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Developing a Data Management Curriculum for Graduate Students in the Natural Resources

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Developing a data management curriculum for graduate students in the natural resources

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Objective

What skills do graduate students need to be successful in managing, working with and curating their research data? This poster reports on work at Albert R. Mann Library to address these needs in collaboration with faculty in the Department of Natural Resources.

Natural Resources/Long-term Studies


Context

- Long-term studies tracking longitudinal changes in fish species occurrence, population abundance, growth, and diet
- Data types
  - Spreadsheets (MS Excel),
  - Relational databases (MS Access),
  - Scripted analyses in R (open source statistical software)

Educational Priorities

- Acquiring the data management and organization skills necessary to work with databases and data formats, document data, and handle accurate data entry is described as essential, otherwise, “it’s [as if] the data set doesn’t exist.”
- Data management
- Data organization
- Data quality and documentation
- Data analysis and visualization
- Metadata

Response

NTRES 6940 Special Topics Course:
Managing data to facilitate your research

Six session mini-course:
- Intro to Data Management
- Data Organization
- Data Analysis & Visualization
- Data Sharing
- Data Quality & Documentation
- Wrap-up

Assessment Methods

- In-class active and collaborative learning
- Post class one-minute reflections

How would you rate your knowledge/skills/ability in the following areas?

<table>
<thead>
<tr>
<th>Area</th>
<th>Before</th>
<th>After</th>
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<tbody>
<tr>
<td>Creating a data management plan</td>
<td></td>
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<tr>
<td>Documenting your data</td>
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<td>Evaluating data repositories</td>
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<td>Visualizing data and creating graphs</td>
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<td>Following best practices in structuring relational databases</td>
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<td>Recognizing necessary components of a data management</td>
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<td>Describing your research and data collection process</td>
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<tr>
<td>Describing the importance of data management</td>
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</tbody>
</table>

0 = No Competence 100 = Very Competent

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