

FAQs for the Data Stewardship Policy

Background: Needs, Risks, Benefits

Q1. What is the principal need for this Policy?

A. The principal need this policy serves is sound decision-making. To be most useful to decision makers, Mission Critical Resources Data (MCRD) must be carefully planned and managed through the Data Lifecycle (see Q4). Data requirements must be *defined* based upon the needs of the decision-maker or resource manager; *acquired* using protocols that match the decision needs; *evaluated* for quality, *maintained* to ensure their continued integrity, *accessed* exclusively by authorized users, *analyzed* according to sound scientific principles, *reported* with objectivity and clarity, and *archived* according to National Archives and Records Administration standards.

The executive sponsors of this Policy are the Director of the Chief Information Office (CIO), the Director of Technical Resources, and the Director of Policy and Administration.

Q2. What does “Mission Critical Resources Data” mean?

A. MCRD are those data essential for Reclamation’s management of water, power, environmental resources, real property (lands, buildings, and other structures in which Reclamation has an interest), and facilities. Typically, these data are:

- (a) related to the identified resource;
- (b) difficult, costly, or impossible to recreate if lost; and
- (c) important to support mission decisions;

These data often support project operations, protection of public and infrastructure safety or critical environmental resources, delivery of contracted services, or compliance with Federal laws and regulations. These are data for which the agency will obtain the greatest benefit from the coordination of collection strategies and methods, consistency of metadata and documentation, security of storage and archiving, appropriate access, and efficient sharing.

Q3. In what areas will Mission Critical Data be designated?

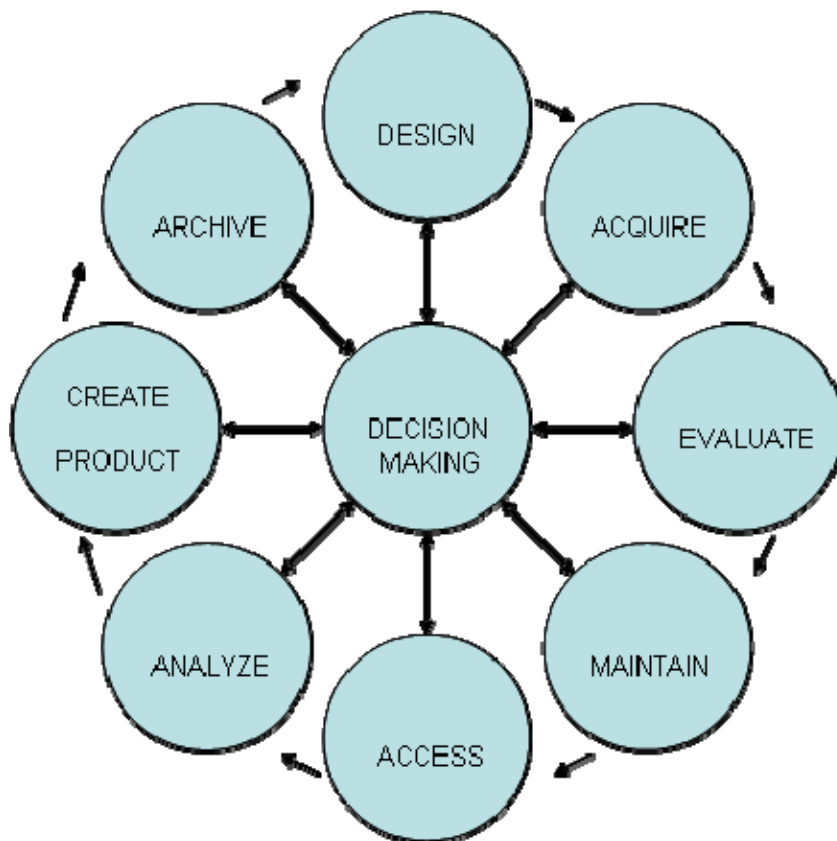
A. The following six Resources Information Classes define the domains within which MCRD will be identified for increased data stewardship:

- (1) real property data describing the location and disposition of Reclamation lands, buildings, structures, and facilities;

- (2) data related to the safety and security of Reclamation dams, power plants, and other critical infrastructure;
- (3) threatened, endangered, and invasive species;
- (4) water storage or delivery;
- (5) power generation and delivery;
- (6) facility operations and maintenance.

Q4. What does the Reclamation Data Lifecycle look like?

A. See figure:



Q5. Has Reclamation had significant problems with data stewardship?

A. Yes. For instance, an independent review of a major Reclamation restoration program found the following:

“We expected a program of the size and complexity of (this) program to have an integrated information system. We did not observe the presence of such a system, but did observe the symptoms of lack of one. That is, program decisions are made by program participant and stakeholder encounter groups. It is unclear how their decisions relate back to collected data at a program level (and even at a project level for some activities). We consistently observe data incompatibilities among different watershed and activities as each data collection effort is designed primarily to meet the immediate needs of the data collector, based on local information needs, assumptions, or equipment selection and calibration protocols”.

Put simply, even for critical data collected by many Reclamation offices (such as anadromous fish production), there is no one in the agency who works across offices to facilitate data standardization, to support common metadata collection, to make sure that successful strategies and tools are shared, or to help reduce duplicate collections. Likewise, there is no network of individuals to discuss effective and efficient data management practices, to work with outside organizations that promote data standards, or to advise leadership on useful data management training and policy.

In addition, currently, when Reclamation pays other agencies or contractors to collect data, no Policy exists to provide strong requirements for data quality and delivery to Reclamation. This has led to significant problems, including loss of data and lack of access to data by Reclamation managers.

Q6. What are the risks of *not* having a Data Stewardship Program?

A. Negative outcomes include non-standardized data acquisition, compromised data quality, unmanaged data access, poor data documentation, compromised scientific analyses, data damage or loss, reduced sharability and discovery, and increased risk of litigation.

Q7. What benefits will this Policy provide to Reclamation?

A. The benefits will include increasing the relevance of data collection to decision-making; obtaining the greatest return on data investment; reducing the loss of important data; increasing the availability of data to a wider range of offices and managers; reducing the risk of litigation over data quality; improved documentation regarding the provenance, purpose, quality, and utility of each data set; enhanced credibility of programs and science; reduced duplication of collections; facilitated data discovery and sharability; and a greater ability to meet Administration requirements for data transparency and public access. These benefits would be true for both programs and projects large and small.

Data intensive efforts such as habitat and river restoration projects like those associated with the Central Valley Improvement Act (CVPIA), The Lower Colorado River Multiple Species Conservation Program (LCMSCP), and the Trinity River Restoration Program (TRRP) have already seen the benefit of increased investment in data stewardship.

Policy Implementation

Q8. What are the principal requirements of this policy?

A. The Policy establishes:

1. Mission Critical Resources Data (MCRD): data sets that are critical to the management of water, power facilities, land, and environmental resources.
2. For these data, it is essential that collections be planned and managed throughout the data lifecycle (a. to support the needs of resource managers, and (b. to preserve their value to the agency.
3. MCRD will be identified as appropriate from the following resources information classes:
 - a. location and disposition of Reclamation lands, buildings, structures, and facilities
 - b. safety and security of Reclamation dams, power plants, and other critical infrastructure
 - c. threatened and endangered species
 - d. water storage or delivery
 - e. power generation and delivery
 - f. facility operations and maintenance
4. Reclamation will:
 - a. Establish a Business Data Steward for each of these resources information classes
 - b. Establish a standing Data Stewardship Coordination Team consisting of:
 - i. all Business Data Stewards
 - ii. a representative from each Region and the Directors of Technical Resources; Safety, Security, and Law Enforcement; and Policy and Administration
 - c. Charge the team to propose Mission Critical Resources Data Sets to the Director of the Chief Information Office
 - d. Require that a Data Acquisition and Management Plan (DAMP) be developed to guide new data collections for Mission Critical Resources Data sets
 - e. Require collection and retention of associated metadata
5. The Business Data Stewards will coordinate across offices collecting MCRD to identify
 - a. ongoing and planned collections capabilities,
 - b. common data and metadata needs,
 - c. priority areas for development of data standards, data tools, management systems and training, and to
 - d. advise projects on development of DAMPs
6. A Data Resources Management function will be created in the office of the CIO to:
 - a. coordinate comments on draft DAMPs
 - b. convene the Data Resources Management Team
 - c. facilitate data standards, guidelines, training tools

Q9. What exactly is a DAMP?

A. A Data Acquisition and Management Plan (DAMP) is the plan for collecting and managing Mission Critical Resources Data through the entire data lifecycle.

Q10. Why would Data Acquisition and Management Plans be required prior to the collection of mission-critical resources data?

A. Our leadership must have reliable data for making important decisions about the management of water, power, real property, security, and facilities. If data are mission-critical, it is important to plan for their entire lifecycle in a written Data Acquisition and Management Plan.

Q11. Who approves a Data Acquisition and Management Plan (DAMP)?

A. The Director, or his/her designee, of the organization planning the data collection.

Q12. What does the Data Stewardship Coordination Team do and who oversees it?

A. The Data Stewardship Coordination Team (DSCT) is a Reclamation-wide entity charged with developing and recommending data stewardship policy, data standards, technical guidelines and handbooks, best practices, technology, and training.

The Data Stewardship Coordination Team will be overseen by the Director of the Chief Information Office. It will work most directly with the Data Resource Manager in that office. For each Resources Information Class, a Business Data Steward will be named who will coordinate with subject matter experts, project leads, and managers with an interest in the data to institute data stewardship best practices. The DSCT will be comprised of all the Business Data Stewards and a representative of each Region and the Directors of Technical Resources; Information Technology; Safety, Security, and Law Enforcement; and Policy and Administration.

Q13. Does Reclamation have any Data Stewards currently?

A. Reclamation does not currently have any Business Data Stewards. The Central Valley Project Improvement Act Office, the Lower Colorado Multi-Species Conservation Project, and the Trinity River Office have each hired Project Data Stewards to manage data. The proposed policy does not require projects to hire data stewards, although obtaining such staff is certainly consistent with the overall goals of the policy.

Q14. How does a Project Data Steward differ from a Business Data Steward?

A. These Project Data Stewards oversee the management of data for individual offices or projects, addressing multiple Resources Information Classes. A “Business Data Steward” as designated in the policy, will facilitate data management across Reclamation for particular Resources Information Classes such as threatened and endangered species. Working with project offices, other Business Data Stewards, and other members of the Data Stewardship Coordination Team, they can promote sharing of best practices, useful tools and approaches, and development of priority data standards.

Q15. From what parts of the organization will Business Data Stewards be drawn?

A. Qualified personnel can be found in any part of Reclamation. Business data stewards will be chosen based upon their qualifications-- primarily a familiarity and expertise regarding one or more Resources Information Classes.

Q16. What is the schedule and plan for implementing this Policy?

A. Policy implementation will follow after policy review. It is hoped that final approval can be gained in FY 2011. Implementation will begin with the first meeting of the Data Stewardship Coordination Team.

Q17. What staffing will this Policy require?

A. Although initial implementation of the policy can begin with minimal staffing changes, it is this team's judgment that stewardship of each Resources Information Class across Reclamation may ultimately require a full FTE.

Other costs will include participation with the Data Stewardship Coordination Team, development of DAMP guidelines, writing a DAMP for each significant data collection, and carrying through with the best practices for each step of the data lifecycle. There will, however, be long-term savings in reducing redundant or poorly planned data collections, reducing the likelihood of associated litigation, increasing data discoverability and sharability, providing ready access, insuring quality, and averting data loss or corruption.

Relation of USBR Data Stewardship Policy to DOI Policy

Q18. Does this Policy align with existing Departmental guidance?

A. Yes. Our policy has been specifically crafted to align with the relevant sections of current DOI data management policy. Data stewardship is a DOI-wide requirement and a Reclamation-wide Policy requirement. The *DOI Manual* states:

“Data shall be managed as a resource that supports the range of mission and functional areas across the Department. The Data Resource Management Program, in this regard, promotes the adoption of standards and practices that encourage the sharing and exchange of information to further enhance mission and business performance. The Department's Data Resource Management Program provides guidance and governance for activities involved in the planning, definition, design, creation, formatting, storage, access, securing, archiving, maintenance, and sharing of data. These activities address data requirements from the conception of an information need through the logical design, physical implementation and on-going maintenance.” (DOI Series: Information Management, Part 378, Chapter 1, See: <http://elips.doi.gov/elips/release/3713.htm>)

Q19. How will this Policy help Reclamation meet DOI requirements?

A. Our policy has been specifically crafted to align with the relevant sections in current DOI data management policy. Indeed, much of the language in the Policy follows the language in DOI policy.

Q20. Do other DOI agencies have data stewards?

A. Many DOI agencies currently have designated data stewards. Some of them have been on the Reclamation Data Stewardship Advisory Team. These agencies include the Fish and Wildlife Service, the Park Service, the Bureau of Land Management, and the US Geological Survey.

Q21. Is this Policy a part of the IT Transformation?

A. No, this policy has been under development for three years. It is independent of any technology infrastructure or organizational considerations. However, the policy establishes a foundation for improving communication between IT and mission organizations, so that we can better prepare for various IT transformation initiatives and meet DOI requirements. Individual Data Acquisition and Management Plans, as well as best practices for individual Resources Information Classes, will be crafted by Business Data Stewards and Subject Matter Experts working together with IT specialists. One of the principal goals of the policy is to forge a closer working relationship between program and project staff who manage resources, and IT/technical staff who can support those activities by collaborating on data management.