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Cave Management Program
Craters of the Moon
National Monument - Idaho

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1. Introduction

CAVE RESOURCES AT CRATERS OF THE MOON

Lava tube caves are a significant component of Craters of the Moon National Monument. The caves are notable for their relatively young geologic age, excellent preservation of volcanic features and mineral deposits; as well as being an important source of water and shelter for area wildlife. The monument was established, in part, to help facilitate visitor use, scientific study, and preservation of these sensitive cave resources. At present, the monument contains more than 70 inventoried lava tube caves.

This program has been developed to meet the requirements of the Federal Cave Resources Protection Act of 1988. The purpose of this Cave Management Program is to set procedures for the inventory of monument caves to include their geologic, biologic, hydrologic, archeologic, historic, and related features; and to establish mapping procedures, monitoring systems, and access controls for the management, use, and protection of the caves. Finally, with this program in place, classification of inventoried caves will proceed to specific action plans, as needed, to guide the use, development, research, restrictions, and/or closure of individual caves.

MANAGEMENT AUTHORITY

National Park Service (NPS) authority for the management of natural resources is established in 16 United States Code:

1. Service created; director, other employees (a.k.a. the "Organic Act")

   "There is created in the Department of the Interior a service to be called the National Park Service, which shall be under the charge of a director. The Secretary of the Interior shall appoint the director, and there shall also be in said service such subordinate officers, clerks, and employees as may be appropriated for by Congress. The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified, except such as are under the jurisdiction of the Secretary of the Army, as provided by law, by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

1a-1. National Park System; administration; declaration of findings and purpose (Amendment, a.k.a. the "Redwoods Act")

> *"1978 Pub. L. 95-250 provided that the promotion and regulation of the various areas of the National Park System, as defined in section 1c of this title, be consistent with and founded in the purpose established by section 1 of this title, to the common benefit of all the people of the United States, and that the authorization of activities be construed and the protection, management, and administration of these areas be conducted in light of the high public value and integrity of the National Park System and not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."*

The Presidential Proclamation (no. 1694, May 2, 1924, 43 Stat. 1947) establishing Craters of the Moon as a National Monument states, in part:

> *"...an area which contains a remarkable fissure eruption together with its associated volcanic cones, craters, rifts, lava flows, caves, natural bridges, and other phenomena characteristic of volcanic action which are of unusual scientific value and general interest..."*
>
> *"...contains many curious and unusual phenomena of great educational value and has a weird and unusual landscape peculiar to itself..."*
>
> *"...the public interest would be promoted by reserving these volcanic features as a National Monument, together with as much land as may be needed for the protection thereof."*

National Park Service Authority for the management of cave resources comes from the general authorities discussed in Chapter 1 of the Natural Resources Management Guidelines (NPS-77), and from the Federal Cave Resources Protection Act of 1988.

The Federal Cave Resources Protection Act states that:

(1) significant caves on Federal lands are an invaluable and irreplaceable part of the Nations natural heritage; and

(2) in some instances, these significant caves are threatened due to improper use, increased recreational demand, urban spread, and a lack of specific statutory protection.

The stated purposes of the Act are:

(1) to secure, protect and preserve significant caves on Federal lands for the perpetual use, enjoyment, and benefit of all people; and

(2) to foster increased cooperation and exchange of information between governmental authorities and those who utilize caves located on Federal lands for scientific, education, or recreational purposes.

The Act establishes that *"It is the policy of the U.S. that Federal lands be managed in a manner which protects and maintains, to the extent practical, significant caves."*

The Act specifically addresses the use of *"confidentiality of information concerning the nature and location of significant caves"* to ensure protection of the resource (16 USC 4304):

> *"Information concerning the specific location of any significant cave may not be made available to the public...unless the Secretary determines that disclosure of such information...would not create a substantive risk of harm, theft, or destruction of such cave."*

POLICY AND PROGRAM OBJECTIVES

The NPS "Management Policies" (1988) states:

> *Caves will be managed to perpetuate their atmospheric, geologic, biological, ecological, and cultural resources in accordance with approved cave management plans...Natural drainage patterns, air flows, and plant and animal communities will be protected. (4:20)*

It further states that:

> *Caves with all entrances in wilderness will be managed as wilderness. (6:3)*

The major objectives of a park's cave management program should include:

1. *protection and perpetuation of natural cave, karst, and hydrological systems;*
2. *opportunities for scientific studies and research in or about cave and karst resources and systems;*
3. *detailed inventory of resources within cave systems;*
4. *provision of educational and recreational opportunities for a broad spectrum of park visitors to discover, explore, study, respect, appreciate, and enjoy caves at their individual levels of interest and abilities; and*
5. *establishment of regulations, guidelines, and/or permit stipulations that will ensure maximum safety of the cave visitor and conservation of cave resources.*

RELATIONSHIP TO OTHER GUIDANCE

To comply with the intent of the Federal Cave Resources Protection Act of 1988, cave resources must be inventoried or existing inventories used to determine the significance of individual caves. A special directive is being developed to comply with this mandate. NPS-14, the Cave Radiation Safety and Occupational Health guideline, also directs cave management activities when developed caves or caves into which the public is guided on a regularly scheduled basis are involved.

2. Background

DESCRIPTION OF THE MONUMENT

Craters of the Moon National Monument is an 83 square-mile volcanic landscape located on the Snake River Plain of south central Idaho. The monument contains over 70 known lava tube caves and a variety of dormant volcanic features that represent, in total, a volcanic area unique in North America. (See Appendix C for maps).

The monument was established by proclamation of President Calvin Coolidge in 1924. In 1970 43,243 acres of the monument were designated as the Craters of the Moon Wilderness, to be kept roadless and undeveloped.

The northern portion of the monument, south of the highway, contains a visitor center, public campground, and restrooms. The primary features of the monument can be reached by trails located along a seven-mile loop drive road.

DESCRIPTION OF MONUMENT CAVES

At Craters of the Moon virtually all caves are hollow areas which formed within lava flows, and are considered lava tubes. A lava tube is an underground cavity in which lava once flowed and drained out leaving a hollow tube of hardened lava.

In addition to lava tubes, there are other types of hollow structures which exist in the monument. Natural bridges, spatter cones, hornitos, pressure ridges, lava trees, and hollow mounds may also fall within the broad category of caves.

In the past, caves were managed individually, depending on the condition, access, hazards, or other subjective criteria as determined by management. Some caves were sacrificed for visitor enjoyment, other caves were gated to protect either the cave or the visitor, still others were simply left for the adventurous to find and explore.

Prior to the development of this Cave Management Program, monument caves have been managed using the following criteria:

Caves Open to the General Public

Caves that the general public is encouraged to visit by staff recommendation, monument literature, maps, waysides, etc. These caves are usually located on developed cinder or paved trails. They are considered to be walk-through caves where normal public visitation will not unduly deteriorate cave features and/or present unusual safety hazards. Most caves on the Caves Trail fit this description.

Caves Open to the Adventurous Explorer

Caves that the general public is not encouraged to visit, but do not have restricted or controlled access. These caves are not shown in monument literature, signage, or maps. This passive protection method is used when higher visitation could cause resource damage, staffing limitations prevent patrolling of their location, or exploration requires a higher level of visitor experience or equipment. Visitors may find these caves on old topographic maps, hear of them from previous explorers, or find them in the field by following cairn (rock pile) markers. When asked about the location of other caves, monument staff may disclose the location of these caves with a discussion of applicable hazards, fragile features, access routes, etc.

Newly Discovered Caves

When located, new cave discoveries remain confidential until further management action is taken to change their classification.

Caves with Restricted or Controlled Access

These caves have been structurally restricted by gating. Gating has been used as a last resort to control access to caves at the monument. To date, there are only two gated caves: **Arco Tunnel,** with a locking gate for public safety that allows access after obtaining a permit; and **Crystal Pit,** permanently grated to protect fragile mineral deposits, which is presently closed to all access except for approved scientific research.

HISTORY OF CAVE MANAGEMENT

In 1955, R.C. Zink compiled a short history of Craters of the Moon. This is the first account of cave management activities. This record details early efforts to build trails to the caves, as well as explaining how many of the caves were discovered and named up to that date. Cave management efforts seemed to begin with the discovery of **Arco Tunnel** in May of 1953, when Zinc stated, "At the present time it [Arco Tunnel] is inaccessible to the average visitor due to its small entrance and the distance from the parking area."

In 1961, monument staff made an effort to limit access to **Arco Tunnel** by installing a wire gate inside the entrance passage. Entry was permitted to visitors requesting a key.

A loose grating was placed over the entrance of **Crystal Pit** in 1963 to prevent accidental falls. Later the grating was permanently bolted-down to restrict access without the approval and participation of monument managers.

In 1972, the stairway was removed from **Great Owl Cavern.** This decision was based on the lack of available staff to adequately patrol the area where the entrance pit is located.

In 1983, after being seriously vandalized, **Arco Tunnel** was re-gated by the Gem State Grotto of the National Speleological Society. The new gate was placed in a crawlway 150 feet inside the cave. The wire gate inside the entrance pit was removed.

In 1982, seasonal ranger Louise Skonier performed the first comprehensive cave inventory under the direction of chief ranger Neil King. Her report, CRMO Baseline Cave Inventory,

identified 45 cave structures, provided descriptions of each cave with hazard and content ratings.

Scott and Donna Jex, using the organizational name "Jexploration," provided additional cave research assistance under the monuments volunteer program (VIP). This work began in 1984 and continues today under the organizational name of "The Craters of the Moon Project." Primary activities included the verification of the Skonier cave inventory, new cave discovery, preparation of a Cave Research Guide, Master Cave Inventory, and other assistance as requested by management.

In 1989, formal efforts began in the creation of a Cave Management Plan. Resource management specialist, Shelley Sparhawk, prepared a draft plan outline and conducted basic research, including the collection of other plans from Park Service, Bureau of Land Management, and Forest Service units.

In 1992, chief ranger, Bruce Edmonston, initiated the preparation of this "Cave Management Program." The monuments support organization, "Craters of the Moon Natural History Association," contracted with The Craters of the Moon Project to prepare the plan. Coordination was also begun with Scott Earl, leader of the "Idaho Cave Survey" (ICS) of the National Speleological Society, to begin mapping selected caves at the monument. ICS team members perform on-site surveys, plot the data on computer, then provide management with computer-generated cave maps. The ICS provides this service to the monument through the VIP program.

HISTORY OF CAVE RESEARCH

Scientific research of monument cave resources include bat studies, Idaho Lava Tube Beetle reports, cave mineralization analysis, and archeological reconnaissance. These research reports are maintained in the monument's library. An overview of these reports can be found in the publication **"A Review of Scientific Research at Craters of the Moon National Monument"** by Jennifer A. Blakesley and R. Gerald Wright. These reports include:

"Biology of the Idaho lava tube beetle, Glacicavicola" by S.B. Peck, 1974. "Caves of molten stone" by S.B. Peck, 1961.

"Exploration of Arco Tunnel" by P.G. Sanchez, 1959.

"Natural Bridge and Amphitheater Cave: Part of an atlas of lava tubes, Craters of the Moon National Monument" by P.G. Sanchez, 1960.

"A new subfamily of blind beetle from Idaho ice caves with notes on its bionomics and evolution" by R.L. Westcott, 1968.

"1984 cave mapping project" (a.k.a. "Cave Inventory") by S.C. Jex, 1984.

"A review of the invertebrate fauna of volcanic caves in western North America" by S.B. Peck, 1973.

"Unusual mineralogy of the Crystal Pit spatter cone, Craters of the Moon National Monument, Idaho" by S.B. Peck, 1974.

"Wintering bats of the upper Snake River Plain: Occurrence in lava-tube caves" by D.L. Genter, 1986.

HISTORY OF CAVE EXPLORATION

Cave exploration has played a primary role in the development of Craters of the Moon, even before the area gained it's monument designation.

In 1902, I.C. Russell visited the area, then known as "Cinder Buttes," and recounted finding numerous caverns in U.S. Geological Survey Bulletin No. 199.

According to H.T. Stearns, *"from about 1910 on, Mr. S.A. Paisley, first custodian of the monument, made numerous trips into the area and located many of the caves and natural bridges. Mr. Era Martin, who has lived within 3 miles of the area for over forty years, discovered and marked with monuments many of the caves and waterholes."*

R.W. Limbert also made reference to caves in the area in his National Geographic article published in 1924 which led directly to the establishment of the monument.

After achieving monument status in 1924, monument caves continued to be a topic of interest for both explorers and geologists alike. H.T. Stearns describes in detail the features and history of many of the caves in his unpublished notes on file in the monument's library.

In 1925, a topographic map of the monument was made by M.J. Gleissner, of the U.S. Geological Survey, and during the mapping, *"many new and interesting features were discovered."*

While H.T. Stearns was conducting a month-long geology mapping visit in 1926, he stated *"During this work several new caves, waterholes, and other unique volcanic forms were found. So hidden are the caves and other features that many probably still remain to be discovered."*

In 1955, ranger Robert C. Zink in his report "Short History" of Craters of the Moon, briefly documented many of the monument's caves. In the report he repeatedly refers to other detailed "reports" in the monument's file N-48. A search of file N-48 revealed none of his reports. It is possible that these reports were inadvertently removed during a file consolidation in the early 1980s.

Monument ranger Peter G. Sanchez prepared numerous descriptive cave reports in the 1950s and 1960s. These reports are maintained in the monument's library.

Throughout the 1960s and 1970s, biologist Stuart B. Peck made numerous visits to the monument to study lava tubes. Several of his reports are on file in the monument's library.

Cave exploration continues today on a variety of levels. Visitors traveling through the monument take self-guided and ranger-guided tours of the "public caves." Hikers visit "wild caves" when trekking in the other areas of the monument. Cavers, researchers, and scientists explore existing caves, and ongoing efforts are made to locate and document unknown caves.

CAVE VISITATION

To date, none of the public caves have documented visitation records. A visitor use survey done in 1988 found that 64% of monument visitors stop at the "caves" area.

Total monument visitation figures for the past six years are shown below:

1992..... 244,806
1991..... 217,879
1990..... 207,766
1989..... 189,317
1988..... 217,022
1987..... 202,800

Recent permit records for the gated cave **"Arco Tunnel"** show that about 100 cavers per year visit the cave. Guided interpretive walks are conducted in the summer to the **"Caves Area"** and **"Buffalo Caves."** The number of guided walks offered are based on available interpretive staff from year to year. The number of walks offered and the number of visitors participating in these walks are shown below:

	Caves Area		**Buffalo Caves**	
	Walks	Visitors	Walks	Visitors
1991	174	3,326	58	674
1990	77	1,485	38	742
1989	155	2,907	79	819
1988	148	2,223	73	824
1987	255	4,997	84	1,022

Cave visitors can be informally divided into several groups:

Novices

Visitors who have little experience with caves and may be seeing one for the first time or exploring on their own for the first time. They generally visit the caves along the paved trail in the Caves Trail area. Frequently these visitors will limit their exploration to Indian Tunnel, which can be visited without the use of artificial light.

Regulars

Those who enjoy the caves and routinely return to see them and explore new ones. They may be from nearby towns or outside the area, but frequently go directly to the caves without stopping at the Visitor Center.

Cavers

Many who are experienced at cave exploration come to the monument for that purpose. Some cavers come from the immediate area, but many visit the monument from around the region. A significant number are members of the National Speleological Society (NSS). Cavers may stop at the visitor center to inquire about caves not listed on monument publications.

School Groups

Educational groups, including local elementary school classes and geology classes from colleges and universities in the region, conduct field trips to the monument. These students usually visit the monument in supervised groups.

3. Management Guidelines

DEFINITIONS

Cave

The Federal Cave Resources Protection Act defines a cave as any naturally occurring void, cavity, recess, or system of interconnected passageways beneath the surface of the earth or within a cliff or ledge that is large enough to be traversed by people, whether or not the entrance is naturally formed or manmade. The term includes any natural pit, sinkhole, or feature which is an extension of the entrance. Types of caves include lava tubes, limestone and gypsum caves, tectonic fractures (earth cracks), littoral (sea) caves, ice caves, and talus caves.

Cave Resource

Any material or substance found in caves, such as animal life, plant life, paleontological deposits, sediments, minerals, speleogens, speleothem; including archeological, and historical artifacts.

Speleogen

Relief features on the walls, ceiling, and floor of any cave or lava tube which are part of the surrounding bedrock, including but not limited to anastomoses, scallops, meander niches, petromorphs and rock pendants in solution caves and similar features unique to volcanic caves, such as features formed by the cooling of molten rock.

Speleothem

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

CAVE RESOURCE DATA COLLECTION AND STORAGE

Cave Resource Files

A file will be prepared for each cave located at the monument. This single file will contain all information pertaining to that cave resource. Non-confidential individual studies, photographic materials, maps, or research reports pertaining to the cave can be stored in the monument's library, but must be referenced in the cave file. Confidential materials must be stored in a Confidential File (see below).

Cave Management Filing System

Cave management files will be created and maintained in the monument Resource Management office. These files will be separated into two groups. The first group, Open Files, are available for public inspection upon request. Open Files will contain all non-confidential cave resource information.

The second group, Confidential Files, will be established to store files pertaining to caves with confidential locations. Secured under lock and key, access to confidential files will be limited to authorized personnel. Individuals requesting access to information stored in these files must obtain approval from the Superintendent. Requests will be made using the Cave Resource Access Request (see Appendix D). Under no circumstances will persons other than those authorized be allowed unsupervised access to the contents of the Confidential Files.

Confidential Files are protected by the Cave Resource Protection Act of 1988 (see Appendix A).

Computer Information Storage

Cave-related information will be placed on computer media as directed by the Chief of Resource Management. Printed output, and storage media such as disks and tapes, will be maintained in the appropriate Open or Confidential storage areas as described above.

Human Resources

A list of persons with cave-related knowledge will be prepared and maintained in the "Open Files" area. This list will include people with monument-specific knowledge, and/or general knowledge relating to cave resources. This list will contain the person's name, address, phone number, and field of interest or specialty. The list should include regular visitors and cavers, people with expertise in cave management, cave surveying, cave interpretation, cave-related natural sciences, and social sciences.

Search and Rescue

A list of persons available to assist managers with cave-related search and rescue operations will be prepared and maintained by the Chief Ranger in the Open Files area. This list will contain the person's name, group affiliation, address, phone number, and field of expertise or specialized skills. The list should include local cavers with applicable rescue training and

equipment. Refer to the monument's Emergency Operations Plan for specific search and rescue procedures.

Cave Resources Inventory

A cave inventory program will be implemented that meets the Cave Inventory Procedures (see Chapter 4). At a minimum, each cave will be documented using the National Park Service Classification System shown in Appendix B. As an interim step, Cave Coding Worksheets (Appendix D) which have been previously used to inventory caves, can be maintained until a new Cave Resource Report (see Appendix D) can be prepared for each cave.

Cave Resource Monitoring

Caves will be monitored for signs of physical degradation, safety, and content or habitat deterioration. Managers will implement an appropriate monitoring system, using photographic, videographic, or instrument monitoring methods. Results of this monitoring will determine if management intervention is required. Radon monitoring procedures (see Appendix E) will be implemented as defined by National Park Service policy.

Visitor Use Surveys

A visitor survey will be developed to identify levels of visitation, types of uses, and visitor expectations. Results of this survey will help determine future monitoring needs, interpretive programs, and management controls.

Cave Research

Managers will cooperate with researchers and scientists in the gathering of cave resource information. Managers may fund or solicit funds and volunteers for studies to aid in the resolution of cave management problems and to expand knowledge of monument cave resources.

CONTROLLING CAVE ACCESS

Access by the General Public

Visitation by the general public for recreational and educational purposes is a primary goal of this Cave Management Program. However, public information or access to caves will depend on the current classification of the cave. Caves in the Caves Trail area have been developed for use by the general public, are listed on monument publications, and are featured on several ranger-guided walks. Access to developed caves will remain open to unrestricted visitation unless safety hazards or significant resource deterioration develops.

Access by the Off-Trail Explorer

Caves primarily accessed by means other than maintained trails are not patrolled by rangers on a regular schedule, but can offer the visitor a unique opportunity to visit well-preserved caves in relative solitude. New caves are often found by explorers visiting other caves in these areas. Undeveloped caves may, at the option of monument managers, be upgraded to developed cave status, or simply included in guided tours if the resource qualifies. Access to undeveloped caves will remain open to unrestricted visitation as visitors become aware of the caves, but unsolicited information will not be given regarding the location of these caves.

Access to Restricted Caves

Caves with controlled access will be marked with a small sign inside the entrance stating the reasons for closure (safety hazards, sensitive features, nesting animals, etc.) and the method to obtain a permit, if applicable, to enter the cave.

Controlling access to caves with a Cave Visitor Permit (see Appendix D) allows monument managers to verify visitation numbers, inform the public of hazards or special equipment requirements, and initiate search and rescue procedures if the party does not return by a specified time.

Caves that are closed to all exploration will be marked with a small sign inside the entrance stating the reasons for the closure.

Entering Caves for Research Purposes

Visitation of caves for the purpose of scientific research is welcome, but must be approved by the Superintendent. A written request must be submitted stating the purpose of the project, estimated impacts to the cave resource, duration of the project, the nature of any needed monument participation, and names of the individuals involved. Research requests may be subject to peer and professional review, will be evaluated relative to any other ongoing projects, and be subject to current management purposes and objectives. Research access to restricted caves will be decided on a case-by-case basis.

CAVE RESOURCE PROTECTION

Preferred Protection Techniques

Preferred means of cave protection are (1) confidentiality of cave locations, (2) use of interpretive media to help people appreciate caves and understand the fragility of cave resources, and (3) patrol by staff. Interpretation is an extremely important management tool since it encourages voluntary compliance and cooperation in protecting essentially nonrenewable resources.

Gating of Cave Entrances

Gates are an obtrusion on the aesthetic integrity of the cave entrance and are often deleterious to the ecology of a natural cave, hindering or entirely impeding airflow and the movement of bats and other organisms into and out of the cave. The use of gates to prohibit unauthorized entry is often unsuccessful against determined vandals. This technique should be used to protect monument caves only where the need is considered essential and a biologically neutral gate can be constructed. The entrance to many caves is so large that gates are not feasible. Interior gates may be used to restrict access to areas of significant hazards, such as Class V hazards, or which merit special resource protection, such as Class 5 or 6 caves (see Appendix B). Gates that utilize padlock closure, which allow entry for authorized purposes, are preferred to permanent closures. Cave gates and locks must be regularly inspected and maintained. The monument currently has two caves that are gated; the gates are in fair to good condition but need to be evaluated based on the above criteria for possible remodeling or replacement.

Alteration of Caves

During cave exploration an area may require enlarging to permit entry into virgin passageways or chambers. Permission to enlarge a constriction, or to dig through breakdown or cave fill, must be obtained in writing from the Superintendent. Unless it can be ensured that no significant impacts to the resource will occur, enlarging an opening strictly for exploration purposes will not be permitted. Explosive charges or mechanical devices, such as rock splitters or jackhammers, are not permitted for use in monument caves except for pre-approved construction in non-wilderness developed caves; and only after compliance with National Environmental Protection Act (NEPA) requirements.

Cave Maintenance

Maintenance and upkeep of the Caves Trail area will be performed on a regular basis. Priority will be given to public safety with a full inspection of all caves, trails, and stairs/railings to be done as soon as the area is opened and cleared of snow in the spring. Snow/ice may need to be cleared from trails and stairs prior to allowing public access. During peak visitation, weekly safety and litter patrols should be done by the general staff. Entering restricted caves for maintenance will be done in conjunction with entry for other authorized purposes; for example, coordinate maintenance with a research trip. Unauthorized rock cairns or other items placed by visitors should be periodically removed or scattered.

CAVE RESTORATION

Routine Deterioration and Maintenance

Any visitation of lava tube caves will cause some degradation of the cave resource. Foreign materials resulting from human use can accumulate in the cave. To help maintain a natural cave environment, these materials must be routinely removed. Maintenance personnel must verify that no historical or archeological artifacts are disturbed. Loose rocks that become scattered across

paths and stairways should be cleared. Rocks or litter dropped on ice formations can become frozen into the formation if not removed.

Restoration of Vandalism and Breakage

Accidental damage to the cave resource can occur during construction, trail development, or other planned activities. It can also occur deliberately through vandalism. Damage to cave features, such as broken speleothems or speleogens, is considered repairable. An attempt can be made to reattach the feature using state-of-the-art techniques. If the feature cannot be reattached it should be turned in for cataloging, storage, or interpretive display purposes.

Removal of graffiti or other chemical-based vandalism should be undertaken only after extensive study to verify that the removal will not cause additional damage to the resource. This and other significant cave restoration work will be supervised by resource management staff. This type of activity should not be undertaken by untrained persons; knowledge of cave restoration techniques are of the utmost importance. Restoration projects requiring specialized knowledge or skills not available in the monument staff should be referred to experienced persons.

Direct and indirect effects of all restoration techniques should be carefully monitored to help ensure protection of the cave environment. A cave restoration log should be maintained in the individual cave files to document both the details of restoration activities and the results of restoration impact monitoring. Individuals or groups involved in cave restoration work are responsible for the removal of all evidence of their activities from work areas.

CAVE DEVELOPMENT

Monument caves present a unique opportunity to help visitors understand the volcanic phenomenon. Caves can be interpreted in a number of ways; by making the public aware of a cave location, listing it in monument publications, including the cave on guided interpretive walks, and/or physically altering the cave to accommodate visitors.

It is the intent of this program to restrict future physical development of caves in the Caves Trail area; studies from past and present visitation patterns indicate that the present developed cave area adequately serves the casual cave visitor's needs. All other caves will be left in their wild state, not precluding them from use to the extent of guided interpretive walks.

Interpretive Development Guidelines

The decision to provide the visitor with a cave location, to list the cave in monument publications, or to include the cave on guided interpretive walks will be made by the Superintendent. The following guidelines will be followed:

1. Prior planning must give ample justification for the need to interpret the cave, i.e. a unique example of a volcanic formation not seen elsewhere in the monument. It must be verified that the integrity of the features you wish to interpret will not be damaged by visitor use.
2. Inspect for physical safety hazards, such as potential ceiling collapse, rock

movement, and access routes; biological hazards (such as radon, molds, and rabies, etc.), and check the inventory of all plant and animal species to verify possible impacts.

3. Establish baseline data on cave life, such as bat and invertebrate populations; and cave climate, such as water content and air movement patterns. If necessary, have the cave examined by a geologist, archeologist, and professionals from other affected disciplines.
4. Confirm that an adequate, up-to-date cave inventory, survey, and map have been prepared and are available in monument files. Establish a specific monitoring program appropriate to the resource.
5. Any alteration of the physical cave resource must first meet all environmental compliances, be fully documented, and is to be coordinated by the Resource Management Specialist.

CAVE-RELATED LAWS AND REGULATIONS

Federal law and state of Idaho laws and regulations regarding caves and related resources will be enforced. The public will be made aware of these laws and of the intention of the monument to enforce them through applicable monument publications and signage.

Federal regulations which can be specifically applied to caves at Craters of the Moon are listed in the "Code of Federal Regulations, Part 36, Parks, Forests, and Public Property" (see Appendix A).

Applicable regulations in Part 2 "Resource Protection, Public Use and Recreation" include:

Section 2.1 (1) re: preservation of natural, cultural and archeological resources

Section 2.1 (3) re: throwing rocks inside caves

Section 2.10 (10) re: camping outside designated sites or areas

Section 2.21 (b) re: smoking prohibited in caves

The "Federal Cave Resources Protection Act of 1988" H.R. 1975 (see Appendix A) protects cave resources on federal lands.

The "Archeological Resources Protection Act of 1979" PL 96-95 (see Appendix A) protects archeological resources on federal lands.

The "National Historic Preservation Act of 1966" (Public Law 89-665, 80 STAT.915: 16 U.S.C. 470) (see Appendix A) provides for a National Register of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, and culture.

Idaho Code 18-7035 "Damaging caves or caverns unlawful" (see Appendix A) was enacted in 1982 to protect cave resources within the State of Idaho.

Regulations authorized by "Compendium of Superintendents Orders" (see Appendix A) that relate to cave resources also apply.

The management of monument caves within designated wilderness is subject to requirements of the "Wilderness Act of 1964" (PL 88-577). These regulations limit the type of public and management activities that may occur; for example, the minimum tool concept must be applied when developing or maintaining facilities such as trails in wilderness areas. Specific mention of wilderness caves can be found in the "Craters of the Moon Wilderness Management Plan."

STAFF RESPONSIBILITIES

At Craters of the Moon National Monument the **Superintendent** is directly responsible to the Regional Director for cave management activities within the monument.

The **Chief Ranger** is responsible for the enforcement of cave-related laws and regulations, management of the cave permit system, and search and rescue response.

The **Chief of Resource Management** is responsible for the inventory and classification of cave resources, observation and monitoring, and the coordination of, or assistance with, specific cave research.

The **Chief of Interpretation** is responsible for providing appropriate visitor education and interpretive programs including guided walks and talks, interpretive wayside exhibits, and interpretive publications.

The **Chief of Maintenance** is responsible for the construction, maintenance, and safety of authorized trails, railings, stairways, gates, signs, and related cave facilities; and will maintain sanitary conditions in and around the caves.

4. Program Implementation

CAVE RESOURCE CLASSIFICATION

Document Collection

All available documentation pertaining to monument cave resources will be collected. These documents will be sorted by cave. Documents not pertaining to any one cave will be grouped separately by subject.

Creation of Files

Open and confidential files will be established as described in Cave Resource Data Collection and Storage. Documentation will be temporarily filed in numerical order according to their assigned number on the Master Cave Inventory (see Appendix F). Note: due to the listing of exact cave coordinates on the Master Cave Inventory, it will be treated as a confidential document.

Interim Management Classification

The reason for this interim classification system is to quickly group the caves by the frequency and risk of public exposure. The vast majority of caves are passively protected by their remote location and confidentiality, thereby allowing managers to concentrate their resources on caves requiring immediate attention. The following classes essentially follow the National Park Service Cave Classification System shown in Appendix B.

Class 1 - Public Caves

This group will include all caves that the general public is actively encouraged to visit by monument staff and current literature. These caves will continue to be maintained for visitor use. Due to high visitation numbers, caves in this group have the highest priority for information gathering.

Class 3 - Caves Accessed by Permit

This group includes all caves whose locations are not readily available to the general public, AND require a permit to enter. Caves in this group have the second

highest priority for information gathering. Names and locations of these caves may be provided to the general public as appropriate.

Class 4 - Controlled Caves

This group includes, all newly discovered caves, caves that have yet to be inventoried or evaluated, and caves that need additional documentation to determine a final classification. Caves in this group have the third highest priority for information gathering. The names and locations of these caves will not be made available to the general public

Class 5 - Restricted Caves

This group contains caves which have entry restrictions currently in place. Access is restricted to research use only; this does not exclude administrative entry to monitor research activity and/or impacts. Since visitation is low, caves in this group have the lowest priority for information gathering.

Final Cave Classification System

The National Park Service Cave Classification System (see Appendix B) consists of a three-element code rating made up of:

- a numeral indicating the type of **management** needed
- a letter indicating **resources** contained in the cave
- a Roman numeral indicating the cave's **hazard** rating

As complete information is collected on each cave it will be compared to the criteria shown for Management Class, Resource Class, and Hazard Class, and a final classification will be established for each cave. All caves will be reviewed on an annual basis for possible change to other classifications. This does not exclude the possible need for immediate change based on safety, resource protection, or other factors.

CAVE INVENTORY PROCEDURES

All caves will be subject to an on-site inventory by a monument staff member and/ or authorized contractor or volunteer. For the most consistent results individuals performing the inventory should be experienced in the documentation of cave resources. The information should be gathered using a standardized data collection form.

Cave Number

Each cave will be assigned a consecutive 3-digit number as it is documented.

Cave Name

Names for newly discovered caves may be submitted by the discoverer. Acceptable names relate the cave to its geographic proximity to natural features (i.e. Sheep Trail Butte Cave), to a physical characteristic of the cave (i.e. Dirt Floor Cave), to its proximity to cultural features (i.e. Indian Tunnel), or to an intangible feature of the cave (i.e. Surprise Cave, Last Chance Cave). Personal names or vulgar expressions will not be accepted for monument caves.

Cave Markers

It is recognized that the vast areas of the lava flows make it extremely difficult to locate cave entrances. The majority of inventoried caves have a rock cairn erected near the entrance to aid in location once the explorer is nearby. Some of these cairns have historical significance in that they mark caves or waterholes; it is possible that these cairns were built by Native Americans or other explorers more than 50 years ago. This program establishes the need to have cairns evaluated for their archeological and historical significance before being altered in any way. Following that evaluation, the general policy on the use of cairns to mark caves will be reevaluated. Options include:

- leaving cairns as is to mark caves, including some cairns that have been built six to eight feet high,
- using cairns to mark caves but breaking them down to a standard size, e.g., three feet,
- eliminating cairns in the wilderness,
- eliminating all cairns throughout the monument.

Cave Signage

After each cave has been completely inventoried old location signs will be removed from caves located within the wilderness. Signs will be limited to those existing for interpretive purposes on the "Caves Trail" or new signs as approved by the Superintendent.

Cave Identification System

All cave entrances will be photographed with both color slide film and color print film. The color prints will be compiled into a notebook and indexed to appropriate maps or sketches of cave interiors to aid in identification of specific caves. An additional copy of the photograph will be placed in each cave file. Cave name, number and UTM coordinates will be recorded on each entrance photograph. The color slides, identified by cave number only, will be stored for interpretive use.

Cave Location Map

A Global Positioning System (GPS) device will be used to locate each cave as exactly as possible. UTM coordinates will then be recorded on the Master Cave Inventory and in each individual cave file. All cave locations will be plotted on a current Craters of the Moon

topographic map. This map will be kept in the confidential file area.

Cave Survey and Map Drafting Procedures

As directed by managers, a cave survey will be performed by a qualified team using standard cave survey techniques. The level of accuracy and the techniques used will be determined by the team leader and managers, based on the requirements of each cave. At minimum, the survey team will employ the standard practices described in the National Speleological Society publication "Cave Surveying" (number SCS 7801) or current equivalent. Copies of the survey notes, including the station log, will be provided to managers for inclusion in the cave file.

In some instances, a sketch map may be prepared by an advance exploration team prior to a cave survey. This map, showing important cave features, size, and/or hazards, can help managers determine the scope of the future survey. The map should be marked "SKETCH MAP - NO SURVEY DATA," and include the name of the preparer and the date drawn.

After a formal cave survey, a cave map should be drafted by members of the survey team using the data acquired in the survey. At minimum, the map will be prepared using standard drafting procedures such as those described in the National Speleological Society publication "Drafting of Cave Maps," (number SCS 7601) or current equivalent. Computer mapping techniques are encouraged whenever possible. At minimum, the graphic symbols used when preparing the map will follow those shown in the National Speleological Society publication "Standard Map Symbols," (number SCS 6101) or equivalent.

Required Documentation

Each cave file should contain the following when possible:

1. Discovery date.
2. Name of discoverer.
3. Other people present.
4. How located.
5. How and why named.
6. Topographic map of area showing location of cave and route taken to and from the cave, and suggested route, if different.
7. Detailed descriptions of hazards present within the cave and/or in reaching the cave entrance, including recommended equipment for reaching, entering, and exploring the cave.
8. Detailed description of major features of the cave, including speleothems, fauna, flora, biological, hydrological, geological, archeological, historical, ethnographic, paleontological, etc.; and their corresponding location on the cave map.
9. Recommended use restrictions, if any.
10. Survey map of the cave, including plan view, vertical section, and all survey computation notes.

11. Photographs showing the cave entrance, cairns, and major features. Notation should include the photographer and date the photographs were taken.
12. Significant trip reports and completed Cave Visitor Permits, if applicable.

National Park Service Classification

Finally, as caves are inventoried, they will be assigned a classification using the National Park Service Classification System. This classification process will dictate how the cave resource will be managed.

NEWLY DISCOVERED CAVES

Notification

All new cave discoveries must be reported immediately to the Chief of Resource Management.

Management Groups

All newly discovered caves will be classified as "Class 4" (Controlled), if the cave warrants an immediate inventory based on its reported resources or location, one should be conducted. Otherwise, the cave will be scheduled for inventory at the earliest opportunity. After the resource inventory is completed the classification of the cave will be reevaluated and the cave assigned to the most appropriate class.

CLASSIFICATION MANAGEMENT

Caves will be managed in groups based on their management class within the National Park Service Classification System (see Appendix B). The following management activities apply to caves with the listed designation:

Management Objectives

Class 1 Provide opportunities for the broad spectrum of visitors, but ensure that the resources are preserved and protected to the extent practical.

Class 2 Protect and preserve the resources while allowing limited opportunities for visitation.

Class 3 Same as above.

Class 4 Primary goal of protection and preservation of the resource with limited research access only.

Class 5 Maximum protection of the resource with an allowance for research.

Class 6 Cave closed to all entry except required administrative work.

Visitor Information

Class 1 Cave locations may be shown on monument publications readily available to the public. Interpretive tours are encouraged.

Class 2 Cave locations will not be publicized, but will not be withheld upon request. Visitors must be accompanied by monument staff.

Class 3 Same as above, except staff accompaniment is optional.

Class 4 Cave locations confidential. No interpretive tours are allowed.

Class 5 Same as above.

Class 6 Same as above.

Development and Maintenance

Class 1 Existing developments may be maintained and minor developments permitted.

Class 2 Existing developments may remain but not be maintained, no new developments.

Class 3 Same as above, except existing developments may be maintained.

Class 4 Existing developments must be removed, no new developments allowed.

Class 5 Same as above.

Class 6 Same as above.

Monitoring

Class 1 Impacts will be monitored in selected representative caves.

Class 2 Impacts will be monitored in every cave.

Class 3 Same as above.

Class 4 Same as above.

Class 5 Same as above.

Class 6 Same as above.

VISITOR SURVEYS

Visitor surveys may be performed to aid in the management of cave resources as necessary. Surveys may be based on research needs, resource impacts, etc. Surveys may also be used to detect trends or types of usage in monument caves.

Outside of the "Caves Trail" area, use of caves is so low that surveys are not necessary. Surveys of visitation in other classes of caves may be compiled from entrance permits issued or interpretive tour records. An annual summary of these visitation numbers will be referenced in updates to this Cave Management Program.

REVISING THE PROGRAM

The Cave Management Program will be reviewed on an annual basis and updated as necessary. Major changes in this program will be recommended by the Superintendent and approved by the Regional Director. Minor changes or updates require approval only from the Superintendent.

Appendix A

CAVE-RELATED LAWS AND REGULATIONS

Code of Federal Regulations.....A.3

Federal Cave Resources Protection Act of 1988 .....A.7

Archeological Resources Protection Act of 1979.....A.11

National Historic Preservation Act of 1966.....A.13

Idaho Code 18-7035 .....A.15

Craters of the Moon Compendium of Superintendents Orders A.17

code of federal regulations

Parks, Forests, and Public Property

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PARTS 1 TO 199

Revised as of July 1, 1988

CONTAINING
A CODIFICATION OF DOCUMENTS
OF GENERAL APPLICABILITY
AND FUTURE EFFECT

AS OF JULY 1, 1988

With Ancillaries

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PART 2—RESOURCE PROTECTION, PUBLIC USE AND RECREATION

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AUTHORITY: 16 U.S.C. 1, 3, 9a, 462(k).

SOURCE: 48 FR 30282, June 30, 1983, unless otherwise noted.

§ 2.1 Preservation of natural, cultural and archeological resources.

(a) Except as otherwise provided in this chapter, the following is prohibited:

(1) Possessing, destroying, injuring, defacing, removing, digging, or disturbing from its natural state:

(i) Living or dead wildlife or fish, or the parts or products thereof, such as antlers or nests.

(ii) Plants or the parts or products thereof.

(iii) Nonfossilized and fossilized paleontological specimens, cultural or archeological resources, or the parts thereof.

(iv) A mineral resource or cave formation or the parts thereof.

(2) Introducing wildlife, fish or plants, including their reproductive bodies, into a park area ecosystem.

(3) Tossing, throwing or rolling rocks or other items inside caves or caverns, into valleys, canyons, or caverns, down hillsides or mountainsides, or into thermal features.

(4) Using or possessing wood gathered from within the park area: *Provided, however,* That the superintendent may designate areas where dead wood on the ground may be collected for use as fuel for campfires within the park area.

(5) Walking on, climbing, entering, ascending, descending, or traversing an archeological or cultural resource, monument, or statue, except in designated areas and under conditions established by the superintendent.

(6) Possessing, destroying, injuring, defacing, removing, digging, or disturbing a structure or its furnishing or fixtures, or other cultural or archeological resources.

(7) Possessing or using a mineral or metal detector, magnetometer, side scan sonar, other metal detecting device, or subbottom profiler.

This paragraph does not apply to:

(i) A device broken down and stored or packed to prevent its use while in park areas.

(ii) Electronic equipment used primarily for the navigation and safe operation of boats and aircraft.

(iii) Mineral or metal detectors, magnetometers, or subbottom profilers used for authorized scientific, mining, or administrative activities.

(b) The superintendent may restrict hiking or pedestrian use to a designated trail or walkway system pursuant to §§ 1.5 and 1.7. Leaving a trail or walkway to shortcut between portions of the same trail or walkway, or to shortcut to an adjacent trail or walkway in violation of designated restrictions is prohibited.

(c)(1) The superintendent may designate certain fruits, berries, nuts, or unoccupied seashells which may be gathered by hand for personal use or con-

sumption upon a written determination that the gathering or consumption will not adversely affect park wildlife, the reproductive potential of a plant species, or otherwise adversely affect park resources.

(2) The superintendent may:

(i) Limit the size and quantity of the natural products that may be gathered or possessed for this purpose; or

(ii) Limit the location where natural products may be gathered; or

(iii) Restrict the possession and consumption of natural products to the park area.

(3) The following are prohibited:

(i) Gathering or possessing undesignated natural products.

(ii) Gathering or possessing natural products in violation of the size or quantity limits designated by the superintendent.

(iii) Unauthorized removal of natural products from the park area.

(iv) Gathering natural products outside of designated areas.

(v) Sale or commercial use of natural products.

(d) This section shall not be construed as authorizing the taking, use or possession of fish, wildlife or plants for ceremonial or religious purposes, except where specifically authorized by Federal statutory law, treaty rights, or in accordance with § 2.2 or § 2.3.

NOTE: Regulations concerning archeological resources are found in 43 CFR Part 3.

§ 2.2 Wildlife protection.

(a) The following are prohibited:

(1) The taking of wildlife, except by authorized hunting and trapping activities conducted in accordance with paragraph (b) of this section.

(2) The feeding, touching, teasing, frightening or intentional disturbing of wildlife nesting, breeding or other activities.

(3) Possessing unlawfully taken wildlife or portions thereof.

(b) *Hunting and trapping.*

(1) Hunting shall be allowed in park areas where such activity is specifically mandated by Federal statutory law.

(2) Hunting may be allowed in park areas where such activity is specifically authorized as a discretionary activity under Federal statutory law if the superintendent determines that such activity is consistent with public safety and enjoyment, and sound resource management principles. Such hunting shall be allowed pursuant to special regulations.

(3) Trapping shall be allowed in park areas where such activity is specifically mandated by Federal statutory law.

(4) Where hunting or trapping or both are authorized, such activities shall be conducted in accordance with Federal law and the laws of the State within whose exterior boundaries a park area or a portion thereof is located. Nonconflicting State laws are adopted as a part of these regulations.

(c) Except in emergencies or in areas under the exclusive jurisdiction of the United States, the superintendent shall consult with appropriate State agencies before invoking the authority of § 1.5 for the purpose of restricting hunting and trapping or closing park areas to the taking of wildlife where such activities are mandated or authorized by Federal statutory law.

(d) The superintendent may establish conditions and procedures for transporting lawfully taken wildlife through the park area. Violation of these conditions and procedures is prohibited.

(e) The Superintendent may designate all or portions of a park area as closed to the viewing of wildlife with an artificial light. Use of an artificial light for purposes of viewing wildlife in closed areas is prohibited.

(f) Authorized persons may check hunting and trapping licenses and permits; inspect weapons, traps and hunting and trapping gear for compliance with equipment restrictions; and inspect wildlife that has been taken for compliance with species, size and other taking restrictions.

(g) The regulations contained in this section apply, regardless of land ownership, on all lands and waters within a park area that are under the legislative jurisdiction of the United States.

[48 FR 30282, June 30, 1983, as amended at 49 FR 18450, Apr. 30, 1984; 51 FR 33264, Sept. 19, 1986; 52 FR 35240, Sept. 18, 1987]

(4) Racing, or operating a snowmobile in excess of 45 mph, unless restricted in accordance with § 4.22 of this chapter or otherwise designated.

(e) Except where State law prescribes a different minimum age or qualification for the person providing direct supervision and accompaniment, the following are prohibited:

(1) The operation of a snowmobile by a person under 16 years of age unless accompanied and supervised within line of sight by a responsible person 21 years of age or older;

(2) The operation of a snowmobile by a person under 12 years of age, unless accompanied on the same machine by a responsible person 21 years of age or older; or

(3) The supervision by one person of the operation of snowmobiles by more than one person under 16 years of age.

[48 FR 30282, June 30, 1983, as amended at 52 FR 10683, Apr. 2, 1987]

§ 2.19 Winter activities.

(a) Skiing, snowshoeing, ice skating, sledding, innertubing, tobogganing and similar winter sports are prohibited on park roads and in parking areas open to motor vehicle traffic, except as otherwise designated.

(b) The towing of persons on skis, sleds, or other sliding devices by motor vehicle or snowmobile is prohibited, except in designated areas or routes. This paragraph shall not apply to sleds designed to be towed behind snowmobiles and joined to the snowmobile with a rigid hitching mechanism.

(c) Failure to abide by area designations or activity restrictions established under this section is prohibited.

§ 2.20 Skating, skateboards, and similar devices.

Using roller skates, skateboards, roller skis, coasting vehicles, or similar devices is prohibited, except in designated areas.

§ 2.21 Smoking.

(a) The superintendent may designate a portion of a park area, or all or a portion of a building, structure or facility as closed to smoking when necessary to protect park resources, reduce the risk of fire, or prevent conflicts among visitor use activities. Smoking in an area or location so designated is prohibited.

(b) Smoking is prohibited within all caves and caverns.

§ 2.22 Property.

(a) The following are prohibited:

(1) Abandoning property.

(2) Leaving property unattended for longer than 24 hours, except in locations where longer time periods have been designated or in accordance with conditions established by the superintendent.

(3) Failing to turn in found property to the superintendent as soon as practicable.

(b) Impoundment of property. (1) Property determined to be left unattended in excess of an allowed period of time may be impounded by the superintendent.

(2) Unattended property that interferes with visitor safety, orderly management of the park area, or presents a threat to park resources may be impounded by the superintendent at any time.

(3) Found or impounded property shall be inventoried to determine ownership and safeguard personal property.

(4) The owner of record is responsible and liable for charges to the person who has removed, stored, or otherwise disposed of property impounded pursuant to this section; or the superintendent may assess the owner reasonable fees for the impoundment and storage of property impounded pursuant to this section.

(c) Disposition of property. (1) Unattended property impounded pursuant to this section shall be deemed to be abandoned unless claimed by the owner or an authorized representative thereof within 60 days. The 60-day period shall begin when the rightful owner of the property has been notified, if the owner can be identified, or from the time the property was placed in the superintendent's custody, if the owner cannot be identified.

(2) Unclaimed, found property shall be stored for a minimum period of 60 days and, unless claimed by the owner or an authorized representative there-

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FEDERAL CAVE RESOURCES PROTECTION ACT OF 1988

BE IT ENACTED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED,

SEC. 1. SHORT TITLE. This Act may be referred to as the "Federal Cave Resources Protection Act of 1988."

SEC. 2. FINDINGS, PURPOSES, AND POLICY.

(a) FINDINGS.—The Congress finds and declares that—

(1) significant caves on Federal lands are an invaluable and irreplaceable part of the Nation's natural heritage; and

(2) in some instances, these significant caves are threatened due to improper use, increased recreational demand, urban spread, and a lack of specific statutory protection.

(b) PURPOSES.—The purposes of this Act are—

(1) to secure, protect, and preserve significant caves on Federal lands for the perpetual use, enjoyment, and benefit of all people; and

(2) to foster increased cooperation and exchange of information between governmental authorities and those who utilize caves located on Federal lands for scientific, education, or recreational purposes.

(c) POLICY.—It is the policy of the United States that Federal lands be managed in a manner which protects and maintains, to the extent practical, significant caves.

SEC. 3. DEFINITIONS.

For purposes of this Act:

(1) CAVE.—The term "cave" means any naturally occurring void, cavity, recess, or system of interconnected passages which occurs beneath the surface of the earth or within a cliff or ledge (including any cave resource therein, but not including any vug, mine, tunnel, aqueduct, or other man-made excavation) and which is large enough to permit an individual to enter, whether or not the entrance is naturally formed or man-made. Such term shall include any natural pit, sinkhole, or other feature which is an extension of the entrance.

(2) FEDERAL LANDS.—The term "Federal lands" means lands the fee title to which is owned by the United States and administered by the Secretary of Agriculture or the Secretary of the Interior.

(3) INDIAN LANDS.—The term "Indian lands" means lands of Indian tribes or Indian individuals which are either held in trust by the United States for the benefit of an Indian tribe or subject to a restriction against alienation imposed by the United States.

(4) INDIAN TRIBE.—The term "Indian tribe" means any Indian tribe, band, nation, or other organized group or community of Indians, including any Alaska Native village or regional or village corporation as defined in, or established pursuant to, the Alaska Native Claims settlement Act (43 U.S.C. 1601 et seq.).

(5) CAVE RESOURCE.—The term "cave resource" includes any material or substance occurring naturally in caves on Federal lands, such as animal life, plant life, paleontological deposits, sediments, minerals, speleogens, and speleothems.

(6) SECRETARY.—The term "Secretary" means the Secretary of Agriculture or the Secretary of the Interior, as appropriate.

(7) SPELEOTHEM.—The term "speleothem" means any natural mineral formation or deposit occurring in a cave or lava tube, including but not limited to any stalactite, stalagmite, helictite, cave flower, flowstone, concretion, drapery, rimstone, or formation of clay or mud.

(8) SPELEOGEN.—The term "speleogen" means relief features on the walls, ceiling, and floor of any cave or lava tube which are part of the surrounding bedrock, including but not limited to anastomoses, scallops, meander niches, petromorphs and rock pendants in solution caves and similar features unique to volcanic caves.

SEC. 4. MANAGEMENT ACTIONS.

(a) REGULATIONS.—Not later than nine months after the date of the enactment of this Act, the Secretary shall issue such regulations as he deems necessary to achieve the purposes of this Act. Regulations shall include, but not be limited to, criteria for the identification of significant caves. The Secretaries shall cooperate and consult with one another in preparation of the regulations. To the extent practical, regulations promulgated by the respective Secretaries should be similar.

(b) IN GENERAL.—The Secretary shall take such actions as may be necessary to further the purposes of this Act. These actions shall include (but not be limited to)—

(1) identification of significant caves on federal lands;

(A) The Secretary shall prepare an initial list of significant caves for lands under his jurisdiction not later than one year after the publication of final regulations using the significance criteria defined in such regulations. Such a list shall be developed after consultation with appropriate private sector interests, including cavers.

(B) The initial list of significant caves shall be updated periodically, after consultation with appropriate private sector interests, including cavers. The Secretary shall prescribe by policy or regulation the requirements and process by which the initial list will be updated, including management measures to assure that caves under consideration for the list are protected during the period of consideration. Each cave recommended to the Secretary by interested groups for possible inclusion on the list of significant caves shall be considered by the Secretary according to the requirements prescribed pursuant to this paragraph, and shall be added to the list if the Secretary determines that the cave meets the criteria for significance as defined by the regulations.

(2) regulation or restriction of use of sig-

nificant caves, as appropriate;

(3) entering into volunteer management agreements with persons of the scientific and recreational caving community; and

(4) appointment of appropriate advisory committees.

(c) PLANNING AND PUBLIC PARTICIPATION.—The Secretary shall—

(1) ensure that significant caves are considered in the preparation or implementation of any land management plan if the preparation or revision of the plan began after the enactment of this Act,

(2) foster communication, cooperation, and exchange of information between land managers, those who utilize caves, and the public.

SEC. 5. CONFIDENTIALITY OF INFORMATION CONCERNING NATURE AND LOCATION OF SIGNIFICANT CAVES.

(a) IN GENERAL.—Information concerning the specific location of any significant cave may not be made available to the public under section 552 of title 5, United States Code, unless the Secretary determines that disclosure of such information would further the purposes of this Act and would not create a substantial risk of harm, theft, or destruction of such cave.

(b) EXCEPTIONS.—Notwithstanding subsection (a), the Secretary may make available information regarding significant caves upon the written request by Federal and state governmental agencies or bona fide educational and research institutions. Any such written request shall, at a minimum:

(1) describe the specific site or area for which information is sought;

(2) explain the purpose for which such information is sought, and

(3) include assurances satisfactory to the Secretary that adequate measures are being taken to protect the confidentiality of such information and to ensure the protection of the significant cave from destruction by vandalism and unauthorized use.

SEC 6. COLLECTION AND REMOVAL FROM FEDERAL CAVES.

(a) PERMIT.—The Secretary is authorized to issue permits for the collection and removal of cave resources under such terms and conditions as the Secretary may impose, including the posting of bonds to insure compliance with the provisions of any permit.

(1) Any permit issued pursuant to this section shall include information concerning the time, scope, location, and specific purpose of the proposed collection, removal or associated activity, and the manner in which such collection, removal, or associated activity is to be performed must be provided.

(2) The Secretary may issue a permit pursuant this subsection only if he determines that the porposed collection or removal activities are consistent with the purposes of this Act and with other applicable provisions of law.

(b) REVOCATION OF PERMIT.—Any permit issued under this section shall be revoked by the Secretary upon a determination by the Secretary that the permittee has violated any provision of this Act, or has failed to comply with any other condition upon which the permit was issued. Any such permit shall be revoked by the Secretary upon assessment of a civil penalty against the permittee pursuant to section 8 or upon the permittee's conviction under section 7 of this Act. The Secretary may refuse to issue a permit under this section to any person who has violated any provision of this Act or who has failed to comply with any condition of a prior permit.

(c) TRANSFERABILITY OF PERMITS. Permits issued under this act are not transferable.

(d) CAVE RESOURCES LOCATED ON INDIAN LANDS.—(1)(A) Upon application by an Indian tribe, the Secretary is authorized to delegate to the tribe all authority of the Secretary under this section with respect to issuing and enforcing permits for the collection or removal of any cave resource located on the affected Indian lands.

(B) In the case of any permit issued by the Secretary for the collection or removal of any cave resource, or to carry out activities associated with such collection or removal, from any cave resource located on Indian lands (other than permits issued pursuant to subparagraph (A)), the permit may be issued only after obtaining the consent of the Indian or Indian tribe owning or having jurisdiction over such lands. The permit shall include such reasonable terms and conditions as may be requested by such Indian or Indian tribe.

(2) If the Secretary determines that issuance of a permit pursuant to this section may result in harm to, or destruction of, any religious or cultural site, the Secretary, prior to issuing such permit, shall notify any Indian tribe which may consider the site as having significant religious or cultural importance. Such notice shall not be deemed a disclosure to the public for purposes of section 5.

(3) A permit shall not be required under this section for the collection or removal of any cave resource located on Indian lands or activities associated with such collection, by the Indian or Indian tribe owning or having jurisdiction over such lands.

(e) EFFECT OF PERMIT.—No action specifically authorized by a permit under this section shall be treated as a violation of section 7.

SEC 7. PROHIBITED ACTS AND CRIMINAL PENALTIES.

(a) PROHIBITED ACTS. –

(1) Any person who, without prior authorization from the Secretary knowingly destroys, disturbs, defaces, mars, alters, removes or harms any significant cave or alters the free movement of any animal or plant life into or out of any significant cave located on Federal lands, or enters a significant cave with the intention of committing any act described in this paragraph shall be punished in ac-

cordance with subsection (b)

(2) Any person who possesses, consumes, sells, barters or exchanges, or offers for sale, barter or exchange, any cave resource from a significant cave with knowledge or reason to know that such resource was removed from a significant cave located on Federal lands shall be punished in accordance with subsection (b).

(3) Any person who counsels, procures, solicits, or employs any other person to violate any provisions of this subsection shall be punished in accordance with subsection (b).

(4) Nothing in this section shall be deemed applicable to any person who was in lawful possession of a cave resource from a significant cave prior to the date of enactment of this Act.

(b) PUNISHMENT .—The punishment for violating any provision of subsection (a) shall be imprisonment of not more than one year or a fine in accordance with the applicable provisions of title 18 of the United States Code, or both. In the case of a second or subsequent violation, the punishment shall be imprisonment of not more than 3 years or a fine in accordance with the applicable provisions of title 18 of the United States Code, or both.

SEC. 8. CIVIL PENALTIES.

(a) ASSESSMENT.—(1) The Secretary may issue an order assessing a civil penalty against any person who violates any prohibition contained in this Act, any regulation promulgated pursuant to this Act, or any permit issued under this Act. Before issuing such an order, the Secretary shall provide such person written notice and the opportunity to request a hearing on the record within 30 days. Each violation shall be a separate offense, even if such violations occurred at the same time.

(2) The amount of such civil penalty shall be determined by the Secretary taking into account appropriate factors, including (A) the seriousness of the violation; (B) the economic benefit (if any) resulting from the violation; (C) any history of such violations; and (D) such other matters as the Secretary deems appropriate. The maximum fine permissible under this section is $10,000.

(b) JUDICIAL REVIEW.—Any person aggrieved by an assessment of a civil penalty under this section may file a petition for judicial review of such assessment with the United States District Court for the District of Columbia or for the district in which the violation occurred. Such a petition shall be filed within the 30-day period beginning on the date the order assessing the civil penalty was issued.

(c) COLLECTION.—If any person fails to pay an assessment of a civil penalty—

(1) within 30 days after the order was issued under subsection (a), or

(2) if the order is appealed within such 30-day period, within 10 days after the court has entered a final judgment in favor of the Secretary under subsection (b),

the Secretary shall notify the Attorney General and the Attorney General shall bring a civil action in an appropriate United States district court to recover the amount of penalty assessed (plus costs, attorneys' fees, and interest at currently prevailing rates from the date the order was issued or the date of such final judgment, as the case may be). In such an action, the validity, amount, and appropriateness of such penalty shall not be subject to review.

(d) SUBPOENAS.—The Secretary may issue subpoenas in connection with proceedings under this subsection compelling the attendance and testimony of witnesses and subpoenas duces tecum, and may request the Attorney General to bring an action to enforce any subpoena under this section. The district courts shall have jurisdiction to enforce such subpoenas and impose sanctions.

SEC. 9. MISCELLANEOUS PROVISIONS.

(a) AUTHORIZATION.—There are authorized to be appropriated $100,000 to carry out the purposes of this Act.

(b) EFFECT ON LAND MANAGEMENT PLANS.—Nothing in this act shall require the amendment or revision of any land management plan, the preparation of which began prior to the enactment of this Act.

(c) FUND.—Any money collected by the United States as permit fees for collection and removal of cave resources; received by the United States as a result of the forfeiture of a bond or other security by a permittee who does not comply with the requirements of such permit issued under section 7; or collected by the United States by way of civil penalties or criminal fines for violations of this Act shall be placed in a special fund in the Treasury. Such moneys shall be available for obligation or expenditure (to the extent provided for in advance in appropriation Acts) as determined by the Secretary for the improved management, benefit, repair, or restoration of significant caves located on Federal lands.

(d) Nothing in this act shall be deemed to affect the full operation of the mining and mineral leasing laws of the United States, or otherwise affect valid existing rights.

SEC. 10. SAVINGS PROVISIONS.

(a) WATER.—Nothing in this Act shall be construed as authorizing the appropriation of water by any Federal, State, or local agency, Indian tribe, or any other entity or individual. Nor shall any provision of this Act—

(1) affect the rights or jurisdiction of the United States, the States, Indian tribes, or other entities over water of any river or stream or over any groundwater resource;

(2) alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made by the States; or

(3) alter or establish the respective rights of States, the United States, Indian tribes, or any person with respect to any water or water-related right.

(b) FISH AND WILDLIFE.—Nothing in this Act shall be construed as affecting the jurisdiction or responsibilities of the States with respect to fish and wildlife.

THE ARCHEOLOGICAL RESOURCES PROTECTION ACT OF 1979

as amended (PL 96-95)

—described in NPS-28, Cultural Resources Management, 1985, Appendix B, Page 6.

The Archeological Resources Protection Act of 1979 (Public Law 96-95; 93 Stat. 712, 16 USC 470): provided for the protection of archeological resources located on public lands and Indian lands; defined archeological resources to be any material remains of past human life or activities that are of archeological interest and are at least 100 years old; encouraged cooperation between groups and individuals in possession of archeological resources from public or Indian lands with special permit and disposition rules for the protection of archeological resources on Indian lands in light of the American Indian Religious Freedom Act; provided that information regarding the nature and location of archeological resources may remain confidential; and established civil and criminal penalties, including forfeiture of vehicles and equipment used, fines of up to $100,000, and imprisonment of up to five years for second violations for the unauthorized appropriation, alteration, exchange, or other handling of archeological resources, with rewards for furnishing information about such unauthorized acts.

Archeological resources covered by the Antiquities Act of 1906 are covered by this act. A valid permit issued under the Antiquities Act before the date of this act remains in effect according to its terms and conditions; therefore, no new permit is required. A permit issued under this act takes the place of a permit under the Antiquities Act. Nothing in this act shall apply to any person who was in lawful possession of an archeological resource prior to the date of this act.

Issuance of a permit in accordance with this act does not require compliance with Section 106 of the National Historic Preservation Act of 1966.

The American Indian Religious Freedom Act, August 11, 1978 (Public Law 95-341): provided that it is "the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including, but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional rites."

In addition, the act called for a twelve-month evaluation of procedures, programmatic objectives, and policies by all Federal agencies as they affect the religious rights and the cultural integrity of Native Americans. This report was submitted to the Congress in 1979. Special Directive 78-1 is the current policy on NPS-Native American relationships (Appendix B).

THE NATIONAL HISTORIC PRESERVATION ACT OF 1966

(Public Law 89-665, 80 STAT. 915: 16 U.S.C. 470)

This Act sets forth the basic concern of the nation for the preservation of its heritage. It provides for a National Register of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, and culture and makes provision for matching funds to the states to help acquire and/or preserve these resources. It also provides matching funds to the states to conduct cultural resource surveys for nomination of eligible properties to the National Register.

Under this law, if a site is in or eligible for the National Register, this fact must be taken into consideration when any project utilizing federal funds or under federal permit might affect it. The sheer number of archeological sites and the fact that no survey can locate all significant sites (e.g. thick ground cover, buried sites) means that in no case can the National Register be viewed as the sole source for information about the presence of potentially significant sites and this fact must be taken into consideration before or during land alteration or for the purpose of an adequate environmental impact statement.

Section 106 of this Act requires that the President's Advisory Council on Historic Preservation be afforded an opportunity to comment on any undertaking which affects properties listed on the National Register or eligible for listing on the National Register.

IDAHO CODE 18-7035

18-7035. Damaging caves or caverns unlawful — Penalty. — It shall be unlawful for any person, without prior permission of the federal, state or private landowner, to willfully or knowingly break, break off, crack, carve upon, write or otherwise mark upon, or in any manner destroy, multilate [mutilate], injure, deface, remove, displace, mar or harm any natural material found in any cave or cavern, such as stalactites, stalagmites, helictites, anthodites, gypsum flowers or needles, flowstone, draperies, columns, tufa dams, clay or mud formations or concretions, or other similar crystalline mineral formations or otherwise; to kill, harm or in any manner or degree disturb any plant or animal life found therein; to otherwise disturb or alter the natural conditions of such cave or cavern through the disposal therein of any solid or liquid materials such as refuse, food, containers or fuel of any nature, whether or not malice is intended; to disturb, excavate, remove, displace, mar or harm any archaeological artifacts found within a cave or cavern including petroglyphs, projectile points, human remains, rock or wood carvings or otherwise, pottery, basketry or any handwoven articles of any nature, or any pieces, fragments or parts of any such articles; or to break, force, tamper with, remove of [or] otherwise disturb a lock, gate, door, or other structure or obstruction designed to prevent entrance to a cave or cavern, without the permission of the owner thereof, whether or not entrance is gained. For purposes of this section, "cave" means any natural geologically formed void or cavity beneath the surface of the earth, not including any mine, tunnel, aqueduct or other manmade excavation, which is large enough to permit a person to enter. Any person violating the provisions of this section shall be guilty of a misdemeanor. [I.C., § 18-7035, as added by 1982, ch. 283, § 1, p. 717.]

Compiler's notes. The bracketed words "mutilate" and "or" in the first sentence were inserted by the compiler.

CRATERS OF THE MOON COMPENDIUM OF SUPERINTENDENTS ORDERS

Code of Federal Regulations Title 36

Compendium of Closures, Restrictions, and Other Designations imposed under the discretionary authority of the Superintendent of Craters of the Moon National Monument.

In accordance with regulations and delegated authority provided in Title 36, Code of Federal Regulations, Chapter 1, Section 1.5, authorized by Title 16, U.S. Code, Section 3, the following regulatory provisions are established for the proper use, management, government, and protection of Craters of the Moon National Monument.

Unless otherwise stated, these regulatory provisions apply in addition to the general provisions of 36 CFR, Chapter 1.

(Signed) Robert E. Scott, Superintendent

Dated: December 17, 1990

SUPERINTENDENTS ORDERS RELATING TO CAVING ACTIVITY:

(The acronym "CRMO" in this document means "Craters of the Moon National Monument.")

Section 1.5 Closures and public use limits.

(a) (1) In accordance with the provisions in this section, the following prohibitions are necessary for the protection of park resources and for the public safety:

1. *"CRMO land north of Highway 93 is closed to all public use except person(s) possessing a valid day-use permit issued by the RMVP office."*
5. *"Off-trail travel is prohibited in the Spatter Cones/Big Craters area and in the North Crater Flow area."*
6. *"Entry into Arco Tunnel is prohibited unless authorized by permit issued from the RMVP office."*

Section 1.6 Permits

(c) The following is a compilation of activities requiring special permits listed in accordance with 36 CFR 1.7:

1. *"Public use of CRMO land north of Highway 93."*.....*Section 1.5*
2. *"Backcountry Use Permit (for overnight camping outside of Lava Flow Campground."*.....*Section 2.10*
3. *"Collecting of research specimens."*.....*Section 2.5*

Section 2.2 Wildlife Protection

(e) Use of artificial light for the viewing of wildlife is prohibited.

Section 2.10 Camping and Food Storage

(a) Public camping is permitted in the following areas in accordance with posted regulations and terms of permit:

4. *"Caves area (Winter season only)."*

Section 2.13 Fires

(a) (1) Fires are permitted only in the following locations:

1. *"Lava Flow Campground fire grills - charcoal only."*
2. *"Amphitheater fire ring during interpretive programs."*
3. *"Group campground fire ring."*
4. *"Wood stoves in government buildings."*

Appendix B

NATIONAL PARK SERVICE CAVE CLASSIFICATION SYSTEM

Management Classes.....B.3

Resource Classes.....B.5

Hazard Classes.....B.6

NATIONAL PARK SERVICE CAVE CLASSIFICATION SYSTEM

As shown in "Natural Resources Management Guidelines, NPS-77."

This cave classification system consists of a three-element code rating made up of (1) a numeral indicating type of management, (2) a letter indicating resources contained in the cave, and (3) a Roman numeral indicating its hazard rating. A cave coded "2-D-II" describes an undeveloped cave that could be visited with an NPS trip leader (Management Class 2), contains speleothems of unusual quality (Resource Class D), and has moderate hazards with primarily horizontal passages (Hazard Class II). (Details of the individual code elements are explained below.)

No cave will fit exactly into one individual category within this or any other classification system, but past experience in using this system in several federally administered cave and karst areas has proven its effectiveness. For example, a Class III cave need not necessarily have a vertical drop up to 15 meters, as long as the other general characteristics are descriptive of the cave. It will be necessary, particularly with large or extensive caves, to assign different classification ratings that may vary seasonally in order to minimize interference with, or safety hazards resulting from, natural processes and populations.

A cave's rating may be changed as a result of findings from additional explorations or by the alteration or removal of a hazard or resource responsible for the initial rating.

A cave's rating should reflect not only what the caver encounters within the cave but also what is encountered in reaching the cave. This should be explained as part of the description of the cave (see Exhibit 2, item II A.8).

I. Management Classes

A. Class 1 Caves

Class 1 caves are developed caves. These include two types: (1) highly developed caves and (2) minimally developed caves.

Highly developed caves are managed to provide a visitor maximum comfort and convenience (e.g., hard-surfaced trails, handrails, electric lights, sanitation facilities, concession services, and elevators) and a variety of interpretive media (e.g., electronic self-guided tours, interpretive signs, and ranger talks). The highly developed cave provides an opportunity for most visitors to tour the cave without special clothing, equipment, knowledge, or skills. It fulfills the desires of most visitors and permits large numbers of people to tour the cave daily.

Minimally developed caves are managed to provide relatively easy access with minimal modification of cave resources. Development normally consists of a designated trail following an easy-to-walk route. This fulfills the needs of those that wish for a more natural cave experience without requiring special skills or equipment.

B. Class 2 Caves

Class 2 caves are undeveloped caves that may be visited only when scheduled in advance and when the visitor is accompanied by a designated NPS trip leader. Scheduling of trips into Class 2 caves is subject to the availability of a qualified trip leader. Class 2 caves contain sensitive natural and/or cultural resources, often of unusual quality. Trip leaders are responsible for interpreting the cave and for ensuring that each group takes all feasible precautions to leave the cave unimpaired for future visitors.

Although access in some caves may be relatively easy, it may be quite difficult in others, requiring crawling and/or extensive vertical work. Participants should be required to furnish their own equipment. These trips are for people that desire a wild caving experience and may require specialized skills.

C. Class 3 Caves

Class 3 caves are undeveloped caves that may be visited by permit without an NPS escort. The resources within these caves are less easily impacted than in Class 2 caves and they can be enjoyed without incurring significant alteration if groups are conscientious and conservation minded. Class 3 caves vary from those that are easily accessible to very difficult caves that require crawling and/or extensive vertical work. Permittees are responsible for providing their own equipment. Evidence of incompetence, previous cave abuse, or disregard for park regulations constitutes grounds for denying a permit.

D. Class 4 Caves

Class 4 caves are closed to general use pending further evaluation for designation in another management category. Caves are designated Class 4 because they are newly discovered and require further exploration and/or inventory to evaluate how they should be managed; they have been explored and known for years but have not been sufficiently inventoried; or they are potential Class 2 or 3 caves that have been well-explored and inventoried, but are being withheld from reclassification pending the results of resource impact studies on caves currently being managed as Class 2 or 3. Class 4 caves that have been explored and inventoried and are pending reclassification as Class 2 or 3 caves may be opened to small, guided groups. Such trips should be authorized only for groups with a bona fide instructional need or for NPS personnel involved in cave interpretation. Otherwise, Class 4 cave entry is approved only for minimum administrative purposes and research.

E. Class 5 Caves

Class 5 caves are closed to general use because they contain paleontological, archeological, historic, ethnographic, or other resources of special scientific value that would be easily altered, even by careful use of the cave. Approved research use only is allowed. Though only certain caves are

reserved for research, this does not exclude research from other park caves. Designation of certain caves as research caves does not exclude administrative entry to monitor research activity and impacts upon these caves.

F. Class 6 Caves

Class 6 caves are closed to all use except the minimum required for administrative entry. These caves are closed because they have extremely hazardous passages, even for the most skilled caver; are difficult to enter without causing irreparable damage to extremely fragile resources; or contain an endangered species that could be threatened by visitor use.

II. Resource Classes

A. Class A Caves

Class A caves contain few or no features of scenic or scientific value. If such resources are present within the cave, they are of the type that cannot, without great effort, be destroyed or removed. Basically, these are caves in which frequent visitation by cavers will involve an acceptable level of degradation.

B. Class B Caves

Class B caves contain speleothem or other resources of scientific value that, because of their size or their location within the cave, are not easily subject to vandalism, disruption, or destruction by visitor use.

C. Class C Caves

Class C caves contain speleothems that are either of such size or so positioned within the cave that they are unusually susceptible to breakage and/or vandalism. Other resources of scientific value that could be seriously disturbed or destroyed by visitor use may also be found in Class C caves.

D. Class D Caves

Class D caves contain speleothems that are of unusual quality and/or are extremely delicate and susceptible to breakage, or resources of scientific value that could be seriously disturbed or destroyed by cavers. Examples of Class D speleothems include selenite needles, gypsum flowers or hair, epsomite or mirabolite formations or crystals, and helictites.

E. Class E Caves

Class E caves contain resources of scientific value that could and/or would be seriously disturbed by frequent visits, or by visits of cavers unfamiliar with the cave's unique resources (e.g., biological

species that have a sensitive habitat or are otherwise threatened). Scientific resources may be either archeological, ethnographic, biological, or paleontological in nature, or they may be rare speleothems.

III. Hazard Classes

A. Class I Caves

Class I caves offer the least hazard to the caver. Experience indicates that exploration should generally be conducted by no less than three cavers, who observe caving safety rules and use the following basic equipment: hard hats, three light sources per person, boots with nonskid soles, and protective clothing.

The following are general characteristics of Class I caves:

1. single, well-defined main passageway with no lateral passages;
2. no passageways less than 60 centimeters (24 inches) in diameter;
3. no step-type drops over one meter (three feet);
4. no known loose ceiling rocks; and
5. few loose rocks on the floor.

B. Class II Caves

Class II caves contain moderate hazards and are mostly horizontal in structure. Experience indicates that exploration should be conducted by no less than three cavers, one of whom is experienced, who observe caving safety rules and use the following basic equipment: hard hats, three light sources per person, boots with nonskid soles, and protective clothing.

The following are general characteristics of Class II caves:

1. well-defined main passageways with only dead-end lateral passages;
2. crawlways less than 60 centimeters (24 inches);
3. no step-type drops over three meters (10 feet);
4. no known loose ceiling rocks; and
5. loose floor material.

C. Class III Caves

Class III caves contain structural hazards not found in Class I and II caves. Experience indicates that exploration should be conducted by no less than three cavers, two of whom have moderate caving experience(including vertical descent and climbing), who observe caving safety and vertical safety rules, and use the following basic equipment: hard hats, three light sources per person, boots with nonskid soles, vertical descent and climbing gear, and protective clothing with no loose or protruding attachments that might become entangled while doing vertical work. Each caver should have a complete set of climbing equipment. (Note: Vertical equipment may not be needed in some Class III caves.)

The following are general characteristics of Class III caves:

1. multiple passageways with straight connecting passages;
2. vertical drops up to 15 meters (50 feet); and
3. loose rocks on ceilings over two meters in height and no known loose rocks on passages less than two meters (six feet) high.

D. Class IV Caves

Class IV caves are the most hazardous from a structural standpoint. Experience indicates that exploration should be conducted by no less than three cavers, all of whom have considerable caving experience (including vertical descent and climbing), who observe caving safety and vertical safety rules, and use the following basic equipment: hard hats, three light sources per person, protective clothing with no loose or protruding attachments that might become entangled while doing vertical work, and vertical descent and climbing gear. Each caver should have a complete set of climbing equipment.

The following are general characteristics of Class IV caves:

1. maze-type passageways;
2. vertical drops over 15 meters (50 feet); and
3. loose ceiling rocks on crawlways under two meters (six feet) high.

E. Class V Caves

Class V caves are extremely hazardous due to characteristics such as airborne diseases, dangerous gases, flooding, or unstable rock. Class V caves should only be entered by qualified cavers with special equipment, and only if the need for information is proportionate to the risk involved. Extra safety precautions should be taken, and special communications and rescue capabilities should be available.

Appendix C

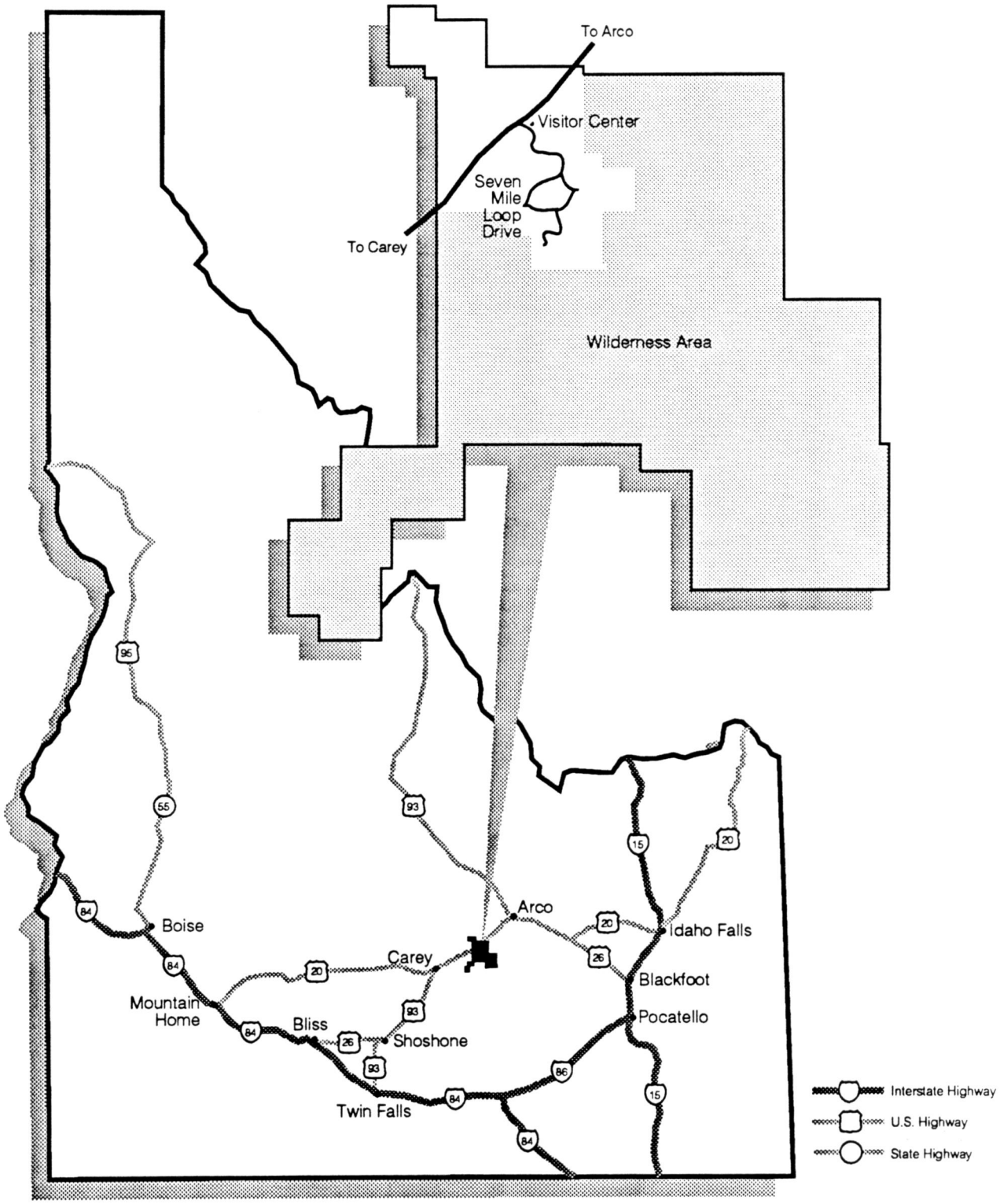
MAPS AND CAVE-RELATED PUBLICATIONS

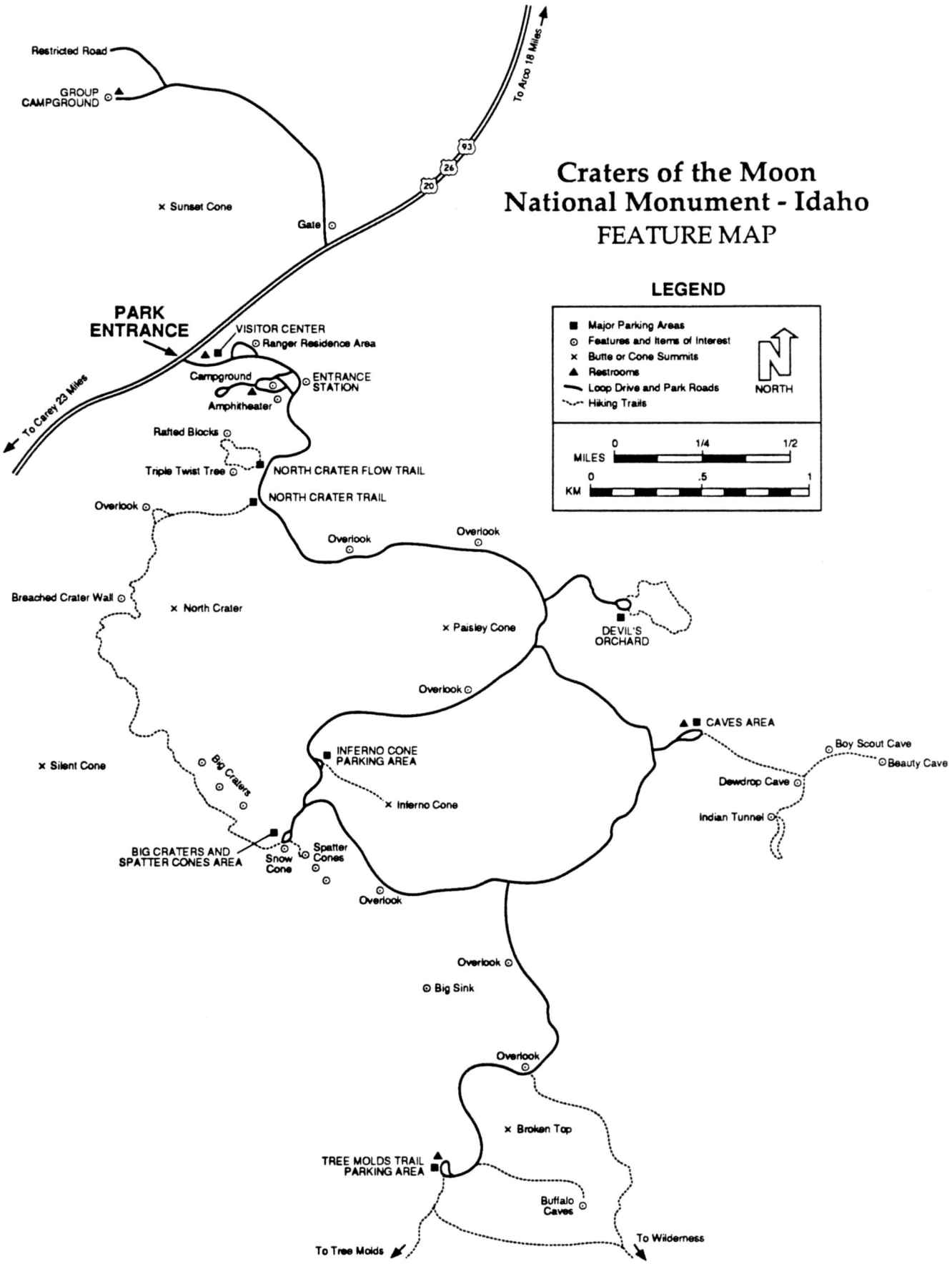
Craters of the Moon Boundaries Map C.3

Craters of the Moon Features Map C.5

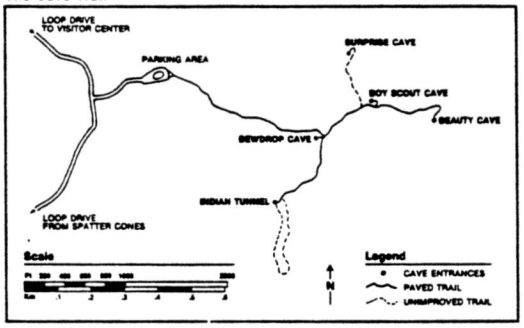
Craters of the Moon Cave Trail Visitor's Guide C.7

CRATERS OF THE MOON BOUNDARIES MAP




Craters of the Moon
National Monument - Idaho
FEATURE MAP
LEGEND
Major Parking Areas
Features and Items of Interest
Butte or Cone Summits
Restrooms
Loop Drive and Park Roads
Hiking Trails
NORTH
MILES 0 1/4 1/2
KM 0 .5 1
Restricted Road
GROUP CAMPGROUND
To Arco 18 Miles
93
26
20
Sunset Cone
Gate
PARK ENTRANCE
VISITOR CENTER
Ranger Residence Area
Campground
ENTRANCE STATION
Amphitheater
To Carey 23 Miles
Rafted Blocks
Triple Twist Tree
NORTH CRATER FLOW TRAIL
NORTH CRATER TRAIL
Overlook
Overlook
Overlook
Breached Crater Wall
North Crater
Paisley Cone
DEVIL'S ORCHARD
Overlook
CAVES AREA
Boy Scout Cave
Beauty Cave
Dewdrop Cave
Indian Tunnel
Silent Cone
Big Craters
INFERNO CONE PARKING AREA
Inferno Cone
BIG CRATERS AND SPATTER CONES AREA
Snow Cone
Spatter Cones
Overlook
Overlook
Big Sink
Overlook
Broken Top
TREE MOLDS TRAIL PARKING AREA
Buffalo Caves
To Tree Molds
To Wilderness

The Cave Trail



Access and Cave Descriptions

In order to preserve the natural features of the lava tubes, very little development has been done to improve access. The following list describes what to expect when exploring caves and should help you determine which ones to visit.

INDIAN TUNNEL
Easiest access of any cave. A stairway is provided at the cave entrance. Collapses in the ceiling allow sunlight to enter so a flashlight is not necessary. This is the largest lava tube, over 30 feet high and 50 feet wide. It is over 800 feet in length and, if you are willing to crawl through a small opening, you can exit this cave at the far end. Following a set of rock markers will lead you back to the main entrance.

DEWDROP CAVE
This is a very small cave that is plugged on both ends. Most of the cave can be viewed from the trail.

BOY SCOUT CAVE
A very low ceiling at the entrance makes crawling over loose rocks a necessity. No natural light enters this cave. The floor of the cave is a pool of ice that is often covered with a layer of water. Use caution to avoid slipping.

BEAUTY CAVE
A large opening provides entrance over loose rock to the floor of the cave. This is a very dark cave about 300 feet long. The height of the ceiling varies within the cave, so watch your head. The floor is smooth pahoehoe lava, but you must watch for cracks and rock debris.

SURPRISE CAVE
Entrance into this cave is difficult and involves crawling over loose rock to gain access into a room approximately 50 by 100 feet in size. A flashlight is required.

Craters of the Moon
NATIONAL MONUMENT - IDAHO

Cave Trail Visitor's Guide



Lava Tube Features

Curbing—Ridges on the wall of the lava tubes indicate places where the draining river of lava temporarily held at a constant level. Small deposits of lava from the cooling surface of the flow built up on the walls at each level.

Stalactites—When the lava river pulls away from the roof of the tube, molten material begins to drip from the hot ceiling. These drips cool and harden, forming numerous, small, lava stalactites.

Mineral Deposits—On the ceilings of many of the lava tubes are various mineral deposits. Most of these minerals are sulfate compounds that were deposited by either volcanic gases or percolating water. In the later process, the mineral deposits remain when water reaches the ceiling of the tube and then evaporates.

Wildlife—Except for the lava tube beetle, the bushy-tailed woodrat (packrat), and a few migrating bats, wildlife generally avoids the dark caves. Only in Indian Tunnel is there an abundance of wildlife. Here violet-green swallows, great horned owls, and ravens utilize the cracks and shelves of the cave walls for nesting sites.

Plants—With no sunlight, most plants cannot survive. Only Indian Tunnel provides a suitable habitat where the growth of mosses and lichens cover its walls in places. In older tubes, soil builds on the cave floor beneath collapsed areas and other plants may eventually move in.

Ice Formations—During the spring months, daytime temperatures rise and melts the snow. The meltwater then seeps through the porous roof of the lava tube. At night, the temperature drops and dripping water freezes into ice stalactites on the ceiling and walls or forms stalagmites on the floor of the cave. These formations will remain until the summer heat finally destroys them.

Safety

These caves are preserved in their natural state, therefore potential hazards exist that require certain safety precautions:

—Take at least one dependable source of light. Three are recommended for extended explorations. There is no artificial lighting in any of the caves. Only Indian Tunnel may be visited without a flashlight.

—Wear sturdy shoes or boots and long pants. Move slowly and watch for ice and sharp rock on the cave floors.

—Wearing a hardhat or a helmet is recommended for protection against the sharp stalactites and low ceilings. If you do not have a hardhat, any type of hat will offer at least limited protection.

—It is best not to enter the caves alone. Help can be a long time in coming so it is best to use the "buddy system."

—For extended visits, water should be carried.



Formation of a Lava Tube

Pahoehoe lava—it rises through the earth's crust as magma to emerge on the surface as a glowing mass of molten rock. Since pahoehoe lava is the hottest and most fluid type of lava, large flows may cover many square miles of terrain. Much of this lava is distributed through a series of large and small lava tubes that develop within each pahoehoe flow.

When a pahoehoe lava flow is exposed to the air, it's surface immediately begins to cool and harden. A crust develops. At first, the crust is very thin and is easily ripped open by the small explosions produced as gas rises out of the lava. If the lava tumbles over a cliff or is pushed into an obstacle, the crust is torn apart and folded into the fiery interior.

As the flow moves away from the source, it continues to cool. Eventually a thick crust will cover the entire surface. The crust forms an insulating barrier between the cool air and the still molten material in the interior of the flow, creating a rigid roof over the stream of lava. While the movement of this roof begins to slow, the molten core moves forward at a steady pace.

As the flow of lava from the source vent is depleted, the level of lava within the molten core gradually begins to drop. The flow then pulls away from the hardening roof and slowly drains away. The roof and last remnants of the lava river cool and harden, leaving a tube.

Destiny of the Caves

As soon as it begins to cool, the roof of a lava tube begins to shrink. This shrinking causes numerous cracks that weaken the roof. The thinner the roof, the more likely it will collapse. A roof that collapses when it is still hot and in a semi-plastic state will just sag and create a bowl-like depression, while a roof that has completely cooled and hardened will fracture and fall, creating a pile of broken rubble on the floor of the lava tube.

If collapse does not occur shortly after cooling, then the same forces of nature that erode all of the earth's surface will begin weakening the roof. Water seeps into cracks in the winter and repeatedly freezes and thaws. This activity will gradually widen and erode the cracks. The movement of water through the roof may also dissolve some of the rock and make the cracks larger. Or finally, the roots of plants growing on the surface may penetrate small crevices until, under unceasing pressure, the cracks expand. Whatever the reason, once these cracks have widened sufficiently, gravity will pull the roof down.

The caves that have remained intact are today considered relatively weak geological features, destined to crumble with time. There have been few large collapses in recent times, however, because most of the weaker sections of the roof fell soon after formation. Now, more than 2,000 years later, the process of collapse proceeds at a much slower pace.

FEDERAL CAVE RESOURCES PROTECTION ACT OF 1988
Caves located within Craters of the Moon National Monument are protected by the Federal Cave Resources Protection Act of 1988. It is a violation of Federal law to willfully destroy, disrupt, deface, mar, alter, remove or harm a protected cave or its contents.

Published by Craters of the Moon Natural History Association, Inc. in cooperation with the Gem State Grotto of the National Speleological Society and the Rennie-Clark Memorial Fund. Special thanks to the Park Publications division of Business Design Center and the Prep Department, Boise, for their contributions. Drawings courtesy Dawson & Dawson, Ltd. (2-90)

The Indian Tunnel System

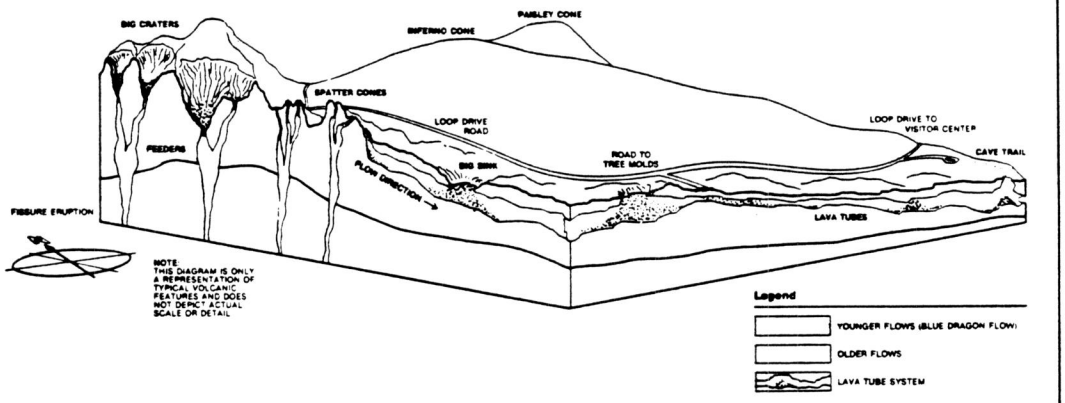
Many lava tubes make up the Indian Tunnel Lava Tube System. These tubes formed during the same eruption within a single lava flow. The source of the flow was a fissure or crack in the Big Craters/Spatter Cones area, where a tremendous amount of lava was pumped out to form an extensive field of pahoehoe lava, known as the Blue Dragon flow.

Lava tubes formed early to distribute this large volume of pahoehoe lava, but the rate of flow was so great the tubes could not contain the entire flow. Lava was forced through the roof of the tube system and onto the top of the flow where it formed huge ponds. The surface of these ponds cooled and began to harden.

Eventually, the flow of lava inside the tubes subsided and lava beneath the hardened surface of the ponds drained back into the supply tubes. With no lava to support the crust of the ponds, they collapsed. The largest of these collapses is Big Sinks. Other collapsed ponds are located to the east and west of Big Sinks.

From the sinks area, the flow advanced onto the lava plains to the southwest. Lava tubes more than 30 feet high were formed in the thicker sections of the Blue Dragon flow, while many smaller tubes branched off to distribute lava to an ever widening flow front. When the eruption subsided, the lava drained from the tubes to the front of the flow, adding a new layer to the lava fields beyond.

The Blue Dragon flow coveres an area of more than 100 square miles. Hidden beneath its surface, are miles of lava tubes, but collapsed roof sections provide entry to only a very small part of the entire tube system. The total extent of the entire lava tube system will only become known in time, as more of the roof weakens and falls.



Appendix D

FORMS

Cave Coding Worksheet (old Jexploration form) D.3

Cave Visitor Permit D.5

Cave Resource Access Request (draft) D.7

Cave Resource Report (draft) D.9

CRATERS OF THE MOON NATIONAL MONUMENT, IDAHO

CAVE CODING WORKSHEET

JEXPLORATION

CAVE NUMBER (1) INV. NPS-ID-130340- ___	CAVE NAME (2)	Other Names
LEGAL LOCATION (5) ___ ¼ ___ ¼ ___ Quarter • Section ___ Township ___ Range ___	MAP PLOT (4) ○Yes ○No	ENTRANCE ELEVATION (7) ○Estimate ○Altimeter
LOCATION DETERMINATION ○Estimate ○Compass ○Transit		
DESCRIPTIVE LOCATION		

#	CODES	DESCRIPTION	SOURCE
6		GEOLOGIC FORMATION As all caves in the monument start and end in basalt lava flows, identify type of lava found in.	
8		TYPE OF CAVE I-Primary Lava Tube (main channel, multi-level, large diameter) E-Secondary Lava Tube (branches, multi-level, flat floor & rounded roof, smaller) A-Tertiary Lava Tube (surface tubes, hornitos, single level, small circular passage) S-Rift and Associated Flow Features (cone vents, shafts, pressure ridges, non-tubes) F-Fissure P-Pit Only R-Rock Shelter	
9		NUMBER OF LEVELS Indicate number of visible levels (may join main room)	
10	BA (Basalt)	DOMINANT ROCK TYPE BA is the only rock type found in Craters of the Moon unless cave located in certain portions of the Pioneer Mountains.	
11		TYPE OF ENTRANCE L-Large Horizontal (10'x10' or larger) V-Large Vertical (10'x10' or larger) H-Small Horizontal S-Small Vertical	
12		NUMBER OF ENTRANCES Indicate number of locations entry can be made into main cave.	
13		LENGTH OF ALL KNOWN PASSAGES A-Approximately M-Measured (insert code in front of feet)	
14		PATTERN OF CAVE S-Single Passage / Room Only R-Rectinlinear (Straight Line) P-Pit Only, No Rooms or Passages D-Dendritic or Bifurcating (Branches or Forks) V-Vertical (vent) with associated horizontal chamber(s)	
15		TREND OF CAVE ENTRANCE Indicate bearing, correct for declination (1983 = 16½°). Example, compass reading of 120° from north would be "S 60 E" minus 16½° equals "S 76° 30' E."	
16		VERTICAL RELIEF OF CAVE A-Approximate M-Measured (insert code in front of longest ceiling-to-floor height)	
17		WATER ELEMENT P-Pool present, less than 100 square feet of surface and less than 6 feet deep. O-Pool present, less than 100 square feet of surface and more than 6 feet deep. A-Arid, no water. D-Dripping water. M-Moist earth.	
18		HAZARDS PRESENT C-Confusing Passageways V-Vertical Drops L-Loose Rocks, cave-in hazard W-Stationary Water N-None	
19		SPECIALIZED SKILLS REQUIRED R-Rappel, ropework, descending, ascending, cable ladder ability, etc. N-None	
20		CAVE CONTENTS A-Archaeological (artifacts) M-Paleontological (fossils) B-Biological (organisms) S-Speleothems G-Geological (structural, hydrological, genetic) N-None (no significant contents)	
21		TYPE OF PROTECTION NEEDED G-Gate H-Sign concerning hazards N-None F-Fence S-Sign concerning protection	
22		TYPE OF PROTECTION PROVIDED G-Gate H-Sign concerning hazards N-None F-Fence S-Sign concerning protection	
24	CONTENT - HAZARD -	DUAL CLASSIFICATION CODING See reverse for codes	
3	SLIDE EXPOSURE NUMBERS		

PREPARED BY	DATE	COMMENTS

HAZARD RATINGS

CLASS 'I' CAVES

Offers least hazard to cavers. Exploration should be conducted by no less than three cavers using Caving Gear.

General Characteristics:

1. Single well-defined passageways with no lateral passages.
2. No passageways less than 3 feet in diameter.
3. No step-type drops over 3 feet.
4. Stable ceiling rocks.
5. Stable floor material.

CLASS 'II' CAVES

Contain moderate hazards and are mostly horizontal in structure. Exploration should be conducted by no less than three cavers, at least one of which is experienced, all using Caving Gear.

General Characteristics:

1. Well-defined main passageways, with only dead-end lateral passages.
2. Crawlways no less than 2 feet high.
3. No step-type drops over 10 feet.
4. Stable ceiling rocks.
5. Stable floor material.

CLASS 'III' CAVES

Contain structural hazards not found in class I or II. Exploration should be conducted by no less than three cavers, at least two of which are experienced in caving and vertical techniques. Caving Gear should be used by all members of the party; and in the case of vertical caves, all members should be equipped with Vertical Gear.

General Characteristics:

1. Multiple passageways with straight connecting passages.
2. Crawlways less than 2 feet high.
3. Vertical drops up to 50 feet.
4. Unstable ceiling rocks in passages over 6 feet high.
5. Stable ceiling rocks in passages under 6 feet high.

CLASS 'IV' CAVES

Most hazardous from a structural standpoint. Exploration should be conducted by no less than four cavers, all of whom have considerable horizontal and vertical caving experience. Each member should use a complete set of Caving and Vertical Gear.

General Characteristics:

1. Maze-like passageways.
2. Crawlways less than 2 feet high with unstable ceiling or floor material.
3. Vertical drops over 50 feet.
4. Unstable ceiling rocks in passages under 6 feet high.

DEFINITIONS

Caving Gear is defined as Artificial Lights, such as lanterns, flashlights, headlamps, carbide lamps and emergency fuel and materials for their continued operation. Head Protection such as laceration caps, climbing or caving helmets, or construction-type hard hats. Limb Protection such as gloves, boots with non-skid soles, elbow or shin guards, and coveralls.

Vertical Gear is defined as Ropes such as any UIAA approved hard-lay stranded or sheathed kernmantle climbing ropes of appropriate diameter for the type of rappel used (9mm for double-rope and 11mm for single rope). Cable Ladders of proper length for descent. Seat and Chest Harnesses for descents using hardware such as brake bars, break bar racks, overlapped carabiners, or other rappel devices; or appropriately padded clothing for "hot-seat" rappels. Ascending devices such as Jumar or Gibbs ascenders, and backup or primary prusik slings. Climbing Helmet of the type capable of withstanding fallen rock impact. Gloves able to prevent rope burns. Boots with non-skid soles. Other Climbing Hardware such as carabiners, slings, rescue pulleys, belay plates, etc.

CONTENT RATINGS

CLASS 'A' CAVES

General Characteristics:

1. Contain few or no items of scenic value.
2. Contain few or no items of scientific value.
3. Contain items which cannot, without great effort, be destroyed or removed from the cave.
4. Could not be damaged by frequent visitation by any and all types of cavers.

CLASS 'B' CAVES

General Characteristics:

1. Contain secondary deposit-type formations of scenic value, such as stalactites, stalagmites, draperies, etc.
2. Contain items of scientific value such as artifacts, organisms, fossils, etc.
3. Contain items positioned or of a size that would prevent damage or removal.
4. Contain items that could not be seriously damaged or disturbed by experienced cavers.

CLASS 'C' CAVES

General Characteristics:

1. Contain secondary deposit-type formations of scenic value, such as stalactites, stalagmites, draperies, etc.
2. Contain items of scientific value such as artifacts, organisms, fossils, etc.
3. Contain items positioned or of a size that could be easily damaged or removed.
4. Contain items that could be seriously damaged or disturbed by experienced cavers.

CLASS 'D' CAVES

General Characteristics:

1. Contain primary high quality formations of scenic value that are very delicate or of unusual quality.
2. Contain significant scientific items.
3. Contain items that could be inadvertently destroyed, even by very careful trained cavers.

CLASS 'E' CAVES

General Characteristics:

1. Contain primary high quality formations of scenic value considered rare or extremely fragile.
2. Contain fragile scientific items which cannot tolerate disturbance such as rare organisms, items under study, etc.
3. Contain items that cannot tolerate frequent visits by any cavers regardless of training or experience.

CRATERS OF THE MOON NATIONAL MONUMENT

Cave Visitor Permit

ARCO TUNNEL

GROUP LEADER _____ PHONE _____

ADDRESS _____

VEHICLE _____

LICENSE PLATE _____ STATE _____

EMERGENCY CONTACT:

NAME _____ RELATIONSHIP _____

ADDRESS _____ PHONE _____

Total number in group:
(Minimum - 3)

Previous experience:

Expected return time:

CAVE CHECKOUT

Time/Date_____
Key Returned:_____
Initials_____

Standard caving practice requires each person to have a helmet, three independent sources of light, gloves, food, and water. Remove all litter from cave, including carbide. Cave formations should not be disturbed or removed; please report any bat or other wildlife sightings. Lock the cave gate while inside to prevent unauthorized entry.

It is understood that those making this trip are doing so at their own risk and that the National Park Service will not be held liable for any personal injury and/or death as a result of these activities.

	Signature	Date
Group Leader	_____	_____
Issuing Officer	_____	_____

REV 3/92

CRATERS OF THE MOON NATIONAL MONUMENT

Cave Resource Access Request

REQUEST FOR ACCESS TO CAVE RESOURCE INFORMATION

CAVE NAME OR LOCATION (if known) _____

TYPE OF SPECIFIC RESOURCE INFORMATION DESIRED _____

_____

_____

PURPOSE FOR REQUEST - i.e., research, recreational caving, surveying, etc. _____

_____

_____

NAME (print) _____ DATE _____

SIGNATURE _____

ADDRESS _____

_____

==========

FOR PARK USE ONLY

CAVE NAME/LOCATION _____

UTM COORDINATES _____

INFORMATION PROVIDED _____

_____

_____

_____

DOCUMENTS COPIED _____

_____

APPROVED BY _____ DATE _____

ORIGINAL TO FILES, COPY TO APPLICANT

DRAFT

CRATERS OF THE MOON NATIONAL MONUMENT

Cave Resource Report

INVENTORY #__ __ __

CAVE NAME - how/why named

Other Names

DATE/BY WHOM DISCOVERED

UTM/GPS COORDINATES

DESCRIPTIVE LOCATION - include entrance orientation, cairn size/location, landmarks, how located

INVENTORY TEAM MEMBERS

MAP or SKETCH ___
see attachment

RECOMMENDED USE RESTRICTIONS

WHY ?

DETAILED DESCRIPTION OF MAJOR FEATURES - code based on Speleothem, Hydrologic, Archeologic, Historic, Geologic, Faunal, or Other (describe) resource

(NOTE: Major features should be located on map/sketch)

HAZARDS - include within cave and/or in reaching cave and any additional equipment needed

(NOTE: Specific hazards should be located on map/sketch)

PHOTOGRAPHIC LOG - include whether Slide or Print film, or Both; photographer and date taken

(NOTE: Photopoints should be located on map/sketch)

PREPARED BY DATE COMMENTS

DRAFT

Appendix E

RADON MONITORING

—described in NPS-77, Natural Resources Management, 1991,
Program Guidance, 2 (b) page 139.

b. Radon monitoring

Levels of alpha radiation within some caves are sufficiently high to warrant setting limits of exposure based on the highest monthly readings recorded within the cave. The radiation is caused primarily by radon 222. Some additional radiation is generated by radon 220 (Thorium). Working levels of alpha radiation are measured from the radon daughters, and exposure records are maintained for all employees. Backcountry caves are monitored when feasible. In managing alpha radiation hazards, the park must follow the procedures specified in NPS-14, the Cave Radiation Safety and Occupational Health guideline. Alpha radiation is no threat to park visitors. The only known health effect associated with exposure to radon and radon progeny is an increased risk of developing lung cancer. Due to the potential hazard of exposure to radon and radon progeny to NPS employees, special use visitors, and contractors of the NPS, radon exposure records and monitoring must be done in accordance with NPS-14.

As required by 36 CFR 2.21(B) and NPS-14, smoking by employees and visitors in caves is prohibited, because of the synergistic health effect of smoking and exposure to radon progeny, and to preserve cave resources.

Appendix F

MASTER CAVE INVENTORY

CONFIDENTIAL

Appendix G

ENVIRONMENTAL ASSESSMENT (Categorical Exclusion)

Categorical Exclusion (CX) Checklist, NHPA Documentation, and Decision G.3

CATEGORICAL EXCLUSION (CX) CHECKLIST, NHPA DOCUMENTATION, AND DECISION

Project Description and Location:

CX number(s) (from 516 DM 2, App. 1 or 516 DM 6, App. 7):

CHECKLIST

BASED ON 516 DM 2, APP. 2, IF ANY OF THE FOLLOWING EXCEPTIONS APPLIES, THE PROJECT CANNOT BE CATEGORICALLY EXCLUDED AND AN ENVIRONMENTAL ASSESSMENT IS REQUIRED.

(yes) (no)

(__) (✓) Adversely affect Public Health and Safety.

(__) (✓) Adversely affect historic or cultural resources, wilderness, wild and scenic rivers, aquifers, prime farmlands, wetlands, floodplains, ecologically critical areas, or Natural Landmarks.

(__) (✓) Have highly controversial environmental effects.

(__) (✓) Have highly uncertain environmental effects or involve unique or unknown environmental risks.

(__) (✓) Establish a precedent resulting in significant environmental effects.

(__) (✓) Relate to other actions with individually insignificant but cumulatively significant environmental effects.

(__) (✓) Adversely affect properties listed or eligible for listing in the National Register of Historic Places.

(__) (✓) Affect a species listed or proposed to be listed as Threatened or Endangered. (if any doubt exists include initials of T&E Specialist). _____

(__) (✓) Threaten to violate any laws or requirements imposed for the protection of the environment such as Executive Order 11988 (Floodplains Management) or Executive Order 11990 (Protection of Wetlands)

THE NATIONAL HISTORIC PRESERVATION ACT

THE FOLLOWING ARE GENERAL CATEGORIES OF POTENTIAL UNDERTAKINGS THAT MAY AFFECT CULTURAL RESOURCES AND THE DOCUMENTATION REQUIRED BEFORE THEY CAN BE INITIATED. ALL 106 ACTIONS MUST BE APPROVED BY THE REGIONAL DIRECTOR.

( ) Ground disturbance. A 106 form is used to notify the Regional or Park Archeologist, who will arrange for an archeological survey or monitoring of the project area. A report of the survey findings must be attached to the approved 106 form.

( ) Stabilization, preservation maintenance, rehabilitation or restoration of structures and objects on the List of Classified Structures or more than 50 years old for which a determination of eligibility for the National Register has not been obtained. The proposed work must be documented and approved via the 106 form.

( ) Removal of structures. The removal of any structure, regardless of age, must be documented via the 106 form. A determination of the structure's eligibility for the National Register of Historic Places is required. For structures more than 50 years old, approval by the Associate Director, Cultural Resources, WASO, is required. Board of Survey procedures will not be completed without an approved 106 form on file.

( ) Stabilization, preservation maintenance, rehabilitation or restoration of cultural landscapes. A regional cultural landscape inventory is in progress; consult the Regional Historical Landscape Architect for an assessment of eligibility. The proposed work must be documented and approved via the 106 form.

( ) Ethnographic resources. An inventory of ethnographic resources is being compiled under the direction of the Regional Anthropologist. Actions affecting ethnographic resources must be documented and approved via the 106 form.

OTHER REQUIREMENTS:

(___yes) (_✓_no)	Does the project have potential to affect any American Indian uses? If so, consultation is needed. The Regional Anthropologist should be consulted if this is an issue.
(___yes) (_✓_no)	Are any toxic chemicals, including pesticides or treated wood, proposed for use? If so, PNRO Safety Officer should be contacted.

I have reviewed the proposal in accordance with the above nine criteria and have determined that the proposal would not involve any significant environmental effects. Therefore it is categorically excluded from further environmental (NEPA) review. I have also completed the necessary coordination to insure compliance with the National Historic Preservation Act and other requirements.

Vicki J. Taylor-Nuck 1/2/93

Preparer Date

Specialist for Natural Resource Compliance Date

Specialist for Cultural Resource Compliance Date

(X) I concur and it is my decision to approve the project.
( ) I do not concur because . . . .

Jonathan B. Jarvis 4/30/93

Superintendent Date