

NSCAD University

# INSTITUTIONAL RESEARCH DATA MANAGEMENT STRATEGY

## Background and Purpose

In March 2021, the Tri-Agency Research Data Management Policy<sup>1</sup> was released, underscoring the importance of managing research data. The Canadian Tri-Agencies, including the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), and the Canadian Institutes of Health Research (CIHR) promote and support research, research training, knowledge transfer, and innovation. The policy encompasses sound data management and stewardship practices, including Indigenous data sovereignty. The policy outlines the collaborative duties of researchers, research communities, institutions, and funders, mandating that any institution aspiring to manage Tri-Agency funds must create and disclose a public institutional strategy for Research Data Management (RDM).

The three main components of the policy include:

- Development of an Institutional RDM Strategy (March 2023);
- Requirement for researchers to complete Data Management Plans for specific grants (anticipated to start 2022); and,
- Institutions to provide infrastructure for Data Deposit (TBD)

The primary goal of NSCAD's Institutional Research Data Management Strategy is dual:

1. To foster and maintain a culture where RDM is recognized as a crucial element of research processes and academic cycles;
2. To identify and enhance institutional support and services researchers can utilize to integrate responsible and effective RDM practices into their research endeavours.

NSCAD's Institutional RDM Strategy draws upon several vital guiding principles, notably the FAIR Principles<sup>2</sup>, which stress the importance of making research data findable, accessible, interoperable, and reusable. It also adheres to principles supporting Indigenous communities and data sovereignty, including the CARE Principles for Indigenous Data Governance<sup>3</sup>, which focus on collective benefit, authority, responsibility, and ethics, as well as the OCAP® Principles<sup>4</sup> developed by the First Nation Information Governance Centre, emphasizing the significance of ownership, control, access, and possession concerning First Nations information and data.

This strategy will serve as a resource for stakeholders throughout the institution, aiding in developing and providing RDM support, services, and policies. Currently, NSCAD is prepared to offer ad hoc support to researchers funded by Tri-Agency grants with applications requiring DMPs. Staffing or infrastructure investments will be made to enhance RDM best practices based on the resourcing needs identified in the following versions of the plan. The roadmap will be periodically evaluated and updated by the Institutional RDM Strategy Working Group or its future iterations annually and as necessary.

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<sup>1</sup> Government of Canada (2021). Tri-Agency Research Data Management Policy. Retrieved from <https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy>

<sup>2</sup> Wilkinson, M., Dumontier, M., Aalbersberg, I. et al. The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* 3, 160018 (2016). <https://doi.org/10.1038/sdata.2016.18>

<sup>3</sup> Global Indigenous Data Alliance (2019). CARE Principles for Indigenous Data Governance. Retrieved from <https://www.gida-global.org/care>

<sup>4</sup> First Nations Information Governance Centre (2022). *The First Nations Principles of OCAP*. <https://fnigc.ca/ocap-training/>

Success indicators for specific actions will be established, covering aspects such as satisfaction within the research community of practice, the delivery and adoption of RDM learning and training opportunities, usage statistics, progress towards creating a central online RDM Hub, and continued participation in and results from national RDM efforts and projects.

The NSCAD Research Data Management Advisory Committee (RDM Advisory Committee) was established to address the demands of the new Tri-Agency RDM objectives. Initially, the Committee's main objective was to collect information to guide the creation of the Institutional Strategy. This Committee was made up of key stakeholders from across NSCAD:

- Provost, Office of Research Services (Chair)
- Director of Library Services
- Director, Teaching and Learning
- Research Grants Officer
- Director of Computer Services

## Institutional RDM Strategy and Roadmap

(see appendix for a list of acronyms used in this strategy)

### Raising Awareness and Building Capacity

Raising awareness about Research Data Management (RDM) at NSCAD University is vital for promoting data stewardship and supporting research excellence. Engaging a diverse community of stakeholders, including researchers and staff, ensures that RDM resources and services are adequate and relevant. The NSCAD University Library is vital in coordinating these efforts, offering support in training, data management planning, metadata documentation, and long-term data stewardship. By involving key stakeholders and aligning with national and international RDM standards, NSCAD is enhancing its research environment and fostering best practices in data management.

Raise Awareness and Build Capacity				
Objectives	Ongoing practices & support	Gaps & resources required	Timeline	Responsibility
<b>1.1 Identify RDM stakeholder communities across the University</b>	An RDM Advisory Committee was initiated in Fall 2021, consisting of individuals across key areas, including the Office of Academic Affairs and Research, Library Services, Computer Services, research supports and administrative services groups. However, the RDM process stalled till 2023 due to changing senior leadership.  In 2023, a core Institutional RDM Strategy Working Group (RDM Working Group) was created. The working group, sponsored by VPAR with Library, Computer Services, and Teaching and Learning, will focus on drafting NSCAD's institutional RDM strategy and associated activities.	Establishing a strong community of practice comprised of stakeholders from various disciplines is an immediate concern. The Institutional RDM Strategy Working Group needs to include representatives from the Graduate programs.	Further actions and dates will be created after the initial release of the Institutional RDM Strategy.	To be led by the OAAR and the Library
<b>1.2 Recruit institutional champions that will help to promote the value of RDM and engage with various stakeholder communities</b>	The RDM Working Group has representatives from various units (OAAR, Library, Computer Services). It will include a faculty and a staff member who are RDM "champions" working across units in the University to highlight RDM and seek additional partners.	Need to ensure continued consultation and communication with faculty and academic support units.	Ongoing consultations	To be led by the OAAR and the Library

<b>1.3 Develop RDM-related awareness materials and resources for different communities</b>	The RDM Working Group will create various FAQs/tip sheets, including RDM, DMPs, data storage and security, and archiving. Create and enhance the Library RDM Guide and the RDM webpage.	The RDM community of practice and identified champions (see 1.1 & 1.2) will play critical roles in identifying gaps in materials and resources, including their development and sourcing. Additional resources required are to be determined.	Ongoing	To be led by the OAR, Computer Services and the Library,
<b>1.4 Determine and apply appropriate delivery mechanisms for outreach</b>	The RDM Working Group will provide outreach on request and during events held by the Library, Research Services or Teaching and Learning. Online options will extend the Working Group's reach.	No formal outreach/communications plan or awareness of outreach preferences. The RDM Working Group is developing an events calendar, and additional communication mechanisms continue to be explored	Ongoing	To be led by the OAR and the Library
<b>1.5 Participate in Tri-Agency RDM consultations</b>	Early RDM Advisory Committee members participated in Tri-Agency RDM consultation opportunities.  The RDM Working Group monitors Tri-Agency announcements and will participate in consultations as opportunities become available.	Participation in future Tri-Agency RDM consultations will be a continued priority, and these should ideally include involvement from the larger community of practice. This will require cooperation among the Library, OAR, and researchers.	Ongoing and as opportunities are presented	OAR and the Library
<b>1.6 Participate in regional and national RDM consultations and events</b>	Previous VPAR and researchers attended national events.	Participation by researchers, research, Library, and computer services staff to be encouraged and supported.	Ongoing	OAR and the Library

### Assess Institutional Readiness

A crucial part of NSCAD University's Research Data Management (RDM) strategy is assessing the current state of RDM across the University and identifying an ideal state based on researcher and stakeholder needs. As RDM services become available and evolve, researchers must be aware of and able to access them easily. This assessment includes evaluating existing services such as data management planning, data repositories, training, and institutional policies and procedures. Additionally, the strategy involves reviewing the current data landscape and capacity to define the ideal state for RDM. In this perfect state, NSCAD researchers would be well-informed about the available support and know how to access the necessary tools and resources for effective data management practices.

Assess Institutional Readiness				
Objectives	Ongoing practices & support	Gaps & resources required	Timeline	Responsibility
<b>2.1</b> <b>Conduct a survey of institutional data assets and data management practices at the University</b>	<p>The RDM Working Group initiated a survey on RDM practices in 2021. Due to changing leadership, a new survey is being established due to the changing composition of faculty and practices on campus. Survey results will be used to shape future services and supports.</p> <p>Data management practices vary widely across campus.</p>	<p>To create and provide helpful support and services, it is important to thoroughly understand how data is currently managed and what researchers across campus need.</p>	<p>Medium-term - by mid 2025</p>	<p>RDM Working Group, or an evolved version of it</p>
<b>2.2</b> <b>Develop data management plan</b>	<p>OAAR and research support staff have done initial work to investigate the Digital Research Alliance of Canada DMP Assistant template for NSCAD researchers and graduate students.</p> <p>In collaboration with the Library, adapt a template to meet the needs of our researchers.</p> <p>Ensure alignment with the Research Ethics Board application process.</p>	<p>DMPs are increasingly required for research funding applications and are a core component of the Tri-Agency RDM Policy. Increased knowledge and capacity for DMP support across both key central areas (e.g., Library, RGO)</p> <p>Resources required include a dedicated DMP administrator and training support personnel.</p>	<p>Ongoing</p>	<p>Institutional RDM Strategy Working group, or an evolved version of it</p>
<b>2.3</b> <b>Provide guidance, institutional support, and training</b>	<p>Developing internal training and education:</p> <p>Workshops, Lunch and Learns and other training for faculty, students, and staff on aspects of RDM (e.g., DMP Assistant training, data sharing deposit and preservation, etc.)</p> <p>Partner with the Director of Teaching and Learning to offer new faculty members RDM capacity-building training.</p>	<p>Dedicated personnel must continue to develop and deliver training materials and participate in regional and national organizations.</p> <p>Financial resources may be required to fund permanent positions and train in metadata and data anonymization.</p>	<p>Ongoing</p>	<p>OAAR and the Library</p>
<b>2.4</b> <b>Data repositories and archiving</b>	<p>Identify a new cloud-based repository storage option for NSCAD faculty and staff for data deposit use.</p>	<p>Investigate new tools for data deposit, discovery, and access. Expand repository service models focused on supporting researcher needs, data security requirements and deposition activities.</p> <p>Expand human resources concerning dedicated personnel to support repository and data deposit activities, including curation, metadata creation, and preservation.</p>	<p>Medium to long-term, with ongoing assessment</p>	<p>OAAR and the Library</p> <p>RDM Working Group, or an evolved version of it</p>

<p><b>2.5 Institutional policies and procedures</b></p>	<p>The RDM Working Group, Senate Research Committee, Senate Policy and Planning and the Office of Academic Affairs and Research are reviewing all policies and procedures to ensure compliance and structured guidance.</p> <p>Application of the CARE Principles for Indigenous Data Governance and the First Nations Principles of OCAP require consultation and consideration of existing policies.</p>	<p>Additional capacity is required to develop policies for data repositories (i.e., data collection, long-term data preservation, etc.). RDM Working Group members are part of various Digital Research Alliance of Canada working groups.</p> <p>Additional capacity is required to consult with Indigenous researchers and communities.</p>	<p>Ongoing</p>	<p>OAAR RDM champions across Divisions</p>
<p><b>2.6 Identifying gaps in the existing RDM environment</b></p>	<p>Structuring an RDM survey to review gaps and existing needs.</p> <p>NSCAD currently has a range of institutional guidance in the form of strategic plans, policies, and corresponding procedures. While many of these relate to RDM, many are specific to RDM.</p> <p>Notable examples include:</p> <ul style="list-style-type: none"> <li>• University Strategic Plan <i>(in draft)</i></li> <li>• <a href="#">Strategic Research Plan</a></li> <li>• <a href="#">Research Centres and Research Institutes Policy</a></li> <li>• <a href="#">Research Administration Policy</a></li> <li>• <a href="#">Policy Of Access And Use Gallery Archives and Anna Leonowens Gallery</a></li> </ul> <p>The <a href="#">Data Management Policy</a> references institutional data without acknowledging research data.</p>	<p>It is recommended that a review of existing institutional policies and procedures occur to identify opportunities for including guidance with respect to RDM. There may also be opportunities to develop new policies and procedures relating directly to RDM.</p> <p>Specialized human resources are required to review and support work relating to revising and expanding existing university policies and developing recommendations regarding RDM-specific policy revisions and development. Strong cross-connections to work relating to the Strategic Research Plan will be critical.</p>	<p>Long-term - 2-3 years, longer as needed</p>	<p>OAAR be determined</p>

## Formalize RDM Practices

Formalizing NSCAD University's Research Data Management (RDM) strategy is essential for supporting research excellence, as recognized by the Tri-Agency RDM Policy. Critical activities like developing research funding proposals, data management plans, and navigating the research ethics process all involve RDM. While existing institutional plans and policies touch on RDM, none are explicitly dedicated to it.

To address this, NSCAD should develop or update policies to explicitly include RDM practices, covering data quality, standards, retention, and long-term preservation. Documenting available RDM support and outlining processes to meet funding requirements is crucial. Policies should also address unfunded and student research.

Collaborating with regional and national groups on RDM resources, services, infrastructure, and Indigenous Data Governance will help fill policy gaps. Aligning RDM policies with NSCAD's Strategic Research Plan will ensure comprehensive support for research activities across the University.

## **Institutional RDM Strategy Working Group:**

### **Current Members**

Jana Macalik, Interim Vice-President (Academic and Research) and Provost  
Jacqueline Warwick, Dean, Academic  
Rebecca Young, Director of Library Services  
Owen Gottschalk, Director of Computer Services  
Katie Puxley, Systems Librarian  
Kirstie McCallum, Research Grants Officer  
Noelle Peach, Director of Teaching and Learning

Administrative support: Eric MacDonald, Coordinator, Academic Affairs and Research

### **Former Members**

Ann-Barbara Graff - *former Vice-President (Academic and Research) and Provost*

## **Acknowledgement:**

The RDM Working Group wishes to acknowledge and thank the following organizations and institutions for their support and contributions with respect to the drafting of the NSCAD Institutional RDM Strategy:

The Digital Research Alliance of Canada (formerly Portage) is a national RDM-focused organization launched in 2015 under the Canadian Association of Research Libraries (CARL). Portage Network/Alliance RDM and its many Expert Groups developed and delivered a range of resources that contributed to successfully drafting this strategy document.

Dalhousie University and the University of Alberta for providing a publicly accessible institutional RDM strategy, which served as a guiding framework for developing the NSCAD University Institutional RDM Strategy.

## **References:**

Dalhousie University: [Dalhousie University Institutional Research Data Management Strategy \(PDF\)](#)

Digital Research Alliance of Canada <https://alliancecan.ca/en/services/research-data-management>

Emily Carr University of Art and Design <https://www.ecuad.ca/academics/research-area/rdm>

McGill University: [McGill RDM Strategy](#)

McMaster University: [Research Data Management Institutional Strategy Working Group | Research Data Management \(mcmaster.ca\)](#)

Queens University: [Research Data Management Institutional Strategy | Vice-Principal \(Research\) \(queensu.ca\)](#)

Tri-Agency Research Data Management Policy: [Tri-Agency RDM Policy](#)

University of Alberta: [University of Alberta RDM Strategy](#)

## Appendix:

### Acronyms

- **RDM:** Research Data Management
- **NSERC:** Natural Sciences and Engineering Research Council of Canada
- **SSHRC:** Social Sciences and Humanities Research Council of Canada
- **CIHR:** Canadian Institutes of Health Research
- **DMP:** Data Management Plan
- **FAIR:** Findable, Accessible, Interoperable, Reusable
- **CARE:** Collective Benefit, Authority to Control, Responsibility, Ethics
- **OCAP:** Ownership, Control, Access, Possession
- **VPAR:** Vice-President (Academic and Research)
- **OAAR:** Office of Academic Affairs and Research
- **REB:** Research Ethics Board

### Definitions

- **Research Data Management (RDM):** The storage, access, and preservation of data from one or more investigations or a research program. RDM practices cover the entire data lifecycle, from planning the investigation to conducting it and backing up data as it is created and used to preserve data for the long term after the research has concluded.
- **Data Management Plan (DMP):** A living document associated with an individual research project or program that outlines the practices, processes, and strategies for data management and curation. DMPs should be modified throughout a research project to reflect changes in project design, methods, or other considerations.
- **FAIR Principles:** Guidelines to improve the Findability, Accessibility, Interoperability, and Reusability of research data. These principles emphasize the need for data to be appropriately managed to ensure that others can easily share and use it.
- **CARE Principles:** Principles for Indigenous Data Governance that emphasize Collective Benefit, Authority to Control, Responsibility, and Ethics. These principles ensure that Indigenous peoples are actively involved in their data governance.
- **OCAP Principles:** Principles that ensure First Nations have Ownership, Control, Access, and Possession of their data. OCAP establishes how First Nations' data and information will be collected, protected, used, or shared.
- **Metadata:** Data that provides information about other data, making it easier to find, use, and manage. Metadata includes details such as the creator, date of creation, and data format.
- **Research Data:** Data used as primary sources to support technical or scientific inquiry, research, scholarship, or creative practice. Research data can include experimental data, observational data, operational data, third-party data, public sector data, monitoring data, processed data, or repurposed data.
- **Research Data Lifecycle:** The stages research data passes, from its initial creation and active use to its long-term preservation and potential reuse. Key stages include planning, creation, processing, analysis, preservation, sharing, and reuse.
- **Tri-Agency:** Refers to the three Canadian federal research funding agencies: NSERC, SSHRC, and CIHR. These agencies promote and support research across various disciplines in Canada.
- **Indigenous Data Sovereignty:** The right of Indigenous peoples to govern the collection, ownership, and application of their data. It ensures that data related to Indigenous peoples is managed in a way that respects their unique cultural and social contexts.
- **Repository:** A digital archive where research data can be stored, preserved, and made accessible for future use.
- **Data Governance:** The overall management of the availability, usability, integrity, and security of data used in an organization. It involves the development of policies and procedures to ensure data is managed effectively and responsibly.

- **Ethical Conduct for Research Involving Humans:** Guidelines and principles that ensure research involving human participants is conducted ethically, respecting the dignity, rights, and welfare of the participants.