Fact Sheet: Data Management Plans
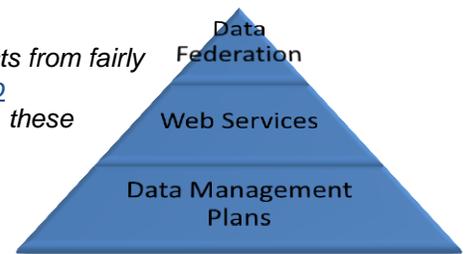
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Laying the Foundation for Strong Metadata by Mandating Data Management Plans

In September 2015, the Delta Stewardship Council's white paper Enhancing the Vision for Managing California's Environmental Information offered a broadly shared vision for the advancement of environmental data sharing. Associated with the paper's recommendations are key concepts that we hope to explain further in a series of "fact sheets." These brief documents each address a different mechanism within a broader data-sharing strategy: Data Management Plans, Web Services, and Data Federation.

We invite you to review each of these fact sheets, recognizing the range of subjects from fairly basic in sophistication (Data Management Plans) to moderately complicated (Web Services) to highly complex and coordinated (Data Federation). Working together, these technologies can help to modernize public data distribution. But a shared understanding of the underlying concepts, and of their respective value, is vital.
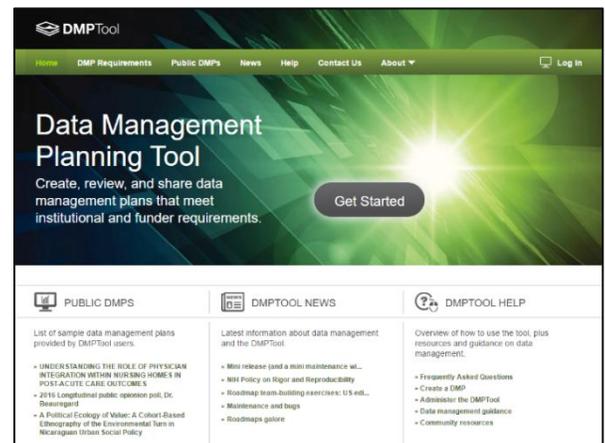
What is a Data Management Plan?

- A Data Management Plan (DMP) is a document designed to capture essential information from researchers and other data providers that ensures proper accommodation for their data management needs.
- It is meant to be brief (3 pages max), easy to complete, and constructed based on established templates.

What are some benefits of Data Management Plans?

- DMPs are developed as a first step of a project to identify the nature/format/subject-matter of data being collected, the repository to which it will be submitted and any gaps between these that must be addressed.
- They establish a common understanding of the data for long-term maintenance beyond the point of initial submission and processing.
- Consistent use of DMPs helps to promote strong metadata about managed datasets.
- DMPs instill a culture of data sharing since both the researchers and the repository are considering the appropriate data distribution mandates.

Are Data Management Plans being used? What are some examples?

- DMPs are often used at the federal level, where data sharing is strongly mandated, and at the academic level, where they have devoted much thinking to data-sharing challenges.
- There are numerous examples of active and archived DMPs including:
    - NOAA's Environmental Data Management Committee
    - North Carolina State University
- The California Digital Library provides a DMP Tool that affords useful templates.

What are some guiding principles to follow when creating my organization's DMP?

- A DMP is a living document: Although submitted early in the project development cycle, the DMP should be revised in accordance with changing conditions and research needs.
- Consider data-sharing requirements for the agency, research project, or initiative.
- Account for data retention requirements (preservation or disposal).
- Account for all legal or funding mandates that the DMP might be required to fulfill.
- Agencies must carefully codify the required elements for a qualifying DMP.
- Using the template, researchers/data providers must:
    - Consider the roles and responsibilities carefully, in both the project period and for ongoing stewardship of the data.
    - Identify sources of support or funding required for ongoing stewardship.
    - Carefully document the metadata scheme.
    - Describe the research project or program associated with the data collection.

What are the recommended next steps for DMP implementation across California's Resource Agencies?

- The Steering Committee can help public agencies to collaborate on common DMP development strategies
- Alternatively, individual agencies can develop their own templates with specified data elements.
- The Steering Committee can devise incentives for the use of DMPs – e.g., new funding may be contingent on the filing of approved DMPs.
- Implementation will reveal gaps between the promise for data retention and the actual delivery of durable data repositories. These gaps must be addressed.
- The Monitoring Council's Data Management Workgroup can facilitate the development of a straw-man DMP for the target agencies.

Where can I learn more?

- We invite you to visit the DMWG Collaboration Site: http://sfei.li/dmwg
    - Look under Workgroup Notes for more information on this and related topics.
- Data Management Workgroup web page:
  http://www.mywaterquality.ca.gov/monitoring_council/data_management_workgroup

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