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Everything you ever wanted to know about the NSF data management planning requirement (but were afraid to ask)

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Cornell University

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Cornell University

Everything you ever wanted to know about the

NSF data management planning requirement

(but were afraid to ask)

Sarah Wright, Gail Steinhart, and Jeremy Cusker

Upstate New York Science Librarians Annual Meeting, November 4, 2011

Outline

- NSF data management planning requirement
- Recommended best practices
- Data management planning assistance at Cornell University

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Dissemination and Sharing of Research Results

NSF Data Sharing Policy

Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing. See Award & Administration Guide (AAG) Chapter VI.D.4.

NSF Data Management Plan Requirements

Proposals submitted or due on or after January 18, 2011, must include a supplementary document of no more than two pages labeled "Data Management Plan". This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results. See Grant Proposal Guide (GPG) Chapter II.C.2.j for full policy implementation.

Requirements by Directorate, Office, Division, Program, or other NSF Unit

Links to data management requirements and plans relevant to specific Directorates, Offices, Divisions, Programs, or other NSF units, are provided below. If guidance specific to the program is not provided, then the requirements established in Grant Proposal Guide, Chapter II.C.2.j apply.

Please note that if a specific program solicitation provides guidance on preparation of data management plans, such guidance must be followed.

http://www.nsf.gov/bfa/dias/policy/dmp.jsp

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http://www.nsf.gov/bfa/dias/policy/dmp.jsp

NSF's Data Sharing Policy

- As of January 18, 2011, all proposals must include a data management plan (DMP).
- Supplementary document; 2 page limit.
- FastLane won't accept proposals without a DMP.
- Subject to peer review (intellectual merit and/or broader impacts).

http://www.nsf.gov/bfa/dias/policy/dmp.jsp

http://www.nsf.gov/pubs/policydocs/pappguide/nsf11001/gpg_2.jsp#dmp

NSF's Data Sharing Policy

Specifics are left to "communities of interest" as determined by peer review and program management.

Some directorates, programs or specific RFPs may offer more specific guidance.

http://www.nsf.gov/bfa/dias/policy/dmpfaqs.jsp

http://www.nsf.gov/bfa/dias/policy/dmp.jsp

NSF's Data Sharing Policy

Compliance: Results from prior NSF support

"If any PI or co-PI identified on the project has received NSF funding in the past five years, information on the award(s) is required."

"...evidence of research products and their availability, including, but not limited to: data, publications, samples, physical collections, software, and models, as described in any Data Management Plan ..."

http://www.nsf.gov/pubs/policydocs/pappguide/nsf11001/gpg_2.jsp#IIC2d

NSF's Data Sharing Policy

Who pays:

- Costs associated with data management are allowable.
- Include on line G2 (publication, documentation, dissemination).
- Explain in budget justification.

http://www.nsf.gov/bfa/dias/policy/dmpfaqs.jsp

Best Practices

The numbered points on the next 5 slides are taken directly from the grant proposal guide and represent the extent of NSF's general guidance on what to include in a DMP.
For each one, we offer a few general suggestions for best practices.

The fine print: these are our common sense suggestions based on professional experience, monitoring new policies, and what we hear from colleagues and sometimes NSF program officers themselves.

Best Practices

1. the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;

Suggested practice:

- Describe the data to be produced in the course of the proposed project.
- Indicate which will be shared and at what stage (raw, processed, analyzed).
- Describe why the data are of interest to a broader community (impact).

Best Practices

2. the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);

Suggested practice:

- Identify the formats of data files created over the course of the project.
- Select file formats for sharing that maximize the potential for reuse and longevity, and describe plans for conversion to those formats, if necessary.
- Identify metadata standards to be used, who will create metadata and at what stage.

Best Practices

3. policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;

Suggested practice:

- NSF recognizes that legal and ethical requirements may preclude sharing of some kinds of data. Trade secrets and commercial information are also not subject to the data sharing requirement.
- Describe data management practices that will be used to maximize security and protect privacy, if applicable.

Best Practices

4. policies and provisions for re-use, re-distribution, and the production of derivatives;

Suggested practice:

- Describe how you will make it possible for others to gain access to and use your data.
- Describe usage rights, licenses, or other policies related to re-use and redistribution of data.

Best Practices

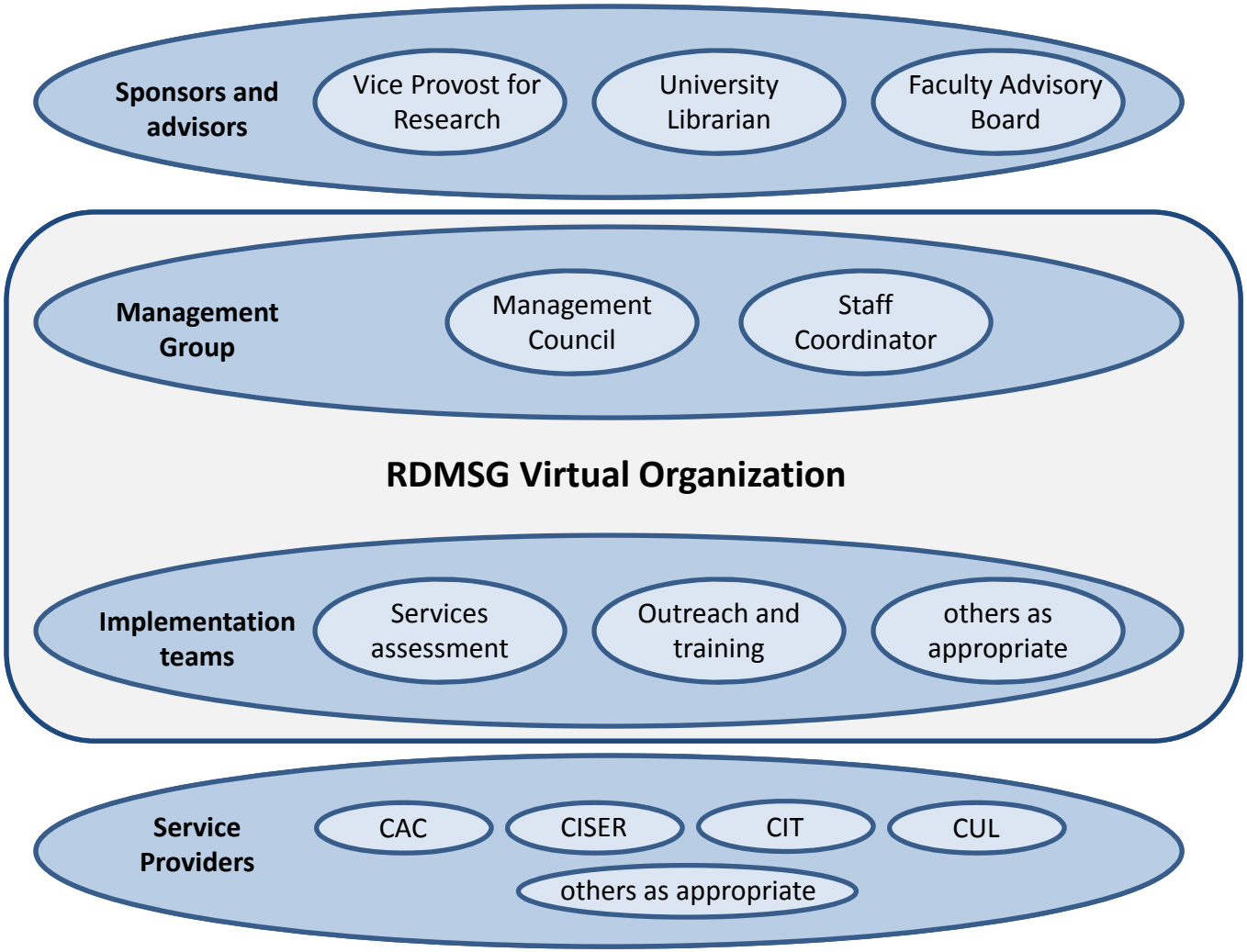
5. plans for archiving data, samples, and other research products, and for preservation of access to them.

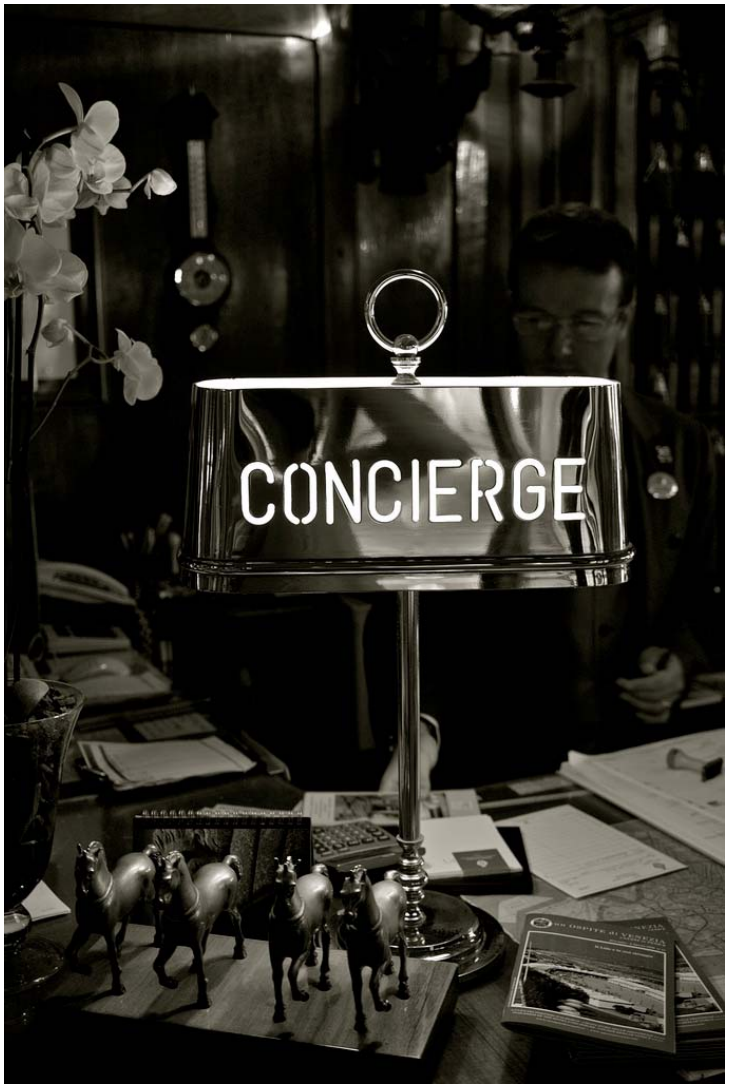
Suggested practice:

- Describe means by which you will provide access to data and applicable time frame.
- Describe means for preserving data, if different from above.

Data Management at Cornell

Research Data Management Service Group (RDMSG)





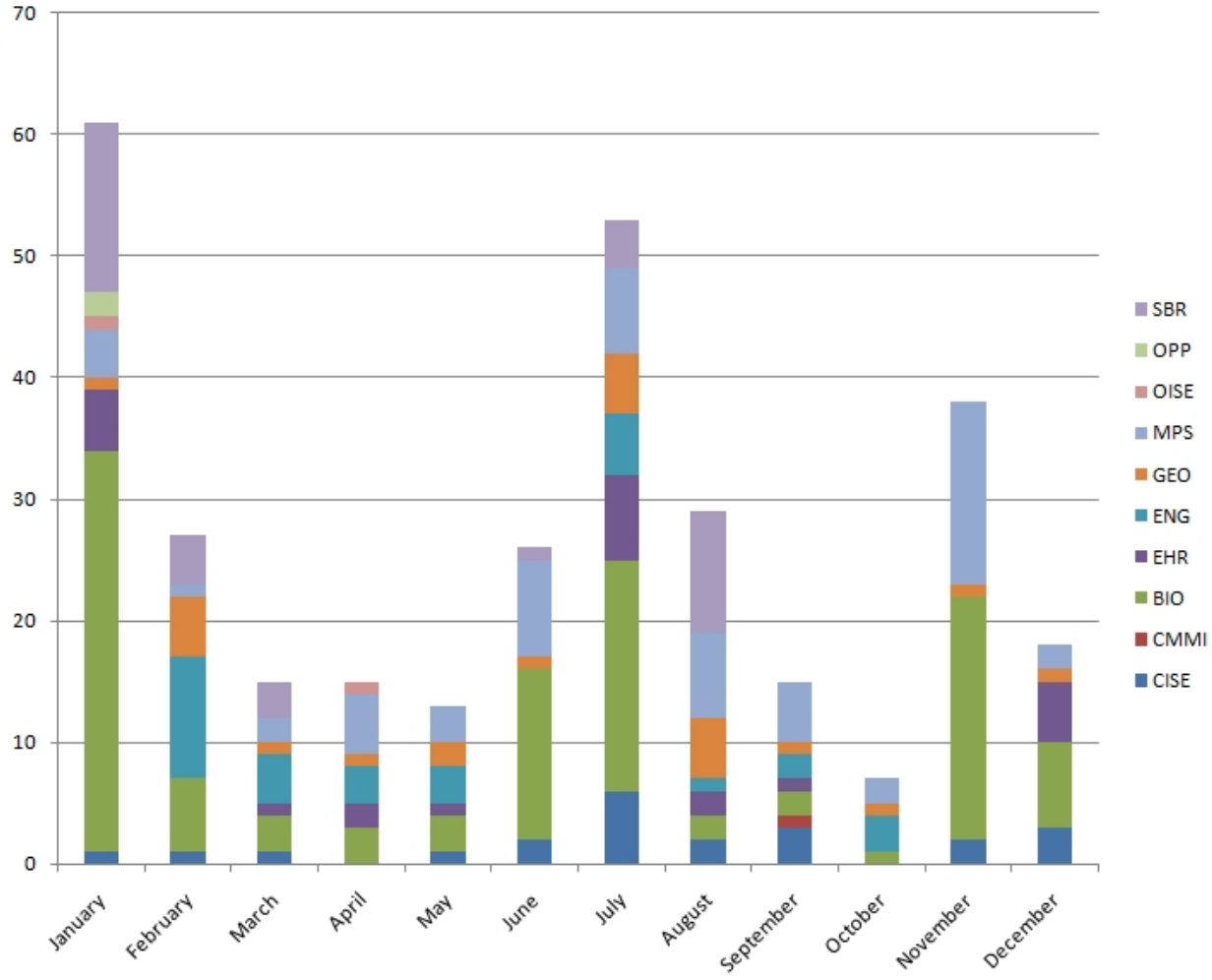
- Data management planning
- Storage and backup
- Metadata
- Data analysis
- Collaboration tools
- High performance computing
- Privacy and confidentiality
- Intellectual property
- Data publication

http://www.flickr.com/photos/21709799@N03/3798486667/

RDMSG activities

- RDMSG website
- rdmsg-help@cornell.edu
- Consultant pool
- Ticketing and triage system
- Information sessions on NSF DMPs
- Faculty advisory board
- Survey of active NSF PIs
- Implementation teams:
  - Outreach and training
  - Documentation
  - Survey report
  - Sharing and access; preservation

NSF proposals by month & directorate



Data Management at Cornell

Common questions:

- What “counts” as data?
- I already publish my data in journals. Is this something different?

*Many more FAQs available on our website.

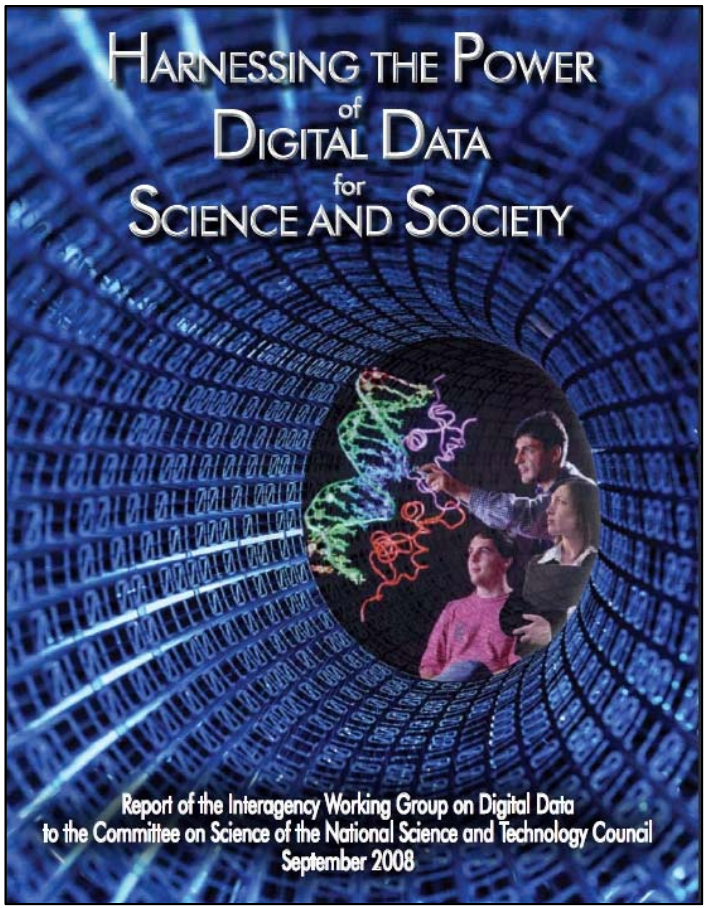
A few final thoughts

- Importance of establishing credibility.
- Importance of saying “I don’t know.”

- Sarah Wright (sjw256)
- rdmsg-help@cornell.edu
- data.research.cornell.edu

Other funding agencies following suit:

- National Institutes of Health (NIH)
- National Endowment for the Humanities (NEH)
- Institute for Museum and Library Services (IMLS)



http://www.nitrd.gov/about/harnessing_power_web.pdf

Publishers are suggesting or requiring data sharing

Nature:

- "...authors are required to make materials, data and associated protocols promptly available to readers..."
  http://www.nature.com/authors/policies/availability.html

Science:

"All data necessary to understand, assess, and extend the conclusions of the manuscript must be available to any reader of *Science*."
http://www.sciencemag.org/site/feature/contribinfo/prep/gen_info.xhtml#dataavail