, the FRD researchers transcribed their notes for review by the rest of the team. At the conclusion of the interviews, a spreadsheet containing these notes, organized by question topic and agency, was created. FRD shared this spreadsheet with the SOD and used it as the "raw data" in developing this report. In some instances, supplemental information was pulled from the agencies' websites.

FINDINGS

1. Dissemination of Public Information Products

The first set of interview questions focused on the agencies' dissemination policies and practices. Specifically, GPO was interested in learning which agency components are responsible for sharing information with the public, what publishing guidance they provide their staff, how they prioritize information dissemination during a Continuity of Operations (COOP) situation, and how contractor- and grantee-produced content is cleared for release and disseminated.

Responsibility for Dissemination

When asked, "Which office(s) within your agency is (are) responsible for the dissemination of public information products?," respondents volunteered information about how their agencies create content, as well as how they produce, obtain approval or clearance to distribute, and disseminate information products.

At eight of the agencies interviewed, respondents stated that the headquarters office of communications/public affairs shares responsibility for disseminating public information with other components (see Table 3). In these cases, responsibility is assigned depending on the type of content and the method of dissemination.

Table 3. Responses to Question: "Which Office(s) Within Your Agency is (are) Responsible for the Dissemination of Public Information Products?"

Agency	Response
AHRQ	Office of Communications.
CDC	Office of the Associate Director for Communication, 12 CDC centers, and the Division of Public Health Information Dissemination.
CMS	Office of Communications, Office of Minority Health, and Center for Medicare.
EIA	Office of Communications.
ESA	Office of the Chief Economist.
FHWA	Office of Public Affairs and individual program offices.

Agency	Response
FRB	The 12 Federal Reserve banks.
GSFC	Office of Communications and program offices.
NPS	Individual parks, regional offices, and HQ Office of Communications. Additionally, more than 1,000 web authors contribute content to www.nps.gov. Management is distributed among NPS employees in parks, regions, and national offices across the United States.*
USCO	Publications Section, Office of Public Information and Education.
USGS	Office of Communications, USGS Publications Warehouse, and the Office of Scientific Quality and Integrity.
VHA	Office of Intergovernmental Affairs.

* U.S. Department of the Interior, NPS, "NPS.gov: Our Flagship Web Presence," accessed March 25, 2018, https://www.nps.gov/subjects/digital/nps-website.htm.

Most respondents drew a distinction between information products based on program-specific content and agency-wide communications. The former is produced, cleared for distribution, and disseminated directly to the web by the program or regional offices, while the latter is produced and disseminated by headquarters.

Dissemination Guidance

When asked, "Where or how is (are) your agency's information dissemination policies documented?," respondents described a combination of formal and informal methods for internally communicating these guidelines. Some used formal documentation in an agency manual or intranet site, while others sent reminders and updates through email (see Table 4).

Table 4. Responses to Question: "Where/How is (are) Your Agency's Information Dissemination Policies Documented?"

Agency	Response
AHRQ	Publishing and Communications Guidelines are online. Also written into every contract that every product must adhere to the guidelines.
CDC	Not documented. There is a clearance chain for each office.
CMS	No hard and fast dissemination rule. Print versus online is case by case.
EIA	Agency intranet has a section devoted to communications.
ESA	No documentation because agency is currently very small.
FHWA	Public Affairs Office intranet and memos.
FRB	There is no global guidance [but] FRB is currently working on a communications policy.
GSFC	At the HQ level and through agency-wide resources such as an online records management course, and Directorate liaisons.
NPS	On public website/intranet.
USCO	Internal email.
USGS	Agency policy manual, [which is] available online
VHA	Agency intranet.

Agencies were asked whether employees in communications roles receive training on the publishing guidelines. Respondents described a variety of approaches, ranging from mandatory training to periodic email reminders sent by publishing managers. One agency highlighted the importance of veteran staff in mentoring newer employees involved in publication (see Table 5).

Table 5. Responses to Question: "Are These Policies Communicated as Part of Employee Training for Staff Involved in Communications/Publishing Roles?"

Agency	Response
AHRQ	Guidelines are covered in all new employee orientations and [on the] intranet. Monthly newsletter sometimes includes information about the guidelines.
CDC	Staff training on the products clearance train. Guidelines appear in standard operating procedures.
CMS	Intranet page explains how to create a new publication; no formal training.
EIA	New employee orientation includes publishing guidance for all employees.
ESA	Not applicable.
FHWA	Each program office has a liaison with the Public Affairs Office. Staff receive a basic overview as part of training through intranet, emails, memos, etc.
FRB	Policy guidelines document [is] being developed.
GSFC	Training primarily by means of HQ resources.
NPS	Robust digital content/editing training program. Online course and webinars support new staff becoming writers. Agency intranet and reminders through email.
USCO	Staff receive memos about [the] process.
USGS	Staff within the Science Publishing Network are very aware of policies contained in the USGS Public Access Plan.
VHA	Self-paced trainings on records/information management and documentation through the internal talent management system.

Dissemination and Continuity of Operations

Interviewees were also asked whether information dissemination is included in their agencies' COOP plans.[16] All but one of the respondents were able to identify at least one example of plans for the dissemination of critical information during a COOP scenario. For example, emergency public health information is specifically mentioned in CMS's COOP plan. The FHWA reported having recently completed a COOP exercise that included information dissemination. And GSFC said that its COOP plan mandates special procedures so it can maintain website accessibility and posting capability during an emergency (see Table 6).

Table 6. Responses to the Question: "Is Information Dissemination Included in Your Agency's Continuity of Operations Plan?"

Agency	Response
AHRQ	Yes; internal communication.
CDC	Yes.
CMS	Emergency public health information is mentioned specifically in the agency COOP plan.

[16] COOP Plans are a Federal Government initiative, required by presidential directive, to ensure that agencies are able to continue performance of essential functions under a broad range of circumstances.

Agency	Response
EIA	Yes. COOP situation calls for more streamlined dissemination activity.
ESA	Don't know. The other larger content creators within Commerce (the Census Bureau and the Bureau of Economic Analysis) do have COOP planning.
FHWA	Yes. FHWA recently completed a COOP exercise.
FRB	Don't know.
GSFC	Yes. The COOP plan requires the COOP team to identify vital records that are critical to ongoing missions and alternative storage/work locations so that NASA can maintain website accessibility and posting capability.
NPS	Yes. Dispersed workforce. Cloud-based dissemination. [With] national-level and local parks, some parks may need to implement COOP due to local conditions.
USCO	Copyright has a COOP Officer (in Register's Office). Parts of website are classified Tier 1 or Tier 2; copyright registration is Tier 1.
USGS	Yes. The USGS Publications Warehouse has redundant systems to protect data—backup servers that can be activated by senior OCAP [Office of Communications and Publishing] officials.
VHA	Information dissemination is included in . . . the VHA Crisis Communications Planning Toolkit [which] is intended to be used as a guide [for] facilities to adapt and implement. The toolkit is designed to support public affairs officers and other communications specialists in writing and implementing a crisis communications plan.

Dissemination of Contractor- and Grantee-Produced Content

Ten interviewees reported that their agencies disseminate contractor- or grantee-produced content (see Table 7). In general, contractor-produced content must undergo an in-house clearance procedure and is ultimately disseminated through the same channels as agency products.

Table 7. Responses to the Question: "Does Your Agency Disseminate Contractor- or Grantee-Produced Content?"

Agency	Response
AHRQ	Yes. Grantees might also produce toolkits, which go on the website. Grantees usually publish journal articles, which don't get posted on the website, but on PubMed. After 18 months, the public must have free access to government-funded articles (no firewall).
CDC	Yes. There is no way to differentiate contractor/grantee-produced content. It all looks the same.
CMS	Yes, but not out of the respondent's office. Office of Minority Health does but unsure about provider materials.
EIA	Yes, our agency disseminates contractor-produced content in the form of commissioned reports. Everything that is posted on the website must be reviewed by the Communications Office.
ESA	No.
FHWA	Yes. All contractor-produced content goes through program office approval and must be signed off on by Public Affairs.
FRB	No contractor- or grantee-produced content.
GSFC	Yes. Technical content created by grantees and contractors is published under the STI [Scientific and Technical Information] Program and is posted to the NASA Technical Reports Server (NTRS). Some technical content under STI potentially is

Agency	Response
	subject to export control and other restrictions which do not apply to general public information.
NPS	NPS does work with contractors. We don't publish grantee materials but do announce and link to those.
USCO	A contractor might help write a report, but the report is handled in the same way as an internally created product.
USGS	USGS issues grantee-produced reports but no contractor-produced reports. All products must undergo USGS review and are posted exclusively on USGS servers.
VHA	If content is developed for external purposes by a contractor or third party, VA [the U.S. Dept. of Veterans Affairs] formally clears and approves this content prior to release and dissemination. This depends on the size and scope of the project. For example, if VA is developing a booklet or other large-scale publication for national distribution, the agency will most likely contract with GPO for printing/distribution assistance, and as required by law.

Yet some agencies have developed policies addressing grantee-produced information products. For example, the AHRQ's Publishing and Communications Guidelines state:

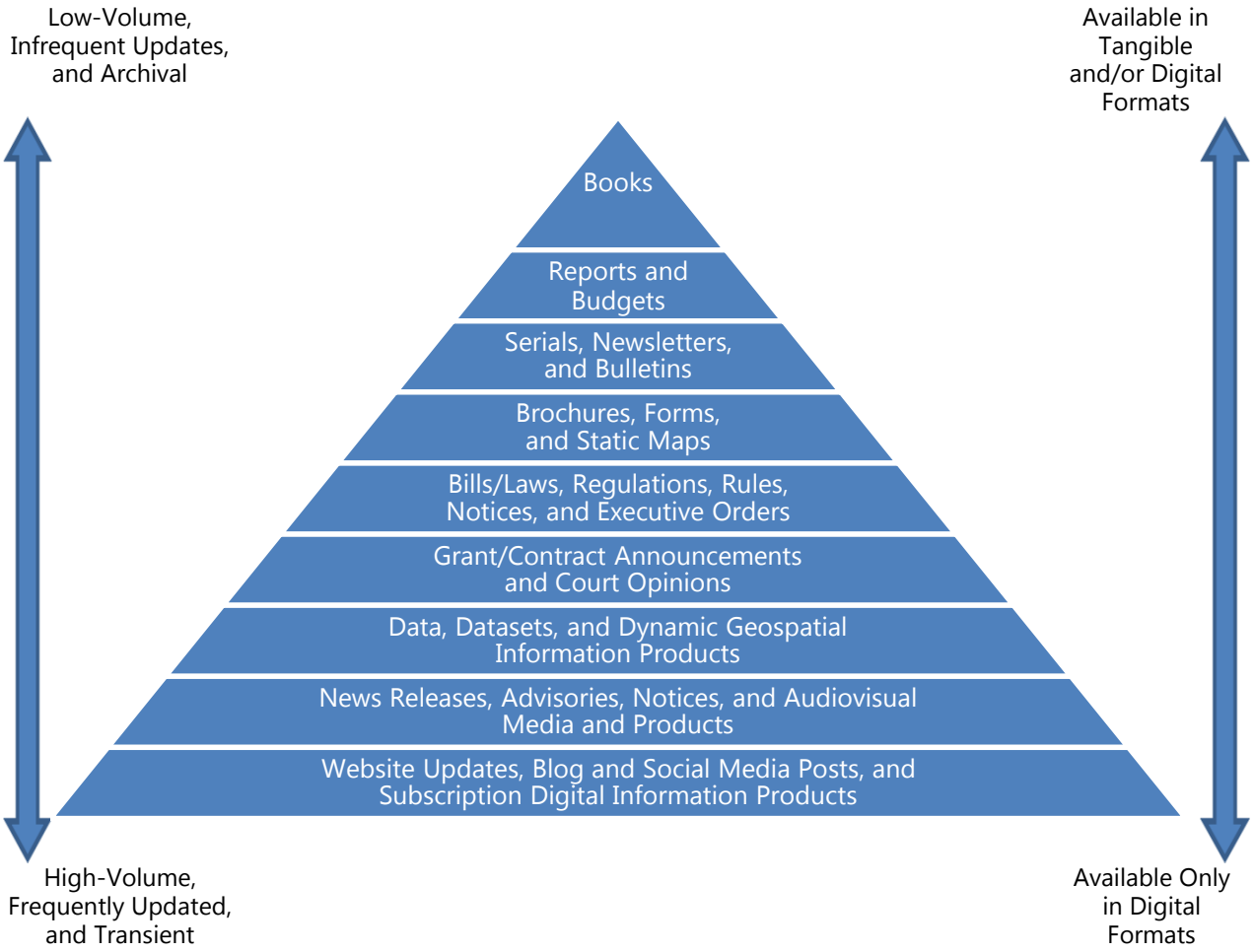
> Products that grantees develop are not considered AHRQ deliverables. Grantees are encouraged to register copyright for their products, manage their rights, and seek their own distribution channels and dissemination venues. However, the Agency retains a royalty-free, non-exclusive, and irrevocable license to reproduce, publish, or otherwise use these products and authorize others to do so for Federal Government purposes. As a result, the Agency might choose to feature selected web-based resources that grantees develop under their projects.[17]

2. Content Types, Formats, and Dissemination Channels of Public Information Products

There are many types of U.S. Government information products. From agency reports to budgets, datasets to court decisions, they come in many formats and cover almost every topic. The transition to digital dissemination has made it easier for agencies to generate more content, update existing information with greater frequency, and diversify the formats used for delivering such information to the public. In addition to producing digital editions of traditional products, agencies disseminate large amounts of high-volume, transient information, such as blog and social media posts, audiovisual content, and podcasts (see Figure 2).

[17] U.S. Department of Health and Human Services (HHS), Agency for Healthcare Research and Quality (AHRQ), "AHRQ Publishing and Communications Guidelines: Appendix 2-B; Web Instructions for Grantees," last reviewed November 2016, https://www.ahrq.gov/research/publications/pubcomguide/pcguide2apb.html.

Figure 2. Common Content Types of Public Information Products[18]



Agency-Specific Content Types, Formats, and Dissemination Channels

The agencies profiled as part of this study produce a wide range of publications and electronic information products that are available to users through a variety of channels and formats. The types of information products these agencies disseminate are determined by their missions and external audiences. In general, the agencies disseminate a mix of basic information for the public at-large, as well as technical information directed at specialized audiences. Agencies engage with general audiences across multiple digital platforms, including websites, social media, and mobile applications. They also continue to disseminate information in traditional tangible formats, such as books, maps, glossy brochures, and periodicals.

[18] Source: Based on information from GPO's, *Catalog of U.S. Government Publications*, https://catalog.gpo.gov.

Additionally, agencies serve the information needs of specialized audiences who rely on their program offices for high-quality scientific, technical, and regulatory data—mainly in digital formats. For example, the CDC's flagship journal, *Morbidity and Mortality Weekly Report*, is written for health professionals such as physicians, nurses, and public health practitioners, as well as other scientists, researchers, educators, and laboratorians.[19] At NASA, the Scientific and Technical Information Program acquires, processes, announces, disseminates, and archives products from all of the agency's centers for use by engineers and scientists.[20] The VHA, in collaboration with the U.S. Dept. of Defense, publishes its "Clinical Practice Guidelines" series as a narrowly targeted resource to assist healthcare providers in improving and maintaining standards of patient care.[21]

Agencies such as AHRQ, CMS, ESA, FHWA, FRB, USCO, and USGS tailor many of their products to customers in specific fields or sectors of the U.S. economy, including financial and industry analysts; lawyers; medical professionals; scientists; publishers, academic educators and researchers; and natural resources managers. These agencies also provide critical information to community organizations at the state and local levels, such as banks, credit unions, and transportation agencies. Their targeted audiences rely on Federal information products, such as notices/circulars, forms and instructions, maps, statistical products, and datasets, for their day-to-day operations.

As part of this study, the FRD research team asked the interviewees to describe the main types of public information products their agencies publish. Respondents at every agency reported a wide range of product types. In several instances, the respondents suggested FRD consult the agency website to gain a more complete picture of their publications output (see Table 8).

Table 8. Responses to the Question: "What are the Main Types of Public Information Products that Your Agency Publishes?"

Agency	Response
AHRQ	Research reports, toolkits, consumer information, and datasets.
CDC	Annual reports, regulations, rules, and directives; preliminary/draft and final reports; handbooks, manuals, and guides; maps/charts; datasets/statistical compendia; technical reports; monographs, books, and series; journals/periodicals; and guidance.
CMS	Forms, press releases, datasets, manuals, factsheets, booklets (16–40 pages), and yearly [reports]. CMS does not issue administrative rulings. Most products are digital and some are print as well.
EIA	Narrative reports, databases, press releases, congressional testimony, API [application programming interfaces], maps, and audiovisual material (radio programming). Daily pubs., weekly and monthly pubs., analysis and forecasts, text, graphs, and tables. Final reports. . . . No regulatory activity (by law).
ESA	Reports, blog posts, and datasets. No rules or regulations.

[19] HHS, Centers for Disease Control and Prevention (CDC), "About the Morbidity and Mortality Weekly Report (MMWR) Series," last updated October 24, 2017, https://www.cdc.gov/mmwr/about.html.
[20] NASA, Scientific and Technical Information Program, Homepage, last modified March 21, 2018, https://www.sti.nasa.gov/.
[21] U.S. Department of Veterans Affairs (VA), "VA/DoD Clinical Practice Guidelines," last updated October 3, 2017, https://www.healthquality.va.gov/.

Agency	Response
FHWA	Annual reports, regulations, rules, and directives; preliminary/draft and final reports; handbooks, manuals, and guides; maps/charts; datasets/statistical compendia; technical reports; monographs, books, and series; journals/periodicals; and guidance.
FRB	Reports to Congress. Papers, articles, manuals, and examination manuals. Some publications [are] aimed at the Reserve Banks and some [are] aimed at the public.
GSFC	Brochures, fact sheets . . . datasets, and stickers. [But not regulations, rules, or directives.] Too many dissemination methods to list: TV, web, podcast, press release, social media (Facebook, Instagram, Pinterest, Snapchat, Tumblr, Twitter), exhibits, tours, print (reports, fliers, brochures, press releases), and outreach events.
NPS	Press releases; congressionally requested reports; annual reports [from the program offices]; one-off reports; regulations, rules, and directives; administrative decisions; draft and final reports; handbooks, manuals, and guides; maps and charts; datasets; technical reports; some monographs (usually cooperative effort with other entities); some digital content is periodical-like.
USCO	Circulars, forms, annual reports, regulations (through the Federal Register [FR] and CFR [Code of Federal Regulations]), copyright law (annotated version of the Code), FR notices (can include policy directives), reports for Congress, [and] NewsNet announcements such as the start of the rulemaking process [and the] results of rulemaking. . . Also the Compendium of Copyright and Manual.
USGS	No regulations issued. Scientific and technical products in all formats.
VHA	Regulations, rules, and directives; opinions and orders (with OGC [Office of General Counsel] liaising) to also include maps and charts by the Office of Policy and Planning. VA does not work with series. VA has produced books and journals.

An examination of the interview responses, supplemented with information gathered from agency websites, shows that most product types are represented among agency publications. Agencies communicate with their audiences across a range of products, from occasional books and monographs to frequently updated news releases, maps, and datasets (see Table 9).

Table 9. Types of Public Information Products by Agency

Agency/Type	AHRQ	CDC	CMS	EIA	ESA	FHWA	FRB	GSFC	NPS	USCO	USGS	VHA
Books/Ebooks	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓
Brochures	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Datasets	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Forms	✓	✓	✓			✓			✓	✓	✓	✓
Infographics	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Manuals/Toolkits	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Maps		✓	✓	✓		✓		✓	✓		✓	✓
Multimedia	✓	✓	✓			✓		✓	✓		✓	
News Releases	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Newsletters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Notices/Circulars	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reports	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rules/Regulations			✓			✓	✓		✓	✓		✓

Respondents were also asked about the types of digital dissemination channels their agencies use. Their comments show that, regardless of focus or mission, Federal agencies disseminate

public information products across multiple platforms, including websites, mobile and tablet applications, email listservs, and social media (see Table 10).

Table 10. Types of Digital Dissemination Channels by Agency

Agency/Channel	AHRQ	CDC	CMS	EIA	ESA	FHWA	FRB	GSFC	NPS	USCO	USGS	VHA
Blogs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Email Listservs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mobile/Tablet Apps	✓	✓	✓	✓		✓		✓	✓		✓	✓
Podcasts		✓	✓	✓		✓	✓	✓	✓		✓	✓
RSS Feeds	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓
Social Media	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Role of Agency-Specific Websites

Interview responses, as well as agency mission statements, indicate that agencies by and large consider their websites to be their primary platforms for sharing information with the public and specialized audiences. Agencies' descriptions of their web presence underscore this central role. For example:

- CDC describes its main website as "your online source for credible health information," which "provides direct access to important health and safety topics, scientific articles, data and statistics, tools and resources—and over 900 topics in the CDC.gov A–Z Index."[22]
- EIA describes its website as "the public face of the agency." Its information, data, analysis, and services "have informed policy and programmatic decisions at all levels in regards to energy and its interaction with the economy and the environment."[23]
- NASA describes its website as the "primary means of communicating . . . to the agency's public audiences. It focuses on providing information for general audiences, including students, educators, children, the news media, and the general public. As such, the portal's priority for publication is material for those audiences."[24]
- NPS describes its website as "our digital brand ambassador to the world, the communications backbone of the National Park Service that helps to create, grow, and sustain an interactive community of visitors, friends, and supporters."[25]
- USGS notes that "citations for the more than 50,000 USGS series publications are available [online], and 10,000 of these are also available . . . to the public as [free] downloadable digital files. Additionally, more than 41,000 scholarly publications

[22] HHS, CDC, "About cdc.gov," last updated April 10, 2017, https://www.cdc.gov/other/about_cdcgov.html.
[23] U.S. Department of Energy (DOE), Energy Information Administration, "About EIA.gov," accessed March 26, 2018, https://www.eia.gov/about/eia_explained.php.
[24] NASA, "NASA Information-Dissemination Product Inventories, Priorities, and Schedules," September 14, 2005, https://www.nasa.gov/about/contact/information_inventories_schedules.html.
[25] U.S. Department of the Interior, National Park Service (NPS), "NPS.gov: Our Flagship Web Presence," accessed March 25, 2018, https://www.nps.gov/subjects/digital/nps-website.htm.

authored by the USGS but published externally are cataloged in the Publications Warehouse, and links to original published sources are provided."[26]

The agency communications managers interviewed by FRD concurred in their assessment that nearly all agency-branded public information products are disseminated through their websites. Conversely, they uniformly said that very few to none of their products are distributed as print-only materials without a corresponding web-disseminated product (see Table 11).

Table 11. Responses to Question: "What Percentage of Your Agency's Public Information Products Would You Say are Disseminated via Agency Websites?"

Agency	Response
AHRQ	All of it. Very few print products are created (excepted marketing material), [as] everything goes online. Less and less printing; most material is electronic only.
CDC	100 percent. There are two popular . . . titles that continue in print format but they are available online as well.
CMS	Everything is available online.
EIA	100 percent.
ESA	Nothing is printed. Everything is disseminated via website, often as ".pdf."
FHWA	Close to 100 percent.
FRB	100 percent.
GSFC	Only a small percentage of products are not on the website. Some NTRS products are limited access due to sensitivity to foreign use of information.
NPS	Most of it.
USCO	Around 95 percent.
USGS	95 to 99 percent. One series is proprietary.
VHA	A full listing of VA publications is available via the agency's website.

Role of Agency-Specific Social Media Accounts

Most of the agencies profiled in this report have well-documented policies on the appropriate uses of social media, which provide insights into their strategies and objectives. For example:

- AHRQ uses Facebook, Twitter, and YouTube to achieve three goals: "to speak with one voice on behalf of the agency when distributing content[;] to increase the number of followers to spread AHRQ's messages to a diverse audience; to raise the agency's profile by highlighting work that is central to AHRQ's mission."[27]

[26] U.S. Department of the Interior, U.S. Geological Survey (USGS), *Public Access to Results of Federally Funded Research at the U.S. Geological Survey: Scholarly Publications and Digital Data* (Washington, DC: U.S. Department of the Interior, USGS, n.d.), 1, https://www2.usgs.gov/quality_integrity/open_access/downloads/USGS-PublicAccessPlan-APPROVED-v1.03.pdf.
[27] HHS, AHRQ, "About AHRQ's Social Media Standards and Policies," last reviewed May 2016, https://www.ahrq.gov/policy/social-media/about/index.html.

- Similarly, CDC uses social media tools "to expand reach, foster engagement, and increase access to credible, science-based health messages. . . . The benefits of social media include: increasing the dissemination and potential impact of CDC's science; improving reach to diverse audiences; furthering the delivery of consistent, timely, repetitive, and tailored/targeted messages; facilitating engagement, participation, transparency, collaboration, and interactive communication; [and] enhancing health communication efforts."[28]

- EIA follows the U.S. Dept. of Energy's (DOE's) social media policy, which states: "DOE is committed to expanding the conversation on energy issues and upholding open government principles of transparency, participation, and collaboration. One of the key ways we seek to accomplish this is through the use of social media." In particular, DOE authorizes two categories of accounts: energy.gov-branded enterprise accounts and office-specific social media accounts.[29]

- FHWA's social media policy statement notes: "When used properly, social media/ web 2.0 technologies can contribute to transparent and efficient delivery of public information and broaden access to audiences who rely on these technologies for information." The administration then states that it "has taken great care in selecting the most appropriate . . . technologies to help facilitate the quick and effective dissemination of information."[30]

- FRB states that it uses third-party social media sites "as additional means of reaching the public and directing people to www.federalreserve.gov, which is the primary source of information for the Board of Governors of the Federal Reserve System."[31]

- In its 2016 annual report, GSFC reports that its social media outlets "link the center's websites, news, activities, and outreach efforts, providing quick and direct lines of communication to stakeholders and the broader online community."[32]

- Like EIA, NPS[33] and USGS follow the guidance provided by their parent organization, the U.S. Dept. of the Interior. That policy states that: "social media services and tools . . . are powerful and effective means to communicate quickly and broadly, share information, and interact with colleagues and the public. [The department] is taking

[28] HHS, CDC, "CDC Enterprise Social Media Policy," 1, last updated January 8, 2015, https://www.cdc.gov/maso/policy/SocialMediaPolicy508.pdf.
[29] DOE, "Web Policies," accessed March 26, 2018, https://energy.gov/about-us/web-policies/.
[30] U.S. Department of Transportation (DOT), Federal Highway Administration, "FHWA Order 1370.14: Social Media/ Web 2.0 Management," March 16, 2011, https://www.fhwa.dot.gov/legsregs/directives/orders/137014.cfm.
[31] Board of Governors of the Federal Reserve System, "Website & Privacy Policies," last updated April 20, 2017, https://www.federalreserve.gov/website-linking-policies.htm.
[32] NASA, Goddard Space Flight Center (GSFC), *This is Science: Goddard Space Flight Center Annual Report 2016,* NP-2016-10-504-GSFC (Greenbelt, MD: NASA, GSFC, 2016), 42, https://www.nasa.gov/sites/default/files/atoms/files/2016goddardannualreportsmall.pdf.
[33] A 2014 academic paper by researchers at the University of Miami's School of Communication examines the evolving use of social media by the NPS, particularly how service units employ social media as government–public relationship building tools. It also discusses NPS's social media policies and presents a longitudinal overview of its use of blogs and platforms such as Facebook, Flickr, Twitter, and YouTube (Bruce Garrison and Zonchao Li, "Communication from a Federal Agency: A Case Study of Social Media Use and Policy" [paper presented to the Public Relations Division of the National Communication Association's annual conference, Chicago, IL, November 20–23, 2014], https://www.researchgate.net/publication/281033182_COMMUNICATION_FROM_A_FEDERAL_AGENCY_A_CASE_STUDY_OF_SOCIAL_MEDIA_USE_AND_POLICY).

advantage of these third-party tools and services . . . to reach a wider audience and to facilitate and enhance professional communication and collaboration."[34]

- VHA follows VA Directive 6515, "Use of Web-Based Collaboration Technologies," which encourages the adoption and use of social media by VA employees, provides workplace boundaries, and establishes the department's philosophy for open and transparent communication and collaboration with VA stakeholders online.[35]

When asked by the FRD research team how their agency uses social media as an information dissemination method, most communications managers responded that the external services help alert the public to new content on the main website (see Table 12). Respondents generally emphasized the role of social media in directing traffic to the site, rather than as channels for disseminating unique content. Some agencies explicitly prohibit the posting of unique content not found elsewhere on social media accounts. For example, the U.S. Dept. of the Interior's social media policy—which governs NPS and USGS practices—states:

> Third-party social media websites should never be the only place in which the public can view [department] or bureau information. Any information posted to a third-party social media website must also be provided in another publicly available format.[36]

Table 12. Responses to Question: "How Does Your Agency Use Social Media as an Information Dissemination Method?"

Agency	Response
AHRQ	Drives traffic to website.
CDC	Comprehensively—to direct people to information, important findings, and information sharing (not just directing people to a website).
CMS	Announces new content on the site; drives traffic to website or YouTube, where there are informational videos.
EIA	Redistributes products and drives traffic back to the website.
ESA	To drive traffic to the website and to engage with citizens beyond the website.
FHWA	Drives traffic to the website.
FRB	YouTube, Facebook, and Twitter are used . . . to alert public of website content.
GSFC	Drives traffic to the website.
NPS	No response recorded.
USCO	Twitter is used to memorialize a month and highlight a notable [Copyright] deposit.
USGS	Announces new content.
VHA	VA Directive 6515 establishes the social media policy for the department.

[34] U.S. Department of the Interior, "Social Media Policy," last edited September 15, 2015, https://www.doi.gov/notices/Social-Media-Policy#OfficialUse.
[35] VA, "VA Directive 6515: Use of Web-Based Collaboration Technologies," June 28, 2011, http://www.va.gov/vapubs/viewPublication.asp?Pub_ID=551.
[36] U.S. Department of the Interior, "Social Media Policy."

In order to determine what social media services the profiled agencies use, FRD scanned their websites and tallied the platforms linked from the agencies' webpages. The results are mixed, with some agencies more active in social media than others (see Table 13).

Table 13. Checklist of Social Media Accounts by Agency

Agency/Account	AHRQ	CDC	CMS	EIA	ESA	FHWA	FRB	GSFC	NPS	USCO	USGS	VHA
Facebook	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Flickr		✓		✓		✓	✓	✓	✓	✓	✓	✓
Google+		✓									✓	
Instagram		✓						✓	✓	✓	✓	✓
LinkedIn		✓	✓	✓		✓	✓					
Pinterest		✓								✓		
RSS Feeds	✓	✓		✓			✓					
Slideshare				✓								
Storify				✓						✓		
Twitter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
YouTube	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓

3. Preservation of Public Information Products

The Federal Records Act requires Government agencies to make and preserve "records containing adequate and proper documentation of the organization, functions, policies, decisions, procedures, and essential transactions of the agency."[37] The act defines Federal records as any material that is recorded, made, or received in the course of Federal business, regardless of its form or characteristics.[38] This definition was amended in 2014 to generally read "all recorded information, regardless of form or characteristics," to expressly include electronic records.[39] The National Archives and Records Administration (NARA) maintains that web records, such as the master files of electronic information products posted online, should be processed as electronic records.[40]

The content within scope of the SOD's public information programs is a subset of Federal records. GPO has an affiliate agreement with NARA for the preservation of digital content stored in FDsys/**govinfo**.[41] In accordance with that agreement, the content is transferred into the legal

[37] Federal Property and Administrative Services Act of 1949 Amendments, Pub. L. No. 81–754, Sec. 6, 64 Stat. 578, 583 (1950).
[38] The act further specifies that "'records' includes all books, papers, maps, photographs, or other documentary materials, regardless of physical form or characteristics, made or received" by a Federal agency under the law or "in connection with the transaction of public business and preserved . . . as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of data contained therein" (Pub. L. No. 81–754, Sec. 6, 64 Stat. 578, 589; 44 U.S.C. § 366 [1943]).
[39] 44 U.S.C. § 3301 (2016).
[40] Presidential and Federal Records Act Amendments of 2014, Pub L. No. 113–187, Sec. V, 128 Stat. 2003, 2009 (2014).
[41] GPO, SOD, "Public Policy Statement 2016-1: Scope of Government Information Products Included in the Cataloging and Indexing Program and Disseminated Through the Federal Depository Library Program," February 5, 2008, https://www.fdlp.gov/file-repository/about-the-fdlp/policies/superintendent-of-documents-public-policies/2739-scope-of-government-information-products-included-in-the-cataloging-and-indexing-program-and-disseminated-through-the-federal-depository-library-program; and GPO, SOD, "Public Policy Statement 2016-2: Content Scope for GPO's System of Online Access," March 29, 2016, https://www.fdlp.gov/file-repository/about-the-fdlp/policies/superintendent-of-documents-public-policies/2738-content-scope-for-gpo-s-system-of-online-access.

custody of NARA, while GPO retains physical custody for permanent public access and preservation purposes.

Responsibility for Preservation

In order to learn about the agencies' information product preservation practices and to better understand where the responsibility for preservation resides, the respondents were asked about which organizations preserve these materials. Most identified offices involved in records management, particularly their Office of the Chief Information Officer, for its role as the primary digital records management authority and NARA liaison. Several agencies noted that program and headquarters offices that create informational content also play a role by preserving master copies of publications and ensuring they are properly classified as agency records. Some agency libraries systematically preserve products in both digital and tangible formats, while agencies with a high volume of publications maintain online archives to preserve long-term public access to those products (see Table 14).

Table 14. Responses to Question: "Which Organization(s) Within Your Agency is (are) Responsible for the Preservation of Public Information Products?"

Agency	Response
AHRQ	Office of Communications and the Office of the Chief Information Officer.
CDC	Program offices and the Office of the Chief Information Officer, [as well as the] Management Analysis and Services Office.[*]
CMS	Office of Strategic Operations and Regulatory Affairs and the Office of the Chief Information Officer.[†]
EIA	Office of the Chief Information Officer.[‡]
ESA	Office of the Director, NARA liaison.
FHWA	The Chief of the Management Programs and Analysis Division is responsible for designating the FHWA Records Officer.
FRB	Office of the Secretary and the Board of Governors.[§]
GSFC	Office of the Chief Information Officer.[**]
NPS	NPS Records Management Officer and the Chief Information Officer.
USCO	Office of Educational and Outreach Programs, Chief Printing Officer, and . . . the Office of Chief Information Officer.
USGS	OCAP shares archiving responsibility with the USGS Publications Warehouse, [which is] operated by the USGS Library.
VHA	VA Records Management Office, Office of the Assistant Deputy Undersecretary for Informatics and Analytics, and the Executive Director for Information Governance.[††]

[*] HHS, CDC, "Director, Management Analysis and Services Office," last updated May 23, 2016, https://www.cdc.gov/od/ocio/overview/maso.htm.

[†] HHS, CMS, "CMS Records Schedule," last modified October 3, 2017, https://www.cms.gov/Regulations-and-Guidance/Guidance/CMSRecordsSchedule/.

[‡] DOE, "Administrative Change to DOE Order 243.1B: Records Management Program," July 8, 2013, 3, https://www.directives.doe.gov/directives-documents/200-series/0243.1-BOrder-b-admchg1/@@images/file.

[§] FRB, "Records Retention Program for the Federal Reserve Board," last updated February 13, 2012, https://www.federalreserve.gov/foia/recordsmanagement.htm.

[**] NASA, Office of the Chief Information Officer, "NASA Records Management," last updated August 3, 2017, https://www.nasa.gov/content/nasa-records-management.

[††] VA, VHA, "Records Control Schedule 10-1," November 2017, I-2, https://www.va.gov/vhapublications/rcs10/rcs10-1.pdf.

Preservation Guidance

Agencies involved in the creation of digitized or born-digital content of a cultural, historical, or archival nature face special challenges in ensuring the content retains the highest possible quality and remains fully accessible and retrievable as information storage, transmission, and retrieval technologies evolve. The Federal Agencies Digital Guidelines Initiative (FADGI) is a collaborative effort begun in 2007 to articulate common sustainable practices and guidelines. GPO is an original member of FADGI and continues to participate in the working groups, two of which study issues specific to still-image and audio-visual content. Of the agencies profiled in this report, GSFC, NPS, and USGS participate in the working groups. The former two participate in both the still-image and audio-visual working groups, while the latter participates in the still-image working group.[42]

To help determine how widely FADGI guidelines are followed by Federal agencies, FRD asked interview respondents, "Does your agency follow FADGI guidance for creating and preserving digital content?" Most were not familiar with the initiative and could not confirm whether or not their agency follows its digital preservation guidelines. However, several respondents noted that their agency follows NARA guidelines for digital content preservation (see Table 15).

Table 15. Responses to Question: "Does Your Agency Follow FADGI Guidance for Creating and Preserving Digital Content?"

Agency	Response
AHRQ	Don't know.
CDC	Don't know.
CMS	Don't know.
EIA	Don't know.
ESA	No. Agency doesn't issue photographs, so FADGI probably not applicable.
FHWA	Don't know.
FRB	Don't know.
GSFC	Yes. Goddard staff have helped develop FADGI imagery standards. STD2822 is a FADGI-compliant NASA standard that governs metadata for imagery products.
NPS	Don't know. [NPS is a FADGI working group participant.]
USCO	Don't know. [USCO is a FADGI working group participant.]
USGS	Don't know. USGS strives to meet NARA guidelines, which may be consistent with FADGI.
VHA	We cannot conclude that the agency does or does not follow FADGI guidance. However, VA does follow NARA recommendations for preserving digital content.

Though they may not be familiar with FADGI, some of the agencies have developed their own digital preservation guidelines for content such as scientific and technical data. For example,

[42] Federal Agencies Digital Guidelines Initiative, "Participants," last updated August 29, 2017, http://www.digitizationguidelines.gov/participants/.

in April 2014, USGS's Fundamental Science Practices Advisory Committee's Data Preservation Subcommittee issued new guidelines based on material from the National Digital Stewardship Alliance. These guidelines address six key aspects of digital preservation: storage and location, data integrity, information security, metadata, file formats, and disposition of physical media.[43]

Archiving Website Content

Apart from the mandatory scheduling of records in compliance with the Federal Records Act, agencies commonly maintain one or more "archive" sections on their websites for information products that are no longer considered current. The scope and extent of these archives vary from agency to agency, with some agencies seeking to archive only the most popular or most important reports and publications and others pursuing broader goals to maintain public access to older materials. The extent to which the web archiving reaches back in time also varies. Some agencies maintain products dating back decades, while others archive products from only the past few years (see Table 16).

Table 16. Responses to Question: "Does Your Agency Archive Digital Content Once It is No Longer Posted on Current Sections of Agency Websites?"

Agency	Response
AHRQ	Yes, for the purpose of maintaining permanent public access.
CDC	Don't know. [However] CDC is known for maintaining permanent access to content.
CMS	Publications are archived after six months to one year [on the main website]. Goal is to maintain permanent public access.
EIA	Yes. Each year a copy of the website is sent to NARA.
ESA	Yes. The main website is the repository of previous content. Older content on site may not be exhaustive, however.
FHWA	Yes. FHWA maintains an online archive. Ensuring permanent public access is a high priority.
FRB	Yes, but most of the content does not come off the main website. . . . Public information stays up but internal information is archived on a non-public website.
GSFC	The Goddard library's digital repository has both published and unpublished archival items but some items have restrictions on access, such as colloquia content where a speaker has not given consent or has not allowed parts to be used by the public.
NPS	Don't know.
USCO	Website is archived regularly by both the Library of Congress and USCO and kept on backed-up shared drives. Circulars and fact sheets [are] not kept on the website indefinitely but are rotated out/changed as superseded to prevent confusion with the public. [However] website does have a section for other older materials.
USGS	Yes, on the USGS Publications Warehouse. Purpose is to provide permanent public access and to serve as online information clearinghouse.
VHA	Don't know.

A review of participating agency websites by the FRD research team indicates that they follow a variety of approaches to establishing and maintaining publicly accessible web archive pages. Some agencies maintain most of the older content on the main website, some designate a

[43] U.S. Department of the Interior, USGS, "USGS Guidelines for the Preservation of Digital Scientific Data," April 2014, 1, https://www2.usgs.gov/datamanagement/documents/USGS%20Guidelines%20for%20the%20Preservation%20of%20Digital%20Scientific%20Data%20Final.pdf.

separate web archive page for older content from across the agency, and still others maintain multiple web archives for different types of agency content or separately archive content from each major program office (see Table 17).

Table 17. Online Web Archives by Agency

Agency	Description
AHRQ	Archive (https://archive.ahrq.gov) contains: – Outdated information that may be useful for reference purposes. – Materials and sites of historical or research interest. *Note*: The archive's content is not current, is not being updated, and may contain broken links. If a member of the public needs another way of accessing any information, they may contact AHRQ directly at https://info.ahrq.gov/.
CDC	Main archive pages include: – CDC Stacks (https://stacks.cdc.gov/), a free digital archive of scientific research and literature produced by the CDC. It is composed of curated born-digital collections tailored for public health research needs. This repository is retained indefinitely and is available for public health professionals and researchers, as well as the general public. – CDC-INFO on Demand (https://wwwn.cdc.gov/pubs/CDCInfoOnDemand.aspx), a web repository and ordering platform for general CDC information products. Content includes books, fact sheets, pamphlets, and educational materials. – Publication archives (https://www.cdc.gov/about/resources/archives.htm). – Newsroom archives (https://www.cdc.gov/media/releases/archives.html). – Press briefing archives (https://www.cdc.gov/media/video/index.htm). – Health Alert Network archives (https://emergency.cdc.gov/han/dir.asp). – Public Health Image Library (https://phil.cdc.gov/). – Archive webpages for each of the CDC's program offices.
CMS	Archive (https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Archives/index.html) hosts a broad range of historical information on CMS programs and research. Although it is no longer being updated, CMS maintains this content as a resource for users.
EIA	EIA maintains two different archives—one for annual energy outlook products (https://www.eia.gov/outlooks/aeo/archive.php) and one for the "Today in Energy" series (https://www.eia.gov/todayinenergy/archive.php).
ESA	Though much of the older content is retained on the main website, ESA does maintain a news archive (https://www.esa.gov/news-archive).
FHWA	FHWA hosts archives for its publications (https://www.fhwa.dot.gov/policyinformation/hsspubsarc.cfm) and press releases (https://www.fhwa.dot.gov/briefingroom/releases/release_archive.cfm).
FRB	FRB relies on three different archives: – FRASER (https://fraser.stlouisfed.org/), a digital library of U.S. economic, financial, and banking history—particularly the history of the Federal Reserve System. – Board meetings archive (https://www.federalreserve.gov/aboutthefed/boardmeetings/board-meeting-archive.htm). – Federal Open Market Committee transcripts, and other historical materials (https://www.federalreserve.gov/monetarypolicy/fomc_historical.htm).
GSFC	The NASA Space Science Data Coordinated Archive (https://nssdc.gsfc.nasa.gov/) serves as the permanent archive for NASA space science mission data, [which it] is responsible for archiving and preserving.
NPS	NPS maintains two archives—one which includes press releases from the HQ Office of Communications prior to May 2016 (https://www.nps.gov/aboutus/news/listing.htm), and one for the Historic Photos Collection (https://home.nps.gov/hfc/cfm/npsphoto.cfm). This collection is comprised of more than two million images which

Agency	Description
	cover a wide variety of subjects, such as park architecture, the Civilian Conservation Corps, American Indian heritage, NPS personnel, roads and transportation, and scenic views. There are presently 1,975 images from the Collection available online.
USCO	Archive (https://www.copyright.gov/rulings-filings/) contains USCO rulings and government briefs in copyright cases.
USGS	The USGS archive (https://archive.usgs.gov/) contains scientific information websites formerly maintained by the organization.
VHA	The VHA Publications website (https://www.va.gov/vhapublications/) holds archived editions of VHA products, which contain information regarding VHA-wide policies, procedures, requirements, and other information of general applicability. The VHA Forms, Publications, and Records Management Service [within] the VHA Office of Information maintains the content. Most documents are available in ".pdf" format.

Preservation of Older Tangible Information Products

In order to learn about the agencies' efforts to digitize older tangible content, the FRD team asked communications managers, "Does your agency have plans to make its older historical content available through digitization?" Most respondents recalled at least one recent effort to digitize tangible content. However, in most cases, the digitization of older tangible materials has not been comprehensive (see Table 18).

Table 18. Responses to Question: "Does Your Agency Have Plans to Make Its Older Historical Content Available through Digitization?"

Agency	Response
AHRQ	Not currently, but many older materials were scanned to DVD during a recent agency move. That content is available on internal servers. [However] an effort is underway to preserve older print materials.
CDC	The CDC Museum digitizes older tangible materials on an ongoing basis.
CMS	No answer recorded.
EIA	Yes. . . . High-value legacy tangible information products are scanned.
ESA	Not currently.
FHWA	Older print material has been largely digitized.
FRB	An archiving group converts paper versions of items going back to 1913 to digital format.
GSFC	Yes, except for restricted material. Goddard is developing plans to digitize 50,000 photographic prints . . . to make them discoverable by the public.
NPS	Old National Park records are being digitized (slow process: one or two states/year).
USCO	Some pre-internet materials have been digitized. Could do more depending on availability of staff.
USGS	There's an ongoing effort to digitize older print-only materials.
VHA	Permanent [tangible] records are transferred to NARA. This is dependent upon several contributing factors such as cost to benefit. Per VHA's historian, digital is best for ease of access but never replaces the original document.

4. External Partnerships Focused on Disseminating and Preserving Public Information Products

Federal agencies sometimes collaborate with other Government entities and information services to disseminate and preserve their products. In order to gain a better understanding of these partnerships, FRD asked the interviewees, "Does your agency have a partnership with an external organization or service to broaden access to your information products?" Respondents provided a variety of answers (see Table 19).

Several agencies described the digital repository service they use, or its host organization, as an information partner. For example, AHRQ mentioned the National Library of Medicine, which is overseen by the National Institutes of Health (NIH), while VHA noted its partnerships with both NIH and the library; the two host the PubMed Central digital repository.[44] USGS, on the other hand, described its internal repository as its partner. Other respondents described interagency arrangements to share information in fulfillment of a statutory requirement as an example of an external partnership. For instance, nearly half of the agencies mentioned that they share web records with NARA on a regular basis. Except for one mention of GitHub, a web-based hosting service, all of the partnerships were with other Federal entities or public–private collaborations.

Table 19. Responses to Question: "Does Your Agency Have a Partnership with an External Organization/Service to Broaden Access to Your Information Products?"

Agency	Response
AHRQ	National Library of Medicine. Maintains PubMed and also posts certain ".html" items.
CDC	NARA.
CMS	GPO for printing. Print materials come back to CMS, [and are then] distributed to various organizations for dissemination.
EIA	Meets agency requirements for archiving. No external partnership. Regularly sends copy of website to NARA.
ESA	Content reposted to or from U.S. Dept. of Commerce sites only. Data syndication through APIs. Open data community for [the Census Bureau and the Bureau of Economic Analysis] to third-party platforms such as GitHub. Government delivery subscription service.
FHWA	DOT's National Transportation Library serves as a clearinghouse.
FRB	NARA and Federal Register. All rules are published in the Federal Register.
GSFC	Goddard uses the FDLP distribution list and donates items to the Library of Congress. Some digital content is accessioned to NARA; Goddard and NARA will also partner on an imagery archive. The Goddard archive is a fairly new effort to establish a digital repository that piggybacks onto the Library's holdings.
NPS	Don't know.
USCO	Federal Register. Depository Libraries. We print a lot of things through GPO, but not everything. Some things only get printed in very low volume. [*Authors' Note*: Printing through GPO is a paid service, not the result of an external partnership.]
USGS	USGS Publications Warehouse.
VHA	Partnerships with the Library of Congress, National Park Service, NARA, NIH, and National Library of Medicine. VA's Office of Research and Development coordinates activities with organizations and universities. Business Associate Agreements serve

[44] Created in 2000, PubMed Central is a public–private partnership operated by the National Institutes of Health's (NIH's) National Library of Medicine to preserve and make public full-text journal articles.

Agency	Response
	as the official MOU [memorandum of understanding] establishing the partnership and include information on how records will be maintained. VA's Voluntary Service partners with several state and local organizations. More than 7,400 national and community organizations support the program.

Agency-Approved Digital Repositories for Public Information Products

On February 22, 2013 The White House Office of Science and Technology Policy (OSTP) issued a memorandum titled "Increasing Access to the Results of Federally Funded Scientific Research." Section 3 of the OSTP memorandum requires Government agencies to select one or more digital repositories to host their products, ensuring the long-term preservation, public access, and authenticity of federally funded scientific publications and data. In response, the agencies' public access plans include information about their chosen repositories, including the selection criteria used and the arrangements made to route materials to them. Selected criteria identified in agency access plans reflect how these agencies are striving for free permanent public access, the foundation of the SOD's public information programs (see Table 20).

Table 20. Agency Selected Criteria for Digital Repositories

Ensures access to full-text manuscripts and published articles.
Provides access to metadata.
Provides long-term preservation and access without charge.
Allows submissions by author, publisher, and funding manager.
Maintains attribution to authors, journals, and original publishers.
Prevents unauthorized mass redistribution.
Provides article embargo period.
Uses widely available standards and non-proprietary archival formats.
Is compliant with Section 508 [i.e., accessible to people with disabilities].
Is compatible with current and future search technology.
Is compatible with other Federal archives.
Facilitates public–private partnerships.

In response to the OSTP requirement, Federal agencies have adopted one of two approaches to designate a repository in their public access plans:

- Adapt their existing digital repository or registry to meet the mandated access and preservation requirements.
- Enter into interagency agreements to archive peer-review publications and manuscripts in a shared or hosted repository

5. Awareness of GPO's Statutory Information Programs

GPO's principal statutory information program is its dissemination program, which requires agencies to make Federal publications available through the FDLP. To better understand the agencies' knowledge of these policies, FRD asked communications managers, "Would you say staff at your agency are aware of the statutory mandates that guide GPO's public information programs?" While respondents said they are aware of the mandate as it pertains to tangible products, they indicated they have limited knowledge of the law's applicability to digital ones. Only one of the agencies—USGS—claimed that staff have a good awareness of the code as it pertains to both tangible and digital information products. Among the other agencies, four said their staff had partial knowledge of GPO's programs, while the remaining respondents said they believed there was little or no knowledge of GPO's programs within their agencies (see Table 21).

Table 21. Responses to Question: "Would You Say Staff at Your Agency are Aware of the Statutory Mandates that Guide GPO's Public Information Programs?"

Agency	Response
AHRQ	The practice has been that print publications go through GPO. However, after printing activity was curtailed, our office hasn't been submitting forms to GPO. AHRQ is happy to incorporate guidance for electronic materials.
CDC	Not in the communications office, but information services staff at the CDC library are probably familiar with the mandates.
CMS	No. We're aware of CMS publications collected by GPO but we don't believe CMS actively shared those products.
EIA	In the days before the internet there was [some] talk about FDLP, but no one has talked about this in ages (uncertain about whether GPO archives their products). GPO does sell some EIA products. No print officers at EIA anymore.
ESA	Not for digital. Some awareness regarding print products.
FHWA	The program offices provide the content, but they do not have a lot of awareness of FDLP requirements. [However] FHWA complies with OMB and NARA requirements. We believe there is probably very little awareness of FDLP mandates overall.
FRB	The legal department might be familiar with the guidelines.
GSFC	No.
NPS	Not aware.
USCO	Yes, there is awareness and substantial compliance, but worth it to double-check to see if we are as compliant as we think we are. All FR material is distributed through GPO. [Also] USCO occasionally submits bibliographic information for print products even when we don't publish through GPO. We notify GPO of all print publications, [but] not electronic posts on website.
USGS	There is a good awareness within Office of Communications and Publishing of the U.S.C. requirements.
VHA	There is some awareness within VA of FDLP mandates. Although staff at VA are aware of statutory mandates relating to GPO . . . on printing, they may not be aware of those guiding public information programs. Some VA products, such as the benefits book, are printed by GPO and they maintain a copy.

Next, the FRD research team asked whether the agencies provide guidance or regulations on how to comply with the FDLP provisions. None of the respondents could cite a specific document containing such guidance. However, USGS suggested that some guidance on the FDLP may be contained in the agency manual (see Table 22).

Table 22. Responses to Question: "Does Your Agency Provide Guidance or Regulations on How to Comply with the FDLP Provisions?"

Agency	Response
AHRQ	No response.
CDC	No response.
CMS	No.
EIA	No, because print publications no longer produced.
ESA	No. However, there are no restrictions on web crawls if GPO actively seeks content.
FHWA	Not aware of any.
FRB	Don't know.
GSFC	No.
NPS	No response.
USCO	Don't know.
USGS	Guidance may be provided in the USGS manual.
VHA	Though the library highlights U.S. Government information resources, most VA publications (annual budget, functional organizational manual, or benefits book) are already available to the public and are [in the] public record.

FRD then asked the interviewees about their staff's awareness of GPO's online catalog-related services, FDsys/**govinfo**. A quarter of the respondents indicated that staff are aware of the services and how they can assist them in making content more accessible. The remaining agencies said they don't know or don't believe that staff in other departments know about these capabilities (see Table 23).

Table 23. Responses to Question: "Are Communications/Publishing Staff at Your Agency Familiar with How GPO Can Assist Them in Making Content More Accessible to the Public through FDsys/govinfo?"

Agency	Response
AHRQ	A publications clearinghouse staff member has worked with GPO to make sure they know when our publications are released. AHRQ may be notifying GPO of ebook releases.
CDC	Don't know. Perhaps print officer[s] are familiar.
CMS	No.
EIA	Not familiar with FDsys, nor with GPO Access.
ESA	No.
FHWA	Web managers are not very aware of FDsys.
FRB	Don't know.
GSFC	No.
NPS	No response.
USCO	Don't know.
USGS	Yes. The USGS library is familiar. Some OCAP staff may be as well.
VHA	While some VA staff are aware of FDsys/**govinfo**, most are likely unaware of this system.

When asked if their staff would be interested in learning more about **govinfo**, about half of the respondents said yes. The other half said either that they didn't know or that their staff would not be interested in learning more. One agency, FHWA, said the timing (summer 2017) was bad

because "non-career folks are coming in and we're awaiting further instructions from them" (see Table 24).

Table 24. Responses to Question: "Would Your Communications/Publishing Staff Be Interested in Learning More about govinfo?"

Agency	Response
AHRQ	We would like to know if there is something we aren't doing but could be doing.
CDC	No response.
CMS	No.
EIA	No.
ESA	Yes.
FHWA	Probably not at this time. . . . Non-career folks are coming in and we're awaiting further instructions from them.
FRB	No response.
GSFC	Don't know.
NPS	Yes.
USCO	Yes.
USGS	Don't know.
VHA	Recommend GPO reach out to VA's Office of Public and Intergovernmental Affairs.

Next, FRD asked if the agencies have schedules for notifying GPO of new content. Only one, USGS, said that it maintains such a schedule. All other agencies said they are not aware of a schedule or that no schedule exists (see Table 25).

Table 25. Responses to Question: "Does Your Communications/Publishing Office, Library, or Other Component Have a Schedule for Notifying GPO of New Agency Content?"

Agency	Response
AHRQ	No.
CDC	No response.
CMS	No.
EIA	No.
ESA	No.
FHWA	Not aware of active effort to notify GPO of digital content.
FRB	Not actively. Google crawls the FRB website, so GPO should be able to as well. GPO could [also] subscribe to receive FRB's releases. There are no known means to disseminate publications to GPO but some FRB staff email attachments to GPO. There is a FR liaison.
GSFC	No. So many offices publish that it is not possible to track everything disseminated, so it is up to the program office to notify GPO. A schedule may exist for tangible content but not for digital. Program offices manage their own digital content.
NPS	The Office of Communications does not, but other offices may.
USCO	LoC doesn't typically submit products to GPO, except for studies in the past that were quite large.
USGS	Yes.
VHA	Don't know. Please reach out to VA's Office of Public and Intergovernmental Affairs for more information.

The researchers then turned to the agencies' web managers, asking the interviewees if they use GPO's Document Discovery webpage or email address (docdiscovery@gpo.gov) to notify GPO

of new content. Again, only USGS replied that it uses the service. All of the other agencies said they are not aware of Document Discovery (see Table 26).

Table 26. Responses to Question: "Do Web/Publishing Content Managers at Your Agency Use GPO's Document Discovery Webpage or Email Address to Notify GPO of New Web Content?"

Agency	Response
AHRQ	No. AHRQ only has two librarians currently. Not enough staff to take on new responsibilities.
CDC	No response.
CMS	Not aware of the service.
EIA	No. Not likely to use because the EIA website already has significant traffic. Users can Google materials, and USA.gov has links to all EIA products.
ESA	Not applicable.
FHWA	This is not being done as far as we know. Consulted web manager and there is not really any awareness of this service.
FRB	Not applicable.
GSFC	No. Not aware of the service.
NPS	Don't know.
USCO	No.
USGS	Yes. OCAP, and possibly the library as well, have been notifying GPO of new digital content through the Document Discovery service.
VHA	No. Not aware of the service.

As a follow-up, FRD asked for suggestions of additional methods of notification. One agency said that any notification method should be automated because the large volume of products would be impossible for one person to manage. Another agency suggested that GPO subscribe to its APIs to receive content notifications, while two more agencies said that further guidance on what information GPO is trying to collect would be helpful. The remaining agencies had no recommendations (see Table 27).

Table 27. Responses to Question: "Would Having Additional Methods of Providing Notification to GPO Be Helpful? Any Suggestions?"

Agency	Response
AHRQ	No response.
CDC	No response.
CMS	Notification method would need to be automated for CMS to be able to participate. The volume of CMS products would be impossible for [one] person to manage.
EIA	Recommend GPO subscribe to EIA's APIs to receive notification of new content.
ESA	No response.
FHWA	No response.
FRB	No response.
GSFC	Don't know.
NPS	More guidance on what GPO is trying to gather would be helpful.
USCO	Don't know.
USGS	Don't know.
VHA	It would be helpful to know what methods are available to us.

As a second follow-up, the researchers asked the respondents about which steps GPO might take to make content notification easier. Some agencies again requested greater clarity as to

what type of content GPO would like to be notified about. One agency in particular expressed concern that copies of its time-sensitive publications could potentially remain available to the public beyond their expiration date if they were held in a GPO archive. Another requested that no more regulatory burdens be imposed on it and that any notification requirements be made voluntary (see Table 28).

Table 28. Responses to Question: "What Other Steps Would You Advise GPO Take to Make It Easier for Agencies to Notify GPO of New/Older Content That Has Been Digitized and Made Accessible?"

Agency	Response
AHRQ	We don't understand exactly what type of information GPO would like to receive. Whatever process is established for notification could be made part of editorial close-out. Important to note that AHRQ clinical guidance products have a disclaimer stating that, after a certain point in time, they are no longer timely and should not be used. GPO would need to take precautions against disseminating obsolete AHRQ clinical guidance.
CDC	CDC is limited by time and money constraints. Suggest GPO engage more directly with CDC on voluntary compliance rather than impose additional regulations.
CMS	No response.
EIA	GPO should subscribe to EIA's APIs, listservs, and social media feeds.
ESA	No response.
FHWA	No response.
FRB	More outreach by GPO to the legal department may help raise awareness of compliance issues.
GSFC	No recommendations at this time.
NPS	Make process more targeted by being more specific about types of content GPO would like to be notified about.
USCO	Don't know.
USGS	Don't know.
VHA	No recommendations at this time.

Finally, FRD asked, "Are communications/publishing staff at your agency familiar with the Federal Publishing Council?"[45] Two agencies indicated that they had received communications about the Council but said they do not participate. None of the other respondents were aware of the Council (see Table 29).

Table 29. Responses to Question: "Are Communications/Publishing Staff at Your Agency Familiar with the Federal Publishing Council?"

Agency	Response
AHRQ	No.
CDC	No.
CMS	No.
EIA	May have seen references to it in emails, but EIA is not a member.

[45] GPO created the Federal Publishing Council to advise on the latest publishing and printing trends. It consists of Federal employees involved in all facets of Federal printing and publishing (GPO, "GPO Launches the Federal Publishing Council," April 26, 2017, https://www.gpo.gov/who-we-are/news-media/news-and-press-releases/gpo-launches-federal-publishing-council).

Agency	Response
ESA	No.
FHWA	No.
FRB	No.
GSFC	No.
NPS	No.
USCO	No.
USGS	USGS communications staff have received emails about the council but don't actively participate.
VHA	No.

CONCLUSIONS

1. Dissemination of Public Information Products

The Federal agencies profiled as part of this study produce a wide range of publications and electronic information products. Their missions and external target audiences determine which kinds of products they publish. Most produce a mix of general information for the public, as well as scientific and technical information for specialized audiences. The more general products tend to be produced and disseminated by the agency headquarters' communications or public affairs offices, while program offices produce and disseminate the more technical publications.

Agencies follow a variety of approaches to training their staff in publications' production and dissemination. These methods range from mandatory training to periodic email reminders sent by agency publishing managers. One agency in particular highlighted the importance of veteran staff in mentoring newer employees involved in publications roles.

2. Content Types, Formats, and Dissemination Channels of Public Information Products

Agency websites are the main channel Federal agencies use to share information with the public. Social media accounts are another important tool. However, the communications managers FRD interviewed stressed that their main reason for using social media is to make the public aware of new information that is available on the agency's website and to drive traffic to it.

Nearly all respondents said that in the event of a COOP scenario, their agency has a plan to continue public dissemination of mission-critical information. COOP planning for information dissemination involves identifying vital records that are critical to ongoing missions and creating alternative storage and work locations so agencies can maintain website accessibility in an emergency.

3. Preservation of Public Information Products

When asked how they preserve their website content and metadata, several of the agencies reported that they comply with the Federal Records Act and follow NARA's guidance on web records management, which includes submitting static copies of the agency website. While

agencies' compliance with the Federal Records Act fulfills an important statutory obligation, it does not meet the requirements established by Title 44 of the U.S. Code to make their publications accessible to the public and the FDLP on a permanent basis.

Most of the agencies maintain an online archive that makes older website content publicly accessible, and many of them identified their Office of the Chief Information Officer as bearing at least some of the responsibility for preserving digital information products. However, the agencies use a variety of approaches to maintain these archival web pages. Some retain older content on the main website, some designate a separate archival page for older content from across the agency, and some maintain multiple archives for different types of content. Each agency also applies its own standard for how far back in time the archives go. Some retain decades-old content, while others retain content from only the past few years. To complement these efforts, GPO has used the subscription-based web harvesting tool Archive-It since 2011 to systematically capture, catalog, and provide access to the Federal digital landscape, including websites, blogs, and social media feeds.

Agencies involved in the creation or preservation of digitized or born-digital content of a cultural, historical, or archival nature face special challenges in ensuring that content remains fully accessible as information storage, transmission, and retrieval technologies evolve. Most participants in the FRD interviews were not familiar with FADGI's efforts to offer guidance for creating such content. However, a quarter of the agencies were found to participate in the initiative's working groups, while another agency reported that it uses a FADGI-compliant standard for imagery product metadata—suggesting that it is having a real-world impact on digital preservation practices.

4. External Partnerships Focused on Disseminating and Preserving Public Information Products

The intent of the question on external partnerships was to learn how Federal agencies are partnering with other Government entities and services to enhance public access to their materials, with the outcome of identifying potential areas of partnership with the SOD's public information programs. With few exceptions, however, the agencies that participated in this study highlighted partnerships that are required by law (e.g., NARA and the Federal Records Act) or arrangements with digital repositories in compliance with the OSTP memorandum, "Increasing Access to the Results of Federally Funded Scientific Research."

In retrospect, this question should have been worded differently, or should have included follow-up questions for further clarification. Still, it was beneficial to learn the criteria agencies use for selecting a digital repository, even though this did not apply to all study participants. Possible areas of partnership may be gleaned from the criteria provided.

5. Awareness of GPO's Statutory Information Programs

GPO's principal statutory information programs are its cataloging and dissemination programs, which require agencies to notify the SOD of Federal publications so they may be made available to FDLP member libraries and included in the digital Catalog of U.S. Government Publications. GPO's system of online access, FDsys/**govinfo**, is the primary program through which the SOD

"shall accommodate any request by the head of a department or agency to include in the system of access . . . information that is under the control of the department or agency involved."[46]

When asked whether they are familiar with these programs, nearly all of the communications managers interviewed said that while they are aware of Title 44 of the U.S. Code as it pertains to tangible products, they have a limited understanding of their agency's responsibilities to make digital information products available to the FDLP. Only one of the agencies claimed that its communications staff have a good awareness of these requirements as they pertain to digital information products.

RECOMMENDED ACTIONS

The SOD seeks to improve its information-capture capability; foster more productive, collaborative relationships with Federal agencies; and develop new strategies to transform and adapt existing acquisition workflows and processes for the digital era. Based on the information provided by the Federal communications managers interviewed by the FRD research team, GPO should consider the following measures to strengthen and support these efforts.

Explore methods to automate and embed compliance with Chapters 17 and 19 of Title 44 of the U.S. Code. Some respondents said their agencies are short-staffed and unable to dedicate additional resources to reporting on new (and newly accessible) content, as required by law. Moreover, the volume of digital-only content that Federal agencies disseminate, together with the dispersal of content originators, can make it impractical for a single office to track all new agency information products. GPO's existing reporting mechanism for digital content, the Document Discovery submission form, relies on voluntary manual entry—a method that is not easily scalable and lacks accountability. As such, GPO may want to consider developing an automated or semi-automated notification system for Federal agency product releases.

One possible model for a semi-automated system is CHORUS, the Clearinghouse for the Open Research of the United States, which is currently used by the academic publishing industry to notify agencies of new manuscripts and journal articles resulting from federally funded research. Created in response to the OSTP memorandum titled "Increasing Access to the Results of Federally Funded Scientific Research," CHORUS enables the identification, discovery, public access, and preservation of the documents in a long-term archive.[47] CHORUS tracks each of those features and reports the level of compliance on its dashboards.[48] Embedding a similar reporting system into Government agencies' publications workflows would result in more comprehensive notifications to GPO than is provided by current methods.

[46] 44 U.S.C. § 4101(b).
[47] Howard Ratner, "CHORUS: A Solution for Public Access to Scholarly Research," *Science Editor* 37, no. 1 (2014): 12, http://www.councilscienceeditors.org/wp-content/uploads/v37n1p12-14.pdf.
[48] CHORUS, "About CHORUS," accessed March 27, 2018, https://www.chorusaccess.org/about/about-chorus/.

Continue to develop methods to capture agency web content. Since 2011, GPO's efforts to capture FDLP-eligible information products hosted on agency websites using Archive-It, the Internet Archive's subscription-based web harvesting tool, has yielded tangible results. At the time of this report, the FDLP Web Archive holds approximately 145 agency collections, encompassing 1,600 websites.[49] GPO also subscribes to automatic notification tools to help it manually harvest online publications. The agency communications managers interviewed by FRD were generally supportive of these approaches to capturing digital information. None of the agencies raised concerns or objections to having their websites crawled and harvested, and several respondents encouraged GPO to subscribe to existing communications channels where publication announcements are likely to appear, such as agency listservs, APIs, and social media accounts. GPO should continue exploring ways to acquire and preserve these digital information products.

Continue outreach to agency communications/public affairs offices. FRD's interviews indicate that agency staff have limited knowledge of GPO's digital product dissemination and preservation missions. For example, a majority of the communications managers professed to having limited or no awareness of GPO's digital initiatives. Most of the interviewees associate GPO and the FDLP narrowly with Federal printing rather than with Federal publishing more broadly. Meanwhile, the knowledge of GPO's statutory information programs appears to be confined to staff in a few occupational categories, mainly printing officers, librarians/archivists, and some veteran communications managers. The reasons for this narrowly shared awareness of the SOD's programs within agencies may include the declining share of publications that are submitted to GPO for printing, the loss of institutional knowledge as printing officer positions are phased out, and reductions in library and archivist staff who would be most knowledgeable about the full range of GPO services. As the gatekeepers of agency communications policies in the digital age, public affairs offices are an important resource for raising awareness of, and encouraging compliance with, statutory obligations. GPO should therefore continue and, where possible, expand its direct outreach to Federal communications staff.

Continue outreach to content originators at the program office level. Most of the agencies profiled identified their program offices as the main sources of direct-to-web content. GPO already arranges sessions with agency content originators to present the FDLP and provide information about Document Discovery.[50] GPO should continue these outreach efforts, including working with agency communications/public affairs offices to identify the program units with access to the web production environment and provide the staff with informational material on best practices for SOD public information programs and Title 44 compliance.

Provide a forum for agency stakeholders to develop common guidance on Title 44 issues. During the interviews, some respondents said they had little or no awareness of what steps other offices within their agencies might be taking to comply with SOD programs authorized in Title 44 of the U.S. Code. As such, the SOD may want to consider approaching agencies to convene a forum or workshop to discuss intra-agency coordination on these issues. The SOD

[49] Archive-It, "Federal Depository Library Program Web Archive," accessed March 26, 2018, https://archive-it.org/home/FDLPwebarchive/?show=Sites.
[50] GPO, Federal Depository Library Program, "Document Discovery," May 4, 2012, https://www.fdlp.gov/all-newsletters/featured-articles/1307-doc-discovery.

should seek participation from, at a minimum, the following five components: headquarters communications/public affairs offices, top-tier program offices, agency librarians/archivists, agency information officers, and agency offices of general counsel.

Recommend OMB release a detailed memorandum on the FDLP provisions in Title 44. Several communications managers interviewed by FRD said they are aware of the FDLP provisions listed in Title 44 of the U.S. Code and OMB Circular A-130, "Management of Federal Information Resources," but that it remains unclear to them what measures their agencies should take to improve their compliance. The OMB circular in particular provides no guidance beyond "Government publications [should be made] available to depository libraries through the Government Publishing Office, regardless of format."[51] A more targeted directive, including a definition of what constitutes a government publication and methods agencies can use to notify GPO of new publication releases, could help guide these agencies toward better compliance with the Depository Library Act provisions.

The OSTP memorandum on federally funded research might be considered an appropriate model for such a directive as it details specific actions for agencies to take to ensure the public access and preservation of such manuscripts and publications, including the designation of repositories for research-based documents. A similar directive by OMB to all Federal agency heads might substantially improve agency compliance and reduce the prevalence of fugitive documents.

Assessment of Study Methodology

Based on the results obtained by this study, GPO should consider the following refinements to the research methodology that may yield improved results during future efforts to gather information from Federal agencies.

Promote broader awareness of the study and its purposes before interviewing candidates. Recruiting participants for this study proved to be more challenging than originally anticipated. As discussed above, several factors may have contributed to the low acceptance rate for the interview invitations, including the timing of the study (during a presidential transition), possible misunderstandings over the purposes of the study, and hesitation to discuss internal agency matters with an outside organization. Future efforts to solicit information about agencies' dissemination and preservation practices should be preceded by a robust notification campaign to the executive departments and agencies, preferably including a communication from OMB encouraging participation.

Provide background information on the Depository Library Act and the FDLP. Some of the communications managers interviewed expressed only a passing familiarity with the FDLP, associating GPO's cataloging and acquisition efforts narrowly with Federal printing. GPO should consider including a one-page infographic as part of its initial communication to agencies explaining the relevance of its mandates to the publication of digital products and providing examples of the types of digital products considered to be in-scope for the FDLP. Having this

[51] White House, OMB, "Circular No. A-130: Managing Federal Information," 15.

knowledge before the interviews would save time and help respondents better prepare to discuss relevant agency practices during the interviews.

Solicit information from program office and web development staff. While the interviewees were broadly familiar with their agency's policies across a range of issues and provided valuable institutional knowledge, their responses to the more technical and process-oriented questions tended to lack detail. Managers, editorial staff, and web development staff at the program office level may be better equipped to discuss matters pertaining to digital publication practices (such as adherence to FADGI digital preservation guidelines). Communications managers should be asked to identify and recruit program office staff who can address GPO's technical and process-oriented questions in greater detail, through interviews or in correspondence with GPO.

Reduce the number of questions or combine written responses with verbal follow-up. The interviews that informed this study largely adhered to their scheduled 45 minutes in length. However, this proved to be insufficient to provide background and clarification for all questions being asked and to receive clarification of all answers being provided. Future interviews should focus on a narrower range of topics that cannot be answered through reviews of agency documents, websites, and other written materials. Alternatively, the interviews should be sequenced as a follow-up to written responses to the broader set of GPO questions.

Use more specific wording in questions and provide examples to guide responses. Some of the questions in the discussion guide did not elicit responses on the key topics of interest to GPO. Developing a glossary of terms to use with the discussion guide will help ensure there is equal understanding of the intent of questions. As discussed above, the intent of the question on external partnerships was to learn how Federal agencies are partnering with other Government entities and services to enhance the public's access to their products, with the outcome of identifying potential areas of partnership with the SOD's public information programs. With few exceptions, however, the agencies that participated in this study highlighted partnerships that are required by law (e.g., NARA and the Federal Records Act) or arrangements with digital repositories in compliance with the OSTP memorandum, "Increasing Access to the Results of Federally Funded Scientific Research." In retrospect, this question should have been worded differently, or should have included follow-up questions for clarification. It was, however, beneficial to learn the criteria agencies use for selecting a digital repository, even though this did not apply to all of the study participants. Possible areas of partnership may be gleaned from the criteria provided.

APPENDIX I. FRD Landscape Study of Federal Digital Publishing

The Federal digital publishing landscape is vast. Today, Federal Government websites with ".gov" and ".mil" domains serve as platforms for the direct-to-web publishing of hundreds of thousands of Federal digital information products each year. Since it would be impossible to calculate the total number of products produced by Federal Government agencies, tallying the number of active Federal websites provides a rough indicator of the scope of the Federal digital publishing landscape.

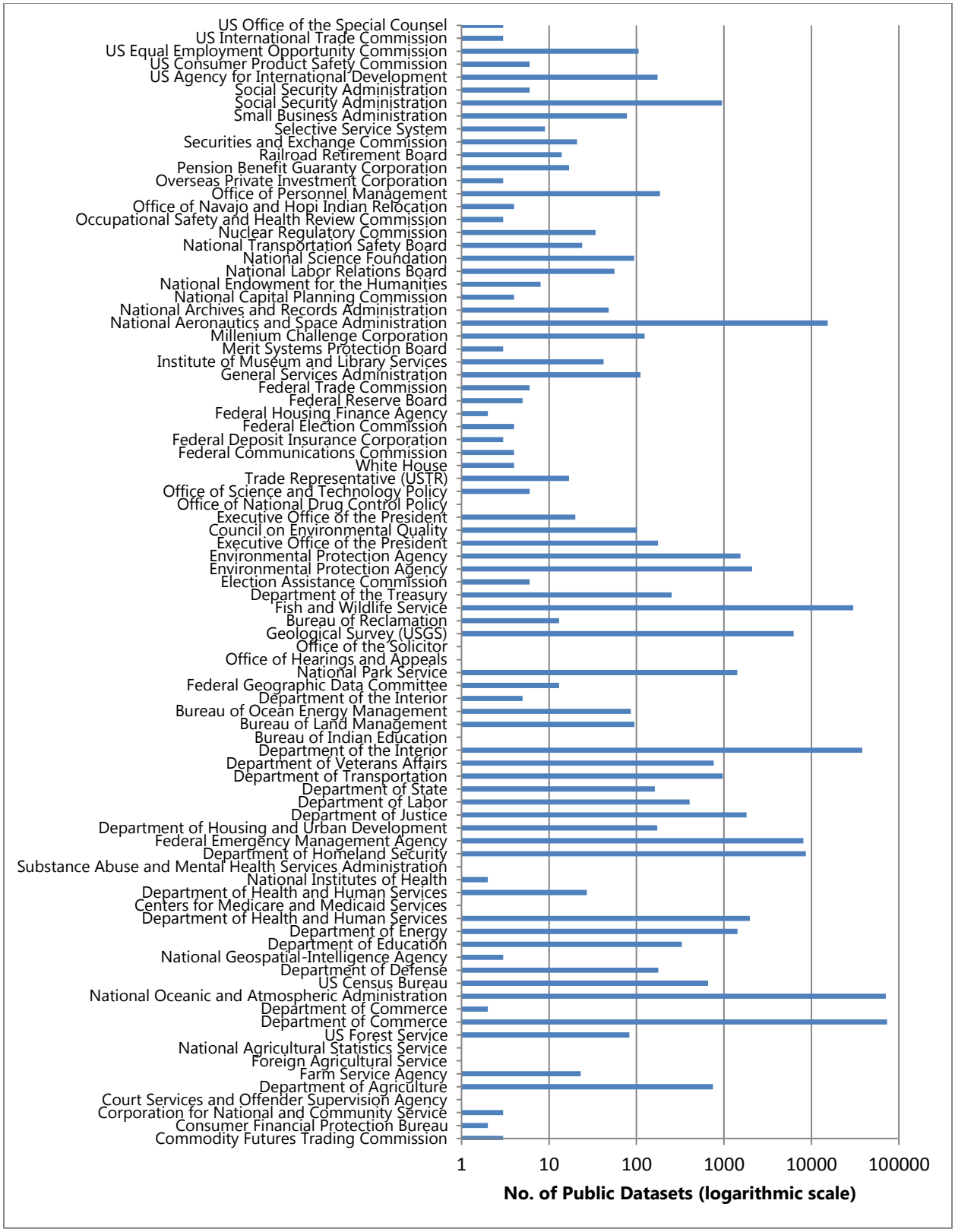
As of February 3, 2017, the U.S. General Services Administration's (GSA's) periodic listing of Federal agency internet domains totaled 1,316 top-level domains.[52] An alternative measure, the domain survey conducted by the Internet Systems Consortium in January 2017, found 2,297 two-level ".gov" domains and 627,478 three-level ".gov" domains. The survey also found 203 two-level ".mil" domains and 181,244 three-level ".mil" domains.[53] A collaborative effort hosted by the California Digital Library and the Internet Archive (and involving the Library of Congress and the U.S. Government Publishing Office [GPO]) called the End of Term Web Archive provides a third measure. Based on the results of the last completed crawl—which occurred between 2016 and 2017—Federal agencies host approximately 6,000 websites containing 32 million webpages and a total of 12 terabytes of data.[54] As GPO considers the websites themselves to be information products or services, they too fall within the scope of its preservation mandate.

In addition to publications and reports, Federal agencies publish vast quantities of data. For example, a February 2017 snapshot of 95 Federal agencies tracked by the GSA lists more than 265,000 datasets. The largest Federal dataset publishers were the U.S. Dept. of Commerce (73,134) and its National Oceanic and Atmospheric Administration (NOAA, 70,882); the U.S. Dept. of the Interior (38,071) and its U.S. Fish and Wildlife Service (30,177); and the National Aeronautics and Space Administration (15,379).[55] While collecting more information about these datasets is outside the scope of this report, Figure 3 includes the full snapshot.

Federal information products exist in every commercially available digital format, with the most popular formats being ".html," ".pdf," and ".xml."[56]

[52] GSA, Technology Transformation Service, "Federal Government datasets," Data.gov, accessed February 3, 2017, https://catalog.data.gov/dataset?organization_type=Federal+Government#sec-res_format.
[53] Internet Systems Consortium, "Internet Domain Survey: Distributions by Top-Level Domain Name (by hostcount)," January 2017, http://ftp.isc.org/www/survey/reports/current/bynum.txt.
[54] End of Term Web Archive, "Project Background," accessed February 3, 2017, http://eotarchive.cdlib.org/background.html; End of Term Web Archive, "Crawl Statistics and Reports," accessed February 3, 2017, http://wbgrp-svc251.us.archive.org/collections/eot2012/stats/.
[55] GSA, Technology Transformation Service, "Federal Government datasets."
[56] GSA, Technology Transformation Service, "Federal Government datasets."

Figure 3. Datasets of Public Information Products by Agency



Source: GSA, Technology Transformation Service, "Federal Government datasets."

Federal Policy on Permanent Access to Public Information Products

Federal Depository Library Program

Federal agencies are required by law to make all of their publications—defined as "informational matter which is published as an individual document at Government expense, or as required by law"—regardless of the printing source or publishing format, available to GPO's Superintendent of Documents (SOD) for distribution to varying types of libraries through the Federal Depository Library Program (FDLP). Those libraries, in turn, are required to provide free public access to the documents. In particular, Federal agencies should deposit:

> Government publications, except those determined by their issuing components to be required for official use only or for strictly administrative or operational purposes which have no public interest or educational value and publications classified for reasons of national security . . . Each component of the Government shall furnish the Superintendent of Documents [with] a list of such publications it issued during the previous month that were obtained from sources other than the [GPO].[57]

Cataloging and Indexing Program

To facilitate the public's access to these Government publications, the SOD is mandated to publish a regular index of such records. The *Monthly Catalog of U.S. Government Publications* was printed from 1895 to 2004, at which time it was replaced with an online version, the Catalog of U.S. Government Publications.[58] To ensure the catalog is comprehensive:

> The head of each executive department, independent agency, and establishment of the Government shall deliver to [SOD] a copy of every document issued or published by the department, bureau, or office not confidential in character.[59]

GPO's System of Online Access

In June 1993, the Government Printing Office Electronic Information Access Enhancement Act provided a means of increasing public access to a wide range of Federal electronic information sources through GPO.[60] The result was GPO*Access*, which was replaced by GPO's Federal Digital System (FDsys) in 2009. In December 2018, **govinfo** will replace FDsys as the online system of record.[61] A content management system, preservation repository, advanced search engine, and public access website, FDsys/**govinfo** conforms to ISO 14721, the open archival information system reference model for preservation and access.[62]

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[57] 44 U.S.C. §§ 1901–16 (2016). See also GPO, "Circular Letter No. 794: Disseminating Information Products to the Public through GPO's Federal Depository Library Program," October 19, 2010, 5, https://www.gpo.gov/docs/default-source/circular-letters-pdf-files/2010/cir794.pdf?sfvrsn=55d06c3d_2.
[58] GPO, SOD, "Catalog of U.S. Government Publications (CGP)."
[59] 44 U.S.C. §§ 1710.
[60] 44 U.S.C. §§ 4101–4.
[61] Like the Library of Congress, GPO is an affiliate of the National Archives and Records Administration (NARA). While the Library supports the Historical American Engineering Record, GPO is a NARA partner for digital content (Diane Vogt-O'Connor, "NARA's Oldest Partnerships," *Prologue* 38, no. 2 [Summer 2006], https://www.archives.gov/publications/prologue/2006/summer/affiliates.html).
[62] ISO, "14721: Space Data and Information Transfer Systems—Open Archival Information System (OAIS)—Reference Model," accessed May 22, 2018, https://www.iso.org/standard/57284.html.

GPO Policy on Depositing Digital Information Products

GPO's dissemination and distribution policy for the FDLP emphasizes making publications available to Federal depository libraries through the online distribution of electronic copies. It has established two primary methods that agencies may use to notify GPO of born-digital information products and to "deposit" them for distribution:

- When an agency publishes an information product on its own website or electronic information service, the agency can notify GPO of the URL and other pertinent details (e.g., new, corrected, reprint, or next issue in continuing resource) so that GPO may catalog the publication and direct users to it. The most direct method of notification is by sending an email to: DocDiscovery@gpo.gov. Agencies also may submit Form 3868, "Notification of Intent to Publish," with the product title and other pertinent details by email to: IntentToPublish@gpo.gov, or by fax to: 202-312-0181.

- When an agency ceases to offer remote public access to an information product within the scope of the FDLP, GPO can use electronic source files to provide permanent access through the program. Source files may be provided to GPO via file transfer protocol, internet download or telnet, or CD-ROM or DVD-ROM.[63]

Agencies also may assist the SOD's cataloging and preservation efforts by authorizing the office and its partners to crawl and harvest content from their websites at regular intervals. The FDLP Web Archive, for example, is comprised of selected U.S. Government websites archived in their entirety by the SOD in order to create working "snapshots" of various points in time. The aim is to provide permanent public access to this content, which GPO collects with Archive-It, a subscription-based web service offered by the nonprofit Internet Archive. The SOD interprets nearly all Federal public online information products as being subject to ingest by FDsys:

> With the exception of materials classified for national security, all official Government publications, information, or information dissemination products paid for with Federal funds originating from agencies of the legislative, executive, and judicial branches of the U.S. Government are within scope for ingest into GPO's system of online access. Government content converted by parties with whom GPO has a formally signed partnership agreement that contemplates ingest of such content are also within scope.[64]

In those instances where GPO cannot harvest the content from an agency's website, it seeks to enter into a content partnership with the agency itself. Such a partnership establishes a joint commitment between GPO and the agency to preserve permanent public access to its content within scope of the FDLP. Agencies may then maintain the content on archive sections of their own websites or partner with a Federal depository library to host the content on their servers.

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[63] GPO, "Circular Letter No. 794: Disseminating Information Products," 5–6.
[64] GPO, SOD, "Public Policy Statement 2016–2: Content Scope for GPO's System of Online Access." Also, 44 U.S.C. § 4101(b) stipulates that SOD "shall accommodate any request by the head of a department or agency to include in the system of access . . . information that is under the control of the department or agency involved."

GPO is involved in a similar harvesting effort at the end of presidential administrations. Along with the libraries of George Washington University, Stanford University, the University of North Texas, as well as the California Digital Library, Internet Archive, and Library of Congress, GPO is an active partner of the End of Term Web Archive, which helps preserve Federal agency websites before, during, and after presidential transitions.[65] In GPO's view, however, passively sharing web content by allowing external crawls—while preferable to no access—should not be substituted for actively depositing content with the agency.

Managing Federal Information as a Strategic Resource

In July 1993, the White House Office of Management and Budget (OMB) announced a revision of OMB Circular A-130, "Management of Federal Information Resources." The revision stressed the importance of public access to Government information, and it contained a lengthy discussion of the FDLP, including the need to distribute electronic information dissemination products to depository libraries.[66] The circular was revised in 2016 and also provides additional policy guidance with regard to Federal agencies' responsibilities:

> Agencies have a responsibility to provide information to the public consistent with their missions and subject to Federal law and policy. Agencies will discharge this responsibility by:
>
> a) Publishing public information online in a manner that promotes analysis and reuse for the widest possible range of purposes, meaning that the information is publicly accessible, machine-readable, appropriately described, complete, and timely. This includes providing such public information in a format(s) accessible to employees and members of the public with disabilities. . . .
>
> d) As appropriate, making Government publications available to depository libraries through the [GPO] regardless of format.[67]

OMB Circular A-130 defines the term "information dissemination product" to include all information that is disseminated by Federal agencies. It further stipulates:

> While the provision of access to online databases and search software included on compact disk, read-only memory (CD-ROM) are often called information services rather than products, there is no clear distinction and, moreover, no real difference for policy purposes between the two. Thus, the term "information dissemination product" applies to both products and services, and makes no distinction based on how the information is delivered.[68]

Digital Government Strategy and Open Data Policy

On May 23, 2012, the Obama administration issued a directive entitled "Building a 21st Century Digital Government." It launched a comprehensive strategy aimed at delivering better digital

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[65] End of Term Web Archive, "Project Partners," accessed March 20, 2018, http://eotarchive.cdlib.org/partners.html.
[66] National Archives and Records Administration, Office of the Federal Register, "Federal information resources management (Circular A-130); revision," *Federal Register* 58, no. 126 (1993): 36083.
[67] White House, OMB, "Circular No. A-130: Managing Federal Information," 14–15.
[68] White House, OMB, "Appendix IV to Circular No. A-130," accessed March 20, 2018, https://obamawhitehouse.archives.gov/omb/circulars_a130_a130appendix_iv.

services to the American people. The strategy complemented several existing initiatives, including Executive Order 13571, "Streamlining Service Delivery and Improving Customer Service," and Executive Order 13576, "Delivering an Efficient, Effective, and Accountable Government." It was developed to provide Federal agencies with guidance on improving their digital services and to enable them to thrive within the fast-paced, ever-changing world of technology.[69]

As part of the strategy's 12-month roadmap, agencies were required to mobilize two of their priority customer-facing services, and to begin making open data the default for Government IT systems. Among the initiatives advanced by the strategy, the GSA's data.gov website was expanded and upgraded to offer Federal web analytics data in real time.[70]

Public Reporting of Fugitive Documents

Despite these policies and initiatives, some Federal agencies and their components do not consistently notify GPO of newly published documents posted on their websites. These files, commonly referred to as fugitive or "lost" documents, are neither published through GPO nor do they appear in the Catalog of U.S. Government Publications; hence, they are not a part of the FDLP. To mitigate this issue, GPO encourages librarians and members of the public to report fugitive documents through its online "Lost Docs Reporting" form so they may be tracked down and added to the catalog.[71]

Agency Compliance with GPO's Deposit Requirements

Several Federal agencies issue their own policy guidance for disseminating and preserving digital information products. In accordance with GPO's policies, these agencies aim to ensure permanent public access through the FDLP. For example:

- Chapter 6308, "Acquisition of Printing Requirements at the NIH," of the NIH (National Institutes of Health) Policy Manual contains the following guidance:

  All Government publications (except those determined to be required for strictly administrative purposes having no public interest or educational value, and documents classified for reasons of national security) must be made available to the [FDLP] of the GPO Library Service, the Library of Congress, and the [GPO's] Cataloging and Indexing (C&I) Program.[72]

- Similarly, NOAA Administrative Order 205-17A, "Information Access & Dissemination," states:

  All publishers [must] provide [GPO] with copies of Government-produced publications for distribution to designated depository libraries. Copies of

[69] Steven VanRoekel, "Roadmap for a Digital Government," White House Blog, May 23, 2012, https://obamawhitehouse.archives.gov/blog/2012/05/23/roadmap-digital-government.
[70] Steven VanRoekel, "Roadmap."
[71] GPO, Federal Depository Library Program, "Lost Docs Reporting," accessed March 20, 2018, https://www.fdlp.gov/collection-tools/lostdocs. See also GPO, SOD, "Catalog of U.S. Government Publications (CGP)."
[72] HHS, NIH, Office of Management Assessment, "NIH Policy Manual: Chapter 6308; Acquisition of Printing Requirements at the NIH," accessed March 20, 2018, https://policymanual.nih.gov/6308.

publications sold by the GPO are automatically distributed to the depository libraries. NOAA organizations producing "public" publications not printed by the GPO . . . are responsible for providing the necessary copies to the depository libraries.[73]

– Section 1633, "Printing and Distribution," of the U.S. Forest Service Manual, likewise notes:

  All Federal publications, except those determined to be strictly administrative or operational in purpose, must be provided to GPO, Superintendent of Documents, Depository Library Program . . . Such publications covered by this requirement include environmental impact statements, Forest plans, other publications required by law, visitor maps, and recreation folders.[74]

– Section 6 of the Environmental Protection Agency's (EPA's) "Information Access Policy" mandates:

  c) EPA will provide permanent access, in either electronic or non-electronic format, to EPA information products depicting EPA's environmental mission activities . . . that are published electronically (born digital) and will ensure that these documents are inventoried, stored, retrieved and, as appropriate, made available to internal and external audiences.
  d) EPA will provide permanent access, in either electronic or non-electronic format, to EPA information products depicting EPA's environmental mission activities . . . that are published in hard copy and will ensure that these documents are inventoried, stored, retrieved and, as appropriate, made available to internal and external audiences.
  e) Agency publications, as appropriate, will be digitized into the [EPA's] electronic repository for information products.
  f) EPA will comply with requirements for submitting publications (both hard copy and born digital) to [GPO] and/or the National Technical Information Service.[75]

– The U.S. Dept. of Transportation (DOT's) states in Section 7.6.1, "Publications," of its public access plan:

  The DOT will ensure the permanent preservation and long-term accessibility of publications resulting from DOT-funded research and programs by:
  - Adopting sound, non-proprietary preservation standards and archival formats for publications and associated content.
  - Developing practical backup, migration, and technology refreshing strategies.
  - Partnering with other appropriate publication archives across the Federal, academic and business communities.[76]

[73] U.S. Department of Commerce, National Oceanic and Atmospheric Administration, "Administrative Order NAO 205-17A: Information Access & Dissemination," last revised June 14, 2013, http://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_205/205-17.html.
[74] USDA, U.S. Forest Service, "Forest Service Manual 1600: Chapter 1630; Publishing and Related Activities," January 10, 2018, https://www.fs.fed.us/dirindexhome/fsm/1600/wo_1630_amend_2018-1.doc.
[75] U.S. Environmental Protection Agency, Office of Environmental Information, "Information Access Policy," January 24, 2008, 2–3, https://www.epa.gov/sites/production/files/2013-11/documents/21710.pdf.
[76] DOT, *Plan to Increase Public Access to the Results of Federally Funded Scientific Research Results* (Washington, DC: DOT, December 16, 2015), 13, https://cms.dot.gov/sites/dot.gov/files/docs/Official%20DOT%20Public%20Access%20Plan%20ver%201.1.pdf.

Agency Web Archives

Several Federal agencies also maintain their own archive pages for online documents that are no longer considered current. The scope and extent of these collections vary, with some agencies seeking to preserve only the most popular or most important publications, while others pursue broader preservation goals. The extent to which these archives reach back in time also varies, though many agencies maintain archives of born-digital materials dating back to the early to mid-1990s. Examples of these agencies include:

- The U.S. Dept. of Health and Human Services (HHS), which maintains an archive of historical documents, data, and other information that "has value to researchers and the public." The archive enables one's access to legacy information about the department's past programs, administrations, initiatives, and activities. HHS follows a digital content lifecycle management approach which requires its web content to be reviewed and evaluated on an annual basis. This content is then archived online. Broadly speaking, HHS recognizes three categories of archived content: websites, references, and one-offs; each category may include multiple collections.[77]
- The U.S. Dept. of Housing and Urban Development (HUD), which, like HHS, archives historical documents, data, and other information that may be of value to researchers and the public. HUD separates its historical documentation from current content, ensuring one's access to information about past programs, administrations, initiatives, and activities.[78]
- The U.S. Dept. of Labor (DOL), which preserves department and agency web content long after the sites have changed. Since January 2009, the Wirtz Labor Library—working with the DOL Office of Public Affairs—has collected, preserved, and provided access to select agency websites with enduring value. The resulting collection is part of a continuing effort by the library to retain key resources and publications in all formats.[79]
- The U.S. Dept. of State, which hosts an archive of websites dating back to the Clinton administration. Additionally, the Federal depository library at the Richard J. Daley Library (located at the University of Illinois at Chicago) holds an electronic archive of information products produced by the department from 1990 to 1997. This partnership, which began in 1994, is recognized by GPO as the first electronic partnership agreement between an executive agency and a depository library. The university also works to ensure that the electronic archives are easily accessible and clearly organized.[80]
- The U.S. Geological Survey (USGS), a component of the U.S. Dept. of the Interior, which encourages the use of digital object identifiers, persistent URLs, or some equivalent to ensure consistency and ease of access in retrieving USGS information.

[77] HHS, "HHS Website Content Lifecycle Management (CLM) and Archive Guidance," last updated January 9, 2014, https://www.hhs.gov/web/building-and-managing-websites/managing-websites/content-management-lifecycle-and-archive-policy/index.html.
[78] U.S. Department of Housing and Urban Development, "HUD's Web Publication Procedures and Style Guide," April 22, 2016, 17, https://www.hud.gov/sites/documents/WEBPUBSTANDARDS.PDF.
[79] U.S. Department of Labor, "U.S. Department of Labor Announces Digital Snapshot Project to Archive Content of All Departmental Web Sites," January 8, 2009, https://www.dol.gov/newsroom/releases/oasam/oasam20090108.
[80] U.S. Department of State and the Federal Depository Library at the Richard J. Daley Library, University of Illinois at Chicago, "Electronic Research Collections," last modified May 2003, http://dosfan.lib.uic.edu/ERC/index.html.

It further requires that official USGS information products published on the web are available through the survey's electronic publications database system.[81]

Federal Access Plans for Public Information Products

Many agencies fund research that results in extramural academic papers, journal articles, and associated databases that may not carry agency branding but are nonetheless subject to Federal open access laws and policies. The dissemination of this information through designated digital repositories has expanded since the early 2010s in response to government-wide mandates requiring broader public access and more robust preservation of agency information products, as well as the results of their federally funded research. The most direct mandate was issued on February 22, 2013, when the White House Office of Science and Technology Policy (OSTP) issued a memorandum titled "Increasing Access to the Results of Federally Funded Scientific Research."

The memorandum's directive applies to two distinct categories of content arising from Federal funds: digital scientific data and peer-reviewed publications. In order to ensure the accessibility and preservation of public information products based on federally funded research, OSTP recommends that the results "be stored for long-term preservation and publicly accessible to search, retrieve, and analyze in ways that maximize the impact and accountability of the Federal research investment."[82]

Through this memorandum, OSTP directed all agencies with more than $100 million in annual research and development expenditures—which includes the parent organizations of nine of the 12 agencies profiled in this report—to prepare a plan for improving the public's access to the results.[83] These plans generally follow a similar outline: acknowledging that they constitute a formal response to the White House directive; establishing the effective dates after which all unclassified agency-funded, research-based publications are to be deposited in a trusted repository; and identifying the repository the agency will use to preserve its publications.[84]

In response to the OSTP memorandum, by early 2016, 22 Federal agencies and components had released individual plans for increasing the access to and preservation of the results of their agency-funded research. These results included intramural and extramural (contractor- or grantee-produced) articles and reports (see Table 30).

[81] U.S. Department of the Interior, USGS, "Manual: Chapter 1300; Publishing Records," May 2009, https://www2.usgs.gov/usgs-manual/schedule/432-1-s1/ch1300a.html#plan.
[82] White House, OSTP, "Memorandum: Increasing Access to the Results of Federally Funded Scientific Research," 1, 3.
[83] White House, Office of Science and Technology Policy (OSTP), "Memorandum: Increasing Access to the Results of Federally Funded Scientific Research," February 22, 2013, 1, 3, https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf.
[84] Many of these plans also include guidance on increasing public access to the agencies' digital data. However, as such data was out of the scope of this project, the researchers focused solely on the publication requirements listed.

Table 30. Federal Access Plans for Public Information Products

Executive Agency/ Component (Eff. Date)	Scope of Public Access Plan	Link
Office of the Director of National Intelligence (Sep. 2016)	I: Data and full-text scholarly publication repositories and catalog implemented by Jan. 2017 E: N/A	https://www.iarpa.gov/images/files/Documents/ODNI%20Public%20Access%20Plan_Sept%202016.pdf
U.S. Dept. of Agriculture (Nov. 2014)	I: Articles published after Oct. 1, 2014 E: TBA	https://www.usda.gov/sites/default/files/documents/USDA-Public-Access-Implementation-Plan.pdf
U.S. Dept. of Commerce		
– National Institute of Standards and Technology (Dec. 2014)	I: Articles published after Oct. 1, 2015 E: Articles from new funding opportunities starting Oct. 1, 2015	https://www.nist.gov/sites/default/files/documents/2017/04/28/NIST-Plan-for-Public-Access.pdf
– National Oceanic and Atmospheric Admin. (Feb. 2015)	I: Articles published after Jan. 1, 2016 E: Articles from research in response to funding announcements and contract solicitations issued on/after Jun. 1, 2016	https://www.glerl.noaa.gov/review2016/reviewer_docs/NOAA_PARR_Plan_v5.04.pdf
U.S. Dept. of Defense (Feb. 2015)	I: Jan. 10, 2017 E: TBA	http://www.dtic.mil/dtic/pdf/dod_public_access_plan_feb2015.pdf
U.S. Dept. of Education (Oct. 2016)	Articles funded by the Institute of Education Sciences on/after Oct. 1, 2011; articles funded by other units TBA	https://ies.ed.gov/funding/pdf/EDPlanPolicyDevelopmentGuidanceforPublicAccess.pdf
U.S. Dept. of Energy (Jul. 2014)	I: For DOE and DOE Laboratory staff, articles published after Oct. 1, 2014 E: For grantees, articles from awards issued/renewed after Oct. 1, 2014	https://www.energy.gov/sites/prod/files/2014/08/f18/DOE_Public_Access%20Plan_FINAL.pdf
U.S. Dept. of Health and Human Services		
– Admin. for Community Living (Feb. 2016, updated Jun. 2017)	Articles resulting from awards made after Oct. 1, 2016	https://www.acl.gov/sites/default/files/about-acl/2017-12/ACLPublicAcccessPlan.pdf
– Agency for Healthcare Research and Quality (Feb. 2015)	I: Articles published after Jan. 1, 2016 E: Articles from new awards issued after Jan. 1, 2016	https://www.ahrq.gov/funding/policies/publicaccess/index.html
– Assistant Secretary for Preparedness and Response (n.d.)	Articles resulting from awards made on or after Oct. 1, 2015	http://www.phe.gov/Preparedness/planning/science/Documents/AccessPlan.pdf
– Centers for Disease Control and Prevention (Jan. 2015)	I: Articles published after Jul. 15, 2013 E: Articles resulting from new and continuation awards issued after Sep. 30, 2013	https://www.cdc.gov/od/science/docs/Final-CDC-Public-Access-Plan-Jan-2015_508-Compliant.pdf
– Food and Drug Administration (Feb. 2015)	I: Articles accepted for publication after Dec. 29, 2015 E: Articles from new awards issued after Dec. 29, 2015	https://www.fda.gov/downloads/ScienceResearch/AboutScienceResearchatFDA/UCM435418.pdf
– National Institutes of Health (Feb. 2015)	I/E: Articles accepted for publication on/after Apr. 7, 2008	https://grants.nih.gov/grants/NIH-Public-Access-Plan.pdf

Executive Agency/ Component (Eff. Date)	Scope of Public Access Plan	Link
U.S. Dept. of Homeland Security (Dec. 2016)	I: Publications beginning in FY 2017 E: N/A	https://www.dhs.gov/sites/default/files/publications/DHS%20Public%20Access%20Plan%20-%20FINAL_161229-508.pdf
U.S. Dept. of the Interior		
U.S. Geological Survey (Jan. 2016; updated Mar. 2016)	I/E: Articles from research published after Oct. 1, 2016	https://www2.usgs.gov/quality_integrity/open_access/downloads/USGS-PublicAccessPlan-APPROVED-v1.03.pdf
U.S. Dept. of Transportation (Dec. 2015)	I/E: Publications from projects initiated or with new funding added on/after Jan. 1, 2016	https://www.transportation.gov/sites/dot.gov/files/docs/Official%20DOT%20Public%20Access%20Plan%20ver%201.1.pdf
U.S. Dept. of Veterans Affairs (Jul. 2015)	Articles from research initiated after Jan. 1, 2016	https://www.va.gov/ORO/Docs/Guidance/VA_RSCH_DATA_ACCESS_PLAN_07_23_2015.pdf

Independent Agency (Eff. Date)	Scope of Public Access Plan	Link
National Aeronautics and Space Administration (Dec. 2014)	I/E: Articles resulting from funding awarded on/after Oct. 1, 2015	https://www.nasa.gov/sites/default/files/atoms/files/206985_2015_nasa_plan-for-web.pdf
National Science Foundation (Mar. 2015)	Articles and juried conference papers resulting from awards issued in response to proposals submitted or due on/after Jan. 25, 2016	https://www.nsf.gov/pubs/2015/nsf15052/nsf15052.pdf
Smithsonian Institution (Aug. 2015)	Articles and book chapters submitted for publication after Oct. 1, 2015	http://public.media.smithsonianmag.com/file_upload_plugin/1f143b54-a9f9-4746-bef5-1c76151e3c7a.pdf
U.S. Agency of International Development (Nov. 2016)	Articles published after Sep. 5, 2015	https://www.usaid.gov/sites/default/files/documents/15396/USAID_PublicAccessPlan.pdf
U.S. Environmental Protection Agency (Nov. 2016)	I: EPA will begin depositing prospective peer-reviewed research manuscripts in PubMed Central during 2017 E: N/A	https://www.epa.gov/sites/production/files/2016-12/documents/epascientificresearchtransperancyplan.pdf

Source: CENDI, "Implementation of Public Access Programs in Federal Agencies," accessed March 13, 2018, https://www.cendi.gov/projects/Public_Access_Plans_US_Fed_Agencies.html.

Based on these public access plans, there are a number of agencies outside of those profiled for this study that use designated digital repositories (see Table 31). These agencies include:

DHS	U.S. Dept. of Homeland Security
DoD	U.S. Dept. of Defense
DOE	U.S. Dept. of Energy
DOT	U.S. Dept. of Transportation
ED	U.S. Dept. of Education
EPA	U.S. Environmental Protection Agency
NASA	National Aeronautics and Space Administration
NIST	National Institute of Standards and Technology, U.S. Dept. of Commerce

NOAA	National Oceanic and Atmospheric Administration, U.S. Dept. of Commerce
NSF	National Science Foundation
ODNI	Office of the Director of National Intelligence
SI	Smithsonian Institution
USAID	U.S. Agency for International Development
USDA	U.S. Dept. of Agriculture
USGS	U.S. Geological Survey
VA	U.S. Dept. of Veterans Affairs

Additionally, along with the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Disease Control and Prevention (CDC), several components from the U.S. Dept. of Health and Human Services rely on PubMed Central, namely the Administration for Community Living (ACL), the Assistant Secretary for Preparedness and Response (ASPR), the Food and Drug Administration (FDA), and the National Institutes of Health (NIH).

Table 30. Digital Repositories for Federally Funded Research Publications by Agency

Agency(s)	Repository (Link)	Description
ACL, AHRQ, ASPR, CDC, DHS, EPA, FDA, NASA, NIH, NIST, VA	PubMed Central (https://www.ncbi.nlm.nih.gov/pmc/)	PubMed Central (PMC) has been the designated repository for papers submitted in accordance with the NIH's public access policy since 2005. It also serves as the National Library of Medicine's document repository and includes papers across a variety of scientific disciplines. PMC's aim is to make full-text papers resulting from publicly- and privately-funded research more readily available to the public, healthcare providers, educators, and the scientific community.
CDC*, NOAA	CDC Stacks (https://stacks.cdc.gov/)	CDC Stacks provides access to current and historical CDC research and literature, such as the Open Access Collection and the first 30 vol. of the *Morbidity and Mortality Weekly Report*. It also includes the ability to search the full text of all documents, browse journal articles by subject, and explore curated collections of documents on relevant topics.
DoD, ODNI	PubDefense (https://publicaccess.dtic.mil/padf_public/#/home)	PubDefense provides access to journal articles resulting from DoD- and ODNI-funded research. It contains a collection of published articles and accepted manuscripts. Additional documents, links, and metadata are added as they are submitted to the Defense Technical Information Center. Access to the full-text items in this collection is made available after a 12-month embargo.
DOE, NSF	Public Access Gateway for Energy and Science (https://www.osti.gov/pages/)	The Public Access Gateway for Energy and Science (PAGES) is a search tool developed and maintained by DOE's Office of Scientific and Technical Information. It employs a hybrid model of both centralized and distributed content, with PAGES maintaining a permanent archive of full-text scientific and technical information and metadata. In this way, PAGES builds on the DOE's existing infrastructure while integrating the publishers' public access efforts.

Agency(s)	Repository (Link)	Description
DOT	Repository and Open Science Access Portal (https://rosap.ntl.bts.gov/)	Founded as an all-digital library program, the Repository and Open Science Access Portal includes full-text electronic publications, datasets, and other resources. It also serves as the full-text repository for DOT-funded research. The National Transportation Library, which supports the portal, provides its collections freely to transportation researchers, statistical organizations, the media, and the public.
ED	Education Resources Information Center (https://eric.ed.gov/)	The Education Resources Information Center is a digital library sponsored by ED's Institute of Education Sciences. It provides access to a comprehensive, easy-to-use, searchable database of bibliographic records of journal and non-journal literature from 1966 to the present.
SI	Smithsonian Research Online (https://research.si.edu/)	Smithsonian Research Online (SRO) collects and manages publication data—and, in some cases, supplementary data and datasets—for works created by Smithsonian staff and affiliates. It currently collects nearly 2,500 publications per year. Data stored in SRO is reused on many Smithsonian websites to showcase recent publications by specific authors or research units. Full-text articles can also be submitted to SRO, where they are housed and managed in a stable repository.
USAID	Development Experience Clearinghouse (https://dec.usaid.gov/)	The Development Experience Clearinghouse is the largest online resource for USAID-funded technical and program documentation, with more than 155,000 documents available for viewing and electronic download.
USDA	NAL Catalog (https://agricola.nal.usda.gov/) NAL Digital Collections (https://naldc.nal.usda.gov/naldc/home.xhtml)	USDA plans to leverage its existing investments in public access tools and repositories of full-text scholarly publications (e.g., NAL Catalog and NAL Digital Collections) to create the foundation for an expanded repository suitable for achieving the objectives of the OSTP public access policy.
USGS	USGS Publications Warehouse (https://pubs.er.usgs.gov/) U.S. Geological Survey Science Data Catalog (https://data.usgs.gov/datacatalog/)	Timely search, discovery, and access to all USGS publications subject to the plan will be provided by the USGS Publications Warehouse. USGS will use its Science Data Catalog to facilitate discovery of and provide access to digital data resulting from its funded research. The full-text of all USGS final manuscripts will reside in the Information Product Data System (IPDS), a trusted repository that functions in part as a dark archive for all USGS-funded information products.

APPENDIX II. FRD/GPO Interview Discussion Guide

Interview Date: _____

Agency: _____

Office(s): _____

Respondent(s): _____

Thank you for agreeing to participate in this interview. The Federal Research Division of the Library of Congress is conducting this interview on behalf of the U.S. Government Publishing Office (GPO). The broad goal of this research effort is to determine the impact that the migration of government information products from paper, microfiche, and other tangible media to Federal agency websites has had on the public's ability to find and access these products on a continuing basis. We will be asking you about your agency's information publishing, dissemination, and preservation policies and practices.

1. **Information Dissemination Activities and Policies**

    a. Which office(s) within your agency is (are) responsible for the dissemination of public information products?

    b. Where or how are agency information dissemination policies documented?

    c. Are these policies communicated as part of employee training for staff involved in communications/publishing roles?

    d. Are they communicated in some other way (e.g., page on agency intranet, periodic emails, or memos)?

    e. Can you share a copy of those guidelines?

    f. Is information dissemination included in your agency's continuity of operations (COOP) plan?

        If asked for clarification: GPO defines COOP as an initiative that ensures Federal Government departments and agencies are able to continue operation of their essential functions under a broad range of circumstances, including all-hazard emergencies as well as natural, man-made, and technological threats and national security emergencies.

    g. Does your agency disseminate contractor- or grantee-produced content? Is this content published in the same manner as agency-generated content? If not, how is it disseminated?

2. Information Product Formats and Dissemination Methods

a. What are the main types of public information products that your agency publishes?

If asked for examples, prompt with some of following types of information products:
- Annual Reports
- Regulations, Rules, and Directives
- Administrative Decisions, Opinions, and Orders
- Preliminary/Draft and Final Reports
- Handbooks, Manuals, and Guides
- Maps/Charts
- Datasets/Statistical Compendia
- Technical Reports
- Monographs/Books
- Series
- Journals/Periodicals
- Others?

b. What percentage of your agency's public information products would you say are disseminated via agency websites?

c. What other method(s) of information product dissemination is (are) your agency using (e.g., microfilm/microfiche, social media, or email listservs)?

d. How does your agency use social media as an information dissemination method?

If asked for clarification: Does your agency use social media mainly to announce new content, or does it also provide content through social media, or both?

e. Does your agency produce any information products with print-only distribution?

If **Yes**: Are these expected to continue as print-only for the foreseeable future?

f. Does your agency/office disseminate unique information products in microfiche format?[85]

If **Yes**: Are these expected to continue as microfiche-only for the foreseeable future?

3. Preservation Activities and Policies

a. Which organization(s) within your agency is (are) responsible for the preservation of public information products? (*Probe if necessary*: agency library, history office, archive, etc.)

b. Does your agency follow Federal Agency Digital Guidelines Initiative (FADGI) guidance for creating and preserving digital content?

If asked for clarification: FADGI is a collaborative effort started in 2007 by Federal agencies to articulate common sustainable practices and guidelines for digitized

[85] This question was asked because GPO was wondering if their libraries will need to invest in proprietary software or different equipment to access this content. Microfiche readers are disappearing and digital viewers are often too expensive for many of their libraries, particularly the smaller ones.

and born-digital historical, archival, and cultural content. All Federal agencies and institutions involved in the creation or collection of digitized or born-digital content of a cultural, historical, or archival nature are welcome to participate.

c. Does your agency archive digital content once it is no longer posted on the current sections of agency websites?

   If **Yes**: For what purpose is digital content archived? Is the intention to provide permanent public access?

   How is permanent public access achieved (e.g., online archive, onsite digital archive, added to online information clearinghouse)?

d. Does your agency have plans to make its older historical content available through digitization?

   If **Yes**: How comprehensive would you say this effort is? (*Prompt with*: How far back in time does it go? Does it include only major reports or all public products?)

4. External Partnerships

Does your agency have a partnership with an external organization or service to broaden accessibility to your information products (e.g., GPO, depository library, information clearinghouse, university/law school library, historical society, professional association)?

If **Yes**: Which organization(s) or service(s)?

5. Awareness of GPO's Statutory Public Information Programs

a. Would you say that staff at your agency are aware of the statutory mandates that guide GPO's public information programs?

   If asked for clarification: This is in reference to the Federal Depository Library Program (FDLP) provisions of 44 U.S.C. Chapter 19, the cataloging and indexing provisions of 44 U.S.C. Chapter 17, and OMB Circular A-130, all of which instruct agencies to notify GPO of new information products.

b. Does your agency provide guidance or regulations on how to comply with the FDLP provisions?

   If **Yes**: Where is it listed (e.g., agency manual, OGC Circular, other)?

   Can GPO receive a copy or a link to that guidance?

c. Are communications/publications staff at your agency familiar with how GPO can assist them in making content more accessible to the public through FDsys/**govinfo**?

   If asked for clarification: FDsys/**govinfo** is a content management system and a digital preservation repository. It combines modern search technology with extensive metadata creation to ensure the highest quality search experience. The beta version is available at govinfo.gov.

d. Would your communications/publications staff be interested in learning more about **govinfo**?

e. Does your agency's communications/publications office, library, or other component have a schedule for notifying GPO of new agency content?

f. Do web/publishing content managers at your agency use GPO's Document Discovery webpage (http://usgpo.wufoo.com/forms/document-discovery/)[86] or email address (docdiscovery@gpo.gov) to notify GPO of new web content?

   If **No**: Why not (e.g., not aware of the service, don't know what information to provide, requires clearance from higher authority)?

   If **Yes**: Would you say they use the service consistently?

g. Would having additional methods of providing notification to GPO be helpful? Any suggestions?

h. What other steps would you advise GPO to take to make it easier for agencies to notify it of new content or older content that has been digitized and made accessible? GPO seeks to make this process as easy as possible for agencies.

i. Are communications/publications staff at your agency familiar with the new Federal Publishing Council?

6. Best Office/Individual to Contact

If GPO has a question about one of your agency's publications, to whom or to what office should it be addressed? The question may relate to accessibility, frequency, how to get copies, title change, etc. for digital or tangible publications.

[86] The form for Document Discovery was discontinued October 20, 2017, and replaced with a referral to askGPO, GPO's customer relationship management system. The URL to use now is https://www.gpo.gov/askgpo. The email address, docdiscovery@gpo.gov, remains valid.

APPENDIX III. Case Study Invitation Letter

Dear Federal Information Officer,

On behalf of the Federal Research Division (FRD) of the Library of Congress and the U.S. Government Publishing Office's (GPO) Superintendent of Documents, we are issuing your agency an invitation to participate in case study research of Federal agency information publishing, dissemination, and preservation policies and practices. The study will rely heavily on the institutional knowledge of agency operating units and the willingness of key personnel in public information roles to participate in informational interviews.

We hope you will recognize the value of the project and will agree to contribute to the success of the research. An anonymized copy of interview findings and the final report will also be shared with participating offices so that they may share awareness and insights about the spectrum of Federal public information policies, strategies, and practices.

The broad goal of the study is to determine the impact that the migration of government information products from paper, microfiche, and other tangible media to Federal agency websites has had on the public's ability to find and access these products on a continuing basis.

Statutory authority for the public information programs of the Superintendent of Documents (the Cataloging and Indexing Program, the Federal Depository Library Program, and GPO's System of Online Access) can be found in 44 U.S.C. §§ 1710–11, 1901–5, 1911, and 4101–4. These sections of Title 44 obligate GPO to provide free permanent public access and comprehensive indexing to both tangible and digital U.S. Government information products.

The shift among Federal agencies from tangible to digital or online information products has drastically impacted these public information programs. While GPO is proactive in identifying and acquiring relevant agency content, acquisitions and preservation are not as comprehensive as they were in the ink-on-paper environment. Learning how agency policies and strategies have changed public information practices and products will go a long way in helping GPO accomplish its mission of *Keeping America Informed.* Armed with this knowledge, GPO will be able to better foster productive, collaborative relationships with agencies, and develop new strategies to transform and adapt acquisition workflows and processes for the digital era.

GPO entered into an Interagency Agreement with FRD to conduct this study. A brief summary of the interview and reporting processes are below, and we are happy to provide more details as needed:

- Interview participants may choose to be identified by name or not. Participants choosing not to be identified by name will be described by agency and general area of responsibility only (e.g., senior communications manager at the U.S. Dept. of Education).

- Interviews should take about one (1) hour. Interviewees may choose whether to conduct the interviews by telephone or in their offices. FRD anticipates conducting the interviews between May and July 2017.

- FRD would like to record the interviews for note-taking purposes only, but only if the interviewees provide their consent. FRD does not intend to transcribe the recorded interviews and would use the recordings only for quality control purposes.

- FRD will share summaries of the interviews with GPO.

- In addition to the summaries shared with interview participants, a final report will be presented to the Federal depository library community and it will be available online.

FRD will follow up on this letter to discuss your possible participation, or that of others in your office. If you are interested in participating in this study, please respond to this letter by email or by telephone within five (5) business days. If you would rather not participate, FRD would also appreciate your response, so as to allow sufficient time to contact other candidates.

Thank you for your consideration. Please contact Ramón Miró, the FRD Project Manager, by email (rmir@loc.gov) or by phone (202-707-1256) if you have any questions or concerns regarding the interview process or the application of the data derived from these meetings.

Sincerely,

_____

Mukta Ohri
Chief, Federal Research Division
Library of Congress
mohri@loc.gov

_____

Laurie B. Hall
Acting Superintendent of Documents
U.S. Government Publishing Office
lhall@gpo.gov

APPENDIX IV. GPO Email Follow-Up

Dear Federal Information Officer,

By this time you should have received an invitation to participate in a case study of information publishing, dissemination, and preservation policies and practices in Federal agencies. The invitation originated from the Federal Research Division (FRD) of the Library of Congress, which is conducting the study on behalf of the U.S. Government Publishing Office (GPO).

The Government's transformation from print-on-ink publications to digital online information products has drastically impacted how the public finds and uses Government information. Through this case study GPO aims to improve its understanding of information lifecycle management in Federal agencies, and identify ways to enhance awareness of and access to public information through the Superintendent of Document's Federal Depository Library Program (FDLP) and Cataloging and Indexing (C&I) Program.

I hope you are willing to allot a little of your time to share your agency's experience for this study. If you are interested in participating or have any questions, please contact Ramón Miró, Project Manager, FRD, at rmir@loc.gov or 202-707-1256. Thank you for your consideration.

Regards,
Laurie B. Hall
Acting Superintendent of Documents
U.S. Government Publishing Office

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In addition to these sources and the websites of the profiled agencies and their parent organizations, the researchers consulted a number of Government websites, such as those managed by CENDI, GPO, NARA, NASA, and the National Science Foundation. They also visited agency blogs, including those for GSA and the Obama White House. Web-based data analytics platforms like Archive-It, the Internet Systems Consortium, and the End of Term Web Archive were used to evaluate the scope of the Federal digital publishing landscape. The research team investigated partnerships, particularly the Clearinghouse for the Open Research of the United States and the Federal Agencies Digital Guidelines Initiative, to see what examples or recommendations they could provide as GPO works to improve its information-capture capability; foster more productive, collaborative relationships with Federal agencies; and develop new strategies to transform and adapt existing acquisition workflows and processes for the digital era.