



National Park Service – Rocky Mountain Network

Inventory and Monitoring Program

Data and Information Management Plan

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Abstract: This document describes the general framework and policies for managing all data and information within the Rocky Mountain Network I&M program.

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List of Standard Operating Procedures

Operation	Standard Operating Procedure
Data Management	Approving Information for Distribution
	Archive Format Standards
	Data Management Guidelines for Protocol Development
	Developing GPS Basemaps for Use in Garmin Units
	Digitizing Documents
	Directory Structure
	Documentation
	Establishing and Naming Sites and Markers
	Field Season Data Management
	File Naming Conventions
	Guidelines for Using and Updating NPSpecies
	Photograph Management
	Project Deliverables Specifications
	Project Manager Application
	Protecting Sensitive Resources While Conducting Fieldwork
	Quality Assurance and Control
	Requesting Park Research Permits
	Research Permitting and Reporting System Desktop Viewer
	Software Development
	Travel Time Cost Surface Model
Using GPS-Photo Link to Georeference and Watermark Photographs	
Using the Garmin GPS 76csx	
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	Rocky Mountain Network's Web Page
Administration	Obtaining Project Funding

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Executive Summary

This Plan describes the process for generating, preserving, documenting, and transmitting the context that helps data become information and makes it valuable and interpretable. As such, this plan covers both data and information. This Plan applies to the Rocky Mountain Network (ROMN) which connects six park units: Glacier National Park (GLAC), Grant-Kohrs Ranch National Historic Site (GRKO), and Little Bighorn Battlefield National Monument (LIBI), Montana; and Florissant Fossil Beds National Monument (FLFO), Great Sand Dunes National Park and Preserve (GRSA), and Rocky Mountain National Park (ROMO), Colorado.

This Plan is organized into three levels (Figure ES.1). Level One is this Plan (this document), which contains the information management philosophy, regulations, guidelines, and general data management roles and responsibilities.

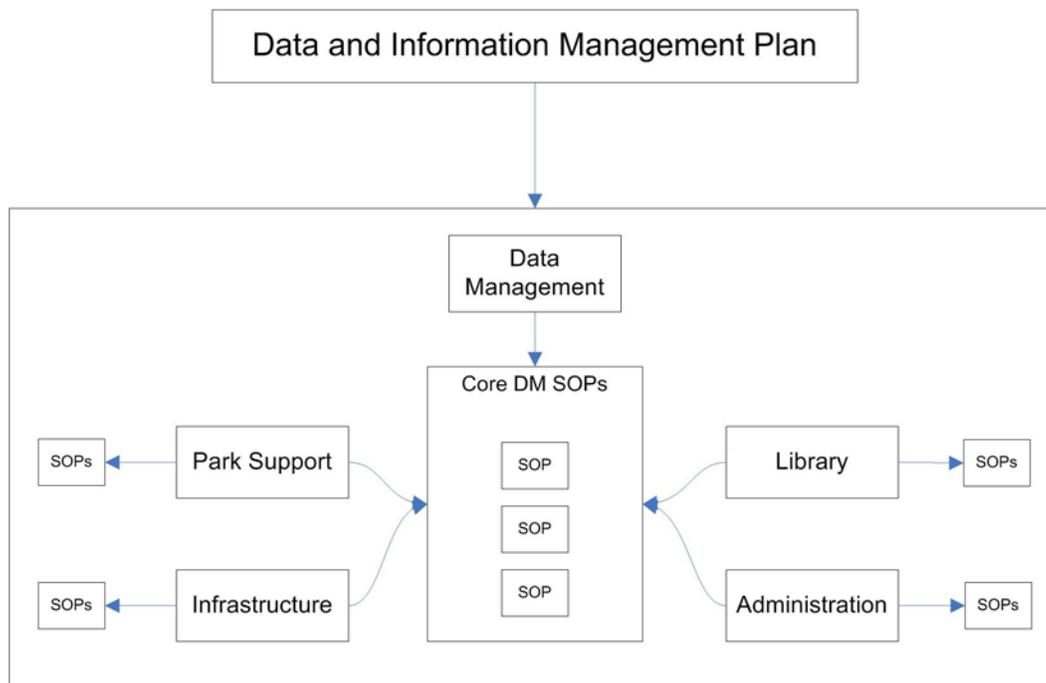


Figure ES.1. Hierarchy of Information Management Plan, Network Operations and Standard Operating Procedures

Level Two consists of the narratives describing the primary data-related operations within the Network:

- Data Management – Manages the Network’s official and/or certified datasets and develops and maintains this Information Management Plan and the associated documents and standard operating procedures;

- Library – Oversees the digital and analog collection of documents used and/or generated by the Network;
- Park Support – Organizes the information related to other projects in support of park activities, including the natural resource inventories.
- Infrastructure – Manages the hardware, software, and local area network, and web pages that support the Network’s activities including Intranet and Internet functionality; and
- Administration – Organizes the purchasing, travel, personnel management, and funding information.

Level Three is comprised of standard operating procedures (SOPs). They are detailed instructions for consistently accomplishing data- or information-related tasks.

The Plan and its related components are organized hierarchically and available via the Intranet as modules. This organization allows for the easy update of and access to sections, minimizes redundancy of content, avoids conflicting instructions, and accommodates both vision and detail in how information is managed.

The conceptual framework for managing data and information is described using four models. First, the Data Management Conceptual Model describes the seven steps for continually managing information:

- Acquire - Defines the scope of data and information to be acquired, generated and managed.
- Assure and Control for Quality – Develop procedures to prevent and check for errors;
- Document – Provide sufficient information about data (i.e., metadata) to ensure that others will understand how and why the data was created;
- Determine Sensitivity and Ownership/Responsibility – Determine who “owns” the data. That is, who has ultimate responsibility for maintaining and protecting sensitive and non-sensitive information and who is the legitimate source for access to the information;
- Archive – Securely store digital and hardcopy information;
- Catalog – Develop a working inventory of all information so it can be found by others;
- Analyze and Report– Provide the necessary information in the appropriate format to each defined audience.

These steps, which are not always in this exact order, are regularly guided by national and network regulations and policies.

The Project Life-Cycle Conceptual Model describes the general process for managing all projects:

- Initiate - Preliminary decisions regarding project scope and objectives.
- Plan - Details regarding data acquisition, processing, analysis and reporting.
- Execute - Implementation and/or fieldwork.
- Control - Modification of current practices.
- Close - Delivery of final products.

The Operation Life-Cycle model borrows its structure from the data management model and incorporates the project as the data-producing element to describe a system for continually and systematically processing, integrating and managing data. The network recognizes five distinct operations:

- Data Management – Management of network’s official data;
- Library – Management of network’s official documents;
- Park Support – network support of park activities;
- Infrastructure – Oversight of hardware, software and the local area network;
- Administration – Management of purchasing and payroll information.

Finally, the Enterprise Model of Data Integration describes how the network interfaces with other WASO data systems to serve multiple audiences requiring different format and various levels of synthesis.

This Plan and its related materials are continually changing through a process of analysis, evaluation, and updating to ensure the long-term success of data management within the network and its monitoring efforts for its member parks, the park service, and society as a whole.