

Research Data Management Strategy

March 2023 to March 2026

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Introduction and Background

The Canadian Tri-Agencies (NSERC, SSHRC and CIHR) formalized and released the <u>Tri-Agency Research Data Management (RDM) Policy</u>. The objective of this policy is to support Canadian research excellence by promoting sound data management and data stewardship practices. It applies to grant recipients and to institutions administering Tri-Agency funds. The Tri-agency Research Data Management Policy has three components:

Institutions

Each postsecondary institution and research hospital eligible to administer CIHR, NSERC or SSHRC funds is required to create an institutional RDM strategy and notify the agencies when it has been completed. The strategy must be made publicly available on the institution's website, with contact information to which inquiries about the strategy can be directed. (March 2023)

Data Management Plans

All grant proposals submitted to the agencies should include methodologies that reflect best practices in RDM. For certain funding opportunities, the agencies will require data management plans (DMPs) to be submitted to the appropriate agency at the time of application, as outlined in the call for proposals; in these cases, the DMPs will be considered in the adjudication process. (Ongoing)

Data Deposit

Grant recipients are required to deposit, into a digital repository, all digital research data, metadata and code that directly support the research conclusions in journal publications and pre-prints that arise from agency-supported research. Determining what counts as relevant research data, and which data should be preserved, is often highly contextual and should be guided by disciplinary norms. (Date TBD)

In line with the concept of Indigenous self-determination and in an effort to support Indigenous communities to conduct research and partner with the broader research community, the College recognizes that data related to research by and with the First Nations, Métis, or Inuit whose traditional and ancestral territories are in Canada, must be managed in accordance with data management principles developed and approved by these communities, and on the basis of free, prior and informed consent. This includes, but is not limited to, considerations of Indigenous data sovereignty, as well as data collection, ownership, protection, use, and sharing. The principles of Ownership, Control, Access, and Possession (OCAP®) are one model for First Nations data governance, but this model does not necessarily respond to the needs and values of distinct First Nations, Métis, and Inuit communities, collectives, and organizations. The College recognizes 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.

The College's goal is to supports its researchers in the implementation of good RDM practices through the coordination of existing tools, technologies, and services. The College respects the use of diverse approaches reflective of various disciplines, research activities, and projects. St. Lawrence College's Research Office was given the responsibility to lead and respond to the requirements of the Tri-agency RDM Policy. The College's Research Office is taking a long-

range view in the development of the requisite policies, procedures, and infrastructure to build a robust RDM system within the College. The College recognizes that achieving a mature RDM state requires additional stakeholder engagement, resource allocation, and institutional alignment and prioritization. The following St. Lawrence College RDM strategy is broad in its initial scope. The strategy is considered iterative, and the current version is focused on activities for the period of March 2023 – March 2026. It will be updated as work progresses, and future priority areas are identified with the goal of moving the organization to a stable and ideal end state.

Importance of Research Data and Research Data Management

Research Data

Research Data is an output of research activity and can include any of the following. Note that this is not exhaustive and provides examples of research data.

- Data that is generated by equipment/computations and that can be analyzed.
- Information that has been collected or observed that answers or validates a question.
- Stories that are told (images, recordings, artefacts, etc.) that are collected through the process of storytelling.
- Raw data that is not necessarily published but needs to be managed and/or organized.
- Qualitative and quantitative data points that are used to analyze and garner greater understanding of a function, process, or item, typically will be published, or shared in a scholarly manner.

Research Data Management (RDM)

RDM refers to the processes applied throughout the research project lifecycle that guide the planning, collection, storage, documentation, handling, dissemination, preservation, and reuse of research data. Sound and robust RDM practices are integral to conducting responsible research that aligns with the Tri-council RDM policy and funding guidelines.

- Importance of RDM: The application of RDM best practices provide researchers and the College with improved competitiveness for research funding.
- Increased accountability and transparency for researchers, and safety for research participants.
- Improved accuracy and validity of research data.
- Enhanced preservation and protection of research data.
- Consistency in data use, application, dissemination, and management.
- Clarity in best practices for data management.
- Increased value, recognition, and impact of research, to the benefit of individual researchers, the institution, and funders.

Data Management Plan (DMP)

A DMP is a formal, researcher-created document that details the methods, tools, and practices that will be used to manage data during and after a research project. The DMP is a living document that can be modified throughout a research project to reflect any changes.

A DMP helps:

- The researcher meets application requirements and/or adheres to College data management policies and procedures.
- Research teams to be consistent and have detailed accounts with documenting, using, storing, stewardship, and finding data.
- Determine the resources, tools, and expertise needed for data management.
- Identify challenges for data storage, handling, and managing data based on type and volume.
- Ensure reliability, authenticity, accuracy, and reproducibility of data.
- Make data findable, accessible, interoperable, and reusable (FAIR) which can maximize the potential and impact of research.

Oversight and Review

The RDM strategy is the responsibility of the Research Office under the direction of the Innovation and Business Engagement Department. The strategy will be revisited annually during the initial three-year term with updates provided to the College Executive Team, Academic Council, and the College Leadership Team.

RDM Scope and Objective

St. Lawrence College's RDM is targeted toward faculty, staff, students, partners, external researchers, and funders who operate within the auspices of the College's Research Office. The objective of this strategy is to develop, promote, raise awareness of, and maintain an effective research data management practice for the College. Broadly speaking the College's goal is to advance our RDM governance framework through the development and adoption of best practices; increase accountability, transparency, and safety of researchers and participants; improve data integrity and data protection; and increase the value, recognition, amount, and impact of research.

The strategy targets the following two main priority objectives to be achieved by March 2026:

Institutional Infrastructure

- Form institutional RDM working group that aligns with the College's Data Governance Committee. Stakeholder involvement from the following College areas will be critical in the success of the working group: Research Office, Research Ethics Board, Legal, Finance, IT Services, Library Services, Indigenous Services, Bio Safety, Animal Care, Quality Assurance Office, SCTL, Institutional Research, external research partners and agencies. The working group will act as the lead in the execution of the RDM strategy for the College. The working group will be accountable to the Innovation and Business Engagement Office which is responsible for all College research activities.
- Expand and increase the capacity and resources for a robust RDM system at the College.

 Provide and support access to RDM tools, resources, and infrastructure. Identify, develop, and implement data storage resources, DMP templates and tools for researchers, and research project tracking tools.

RDM Knowledge

- Provide awareness, training, resources, and education on the stages of and best practices of research data management.
- Support and encourage appropriate Indigenous Research Data Management processes and activities.
- Strengthen RDM governance. Through stakeholder engagement, create and implement RDM policy and procedures to reflect best practices.

The College recognizes that RDM is quite new in the college context, and it will take several years for the College to establish a level of staff expertise, researcher understanding and capacity, and infrastructure that is required to reach our steady state. This strategy outlines planned activities over the next three years to keep St. Lawrence moving toward a steady state of a robust RDM practice.

Relevant Resources and References

The following is a list of external reference documents that will be used to bring this strategy to life at St. Lawrence College. Additional resources will be added as work progresses on the implementation of the RDM strategy.

Tri-Agency RDM Policy:

Digital Research Alliance of Canada RDM

Ownership, Control, Access, and Possession (OCAP)

Research Involving the First Nations, Inuit, and Metis People of Canada

The CARE Principles for Indigenous Data Governance

Research Data Management Terminology