Customizing Off-the-Shelf Data Management Systems:

A Data Stewardship Team's Lessons Learned

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Why Customize?

- Growing importance of data!
- Data management solutions need to:
  - Manage business risks
  - Better handle non-standard data
  - Ensure data quality
  - Provide secure data access
  - Improve data collection and reporting processes
- No system is perfect

Data Manager vs. Data Steward:

- Manager
  - Just manages and loads data
    - Coordinates data management
    - Considers short term goals
- Steward
  - Takes care of the data
    - Considers long term goals
  - Considers all elements of a robust system

Identify Needs/Assess Current State:

- *Total* workflow

- Project team and associated roles

- Inherited issues

- Gap identification (data and workflow)

- Non-standard data

- Historical data

- Long term project needs (source traceability, reporting, field data collection, etc.)

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Consider Workflow Efficiencies:

- Field collection
  - User base skill set
  - Dynamic versus static forms
- Data loading
  - Loading multiple data types at once
- Data reporting
  - Final printable report may not be the best solution

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Communication:

Communication Continued:

- Documentation, documentation, documentation
  - Document each phase of implementation
  - Evergreen documents
  - Remember you may not always be the data steward!
- Training and support
  - Teaching a team to fish
  - Refresher trainings!
  - **Be accessible to the team**

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Communication Continued:

- Two way street!!
  - Encourage team communication
  - **Bad news is good news**
- Utilize subject matter expert (SME) support outside of environmental data management team!
  - **Ensures buy-in and success**

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Utilize Your Team:

- SMEs, field crew, project managers, IT, etc.
  - Identify project needs and data utilization
  - Avoids overdeveloped solutions
  - Ensures adherence to regulatory requirements
  - Creates user buy-in
  - Think **long-term**: will processes change
  - No such thing as too much communication
  - Engage team in testing

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Customization:

- The difference between being your best friend or your worst nightmare
  - Extending schemas to better fit your data needs
    - Create data relationships to existing schema (where appropriate)
    - Clearly document additions to schema - consider entire team (offshore support, IT support, and user base)
    - Take advantage of your resources (use your SMEs!)
- Utilize SME support outside of environmental data management team!

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Customized Field Form (Demo):

Use of Custom Fields:

- Every system has custom fields
- Use caution
  - Avoid overuse
  - Avoid mixed usage within one field
- Always document
  - Data management plans
  - Within the database
  - Remember you will not always be the data steward!

Lessons Learned:

- Communication, communication, communication

- Documentation, documentation, documentation

- Budget time and energy towards robust testing

- Be strategic in your customizations

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Lessons Learned Continued:

- Consider long term goals and desired outcomes
- Be strategic and keep people involved
  - It is good to revisit tasks after completion
- Bad news is good news
- Don't be afraid to be successful!

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Questions/Discussion