Using the Law to Protect Caves: A Review of Options
George N. Huppert

The legal system of the United States provides many avenues to protect caves. It seems paradoxical that, with all of the laws covering vandalism, theft, and trespass, caves still need special additional protection. Why do caves need specific protection laws?

Those who enforce the law are sometimes misinformed and believe that caves have little value. Groups of cavers, conservation societies, and scientists work diligently to persuade the legal system to recognize the substantial values associated with caves. However, in pragmatic terms, applying and enforcing laws for the effective conservation of caves, karst areas, and unique associated biota can be difficult at best.

Often, the biggest obstacle is convincing the enforcing authorities that caves are, in fact, worth the application of these protective laws. Fortunately, over the past three decades there has been a gradual improvement in this attitude. Success has been slow but productive. Many federal and state agencies, and to a much lesser degree local agencies, have accepted the wisdom of protecting caves. Still, enforcement remains spotty and can be quite variable, even within the same agency.

Laws are not static entities, but changeable records. Modifications can be developed and legislated. Court decisions can create precedents that may change the interpretation and application of the law. Usually the changes are helpful, clarifying some phraseology in the text, or including aspects of caves or karst that were omitted in the original law.

Unfortunately, modifications can also be detrimental, even to the point of requiring repeal. Keeping current with this body of legislation is necessary in order to make the best use of it. Fortunately, the Internet has made this once formidable task easier. Many federal and state laws are readily available through search engines on the World Wide Web.

This chapter is a compendium including a brief history of cave laws, descriptions of existing state and federal laws that may be useful for cave protection, and a list of websites for finding further information.

Background

The first significant compilation of cave laws was produced by Louise Power (1974) in her role as Chairman of the Legislation Subcommittee of the Conservation Committee of the National Speleological Society. Power’s effort provided a handbook to guide enactment of cave protection laws in the states. Next, an article and list of state cave protection laws by Stitt (1976) was published in the proceedings of the first cave management symposium held in the United States in 1975.

These two publications started a series of articles that follow a similar format: Huppert and Wheeler (1982), Bradshaw (1982), and Anonymous (1995). These earlier articles reflect the emphasis of the times—primarily to formulate and pass cave protection acts. Later articles, such as Huppert (1995), LaMoreaux and others (1997), and Lera (2002) provide greater detail.
State Laws

During the past 100 years, many states have enacted laws to protect caves. Colorado passed the first cave protection law in 1883, followed by Wyoming and South Dakota. All three states later revoked the first statutes because they were vague and difficult to enforce. (Also see states, page 220.) A number of other states enacted laws early in the 20th century that have since been repealed or superseded by superior legislation.

With the exception of Oklahoma, Maine, and Hawaii, (plus Colorado—see sidebar, page 220) all cave protection acts presently in force were passed between 1976 and 1993 (Huppert and Wheeler 1986, 1992). There are now 24 states with specific cave protection acts. Puerto Rico and the Cherokee Nation also have similar legislation (Huppert 1995). (Some states have resource protection laws that incidentally mention cave resources. Such laws may have been passed in different years than those listed below.) There is great variation in the application and effectiveness of cave protection laws. Apparently, the drafters of the acts gradually learned from earlier efforts, because the later laws tend to be the best constructed. The following specific cave protection laws are listed by Huppert (1995) and Lera (2002).

- Alabama 1988
- Arkansas 1989
- Colorado 2004
- Florida 1980
- Georgia 1977
- Hawaii 2002
- Idaho 1982
- Indiana 1983
- Kentucky 1988
- Maine 2001
- Maryland 1978
- Missouri 1980 Effective 1981. The state also has a 1959 show-cave inspection law.
- Montana 1993
- New Mexico 1981
- North Carolina 1987
- Oklahoma 1967
- Tennessee 1991
- Texas 1979 A 1977 law was repealed, and then it was enacted into a different part of the statutes. Texas also has a law against littering in caves and another law protecting cave owners from liability.
- Virginia 1979
- West Virginia 1977

A Model Law: 1995 Puerto Rico Act

An encouraging event occurred on August 21, 1999, with the enactment of Law 292 for the Protection and Conservation of Karst Physiography in Puerto Rico (A Vale, written communication by facsimile on April 23, 2000). This Act specifically protects karst as well as the caves found within karst terrains, whether on public or private land. Protection also includes
formations, minerals, flora, fauna, and all natural materials. The sale of such cave items is specifically forbidden. Law 292 is truly enlightened legislation and could be used as a model for similar laws elsewhere.

Unfortunately most state cave protection acts only protect caves on state lands. The few that cover caves on private lands usually require the landowner’s permission to press enforcement. This is often difficult to obtain. Landowners frequently place no real value on caves and may not want to be bothered with the inherent problems and expenses of legal actions. An additional obstacle to enforcement may be that the violators are neighbors, friends, or relatives who were invited onto the property.

**Protecting Archaeological Sites**

Examples of states that protect cave resources as part of archaeological, paleontological, historical, or natural sites include Nevada, Vermont, Washington, and Wisconsin. The Nevada statute, passed in 1959, is perhaps the strongest of these. Based on archaeological evidence, the requirements of an archaeological protection act may well offer full protection for a cave and perhaps a portion of the surrounding surface landscape. Therefore, finding such assets in a cave may be the best route to protecting a cave in some states.

**Other Legal Avenues**

Additional legal routes can protect caves. Most states have endangered species acts that cover a surprising number of animals and plants. For example, in 2001 Texas passed a law specifically protecting bats. In other states, the protection of biota requires protection of the habitat, which may include caves.

Many states also have their own wilderness acts, usually listed by state name, such as the Arkansas Wilderness Act of 1984. Caves may fall under the definition of wilderness in some states. Pennsylvania has a law that provides for an assistance program to help landowners who suffer damage from sinkholes. Tennessee requires stricter codes and oversight when a sewage disposal site is constructed on karst. Kentucky has several laws that are specifically meant to protect caves, karst, and karst groundwater in addition to the state cave protection law (LaMoreaux and others 1997). Other states should have similar laws.

Many states have provided some level of legal oversight for significant caves by including them in their system of state parks, wildlife, or natural areas. Texas and Missouri have probably protected the greatest number of caves in this manner.

**Protection Through Tourism: Kartchner Caverns**

A recently developed show cave in Arizona, Kartchner Caverns, is especially worthy of mention (Hose and Pisarowicz 1999). Kartchner was discovered in the early 1970s and its location was kept secret for years. Four years after discovery, the cave was revealed to the landowners and the state government in order to protect the site from potential encroachment by community, commercial, or industrial development.

It was decided that careful development as a public show cave would best assure the permanent protection of Kartchner Caverns. A decade passed while negotiations ensued to raise money for the purchase of the property and to transfer the cave to the state. Then it took another decade to plan for development, raise funding, and open the cave to the public in November 1999. Kartchner is perhaps the most studied cave in the United States in terms of resource conservation and show cave development. Many millions of dollars were expended in the effort to implement best current practices in the conservation and development of Kartchner Caverns. (See Kartchner Caverns, page 141.)
Undeveloped Caves on Public Land

Commercially undeveloped caves located on state lands may well enjoy greater *de facto* protection than their *de jure* protection status, simply by neglect and remaining unknown to the public.

Often, overworked personnel are tempted to ignore such nontourist caves. Nevertheless, this method does not provide viable protection once the location of a cave becomes known.

Fortunately, protection of such caves is improving. More state-level managers are becoming aware of conservation management practices through the National Cave and Karst Management Symposia, the associated published proceedings, and the efforts of many cave conservation organizations such as the National Speleological Society and the American Cave Conservation Association. It is increasingly common to find access to these caves controlled by gates and permit systems.

States Needing Cave Laws

Reviewing specific state laws that protect caves raises the question of whether there are other states where such acts would provide benefit. It may be important to note that some states have few, if any caves.

Much of the land in the western United States is under federal jurisdiction, and should, at least in theory, be protected by federal statute (see federal laws below). On the other hand, cave protection laws that apply on private land would be beneficial in states where most caves are on privately owned land.

Huppert (1999) lists the following states as those most needing specific laws to protect caves.

- Alaska
- South Dakota
- Minnesota
- Iowa
- Colorado (See sidebar.)
- Utah
- Wyoming
- New York

People are discovering significant caves on remote possessions of the United States. The caves on the island of Guam have recently received intense scientific attention and they appear to deserve strong protection. As more caves are discovered, the need for adequate legislation in the states listed above will become more apparent and, in fact, it might be necessary to add states to the list. A more detailed account of state cave protection acts was published in *American Caves*, a journal of the American Cave Conservation Association (Anonymous 1995).

Federal Laws

Numerous federal laws have been passed to protect caves or their contents. Many of these laws apply to all lands in the United States and its territories. Others are more restrictive in their application.

Federal Cave Resources Protection Act of 1988

A controversial law is the Federal Cave Resources Protection Act of 1988 (P.L. 100-691). The significance of this law lies more in its precedence than its content. The Act requires many federal land managers to take into consideration and plan for all cave resources under their jurisdiction. Prior to 1988, many known caves could be ignored. The law has some drawbacks, however.
For example, it does not apply to all federal lands and it only applies to significant caves. There is considerable argument about what is actually meant by the term significant. See Appendix 1 for full text of the Federal Cave Resources Protection Act of 1988 (FCRPA).

National Park Service Act of 1916
Some of the nation’s most outstanding caves are protected under the National Park Service Act of 1916 (P.L. 64-235; Vol. 39 U.S. Statutes, page 535). Examples of national parks and monuments where caves or karst are the main theme on display include sites across the U.S.

- Mammoth Cave National Park in Kentucky
- Carlsbad Caverns National Park in New Mexico
- Oregon Caves National Monument in Oregon
- Wind Cave National Park and Jewel Cave National Monument, both in South Dakota
- Timpanogos Cave National Monument in Utah

Caves are often protected within the confines of larger national parks. Examples include parks in several regions.

- Grand Canyon National Park in Arizona
- Great Smoky Mountains National Park in North Carolina/Tennessee
- Hawaii Volcanoes National Park in Hawaii
- Lehman Caves of Great Basin National Park in Nevada

When searching for legislative information, it is important to note that many national parks were mandated by their own enabling legislation.

The Antiquities Act
The full name of The Antiquities Act is the National Monuments Act, An Act for the Preservation of American Antiquities of 1906 (c. 3060, 34 stat. 225; 16 U.S.C. 431 et seq.). It allows for presidential mandate to establish national monuments. In 1908, President Theodore Roosevelt designated Jewel Cave as the first national monument.

The Wilderness Act of 1964
The Wilderness Act of 1964 (P.L. 88–577) has helped conserve caves in designated wilderness areas such as the Bob Marshall Wilderness Area in Montana. Much effort has been expended in attempts to designate several caves as wilderness areas on their own merits. Some of the unsuccessful tries are described in articles by Huppert and Wheeler (1986, 1992), Bishop and Huppert (1990), and Huppert (1993). Most other wilderness areas have had their own formative acts passed by Congress. These are usually titled by the name of the area, such as the Carlsbad Caverns Wilderness Act of 1978.

The Wild and Scenic Rivers Act of 1968
This law (P.L. 90–542) was enacted by Congress and allowed for the protection of caves along some of the nation’s most beautiful rivers. Among the most important river areas for cave conservation are the Buffalo National River in Arkansas and the Ozarks National Scenic River in Missouri.

The National Environmental Policy Act of 1969

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signed by President Nixon on January 1, 1970, NEPA requires federal agencies to consider the consequences of their actions when environmental issues are involved.

An environmental impact statement (EIS) must be written by a federal agency (or by the responsible governmental unit) for any project that would use federal funds to support an action that might significantly and adversely affect the quality of the environment. The agency must also pursue mitigating actions to reduce adverse impacts when projects are implemented. The EIS process has conserved, or at least reduced, the impact of management decisions on numerous caves. Many federally managed caves or karst regions have an associated EIS.

**The Endangered Species Act of 1973**
The Endangered Species Act (P.L. 93–205) provides a mantle of federal protection for endangered species which is usually more effective than the protection that state endangered species statutes can offer. As mentioned above with state laws, the protection of a species may well require the broader protection of the habitat which may overlap political boundaries. Numerous animals use caves and karst as habitat for all or part of their life cycle. In Texas, the protection and management of more than 200 caves come under the provisions of this federal law and similar state laws (Texas Speleological Survey, unpublished data 2002).

**The Archaeological Resources Protection Act of 1979**
This Act (P.L. 96–95) gave protection to prehistoric sites on federal lands. Early inhabitants of the present United States often used caves as storage sites or as permanent or temporary domiciles. Wisely applied, the Archaeological Resources Protection Act could give significant protection to other cave assets. Unfortunately, this Act is not applied as widely as it could be on federally managed lands.

**Lechuguilla Cave Protection Act of 1993**
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In a legal sense, Lechuguilla Cave is perhaps the most protected cave in the country. It is directly protected by The National Park Service Organic Act of 1916. (The legislation that specifically enabled the park is found in Ch. 279, 46, Stat. 272, 1930 and also found in Title 16, 407–407c. and P.L. 88–249.)

However, Carlsbad Caverns National Park was initially protected as a national monument by Executive Order No. 1679 (October 25, 1923–43 Stat. 1929), signed by President Calvin Coolidge. President Coolidge twice expanded the monument through Executive Orders (No. 3984 in 1924 and No. 4870 in 1928), followed by President Herbert Hoover who expanded the boundaries of the National Park by Executive Order (5370).

Both Carlsbad Caverns and Lechuguilla Cave are protected under the Federal Cave Resources Protection Act of 1988. In addition, they are protected by the Federal Wilderness Act of 1964 and the Carlsbad Caverns Wilderness Area; the latter was designated under the National Parks and Recreation Act of 1978 (P.L. 95–625). Additional federal laws may offer other specific protections.

As exploration continues, Lechuguilla Cave may extend beyond the rigid boundaries of the park and wilderness area. Entities with mining operations on adjacent lands are required to assure strict protection of the cave if any passage is found outside the present protection zone.
National Cave and Karst Research Institute Act of 1998
A law that could have significant impact is the National Cave and Karst Research Institute Act of 1998 (P.L. 105–325). The Act mandated that the National Park Service establish the Institute, stipulated that the Institute will be located in the vicinity of Carlsbad Caverns National Park in New Mexico (but not inside park boundaries), and that the Institute cannot spend federal funds without a match of nonfederal funds. The main purposes of the Institute are to facilitate speleological research, to enhance public education, and to promote environmentally sound cave and karst management. The Institute is authorized to carry out its objectives internationally as well as nationally. The concept has been approved, initial organization has been implemented, and the Institute has entered the initial stages of permanent staffing.

National Parks Omnibus Act
Another significant law passed in 1998 is the National Parks Omnibus Act (P.L. 105–391). This Act gives park managers another tool to protect resources in the parks and allows the withholding of information on the location and nature of resources in national parks (DL Pate, personal communication on February 14, 2000). Section 207 of the Act, dealing with confidentiality of information, provides managers a way to protect resources from freedom of information requests. The law states that resources which are:

...endangered, threatened, rare, or commercially valuable, of mineral or paleontological objects within units of the National Park System, or of objects of cultural patrimony within units of the National Park System, may be withheld from the public in response to a request under section 552 of Title 5, United States Code, [unless an exemption is granted by the Secretary of Interior].

Other Federal Cave Laws
A list follows, though probably not exhaustive, of other federal laws that could possibly have a role in cave and karst protection (Huppert 1995).

- Eastern Wilderness Act
- Endangered American Wilderness Act
- Forest and Rangeland Renewable Resources Planning Act
- Historic Sites Act
- Multiple Use Sustained Yield Act
- National Forest Management Act
- National Historic Preservation Acts (two, enacted in 1966 and 1976)
- National Parks and Recreation Act
- National Wildlife Refuge System Administration Act
- Native American Graves Protection and Repatriation Act
- Reservoir Salvage Act

LaMoreaux and others include most of the following federal laws in a list they prepared in 1997.

- Clean Air Act
- Clean Water Act
- Coastal Zone Management Act
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Disaster Relief Act
- Energy Policy Act
- Federal Emergency Management Act (FEMA)
- Federal Food, Drug, and Cosmetic Act (FFDCA)

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Complete sets of federal and state laws can be found in any major law school library. Technology has provided another route for accessing state and federal laws through the World Wide Web.
### NSS Cave Vandalism Deterrence Reward Commission

Thomas Lera

The National Speleological Society (NSS) offers a reward for information that leads to the legal conviction of cave vandals anywhere in the United States. (See commission sidebar on page 110.) The NSS will consider a reward of $250 to $1,000 for information leading to a local, state, or federal conviction of any person (or persons) for acts of cave vandalism.

- Breaking, breaking off, cracking, carving upon, writing on, burning, or otherwise marking upon, removing or in any manner destroying, disturbing, defacing, marring, or harming the surfaces of any cave or any natural material which may be found therein, whether attached or broken, including speleothems, speleogens, and sedimentary deposits.
- Breaking, forcing, tampering with, or otherwise disturbing a lock, gate, door, or other obstruction designed to control or prevent access to any cave.
- Dumping, littering, disposing of, or otherwise placing any refuse, garbage, dead animals, sewage, or toxic substances harmful to cave life or humans in any cave or

- Federal Insecticide, Fungicide, and Rodenticide Act
- Forest Land Management Planning Act
- Global Climate Change Protection Act
- Global Change Research Act
- Magnuson Fisheries Act
- Marine Plastics Pollution Research and Control Act
- Marine Protection, Research, and Sanctuaries Act
- National Earthquake Hazards Reduction Act
- National Parks Resource Protection Act
- Ocean Dumping Ban Act
- Oil Pollution Act
- Renewable Natural Resources Planning Act
- Resources Conservation Recovery Act (RCRA)
- Safe Drinking Water Act (SDWA)
- Shore Protection Act
- Soil and Water Conservation Act
- Toxic Substances Control Act
- Weather Service Modernization Act

The application of some of the above laws to caves and karst may seem a bit of a stretch to some readers. However, LaMoreaux and others (1997) point out that all of the above laws can in some way be used to protect groundwater and thus may involve karst.

### Local or Regional Ordinances and Regulations

Among the countless city and county ordinances in the United States, local governments often have regulations in force that protect surface and groundwater. They also include codes or statutes that establish parks, prehistoric or historic sites, or other unique phenomena. It is well beyond the scope of this book to present even a small collection of such samples. Conservationists should become familiar with such local regulations, especially where they may be used to protect caves and karst.

Two unique situations should be noted. The Edwards Aquifer in Texas and the Floridan Aquifer in Florida are two of the most heavily used and studied karst aquifers in the country. State laws and regional zoning protect both of these important aquifers that provide domestic and irrigation water for millions of people. Refer to LaMoreaux and others (1997) for a detailed description of the legal circumstances related to these two aquifers and several other unique situations.

On the local level, zoning ordinances and construction codes should be checked to see if they might be useful in protecting karst. An example of a very complete local law is the 2001 revision of the San Marcos (Texas) Edwards Aquifer Protection Regulations. It requires detailed surveys of caves, sinkholes, and other karst features; provides for protection of particularly sensitive features; requires buffer zones around those features and streams; and establishes limits on impervious cover in the surrounding area (City of San Marcos 2001). This ordinance serves to minimize pollution reaching the karst groundwater system and could stand as a model for other karst areas. There are undoubtedly similar but lesser known regulations in other parts of the country.

### How to Find the Laws

Complete sets of federal and state laws can be found in any major law school library. Helpful individuals at most law libraries will guide your search or answer your questions. However, there are a limited number of law collections, and many cavers dealing with the legal ramifications of
cave conservation do not live near one. Technology has provided another route for accessing state and federal laws through the World Wide Web (list of suggested sites below). However, local laws are often inaccessible through this vehicle.

**Law Libraries**

Probably the easiest way to find a particular act in a law library is by its popular name. For example, with the title Federal Cave Resources Protection Act of 1988 (FCRPA) in hand, you can go to Shepard's Acts and Cases by Popular Name for the complete citation.

The latest edition is continuously updated with bimonthly cumulative supplements to keep it current within 60–90 days. Shepard's Acts is a 3-volume set that lists state and federal laws alphabetically by their common name and provides their complete legal citation. For example, the FCRPA is P.L. (public law) 100–691. This means the 100th U.S. Congress passed it and 691 is the chronological number assigned to the final bill, representing the order in which the president signed it.

The complete reference for FCRPA is as follows:

- U.S.C. (United States Code)
- 1988 (year of code edition at time of passage)
- Title 16 (this is conservation law)
- 4301 (first section of the law)
- et seq. (Latin for "and the following" sections)

If listed as “USCA,” (“A” stands for annotated), the act is published by the West Group. If the listing is cited as “USCS,” (“S” stands for Service), it is published by LEXIS Law Publishing. The official federal government citation is “U.S.C.” However, the two annotated versions are used more frequently in legal research. They both supply more informative footnotes, case references, notes on the law’s history, and cross-references. State laws have somewhat similar citations.

Usually state cave protection laws are in the volumes titled as follows:

- Conservation
- Environment
- Natural Resources
- A related or similar reference

**Internet and World Wide Web**

Fortunately, the World Wide Web has made the task of finding laws considerably easier. Some useful Web sites and their contents are listed here.

- National Speleological Society
  On the National Speleological Society homepage, click on “Conservation” or use the site search engine to find cave laws. Federal and state cave protection laws are listed.  

- Find Law
  This site directs you to a complete listing of federal and state legislation.  

- Many city and some state ordinances are found on this site.  
  [http://www.spl.org/govpubs/municode.html](http://www.spl.org/govpubs/municode.html)

- Library of Congress Legislative Search Engine
  Full text of proposed bills, legislation and the Congressional Record are found here.  
  [http://thomas.loc.gov/](http://thomas.loc.gov/)

During the past 100 years, many states have enacted laws to protect caves.
A wide variety of laws at all levels of government may be useful in the protection of caves and karst.

- Government Printing Office
  On this site from the Government Printing Office, find Regulations by keyword in the Federal Register and Code of Federal Regulations. The site also allows individuals to search for government documents by subject and by depository libraries holding them.
  <http://www.access.gpo.gov/su_docs/>

- Legal Online
  This privately produced site provides the laws of all fifty states. Some of the states also include bills presently being considered in their legislatures.
  <http://www.LegalOnline.com/statute2.htm>

Other useful law school Web sites are:

- <http://www.WashLaw.edu/>

Individual states also maintain online access to their government legal services including a listing of their laws. Gaining proficiency in using various search engines is very useful in extending the breadth of a Web search. Often, one search engine may contain useful information not found in another.

DogPile is a particularly helpful engine, which actually searches multiple other engines:


The Web addresses listed above were accurate at the time of this book’s publication. However, addresses may change over time.

**Conclusion**

A wide variety of laws at all levels of government may be useful in the protection of caves and karst. It is the job of concerned individuals to become educated about pertinent legislation, codes, and regulations that apply to their particular situations.

Legislative education is an ongoing process because the legal system, at all levels, is constantly changing. If conservationists are not vigilant, there is always the chance an important law for cave protection will be negatively modified, rendered ineffective, or even repealed. Environmental conservation problems never seem to go away. The forces of ignorance or aggressive land development are often ready to compromise or destroy spelean assets.

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**Cited References**


and Minnesota Agricultural Experiment Station, University of Minnesota, p 367-370.


Hose LD, Pisarowicz JA. 1999. Kartchner Caverns: Research Symposium. Journal of Cave and Karst Studies 61(2):38-126. [This is a special issue with 13 articles devoted to scientific studies of Kartchner Caverns.]


Additional Reading
