



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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MANUAL TRANSMITTAL SHEET

Subject

8380 - CAVE AND KARST RESOURCES MANAGEMENT

1. Explanation of Material Transmitted: This release transmits a revised Manual Section for managing cave and karst resources and cave-dependent activities or uses. Changes have been made to the Manual Section to reflect the 1988 Federal Cave Resources Protection Act, as amended; Departmental Regulations, 43 CFR Part 37, for Cave Resources Management; and the Planning Handbook (H-1601-1), Appendix C. Part L.
2. Reports Required: None
3. Material Superseded: This release supersedes the Draft M-8380 – Cave Resource Management Manual Section released in 1986 but expired in 1987.
4. Filing Instructions: File as directed below.

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All of 8380 (Rel. 8-34)

All of 8380
(Total: 12 Sheets)

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8380 - CAVE AND KARST RESOURCES MANAGEMENT - (Public)

Table of Contents

- .01 Purpose
- .02 Objectives
- .03 Authority
- .04 Responsibility
- .05 References
- .06 Policy
 - A. Identification and Inventories
 - B. Land Use Planning
 - C. Management
 - D. Volunteers and Partnerships
 - E. Education and Coordination
- .07 Files and Records Maintenance
- .08 Relationships to Other Programs
- .09 Definitions

8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

.01 Purpose.

This Manual Section provides overall policy guidance and direction for the management of cave and karst resources on the Bureau of Land Management (BLM) administered lands including aquifers and their surface water and groundwater drainage areas.

.02 Objectives.

The objectives of the BLM's cave and karst resources management policy are to:

A. Provide a framework to identify, evaluate, manage, monitor and protect cave and karst resources on public lands for the purpose of maintaining their significant, fragile and nonrenewable biologic, geologic, mineralogic, hydrologic, cultural, paleontological, scientific, scenic, and recreation values for both present and future uses.

B. Establish adequate surface and subsurface management practices to ensure the long-term protection of cave and karst resources.

C. Ensure that actions related to cave and karst resources requiring authorization or approval by the BLM are consistent with the BLM mission of multiple use and sustained yield.

.03 Authority.

A. Federal Land Policy and Management Act of 1976, as amended, Public Law (P.L.) 94-579 (43 United States Code (U.S.C.) 1701 et seq.)

B. Federal Cave Resources Protection Act of 1988 (FCRPA), as amended, PL 100-691 (16 U.S.C. 4301 et seq.)

C. Cave and Karst Research Institute Act of 1998, P. L. 105-325 (16 U.S.C. Sec. 4310)

D. National Historic Preservation Act, Amended 1980, PL 89-665 (16 U.S.C. 470 et. seq.)

E. Archaeological Resources Protection Act of 1979, PL 96-95 (16 U.S.C. 470 et. seq.)

F. Antiquities Act of 1906 (16 U.S.C. 431 et. seq.)

G. Endangered Species Act of 1973, PL 59-209 (16 U.S.C. 1531 et. seq.)

H. National Environmental Policy Act of 1969 (NEPA), P.L. 91-190 (42 U.S.C. 4321, et. seq.)

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8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

I. Clean Water act of 1977 (33 USC 1251)

J. Title 43 Code of Federal Regulations (CFR), Part 37 – Cave Management.

.04 Responsibility.

A. Director is responsible for the overall conservation and management of cave and karst resources and oversees implementation of the Federal Cave Resources Protection Act.

B. Assistant Director for Renewable Resources and Planning through the Division Chief of Recreation and Visitor Services, is responsible for the timely development, approval, and implementation of policy and procedures for carrying out the cave and karst resources management program.

C. Cave and Karst Resources Management Senior Specialist is responsible for:

1. Maintaining appropriate interactions with BLM Offices and Groups, headquarters of other Federal agencies and bureaus, national speleological organizations, international speleological groups and individual authorities.

2. Initiating and recommending policies, objectives, general procedures, and priorities relating to the conservation and management of cave and karst resources and overall coordination of the cave and karst resources management program at the national level.

3. Maintaining a thorough knowledge of the legislation, regulations, court rules, and litigation actions relative to cave and karst resources and understanding how these may affect BLM programs. Communicating policy and management direction to the field offices through the issuance and update of Manuals, Handbooks, Instruction Memoranda, and provide training opportunities for field personnel through the National Training Center or other sources.

4. Reviewing, recommending, and initiating necessary changes to objectives and policies for the cave and karst resources management program.

5. Providing centralized review and analysis of present and future needs related to research, management, and information transfer for cave and karst resources management.

6. Developing and recommending budget documents, including budget justifications and the Annual Work Plan.

8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

D. The State Directors are responsible for:

1. Implementing policy and providing statewide program guidance and coordination for managing cave and karst resources on public lands.
2. Reviewing, evaluating, and ensuring accomplishment of approved Annual Work Plan (AWP) commitments for cave and karst resources (consistent with use of plurality) inventory, planning, and management.
3. Providing program development and technical assistance to District and Field Offices to ensure meeting cave and karst resources management objectives.
4. Designating State Cave Program Coordinators.
5. Providing direction for programs involved in resource development work to ensure that cave and karst resources values are protected.
6. Maintaining liaison with other government agencies, professional cave organizations, scientific and educational entities, and user groups concerned with cave and karst resources management within each State's respective jurisdiction.

E. The District Managers are responsible for:

1. Ensuring that cave and karst resources receive appropriate consideration within the land use planning process, when such resources are known to exist within the plan area.
2. Ensuring that individuals assigned to cave and karst resources management tasks in the District/Field office receive appropriate training.
3. Providing necessary technical management assistance to the Field offices to ensure the timely completion, monitoring, and evaluation of cave and karst resources management AWP assignments.
4. Initiating actions necessary for coordination between the BLM and other government agencies, professional cave organizations, scientific and educational entities, and user groups concerned with cave and karst resources management in the District/Field Office.
5. Reviewing and approving cave and karst activity/implementation plans and other major cave and karst resources management actions in the District/Field Office.

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8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

E. The Field Office Managers are responsible for:

1. Managing and conserving cave and karst resources located on public land within the Field Office by developing, implementing, and monitoring cave and karst resources management activity/implementation plans.
2. Conduct inventories and evaluations of known and potential cave and karst area resources for the purpose of locating and identifying significant caves and karst areas.
3. Designating, as significant, caves meeting one or more criteria in accordance with 43 CFR Part 37 Subpart B (f) and maintaining a current list of designated significant caves.
4. Ensuring that appropriate information concerning known and potential cave and karst area resources are included in land use plans.
5. Ensuring that NEPA analyses are conducted by various resource programs including range, minerals, realty, and wildlife describe impacts to known and potential cave and karst area resources.
6. Ensuring that approved performance and budget commitments for cave and karst area resources management and protection are accomplished, monitored, and evaluated.
7. Developing liaison with other government agencies, cave user groups, professional cave organizations, and educational/scientific entities who are concerned with cave and karst area resources managed under the Field Office's jurisdiction.
8. Ensuring that BLM Cave Safety Standards are being implemented for all personnel entering caves.

05. References.

- A. Recommendations and Guidelines for Managing Caves on Protected Lands, 2003, Karst Waters Institute.
- B. Living with Karst, 2001, Edited by G. Veni and H. DuChene, American Geological Institute.
- C. Speleology: Caves and the Cave Environment, 1997, G. Moore, N. Sullivan, Cave Books.

8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

D. Caving Basics, 1992, Edited by G. Thomas Rea, National Speleological Society.

E. Manual of U.S. Cave Rescue Techniques, 1992, Edited by Steve Hudson, National Speleological Society.

06. Policy.

A. Identification and Inventories.

Cave and karst resources will be identified and inventoried to provide information for land use and resource planning processes. The inventory will be monitored and maintained. The process includes documenting and recording the important and relevant values which relate to significance. An inventory must be sufficiently comprehensive to provide for the proper documentation of cave and karst resource values.

1. The BLM will inventory known caves and karst areas and identify significant resources. Cave specific inventories should be conducted with interdisciplinary teams to ensure all resource values are identified. Cave inventories should include an assessment of hazard, to be used for employee and public information and safety. Inventory results and approved significance findings must be included in cave files that are secured to prevent public disclosure of cave locations.

2. Inventory information about specific cave or karst resources is essential to planning and resources management. Inventories will be conducted and maintained in support of planning efforts and to make management decisions. Examples of information are extensive cave mapping; surface resource conflicts identification; hydrological profiles; cultural resource assessments; and biological assessments.

B. Land Use Planning.

The land use planning process is the primary means to consider important cave and karst resources, and to develop mechanisms for identifying actions to protect those values.

1. The land use planning process will be used to determine land use allocation decisions for important cave and karst resources by their identification on appropriate maps of the general areas requiring protection of their identified values, and the appropriate restrictions on other resource activities to efforts to avoid or minimize conflicts with other surface and subsurface resource management activities.

2. Either the land use planning allocation or the establishment of an objective will determine the management actions for significant caves and karst areas.

8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

3. The designation of an individual cave as “Significant” will be in accordance with 43 CFR Part 37 Subpart B (f). If it is determined that a cave meets at least one of the required criteria, it must be designated as “Significant” by the Field Office Manager. Designation of caves as “Significant” can be done at any time and is not limited to being a land use plan decision.

4. Administrative determinations of significance: Significance designations are made administratively by the identification of the significance criteria and relevant values of the cave made through the compilation of a staff report and signature of the Field Office Manager. The report will include the identified relevant and important values of the caves or karst features, why they are important, and what actions need to be taken to protect identified values.

5. The BLM will prescribe the appropriate management actions that address unacceptable risks to identified cave and karst resources through the planning process. Surface or subterranean discretionary activities affecting cave resources will be analyzed for their potential impacts to cave and karst systems including karst aquifers.

6. Implementation Decisions: The BLM will identify cave and karst resource implementation actions for all resource activities within land use plans and recreation and multi-resource activity/implementation plans. Both management objectives and prescriptions must be determined for each designated significant cave or karst area. This may be done in an activity/implementation level management plan. Management objectives must be outcome based (i.e., not facility or project based). Prescriptions will specify conditions needed to facilitate achievement of those objectives by addressing:

- a. Management (resources, visitors and facilities);
- b. Marketing (outreach, information and education, promotion, interpretation, and environmental education);
- c. Monitoring (social, environmental and administrative indicators and standards); and
- d. Administration (regulatory, permit/fee/fiscal, data management, and customer liaison).

C. Management.

The BLM will manage cave and karst resources in a manner that will protect their fragile and unique qualities and features. Priorities for managing cave and karst resources will be established based upon inventory, analysis, and land use planning objectives and decisions. When it is determined through the planning process that cave or karst management activity/implementation plans are needed, priority will be given to areas where resource conflicts and consequent unacceptable risks are present.

8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

1. Interim Management Protection. Within the discretion of the authorized officer and consistent with land use planning decisions, management attention and protection measures will be taken to protect known relevant and important cave or karst lands prior to significance designation or planning level decisions.
2. Implementation and Monitoring. Actions to implement the requirements of land use plans shall be initiated and the appropriate monitoring instituted to assure that the actions taken achieve the results intended in the land use plan decisions.
3. Public Use. The BLM shall:

- a. Provide appropriate user opportunities which are compatible and consistent with objectives set forth in land use plans and appropriately scaled activity or multi-resource plans. Activity plans may include scientific research, recreation, education, or commercial activities, when those activities can be managed to meet resource objectives identified in land use plans.

- b. Provide for an appropriate level of recreational and primitive caving opportunities where the visitor must rely on individual skills and equipment that causes neither unacceptable impacts as defined by the Federal Cave Resources Protection Act of 1988 to the resource nor unacceptable risks to the recreational user.

- c. Promote visitor awareness of the potential risks and hazards in cave or karst environments, and the proper safety and conservation ethics and techniques for using cave and karst resource environments.

- d. Inform visitors of known special risks in caves through an addendum to use authorizations, notice on cave registers, and cautionary language on entry signs.

D. Volunteers and Partnerships.

The BLM encourages partnerships and volunteer involvement of qualified and experienced individuals and caving organizations in cave and karst management projects, through the use of partnerships, volunteers, and cooperative management agreements. This includes partnerships with academic, scientific, conservation, and recreational organizations.

The scientific and recreational caving community provides an organized and high level of knowledge about cave and karst resources on public lands and the caving skills needed to assist with projects. Their specialized cave and karst related skills and experience are generally scarce within the BLM workforce. This community is both willing and able to volunteer for such projects as cave mapping, surveying, exploring, research, monitoring use, guiding, interpretation, and restoration. It is BLM policy to develop and maintain appropriate partnership agreements to support management of public land cave and karst resources protection, scientific study, recreational use and resources management.

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8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

E. Education and Coordination.

Appropriate education, outreach and coordination include:

1. Promoting consistency and cooperation by fostering communication among Federal agencies having cave management responsibilities. Where appropriate, the BLM will facilitate information exchange among Federal, state, local agencies, private organizations, and individuals having both an expertise and interest in cave and karst management opportunities and issues.

2. Promoting awareness among users and managers of public land caves and karst resources through cooperation with organizations such as the Leave No Trace Center for Outdoor Ethics, the National Speleological Society, the Cave Research Foundation, the National Cave and Karst Research Institute, and Bat Conservation International to develop informational and educational materials concerning conservation methods and potential hazards. Through collaboration with these appropriate groups and other, develop informational and educational materials concerning cave and karst resource values, conservation methods, and potential hazards to promote awareness among users and managers of caves on public lands. These materials should exclude specific cave locations and avoid discussing cave-specific resource values such as cultural or paleontological finds, geologic features, or biological values where distributing this information would conflict with management objectives.

07. Files and Records Maintenance.

A. The BLM will maintain records of cave and karst resource information according to a standard that allows for responsible public use of the information and protection of sensitive resources. At a minimum, each cave file should include a location map and legal description, resource inventory, hazard assessment, and determination of "significance". The determination of significance documentation should include a signed, dated statement of findings, and the support information used to make the determination. As applicable and necessary any management plans and Search and Rescue Plans should be developed and included in the cave file.

B. Files must be secured to prevent access by unauthorized persons. No BLM employee shall disclose information that could be used to determine the location of any significant cave, or cave under the consideration for determination, unless the authorized officer determines disclosure will further the purposes of the FCRPA and will not create a substantial risk to cave or karst resources. Cave locations or information that may disclose the location of a cave or karst resource are exceptions to the Freedom of Information Act.

C. The total numbers of significant caves per administrative unit will be recorded in the BLM's Recreation Management Information System (RMIS). Individual field offices also have the option to include caves as sites in the RMIS data base. Because RMIS program data are

8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

accessible to the general public, listing caves as sites in RMIS should be limited to caves whose location is generally known to the public or to situations when the field office has the capacity to protect the cave resources.

D. Field offices should include cave developments such as gates and trails in the Facility Asset Management System (FAMS).

08. Relationship of Cave and Karst Resources Management to Other Resource Management Programs.

Coordination: The management of cave and karst resources will coordinate with all other BLM programs and support functions to support the BLM mission and goals. Conflicts between cave and karst resources and other programs should be resolved through the land use planning process on a site specific basis.

09. Definitions.

A. Cave - Any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, and which is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Such term shall include any natural pit, sinkhole, or other feature that is an extension of a cave entrance or which is an integral part of the cave.

B. Cave Resource - Any material or substance occurring in caves on Federal lands, including, but not limited to, biotic, mineralogic, paleontological, geologic, hydrologic, or cultural resources.

C. Karst - A landform developed in soluble rock types such as limestone or gypsum. Typical features and characteristics may include but are not limited to: few surface streams where most of the drainage is underground, sinking streams, dolines (sinkholes), resurgences, and caves.

D. Land Use Planning – Any level of land use plan including RMPs, MFPs, Special Management Area plans, Coordinated Resource Management Plans, and site Activity Plans as examples, or any other type of plan where land-use-plan-level decisions or actions are reached.

8380 - CAVE and KARST RESOURCES MANAGEMENT - (Public)

E. Primitive Caving Opportunities - Caving opportunities with little or no BLM management presence. Visitors may encounter some signs of management, such as registers, trails, and limited signing, but are required to rely on individual skills, equipment, and knowledge of minimum impact caving techniques.

F. Significant Cave - A cave located on Federal lands that has been evaluated and determined to possess one or more of the following features, characteristics, or values:

1. *Biota*. The cave provides seasonal or year-long habitat for organisms or animals, or contains species or subspecies of flora or fauna that are native to caves, or are sensitive to disturbance, or are found on State or Federal sensitive, threatened, or endangered species lists.

2. *Cultural*. The cave contains historic properties or archaeological resources (as described in 38 CFR 60.4 and 43 CFR 7.3) or other features that are included in or eligible for inclusion in the National Register of Historic Places because of their research importance for history or prehistory, historical associations, or other historical or traditional significance.

3. *Geologic/Mineralogic/Paleontological*. The cave possesses one or more of the following features:

- a. Geologic or mineralogic features that are fragile, or that exhibit interesting formation processes, or that are otherwise useful for study.
- b. Deposits of sediments or features useful for evaluating past events.
- c. Paleontologic resources with potential to contribute useful educational or scientific information.

4. *Hydrologic*. The cave may be part of a hydrologic system or contains water that is important to humans, biota, or development of cave resources.

5. *Recreational*. The cave provides or could provide recreational opportunities or scenic values.

6. *Educational or Scientific*. The cave offers opportunities for educational or scientific use; or, the cave is virtually in a pristine state, lacking evidence of contemporary human disturbance or impact; or, the cave's length, volume, total depth, pit depth, height, or similar measurements are notable.

G. Speleothem - Any natural, secondary mineral formation or deposit occurring in a cave, including, but not limited to any stalactite, stalagmite, helictite, cave flower, flowstone, concretion, drapery, rimstone, or formation of clay or mud.