The Role of Federal Libraries and Federal Librarians in Research Data Services (RDS)

An Exploratory Study

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Abstract

This study explores the roles federal (government) libraries and librarians play in scientific (international) knowledge development within federal agencies and in the larger scientific enterprise. In particular, this research looks at libraries' and librarians' facilitation of scientific inquiry through the application of research data services (RDS). Currently, librarians' research and data consultation activities with administrators and researchers typically involve creating citations and finding datasets; less frequently, librarians are engaged in data management planning and other RDS activities. However, federal libraries and librarians have been identified as key stakeholders in collaborative science generally and specifically in scientific data cyberinfrastructures, such as the NSF-funded DataONE Project. "DataONE (Data Observation Network for Earth) enables science through cyberinfrastructure development for data storage, preservation, use, and reuse and by building a community of data literate researchers and information practitioners" (see dataone.org).

Introduction

This study explores the roles federal libraries and librarians play, through RDS, in scientific knowledge development. Research data services include ". . . data management planning, digital curation (selection, preservation, maintenance, and archiving), and metadata creation and conversion . . . "[1] Such services can enhance the interoperability of data systems across and beyond agencies.[2] This research grows out of the NSF-funded DataONE (Data Observation Network for Earth) project, which enables science through cyberinfrastructures for data storage, preservation, use, and reuse and through a community of data literate researchers and information practitioners (see dataone.org).[3]

Literature Review

"Federal libraries provide research, scientific, and technical information [products] to support the varied missions of Federal agencies."[4] Such supports now include data management plans. To leverage the value that data assets hold for business, communities, and government agencies, the Obama Administration has directed "each Federal agency with over $100 million in annual conduct of research and development expenditures to develop a plan to support increased public access to the results of research funded by the Federal Government."[5] "[The plan must reflect an] approach for optimizing search, archival, and dissemination features that encourages innovation in accessibility and interoperability."[6]

Diverse science data are national assets that can help answer the complex scientific questions about the conditions that challenge society.[7] However, the vast amount of data made available through technological advances are paradoxically problematic, largely because lifecycle data management planning and activities across federal agencies remain spotty,[8] despite the availability of RDS in federal libraries. As this research explores how libraries and librarians use and can use RDS to help protect and leverage the value of data assets, the findings in this study hold implications for federal libraries' and librarians' roles in the emerging scientific paradigm.

Given the critical roles they play in the government information infrastructure, federal libraries and librarians could contribute to data planning and data management activities in ways that support a more cohesive scientific enterprise among federal government agencies and beyond. The librarians operating in these spaces have demonstrated the capacity to make data more discoverable across communities of practice. Various communities of practice, which include chemists and ecologists, for example, operate within science-based public agencies and share systems of learning and tacit knowledge.[9] Federal librarians' capacity to understand and apply the tacit knowledge shared within communities of practice is related to librarians' "foundational" competencies, such as conflict management and the ability to work in teams. However, this capacity also relates to librarians' "functional" competencies, such as "interpret[ing], explain[ing], and apply[ing] digital data management plans."[10] Developers of science data infrastructure have acknowledged the value that individuals with combinations of such competencies bring to RDS.[11]

The following sections build upon the current understanding of federal libraries' and federal librarians' roles in RDS. The results describe library infrastructures, librarians' research activities, librarians' expertise, and librarians' attitudes toward their roles and toward support they receive from their respective libraries.

Methods

This study explores federal libraries' and librarians' roles in RDS and research activity. A federal library survey asked questions about library policies and activities. A federal librarian survey asked questions about the attitudes and beliefs of individual librarians and their respective libraries' policies and activities. More than one librarian from any given library could respond. Results from these instruments provide baseline data for more specialized research in the future.

Between July 2011 and February 2012, DataONE project members who are also federal employees distributed an invitation to participate in two different surveys targeted at two different groups: (1) library administrators who represent the federal library perspective and (2) librarians working in federal libraries. The invitation contained a link to the survey. Members of the Special Libraries Association Military Libraries Division (SLA-MLD) also distributed surveys to contacts on their mailing lists. A noteworthy challenge to the widest distribution of the survey invitation to federal libraries and librarians was the incomplete count of federal libraries. While the Federal Library and Information Network (FEDLINK) directory contains over 1,000 entries, it does not list information for embassies, federal prisons, and other agencies for security reasons.[12]

Forty federal library administrators and 60 federal librarians responded to the survey. Since a conservative estimate of the number of federal libraries suggests low response rates to the libraries and librarians surveys, this study should be considered exploratory and indicative rather than definitive of the current state of RDS in federal libraries.

Survey Results & Analysis

Research, Reporting, & Regulatory Functions

RDS could impact decision making in both the executive and legislative branches. A majority of responding libraries and librarians, 90 percent (36 of 40) and 95 percent (57 of 60), respectively, operate within agencies that conduct research. Also, about 38 percent (15 of 39) of responding libraries and 32 percent (19 of 59) of responding librarians operate in agencies that have regulatory responsibilities. Finally, 65 percent (26 of 40) of the responding libraries and about 74 percent (43 of 58) of responding librarians operate in agencies that inform policy makers, including Congress.

Subject Disciplines

The primary subject discipline of responding libraries varies, with most focusing on social, behavioral and economic sciences (26 percent, 7 of 27), followed by biological sciences (22 percent, 6 of 27) and engineering (19 percent, 5 of 27). Federal librarians reported the biological sciences as the most common disciplines they serve (35 percent, 11 of 31); followed by social, behavioral and economic sciences (19 percent, 6 of 31); and geosciences (16 percent, 5 of 31).

Attitudes and Opinions

Responding librarians believe that management of the data collected by their agencies is critical to the fulfillment of their agencies' missions and research agendas (95 percent, 35 of 37). Librarians believe that lost data/datasets jeopardize future scholarship (89 percent, 33 of 37) and over three-fourths (78 percent, 28 of 36) believe that RDS will increase their agencies' visibility and broaden the impact of their agencies' research agendas. Similarly, three-fourths of librarians (75 percent, 27 of 36) believe that libraries are the best entities to provide RDS. Also, librarians believe that federal libraries' involvement in RDS will increase the libraries' prestige (81 percent, 29 of 36).

Motivations for RDS

There is no one clear motivator for the responding librarians'

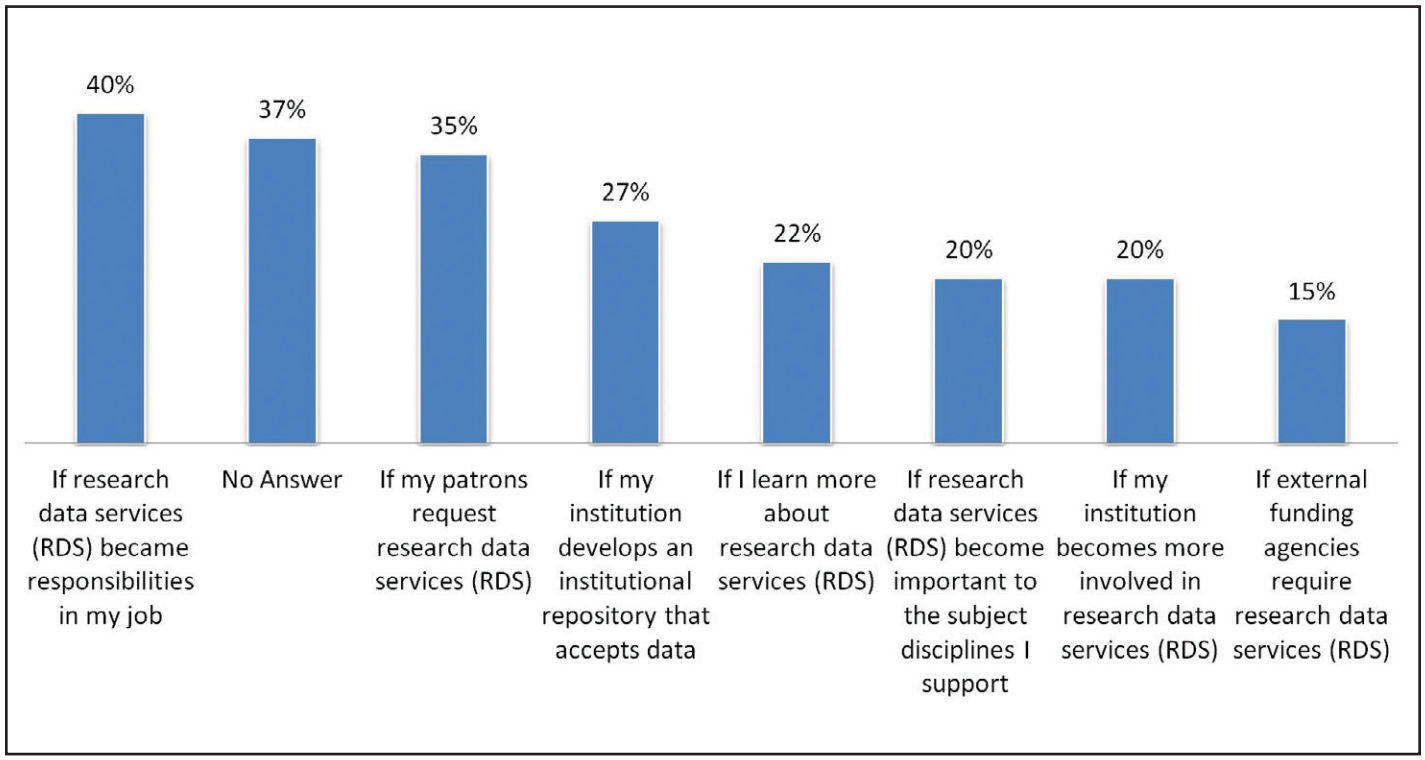


Figure 1. Federal Librarians: Motivations for Becoming Involved in RDS (n=40)

involvement in RDS. Librarians expressed that RDS are important both to their subject disciplines (26 percent, 9 of 34) and professional interests in RDS. Twenty-four percent (8 of 34) of responding librarians indicated that that RDS are among their primary job responsibilities. More specifically, 18 percent (six of 34) indicated that their jobs include facilitating patrons' data contributions to their institutional repositories, metadata creation (for patrons), metadata training (of patrons), and metadata management (for patrons).

Those librarians not currently involved with RDS would likely become involved if RDS became responsibilities in their jobs (40 percent, 16 of 40) and if their patrons were to request RDS (35 percent, 14 of 40) (see figure 1). Results from a corresponding survey of librarians identify these as the two strongest motivators for librarians to provide RDS.[13] Notably, in response to our survey, 85 percent of responding federal librarians (62 percent, 24 of 39 strongly agree and 23 percent, 9 of 39 somewhat agree) believe that their patrons need RDS. However, fewer (61 percent, 23 of 38) librarians said that their patrons actually request RDS (37 percent, 14 of 38, strongly agree and 24 percent, nine of 38, somewhat agree).

RDS Capacity

Fifty-four percent (21 of 39) of responding librarians reported that RDS are priorities at their libraries. Fifty percent (20 of 40) of responding librarians agree that they have sufficient time to provide RDS for their patrons, while 30 percent (12 of 40) disagree. However, only 38 percent (15 of 39) of the responding librarians believe that their respective libraries have sufficient technical infrastructure and only 31 percent (12 of 39) believe that RDS are adequately funded in their respective libraries. From the institutional perspective, a minority of responding libraries either reassigned (32 percent, 10 of 31) or plan to reassign existing staff (19 percent, 6 of 31) to handle RDS. Only five have hired or plan to hire staff specifically to support RDS.

A majority of federal librarians surveyed possess the professional skills to provide RDS. About three-quarters (76 percent, 31 of 40) have the subject expertise needed to provide RDS to their patrons. Also, they are confident in their specific RDS skills, knowledge, and training (75 percent, 30 of 40). In addition, 75 percent (30 of 40) have opportunities for further skills development. From the institutional perspective, about half (52 percent, 15 of 29) of the libraries surveyed provide opportunities for staff to develop RDS skills. Thirteen library directors provide support for staff to attend outside RDS conferences or workshops, and ten provide in-house staff workshops or presentations.

Data and Research Activities

Libraries and Librarians

As shown in table 1, services that at least half of the responding

Table 1. Federal Libraries: Current Research Data Services (RDS) and Future Offerings

Data Services	Yes, Offers this Service	No, Will Offer in More than 24 Months	No, No Plans to Do So	n
Reference support for finding and citing data/datasets	76%	13%	10%	29
Instruction on finding, citing, or appropriately using data	60%	26%	13%	30
Consultation on locating available data or datasets	54%	18%	29%	28
Consulting with researchers, staff, or administrators on data and metadata standards	47%	16%	37%	30
Involved in either policy development or strategic planning related to RDS	46%	18%	32%	28
Creating web guides and finding aids for data / datasets / data repositories	43%	32%	25%	28
Providing technical support for RDS systems (e.g., a repository, access and discovery systems)	43%	25%	32%	28
Discussing with other professionals RDS on a semi-regular frequency	41%	22%	37%	27
Selection of data / datasets for repository	41%	23%	34%	29

*Percentages may not = 100

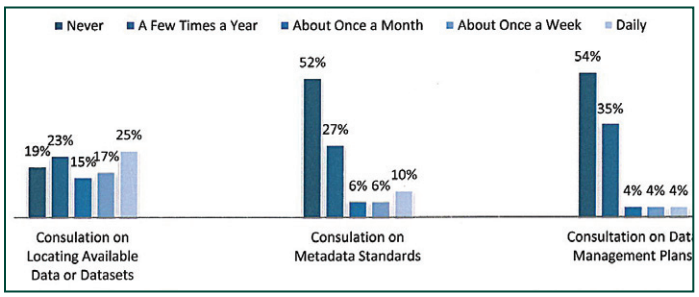


Figure 2. Federal Librarians: RDS Services with Researchers, Staff, or Administrators/Program Managers (n=52)

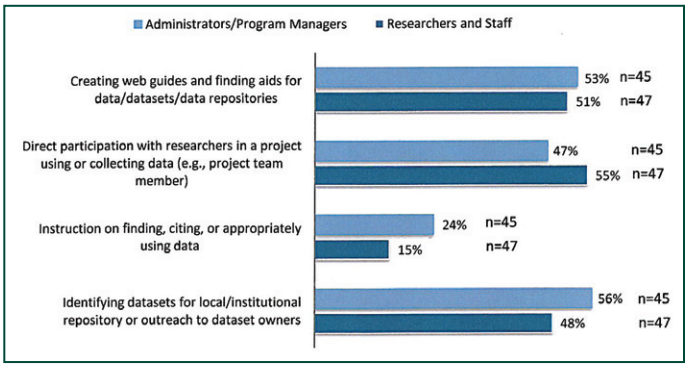


Figure 3. Librarians Who Never Perform RDS with Administrators/Program Managers and Researchers/Staff

libraries offer or plan to offer are extensions of traditional library reference services. This result is similar to the results of another survey of academic libraries, which found traditional reference services were the most commonly offered types of RDS.[14] Seventy-six percent (22 of 29) of our library respondents offer reference support for finding and citing data/data sets. Another 14 percent (four of 29) do not offer this service, but plan to do so. Notably, 37 percent (11 of 30) of responding libraries do not and have no plans to consult with researchers, staff, or administrators on data and metadata standards.

Librarians' responses to questions about reference services align with the responses (above) of libraries we surveyed. While 81 percent (42 of 52) of the responding librarians provide consultations on locating available datasets, at least a few times a year, figure 2 shows that over half (52 percent, 27 of 52 and 54 percent, 28 of 52, respectively) never provide consultation on metadata standards and on data management plans. Also, while the responding librarians offer reference support for finding and citing data/datasets, a majority have never engaged in the following activities: deaccession/selection of datasets from repositories (73 percent, 30 of 41), conversion of data/datasets for ingest (70 percent, 31 of 44), selection of data/datasets for repository (68 percent, 30 of 44), preparation of data/datasets for ingest (66 percent, 29 of 44), metadata conversion (e.g., interoperability or preservation) (65 percent, 28 of 43), metadata creation (59 percent, 26 of 44), policy development related to RDS (55 percent, 24 of 44), or technical support for RDS (e.g., a repository; access and discovery systems) (52 percent, 22 of 42).

As shown in figure 3, about half of the responding librarians have never performed the following RDS with administrators/program managers or with researchers/staff: identifying datasets for local/institutional repository or outreach to dataset owners, creating web guides and finding aids for data/datasets/data repositories, or participating directly with researchers in a project using or collecting data (e.g., project team member).

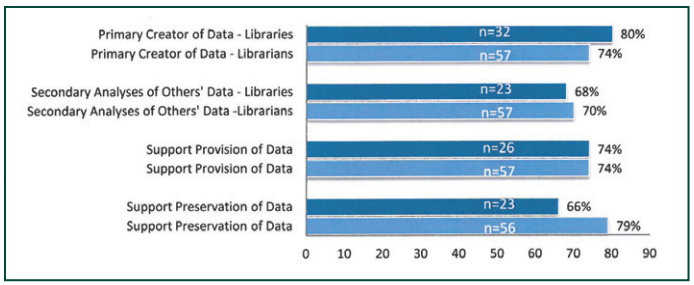


Figure 4. Federal Libraries/Librarians Data Activities

Agencies

Most of the responding libraries (80 percent, 32 of 40) and responding librarians (74 percent, 42 of 57) operate in agencies that are primary creators of data. For example, the Environmental Protection Agency (EPA) aggregates "compliance and permit data for stationary sources of air pollution (such as electric power plants, steel mills, factories, and universities) regulated by EPA, state and local air pollution agencies" (epa.gov/enviro/facts/index.html). Sixty-eight percent (23 of 34) of responding library administrators and 70 percent (40 of 57) of responding librarians operate in agencies that perform secondary analyses of others' data. Nearly three-quarters of responding library administrators (74 percent, 26 of 35) and responding librarians (74 percent, 42 of 57) indicated that their agencies support librarians' data provision (see figure 4) and, 63 percent (22 of 35) of responding libraries and 57 percent (32 of 56) of responding librarians reported data provision is part of the agency's core mission (see figure 5). However, despite a majority of the responding libraries' and librarians' agencies supporting the preservation of data, only 36 percent (12 of 33) of responding libraries and 41 percent (23 of 56) of responding librarians reported that data preservation is part of their agencies' core missions.

A little more than half (55 percent, 16 of 29) of the responding libraries surveyed collaborate on RDS with other units within their agencies regarding RDS. The most frequent collaborators with libraries have been information technology units (38 percent, 6 of 16). Other collaborators are responsible for GIS records management, R&D, technical communications, asset management, and training and development. While collaborators operate in other agencies and libraries and are designated scientific and technical information managers, and national program staff, very few (7 percent, 2 of 28) of responding libraries collaborate with other agencies regarding RDS.

Given the number of responses to the library and librarian surveys, results are presented here only as descriptive statistics. However, the insights about RDS delivery gained here through descriptive statistics can serve as the bases for future

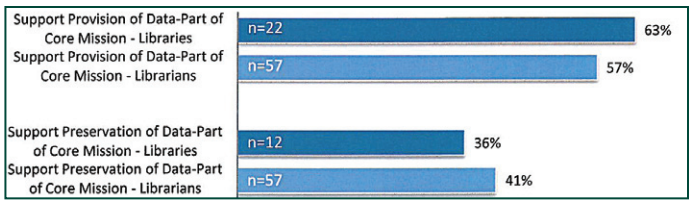


Figure 5. Federal Libraries/Librarians Data Activities - Part of Core Mission

examinations about relationships among federal libraries/librarians, their home agencies, and other agencies.

Conclusions

Both federal libraries and librarians identify federal libraries as the most technically and organizationally capable units for providing RDS within federal agencies. Also, federal librarians believe they are competent in RDS delivery, at least in part, because their respective libraries provide them with RDS training opportunities. However, libraries and librarians face funding, technical infrastructure, and organizational challenges in providing RDS. Library staffs' research and data consultation activities with administrators and researchers at present most clearly involve creating citations and finding datasets, as library staff are mainly asked to perform traditional reference tasks rather than operate as research collaborators in the agencies' research activities. Federal agencies might enhance their research, regulation, and reporting capacities by capitalizing upon existing library resources.

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2014 GODORT Reception and Awards Ceremony

The 2014 GODORT Reception and Awards Ceremony will be Sunday, June 29th, Goldfield Room, Lied Library at the University of Nevada Las Vegas (UNLV), 6:30-8:00PM.

This year's award winners will be recognized: Marie Concannon, Regional Librarian for Missouri, University of Missouri Libraries (Bernadine Abbott Hoduski Founders Award); Susan E. Tulis, Southern Illinois University (James Bennett Childs Award); Marianne Ryan, Northwestern University (News Bank/Readex GODORT/ALA Catharine J. Reynolds Research Grant); Andrea M. Morrison, Indiana University (ProQuest/GODORT/ALA Documents to the People Award); Stephanie L. Martin, student in the Graduate School of Library and Information Science at the University of Illinois Urbana-Champaign (W. David Rozkuszka Scholarship).

The support of our generous sponsors is essential to our being able to honor the awards recipients. Please join us in thanking them by stopping by their booths in the exhibits hall during the conference!

- Bernan, East View Information Services, Gale-Cengage' LexisNexis Academic & Library Solutions' Marcive, Inc., OCLC, Paratext, ProQuest, Readex/NewsBank, Renouf Publishing Company, Dean Patricia Iannuzzi and the UNLV Libraries

Appendix A

Research Data Services (RDS) in Federal Libraries: Building an Understanding of Library Data Management Practices

Please answer each question below.

	Yes	No	Don't know	No answer
Does your agency conduct research?	☐	☐	☐	☐
Does your agency have a regulatory responsibility?	☐	☐	☐	☐
Does your agency inform policy makers, including Congress?	☐	☐	☐	☐
Is your agency a primary creator of data?	☐	☐	☐	☐

Please answer each question below.

	Yes	No	Don't know	No answer
Is your agency a secondary analysis of others' data?	☐	☐	☐	☐
Does your agency support the provision of data?	☐	☐	☐	☐
Is this part of the core mission?	☐	☐	☐	☐
Does your agency support the preservation of data?	☐	☐	☐	☐
Is this part of the core mission?	☐	☐	☐	☐

Which of the following RDS does your library currently do or plan to do in the future?

	Yes	No, but plan to within the next 12 months	No, but plan to within 13-24 months	No, but plan to do so in more than 24 months	No, and we currently have no plans to do so
Consulting with researchers, staff, or administrators on data management plans	☐	☐	☐	☐	☐
Consulting with researchers, staff, or administrators on data and metadata standards	☐	☐	☐	☐	☐
Creating or transforming metadata for data or datasets	☐	☐	☐	☐	☐
Outreach and collaboration with other research data services (RDS) either onsite or offsite	☐	☐	☐	☐	☐
Selection of data / datasets for repository	☐	☐	☐	☐	☐

Which of the following RDS does your library currently do or plan to do in the future?

	Yes	No, but plan to within the next 12 months	No, but plan to within 13-24 months	No, but plan to do so in more than 24 months	No, and we currently have no plans to do so
Providing technical support for RDS systems (e.g., a repository, access and discovery systems)	☐	☐	☐	☐	☐
Reference support for finding and citing data/datasets	☐	☐	☐	☐	☐
Creating web guides and finding aids for data / datasets / data repositories	☐	☐	☐	☐	☐
Deaccessioning/deselection of data / datasets for repository	☐	☐	☐	☐	☐

Which of the following RDS does your library currently do or plan to do in the future?

	Yes	No, but plan to within the next 12 months	No, but plan to within 13-24 months	No, but plan to do so in more than 24 months	No, and we currently have no plans to do so
Preparing data / datasets for ingest	☐	☐	☐	☐	☐
Seeking datasets for repository and outreach to dataset owners	☐	☐	☐	☐	☐
Discussing with other professionals RDS on a semi-regular frequency	☐	☐	☐	☐	☐
Involved in either policy development or strategic planning related to RDS	☐	☐	☐	☐	☐

Which of the following RDS does your library currently do or plan to do in the future?

	Yes	No, but plan to within the next 12 months	No, but plan to within 13-24 months	No, but plan to do so in more than 24 months	No, and we currently have no plans to do so
Consultation on locating available data or datasets	☐	☐	☐	☐	☐
Consultation on metadata standards	☐	☐	☐	☐	☐
Consultation on data management plans	☐	☐	☐	☐	☐
Creating web guides and finding aids for data / datasets / data repositories	☐	☐	☐	☐	☐

Which of the following RDS does your library currently do or plan to do in the future?

	Yes	No, but plan to within the next 12 months	No, but plan to within 13-24 months	No, but plan to do so in more than 24 months	No, and we currently have no plans to do so
Direct participation with researchers in a project using or collecting data (e.g., project team member)	☐	☐	☐	☐	☐
Instruction on finding, citing, or appropriately using data	☐	☐	☐	☐	☐
Identifying datasets for local/institutional repository or outreach to dataset owners	☐	☐	☐	☐	☐
Training co-workers on RDS	☐	☐	☐	☐	☐

Who in the library provides research data reference/consultation services to researchers?

- ☐ Individual discipline librarians/staff
- ☐ Dedicated data librarian(S)/specialists
- ☐ Other (please specify): _____

If your library is involved in any RDS, who in the library has primary leadership responsibility for plans and programs for RDS?

- ☐ A single individual is responsible
- ☐ A group/committee/team is responsible
- ☐ A department/unit is responsible
- ☐ A combination of the above or other: _____

Does your library have policies and/or procedures associated with RDS?

- ☐ Yes (If yes, please specify): _____
- ☐ No

Does your library manage, or participate in managing technology infrastructure (e.g., data storage, tools for data analysis, virtual community support) that supports RDS?

- ☐ Yes (If yes, please specify): _____
- ☐ No

How has your library developed staff capacity for RDS? (Check all that apply)

- ☐ Hired staff specifically to support RDS
- ☐ Reassigned existing staff
- ☐ Planning to hire staff
- ☐ Planning to reassign existing staff
- ☐ Other (please specify): _____

Has your library provided opportunities for staff to develop skills related to RDS?

- ☐ **Yes**
- ☐ **No**

If yes, please check all that apply.

- ☐ **In house staff workshops or presentations**
- ☐ **Support for staff to take courses related to RDS**
- ☐ **Support for staff to attend conferences or workshops elsewhere related to RDS**
- ☐ **Other (please specify): _____**

Does your library collaborate with researchers to develop professionals with skills related to RDS?

- ☐ **Yes**
- ☐ **No**

Does your library collaborate with other units in your agency regarding RDS?

- ☐ **Yes (please specify the collaborated unit): _____**
- ☐ **No**

Does your library collaborate with other agencies regarding RDS?

- ☐ **Yes (If yes, please specify the agency): _____**
- ☐ **No**

What is the primary subject discipline of your library? (Please select only one)

- ☐ **Biological Sciences**
- ☐ **Computer and Information Science and Engineering**
- ☐ **Engineering**
- ☐ **Geosciences**
- ☐ **Mathematical and Physical Sciences**
- ☐ **Social, Behavioral, and Economic Sciences**

What is the secondary subject discipline of your library? (Please check all that apply)

- ☐ **Biological Sciences**
- ☐ **Computer and Information Science and Engineering**
- ☐ **Engineering**
- ☐ **Geosciences**
- ☐ **Mathematical and Physical Sciences**
- ☐ **Social, Behavioral, and Economic Sciences**
- ☐ **Education and Human Resources**
- ☐ **No answer**

End of interview. Thank you for your participation.

Appendix B

Research Data Services (RDS) of Federal Librarians

Please answer each question below.

	Yes	No	Don't know
Does your agency conduct research?	☐	☐	☐
Does your agency have a regulatory responsibility?	☐	☐	☐
Does your agency inform policy makers, including Congress?	☐	☐	☐

Please answer each question below.

	Yes	No	Don't know
Is your agency a primary creator of data?	☐	☐	☐
Is your agency a secondary analysis of others' data?	☐	☐	☐
Does your agency support the provision of data?	☐	☐	☐

Please answer each question below.

	Yes	No	Don't know
Is this part of the core mission?	☐	☐	☐
Does your agency support the preservation of data?	☐	☐	☐
Is this part of the core mission?	☐	☐	☐

Do you interact with with researchers, staff, or administrators/program managers in support of their research data services (RDS) as part of your regular job responsibilities?

☐	Yes, it is integral part of my job responsibilities
☐	Yes, I have occasional responsibilities
☐	No, it is not part of my responsibilities

How frequently do you perform the following research data services (RDS) with researchers, staff, or administrators/program managers?

	Never	A few times a year	About once a month	About once a week	Daily
Consultation on locating available data or datasets	☐	☐	☐	☐	☐
Consultation on metadata standards	☐	☐	☐	☐	☐
Consultation on data management plans	☐	☐	☐	☐	☐

How frequently do you perform the following research data services (RDS) with researchers and staff?

	Never	A few times a year	About once a month	About once a week	Daily
Creating web guides and finding aids for data / data sets / data repositories	☐	☐	☐	☐	☐
Direct participation with researchers in a project using or collecting data (e.g., project team member)	☐	☐	☐	☐	☐
Instruction on finding, citing, or appropriately using data	☐	☐	☐	☐	☐
Identifying data sets for local/institutional repository or outreach to data set owners	☐	☐	☐	☐	☐

How frequently do you perform the following research data services (RDS) with administrators/program managers?

	Never	A few times a year	About once a month	About once a week	Daily
Creating web guides and finding aids for data / data sets / data repositories	☐	☐	☐	☐	☐
Direct participation with researchers in a project using or collecting data (e.g., project team member)	☐	☐	☐	☐	☐
Instruction on finding, citing, or appropriately using data	☐	☐	☐	☐	☐
Identifying data sets for local/institutional repository or outreach to data set owners	☐	☐	☐	☐	☐

How frequently do you perform the following research data services (RDS) on data/data sets or systems?

	Never	A few times a year	About once a month	About once a week	Daily
Selection of data / data sets for repository	☐	☐	☐	☐	☐
Preparation of data / data sets for ingest	☐	☐	☐	☐	☐
Conversion of data/data sets for ingest	☐	☐	☐	☐	☐
Metadata creation	☐	☐	☐	☐	☐

How frequently do you perform the following research data services (RDS) on data/data sets or systems?

	Never	A few times a year	About once a month	About once a week	Daily
Metadata conversion (e.g. for interoperability or preservation)	☐	☐	☐	☐	☐
Technical support for research data service (RDS) systems (e.g., a repository; access and discovery systems)	☐	☐	☐	☐	☐
Deaccession/deselection of data / data sets from repository	☐	☐	☐	☐	☐

How frequently have you participated in the following research data services (RDS)?

	Never	A few times a year	About once a month	About once a week	Daily
Outreach and collaboration with other research data services (RDS) offsite	☐	☐	☐	☐	☐
Outreach and collaboration with other research data services (RDS) onsite	☐	☐	☐	☐	☐
Policy development related to research data services (RDS)	☐	☐	☐	☐	☐

How frequently have you participated in the following research data services (RDS)?

	Never	A few times a year	About once a month	About once a week	Daily
Strategic planning related to research data services (RDS)	☐	☐	☐	☐	☐
Participation in informal discussion groups about research data services (RDS)	☐	☐	☐	☐	☐
Participation in working groups or other professional groups about research data services (RDS)	☐	☐	☐	☐	☐

Tell us how much you agree with each statement regarding your participation in research data services (RDS) using the following scale: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree.

	Strongly Agree	Somewhat Agree	Neither agree nor disagree	Somewhat Disagree	Strongly Disagree
I have the necessary skills, knowledge, training	☐	☐	☐	☐	☐
I have sufficient subject expertise (e.g., physical science; social science, etc.) to help my patrons	☐	☐	☐	☐	☐
My job allows me sufficient time to provide research data services (RDS) for my patrons	☐	☐	☐	☐	☐
I have access to training in research data services (RDS) to meet patron's needs	☐	☐	☐	☐	☐
My library provides opportunities to develop skills related to research data services (RDS)	☐	☐	☐	☐	☐

Tell us how much you agree with each statement regarding your participation in research data services (RDS) using the following scale: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
My library supports me to take courses related to research data services (RDS)	☐	☐	☐	☐	☐
My library supports me to attend conferences or workshops elsewhere related to research data services (RDS)	☐	☐	☐	☐	☐
My library has adequate funding for research data services (RDS)	☐	☐	☐	☐	☐
My patrons need research data services (RDS)	☐	☐	☐	☐	☐

Tell us how much you agree with each statement regarding your participation in research data services (RDS) using the following scale: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
My patrons request research data services (RDS)	☐	☐	☐	☐	☐
My library has sufficient technical infrastructure to support research data services (RDS)	☐	☐	☐	☐	☐
Research data services (RDS) are just as important as other activities that I provide for my patrons	☐	☐	☐	☐	☐
Research data services (RDS) are a priority at my library	☐	☐	☐	☐	☐

If you are involved in research data services (RDS), what is the single most important motivation for your involvement? (Choose only the one most important answer)

- ☐ Research data services (RDS) are a primary responsibility in my job
- ☐ I have a professional interest in research data services (RDS)
- ☐ Research data services (RDS) are important to the subject disciplines I support
- ☐ My job includes facilitating data contributions to our institutional repository
- ☐ My job includes metadata creation, training, and/or management
- ☐ My research includes research data services (RDS)
- ☐ Other (please specify): _____

If you are involved in research data services (RDS), what are other motivations for your involvement? (Choose all that apply)

- ☐ Research data services (RDS) are a primary responsibility in my job
- ☐ I have a professional interest in research data services (RDS)
- ☐ Research data services (RDS) are important to the subject disciplines I support
- ☐ My job includes facilitating data contributions to our institutional repository
- ☐ My job includes metadata creation, training, and/or management
- ☐ My research includes research data services (RDS)
- ☐ Other (please specify): _____

If you are not currently involved in research data services (RDS), what would most motivate you to do so? (Choose all that apply)

☐	**If research data services (RDS) became a responsibility in my job**
☐	**If I learn more about research data services (RDS)**
☐	**If research data services (RDS) become important to the subject disciplines I support**
☐	**If my institution becomes more involved in research data services (RDS)**
☐	**If my institution develops an institutional repository that accepts data**
☐	**If external funding agencies require research data services (RDS)**
☐	**If my patrons request research data services (RDS)**
☐	**Other (please specify)**

The following group of statements relates to your opinion on librarian involvement in research data services (RDS). Tell us how much you agree with each statement using the following scale: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree.

	Strongly Agree	**Somewhat Agree**	**Neither agree nor disagree**	**Somewhat Disagree**	**Strongly Disagree**
Libraries need to offer research data services (RDS) to remain relevant to the agency	☐	☐	☐	☐	☐
The library will see decreased funding if it does not offer research data services (RDS)	☐	☐	☐	☐	☐
Losing data / data sets jeopardizes future scholarship	☐	☐	☐	☐	☐
Librarians should be stewards of all types of scholarship, including data sets	☐	☐	☐	☐	☐

The following group of statements relates to your opinion on librarian involvement in research data services (RDS). Tell us how much you agree with each statement using the following scale: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree.

	Strongly Agree	**Somewhat Agree**	**Neither Agree nor Disagree**	**Somewhat Disagree**	**Strongly Disagree**
Researchers at my agency will be at a competitive disadvantage for grants if the library does not provide research data services (RDS)	☐	☐	☐	☐	☐
Providing research data services (RDS) will increase the visibility and impact of our agency's research	☐	☐	☐	☐	☐
Research data services (RDS) are unnecessary for librarians to provide to their patrons	☐	☐	☐	☐	☐
Research data services (RDS) are a distraction from the library's core mission	☐	☐	☐	☐	☐

The following group of statements relates to your opinion on librarian involvement in research data services (RDS). Tell us how much you agree with each statement using the following scale: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree.

	Strongly Agree	**Somewhat Agree**	**Neither Agree nor Disagree**	**Somewhat Disagree**	**Strongly Disagree**
The library is the best-suited entity at my agency to provide research data services (RDS)	☐	☐	☐	☐	☐
Providing research data services (RDS) increases a library's prestige	☐	☐	☐	☐	☐
Decentralized or departmental research data services (RDS) will result in suboptimal stewardship	☐	☐	☐	☐	☐

What is your position/title in the library?

Please tell us about the post secondary degrees you earned, starting with the latest.

1. Your degree

☐	**Associate**
☐	**Bachelor**
☐	**Masters**
☐	**Doctorate**
☐	**Other :** _____

General subject

What year did you receive the degree?

Do you have any applicable certificates?

☐	**Yes**
☐	**No**

General subject

What year did you receive the certificate?

What year were you born?

What is the primary subject discipline of your library? (Please select only one)

- ☐ **Biological Sciences**
- ☐ **Computer and Information Science Engineering**
- ☐ **Engineering**
- ☐ **Geosciences**
- ☐ **Mathematical and Physical Sciences**
- ☐ **Social, Behavioral and Economic Sciences**
- ☐ **Education and Human Resources**

What is the secondary subject discipline of your library? (Please check all that apply)

- ☐ **Biological Sciences**
- ☐ **Computer and Information Science Engineering**
- ☐ **Engineering**
- ☐ **Geosciences**
- ☐ **Mathematical and Physical Sciences**
- ☐ **Social, Behavioral and Economic Sciences**
- ☐ **Education and Human Resources**

Does the library have an institutional repository (a digital repository that collects, preserves and disseminates the scholarly output of a research institute)?

- ☐ **Yes**
- ☐ **No**
- ☐ **Not yet, but will in the next 12 months**
- ☐ **Not yet, but will in the next 2-5 years**
- ☐ **Don't know**

Do you have any other thoughts or comments about research data services (RDS)?

End of interview. Thank you for your participation.