Objective
What will graduate students need to be successful in managing, working with and curating their research data? This poster reports on initial results from a two-year project funded by the Institute of Museum and Library Services (IMLS) that is centered on exploring this question.

Investigation Methods

Literature Review
We did a literature review to see what data management issues and best practices are being discussed in the scientific literature relevant to this team’s research discipline (ecology).

Structured Interviews
We conducted structured interviews of the PI, several graduate students, a postdoc, and a research assistant. Interviewees were asked to describe and illustrate how they managed their research data throughout the data lifecycle.

Educational Priorities
We used the interview results and the literature review to develop a discussion-based training session that included print and web resources with the goal of addressing the identified deficiencies and providing resources specific to ecological research data in these areas:
1. Data stewardship
2. File management
3. Description/annotation/metadata
4. File formats, conversion
5. Publishing data
6. Preservation and archiving
7. Data citation

Vegetation Ecology
Research into the impacts of controlled manipulations of temperature and precipitation on prairie plant ecosystems. Data from field observations and measurements, sensors, and lab measurements are compiled or converted into spreadsheets, and analyzed via statistics.

Instruction
Prior to a team meeting we distributed several articles on research data management and notebook practices


We then used a 1.5 hr team meeting to introduce resources and best practices, and discuss the concepts presented in the readings.

Assessment
After the training session we surveyed the team about the resources and training session to gauge its usefulness, and to investigate changes in data management practices that they had made or anticipated making as an outcome of the interviews and educational interventions.

The team reported that they:
- worked to more completely fill out metadata descriptions,
- paid closer attention to data storage, preservation and sharing issues, and we encouraged them to work with relevant IT units on storage and backup.

Team members reported that they had particular interests concerning data-ownership and data-preservation issues, and are working with the data librarian on publishing data.

One of the PIs requested that datasets be transferred to him in non-proprietary formats at the completion of projects.

Next Steps
One of the PI’s requested that we teach more advanced topics to another research group, and a course he teaches.

We plan to work with faculty in the Chemistry Department who have expressed interest in this type of investigation and instruction for their research teams.

The faculty involved in the first round are now proponents of instruction for incoming graduate students.

The Data Information Literacy project is supported in part by a grant from the Institute of Museum and Library Services (IMLS). Any views, findings, conclusions or recommendations expressed here do not necessarily represent those of the IMLS.