



NSCC Institutional Research Data Management Strategy Version 1.01

NSCC Research Data Management Project Group
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Introduction and Background

In Spring 2021 the Tri-Agencies¹ released their Research Data Management Policy.²

The Policy requires all institutions receiving funding to:

1. Develop and publish an Institutional RDM Strategy by March 1, 2023.
2. Submit a Data Management Plan with each application for funding (to be phased in over time starting in April 2022).
3. Deposit into a digital repository all digital research data, metadata and code that directly support the research conclusions that arise from agency-supported research.

A NSCC Research Data Management (RDM) Project Group was formed in 2021 by the Director of Libraries and Learning Commons and the Director of Applied Research to develop an Institutional RDM Strategy specifically to address Tri-Agency requirements, comprised of the Directors, Annapolis Valley Campus Librarian and Manager, Libraries and Learning Commons. NSCC does not currently have staff dedicated to RDM.

The NSCC Institutional RDM Strategy uses the template³ and guidelines⁴ from the Digital Research Alliance of Canada based on the Tri-Agency Research Data Management Policy. Formatting and style was derived from the Dalhousie University Institutional Research Data Management Strategy.

The purpose of the Institutional RDM Strategy is to foster a culture and develop capacity that supports researchers in adopting ethical and responsible RDM practices, following the FAIR Principles⁵ to make research data findable, accessible, interoperable, and reusable. It is a roadmap for all people at NSCC to understand their role and responsibility for good data management and the resources and tools available. It is a living document to be reviewed and updated as necessary.

This document will be used by the Project Group when developing and reviewing services, resources, and policies to support Tri-Agency requirements. The Project Group will consult with

¹ Canadian Institute for Health Research (CIHR), Natural Sciences Engineering Research Council (NSERC), Social Sciences and Humanities Research Council (SSHRC).

² Innovation, Science and Economic Development Canada. (2021, March 15). *Tri-Agency Research Data Management Policy*. Innovation, Science and Economic Development Canada. https://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

³ Institutional RDM Strategy Template Revision Working Group. (2021). *Institutional Research Data Management Strategy Development Template (3.0)*. Digital Research Alliance of Canada. <https://doi.org/10.5281/zenodo.3964363>

⁴ Portage Institutional RDM Strategy Working Group. (2020). *Institutional Research Data Management Strategy Guidance (3.0)*. Digital Research Alliance of Canada. <https://doi.org/10.5281/zenodo.4558229>

⁵ FAIR Principles. (n.d.). GO FAIR. <https://www.go-fair.org/fair-principles/>

others, including NSCC Researchers and Campus Librarians on an as-needed basis to support new or changing services and policies.

Definitions

Abbreviations and terms used in this strategy are listed below.

- **the Alliance** – Digital Research Alliance of Canada
- **DMP** – Data management plan
- **NSCC Research Data Management (RDM) Project Group (the Project Group)** – NSCC Directors of Applied Research, Libraries and Learning Commons, Manager Libraries and Learning Commons, Annapolis Valley Campus Librarian.
- **Research Data** – Data that are used as primary sources to support technical or scientific enquiry, research, scholarship, or artistic activity, and that are used as evidence in the research process and/or are commonly accepted in the research community as necessary to validate research findings and results. All other digital and non-digital content have the potential of becoming research data. Research data may be experimental data, observational data, operational data, third party data, public sector data, monitoring data, processed data, or repurposed data.⁶
- **Research Data Management (RDM)** – Data management refers to the storage, access and preservation of data produced from a given investigation. Data management practices cover the entire lifecycle of the data, from planning the investigation to conducting it, from backing up data as it is created and used, to long-term preservation of data deliverables after the research investigation has concluded. Specific activities and issues that fall within the category of data management include file naming conventions; data quality control and quality assurance; data access; data documentation (including levels of uncertainty); metadata creation and controlled vocabularies; data storage, data archiving and preservation; data sharing and reuse; data integrity; data security; data privacy; data rights; and notebook protocols (lab or field).⁷

Scope

This strategy applies to all individuals who conduct research at NSCC. The initial focus will be to ensure Tri-Agency funded researchers have the tools, technologies and supports to aid their work and demonstrate strong data management practices as leaders in this transition in RDM practices.

⁶ CASRAI. (2015). *Research data*. <https://casrai.org/term/research-data/>

⁷ CASRAI (2015). *Research data management*. <https://casrai-test.evision.ca/glossaryterm/research-data-management/>

Oversight and Review

The Institutional Strategy is the shared responsibility of the Director of Applied Research and Director of Libraries and Learning Commons, with the oversight of the NSCC Associate Vice President, Applied Research and Innovation. Oversight of the assessment, development, implementation and review of services, resources and procedures is the responsibility of the Project Group.

Development of the strategy is ongoing and a more detailed assessment of awareness, institutional readiness, and development of formal RDM practices and procedures, including the resources required for implementation are required. The roadmap in the Appendix addresses in detail the steps and actions needed. Once fully developed, it will be reviewed at least every two years.

Institutional Awareness and Readiness

Identifying partners and stakeholders, and providing appropriate resources and materials, are essential in delivering effective RDM services. Local RDM champions at NSCC, such as researchers as users of RDM services and Campus Librarians with skills and responsibilities in copyright, data, and storage and preservation practices, are instrumental in helping to promote the value of RDM and can assist in outreach and communication. NSCC Campus Librarians are also involved in national and regional RDM communities of practice and actively pursue RDM professional development opportunities.

Learning opportunities for researchers and Campus Librarians have been delivered creating a common understanding of RDM principles. A [RDM subject guide](#) has been created to gather resources and supports. Additional education sessions will be developed as RDM practice is adopted.

An institutional RDM strategy includes an assessment of institutional readiness. This includes identifying and reviewing the data landscape at NSCC and assessing existing capacity for RDM. It's also important to define the ideal state for RDM at NSCC. An ideal state for RDM at NSCC is defined as:

- Researchers will be aware of the supports available to assist them in data management planning and best practices.
- Researchers will be aware of and know how to access and use appropriate data management planning tools, repositories, and resources.
- Researchers will apply data management best practices as part of their research activities.
- Supports will be fully funded and resourced including data repository costs and staffing dedicated to RDM leadership and support.

Ideally, this will apply to all research projects but will initially focus on Tri-Agency requirements.

Ethics Considerations

For all projects with ethics implications, RDM practice will adhere to NSCC's *Research Ethics Board Policy* and other related policies. This includes but is not limited to human participants or human-related tissue and materials.

Indigenous Data Considerations

Tri-Agency RDM Policy states: “For research conducted by and with First Nations, Métis and Inuit communities, collectives and organizations, these communities, collectives or organizations will guide and ultimately determine how the data are collected, used and preserved, and have the right to repatriate the data.” NSCC recognizes these rights and like the Agencies also understands that “a distinctions-based approach is needed to ensure that the unique rights, interests and circumstances of the First Nations, Métis and Inuit are acknowledged, affirmed, and implemented.”⁸

Other Relevant Strategies and Policies

The Tri-Agency RDM Policy⁸ is not an open data policy. However, it does require formalized RDM practices and procedures. NSCC policies that may contain aspects related to RDM include *Research Ethics Board Policy*, *Research Integrity Policy*, and *Intellectual Property Policy*.

RDM policy development is a long-term goal. Future considerations for policies and procedures related to RDM practices may include data management, data quality and standards, data retention and data preservation.

⁸ Innovation, Science and Economic Development Canada. (2021, March 15). *Tri-Agency Research Data Management Policy*. https://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

Appendix

Roadmap

It's important to note that NSCC does not currently have resources or funding dedicated to RDM.

Raise Awareness				
Objectives	Ongoing Practices & Supports	Gaps & Resources Required	Timeline	Responsibility
Identify NSCC partner communities	In the context of Tri-Agency requirements, researchers and librarians have been identified as stakeholders and partners.	As work progresses additional partners will be identified.	Ongoing	The Project Group
Promote the value of RDM and engage with various stakeholder communities	The Project Group actively promotes the value of RDM within the Applied Research and Libraries and Learning Commons Teams and engages with NSCC management.	Broader institutional promotion and consultation.	Ongoing promotion and consultation	Libraries and Learning Commons, Applied Research
Develop awareness materials and resources for different NSCC communities	NSCC Libraries and Learning Commons host an RDM subject guide with links to resources from the Alliance, video for the DMP Assistant, and other education and awareness resources, including hosted webinars. The Project Group does a variety of outreach including webinars and informal awareness within their respective College communities.	Expansion and awareness of resources, etc. for college and campus community.	Ongoing	The Project Group, AVP Applied Research and Innovation
Determine and apply the appropriate delivery mechanisms for outreach		A formal communications /outreach plan to build engagement.		
Consultations				
Objectives	Ongoing Practices & Supports	Gaps & Resources Required	Timeline	Responsibility
Indigenous Consultation	Application of the CARE ⁹ Principles for Indigenous Data Governance and the First Nations Principles of OCAP ¹⁰ require consultation and consideration in relation to existing policies.	Additional resources are required for a consultation process with Indigenous researchers, Indigenous communities, and specifically with the Indigenous Advisory Council.	Long term (3 years+)	The Project Group in consultation with partners

⁹ CARE = Collective Benefit, Authority to Control, Responsibility, and Ethics

¹⁰ OCAP = ownership, control, access, and possession

Black and African Nova Scotian Consultation	Application of Scarborough Charter Principles ¹¹ : 1) Black Flourishing 2) Inclusive Excellence 3) Mutuality, and 4) Accountability.	Additional resources are required for a consultation process with Black and African Nova Scotian researchers, Black and African Nova Scotian communities, and specifically with the Black Community Council (BCC).	Long term (3 years+)	The Project Group in consultation with partners
Participate in any future Tri-Agency consultations around RDM	AVP Applied Research and Innovation represents NSCC for Tri-Agency consultations.		Ongoing	AVP Applied Research and Innovation
Participate in regional and national RDM consultations and events	Applied Research and NSCC Libraries staff participate in events and consultation as appropriate.	Communication gaps / calendar of events. Absence of dedicated RDM staff able to participate.	Ongoing	Applied Research and Libraries
Assess Institutional Readiness				
Objectives	Ongoing Practices & Supports	Gaps & Resources Required	Timeline	Responsibility
Conduct an inventory of institutional data assets and data management practices at NSCC		Survey to be developed of current data management practices.	Winter/Spring 2023	The Project Group with extensive input from Applied Research
Establish RDM Services				
Objectives	Ongoing Practices & Supports	Gaps & Resources Required	Timeline	Responsibility
Data Management Plans	Webinar delivered Feb 2022 to researchers and librarians. NSCC has adopted the Alliance's DMP Assistant tool.	All grant proposals submitted to the Tri- Agency must include methodologies that reflect best practices in RDM and DMPs by spring 2023.	Ongoing	Applied Research and Libraries
Institutional support and training	Project Group members participate in regional and national groups such as CAAL-CBPA, the Alliance, and other data communities of practice. Within the Libraries and Applied Research teams is expertise in the areas of copyright and data. The College also has expertise in legal, ethics and intellectual property.	Dedicated employees are required to continue to develop and deliver support, training materials and participate in regional and national organizations. Financial resources dedicated to building staff capacity to advance this work and provide ongoing support.	Ongoing	The Project Group, Applied Research, Libraries, AVP Applied Research and Innovation, AVP Student Affairs

¹¹ Scarborough Charter on Anti-Black Racism and Black Inclusion in Canadian Higher Education: Principles, Actions and Accountabilities. <https://www.nsc.ca/about/news/media/2022/nsc-signs-scarborough-charter.asp>

<p>Data repositories and archiving</p>	<p>Investigations of national and regional repository options through consortia partnerships are ongoing.</p> <p>Investigate sustainable internal data storage options.</p>	<p>Selection of repository to be made according to availability, cost, space requirements, security, etc.</p>	<p>Fall 2023</p>	<p>The Project Group in consultation with Researchers, Digital Innovation and Technology</p>
<p>Institutional policies, guidelines and/or procedures</p>	<p>Current policies: <i>Research Ethics Board Policy, Research Integrity Policy, and Intellectual Property Policy.</i></p>	<p>Additional resources required to develop policies and procedures for RDM (i.e., data management, data preservation, etc.).</p>	<p>Long term (3 years+)</p>	<p>The Project Group in consultation with partners</p>
<p>Identifying best practices and gaps in the existing RDM environment</p>	<p>National and regional organizations and supports are in place to inform and provide guidance.</p>	<p>Awareness of active storage solutions. Formal procedures for DMP submission with Tri-Agency funding applications needs to be determined.</p>	<p>Ongoing</p>	<p>The Project Group in consultation with partners</p>
<p>Secure sustainable funding / resources required to support and advance RDM practices and policies at NSCC</p>		<p>Dedicated staff and budget.</p> <p>Funding requirements include: ongoing repository costs, NSCC IT costs, salaries, training costs, professional development.</p>	<p>Ongoing</p>	<p>Directors, Libraries and Learning Commons, Applied Research; AVP Applied Research and Innovation and AVP Student Affairs</p>