

NATIONAL PROGRAMS

Overview of National Park Service Policies for Cave and Karst Management

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Abstract

The National Park Service (NPS) is the premier conservation agency of the United States Government and, as such, is bound by laws and policies to protect all resources including cave and karst resources. This paper will include a brief history of cave and karst management within the NPS and highlight important laws and policies that have shaped management policies and that currently govern the management of cave and karst resources at units of the NPS. Additionally, there will be a brief general discussion on scientific studies and research policies and their ties back to the credible “management” of cave and karst resources within the NPS.

INTRODUCTION

Management of cave and karst areas within National Park Service (NPS) units began in most places before the term “management” was put into play. Management for significant caves meant development and visitor access while the concept of karst landforms was not in the vocabulary or experience of managers. The world was a different place then and people had much different perspectives. Resources were items to be used. Early efforts to bring visitors into the parks, including cave parks, meant development. In many cases, this development proceeded without real knowledge of its effect on the resources. Mammoth Cave, Carlsbad Cavern, and Wind Cave are classic examples where buildings, sewer lines, and other infrastructure were built directly on top of the caves for convenience without a working knowledge of the relationship between the surface and the cave passages and rooms below. This happened in many parks, not just cave parks. As an example, buildings, parking lots, and other infrastructure were built directly on the roots of some of the big trees in Sequoia National Park. These structures were not placed to purposely harm the resources, but rather were placed to enhance the visitor’s experience.

As the environmental movement of the 1950s and 60s brought change to the American population, it also brought change to the NPS and, ultimately, to cave and karst management. While visitation and support for our National Parks will always be important, recent years have seen more emphasis on using science-

based data to support protection and conservation programs. These changes have made their way into laws, regulations, policies, and the general consciousness of managers, employees, and the public at large. This paper will explore a brief history of cave and karst management within the NPS, some of the laws and policies that have shaped this management, and end with a brief general discussion on scientific studies and research policies and their ties back to the credible “management” of cave and karst resources within the NPS.

EARLY HISTORY

Early cave and karst management efforts in National Park Service (NPS) units consisted mostly of making areas more convenient for visitors to see the great natural wonders the parks were created for. This included buildings, parking lots, sewer lines, and other infrastructure placed directly on top of important caves, elevators installed to quickly whisk visitors to and from the underground, and other amenities such as lunchrooms where visitors could eat in the cave. At the time, little was known about the surface and its direct relationship with the cave underneath. Trails and lighting were usually installed for maximum enjoyment of the cave scenery, many times along routes already established before an area was added to the NPS system. Cave management was not all bad during these times, but park units usually addressed visitor accommodation first while protecting resources as much as possible. As might be expected, more obvious and

spectacular resources received the most active protection.

Cave management in the National Park Service began to change during the early 1970's when Carlsbad Caverns National Park in New Mexico hired Charlie Petersen as a "cave specialist." Duties for the position were mostly to travel into the park's backcountry to look for new caves. This position was deemed a success and so a few years later when the position became vacant, Ronal Kerbo was hired as the new "cave specialist". During the next 15 years, Mr. Kerbo moved the position from a basic field technician into the management realm, taking on more and more complex issues and providing input into major park decisions involving caves, especially Carlsbad Cavern. Also during this time, Mr. Kerbo's knowledge and expertise on cave management issues became well-known throughout the NPS and many other entities such as various state parks. Much of his time in his later years at Carlsbad Caverns NP was actually spent traveling to other NPS units, state parks, and other areas to provide recommendations to solve perceived problems.

Karst systems and their management have not been at the forefront of park resource management despite the fact they are a major landform. The fact that they are often complex and hidden contributed to the lack of notice. Even today, some key managers do not really understand how karst systems work. This is not the case at Mammoth Cave National Park where the entire region consists of hundreds of thousands of acres of a karst landscape that is interconnected by hundreds of miles of cave passages. This is an area where hundreds of small farms dot a sinkhole plain with poor or no septic systems and where many sinkholes were used for trash dumps for decades. Threats to cave ecosystems and public health, inside and outside of the park, brought about significant changes in sewage disposal and a better understanding of the human-caused problems created in this amazing karst area. A regional sewage system now incorporates most local entities and does a much better job of keeping raw sewage out of the karst systems. While this region still faces daunting challenges, significant improvements have been made in understanding the regional karst systems and implementing

mitigation measures to better protect those systems.

Due to the needs of various cave and karst parks and the success of the program at Carlsbad Caverns National Park, a position was created at the national level in October 1995 within the Geologic Resources Division (GRD) to provide technical assistance for park units and to address problems and needs from a national perspective. Because of his expertise and knowledge, Ronal Kerbo filled this first national level Cave and Karst Program Coordinator position within the GRD. Before and during this time, cave parks were beginning to hire specialist positions within resource management divisions to help actively manage specialized cave and karst resources. There are now approximately 15 permanent and a number of seasonal positions in cave parks across NPS park units. These specialized positions have made significant contributions to the long-term understanding and protection of these important resources including oversight of high-quality surveys and inventories, the completion of a number of cave and karst management plans, airlock systems on elevator shafts to return airflow patterns to original conditions, double-walled sewer lines where these run directly over sensitive cave and karst resources, and a host of other projects too numerous to mention here.

The establishment of this position at the national level of the NPS also helped spur the establishment of national level positions of a similar nature within the U.S. Forest Service and the Bureau of Land Management. Both of these agencies manage numerous cave and karst areas within their properties.

IMPORTANT LAWS AND POLICIES

Every park unit has been created by a legislative act and signed by the President. The legislation that created each park has its own set of directives that determine what can happen in that park. Some are very vague while some are very specific. As an example, it is usually the directives within this initial enabling legislation for specific parks that has allowed fishing within many of the older established parks. An even more extreme example is that of Padre Island National Seashore. Its enabling legislation

recognizes existing private or state ownership of the mineral estate for much of the property and allows oil and gas drilling to occur within the National Seashore.

Another document important for park units is 36CFR – Code of Federal Regulations – Parks, Forests, and Public Property. This document spells out specific regulations for specific parks. In addition, the National Park Service Management Policies 2006 provides over-arching policies for all NPS units.

Numerous other laws enacted by Congress and signed by the President and the subsequent regulations for these laws have guided the NPS in the conservation and protection of cave and karst resources and other natural and cultural resources as well. A list of some of these more important laws is as follows:

- The Organic Act of 1916
- Wilderness Act of 1964
- National Environmental Policy Act of 1969 (NEPA)
- Endangered Species Act of 1973
- Clean Water Act of 1977
- Archeological Resources Protection Act of 1979 (ARPA)
- National Park Omnibus Management Act of 1988
- The Redwood National Park Act of 1988
- Clean Air Act of 1990
- Omnibus National Park Management Act of 1998

Two laws, in particular, have been enacted specifically for caves. The first and most important for the Department of Interior and the Department of Agriculture is the Federal Cave Resources Protection Act of 1988 with the subsequent regulations released in 1993. This act specifies that affected agencies will consider caves and the effects on them when allowing

and proceeding with other projects. This is especially important on U.S. Forest Service and Bureau of Land Management lands where conservation and preservation of resources is only one of numerous other competing land uses along with grazing, lumber production, and oil and gas extraction. For the NPS, whose mission to conserve and protect resources, one of the more valuable aspects of this law was to exempt cave locations and other pertinent information from the Freedom of Information Act. Combined with portions of the other laws mentioned above, caves and much of their contents within NPS units are well protected. The second law, The Lechuguilla Cave Protection Act of 1993, was specifically created to protect one cave located within Carlsbad Caverns National Park from extractive oil and gas activities on adjacent federal properties. This law created a Cave Protection Zone outside the park boundary based on the recommendations of a geology panel convened to provide a scientific rationale for the long-term protection of the cave.

The Superintendents of individual park units have the ultimate responsibility to care for the lands that have been set aside as America's treasures. This ultimate responsibility requires consistent policies from the national level while allowing flexibility at the park level. There are numerous policies, regulations, and planning documents that each park unit depends on. Planning documents within each park unit are important tools that define policies and future directions for park units. General Management Plans (GMP) are the primary planning document for each park with numerous other planning documents tied to these GMPs. To provide guidance and to dictate policy, many cave parks have prepared Cave and Karst Management Plans. One final document within a Superintendent's toolbox is the Superintendent's Compendium. Usually updated annually, this document spells out specific rules and policies for individual parks that are not found in other documents, but are considered necessary to operate parks.

One other key law that has less effect on how park's manage cave and karst areas, but is important to mention is the National Cave and Karst Research Institute Act of 1998. The efforts

of numerous individuals and organizations including the NPS culminated in the establishment of this important Institute in Carlsbad, New Mexico.

RESEARCH AND RESOURCE MANAGEMENT

The NPS encourages research within park units and as stated on pages 40-41 of the NPS Management Policies 2006, “*studies must abide by applicable laws, policies, and guidelines ...and be conducted by qualified personnel and conform to current standards of scholarship.*” The types of studies that can be allowed vary greatly, from inventory and monitoring activities to applied research. There is a NPS website where all research applications for work in any park must be filed. This website is: <http://science.nature.nps.gov/research/ac/ResearchIndex>

It is important to know that while a researcher uses a national-level website to apply for doing research in a specific park, personnel from that park will be deciding whether to allow the research or not and what limitations will be placed on the research. There are a number of factors that go into making a decision to allow research particularly if it involves collection of non-renewable resources such as speleothems. Potential researchers are encouraged to discuss the proposed research with appropriate personnel at the park where the research needs to be done. Each park has different needs and different ways of handling research requests so communication with the park as early as possible is an important means to accomplishing potential research.

Additionally, each park is a separate unit and for most, the research permit received for one park does not apply to other parks. Separate research applications have to be submitted for each park, even if it is the same research project.

In recent years, one factor has contributed to better protection and conservation of resources within NPS units. This has been the recognition by the NPS that a better staffed science and resource management division within parks will (1) provide better facilitation for scientific

studies and, (2) allow better access to the information derived from these studies when important decisions need to be made. An informed staff that can work with researchers as well as represent the park’s management helps bridge the gap between scientific research and the need to manage park resources for the future.

SUMMARY

Various laws, regulations, policies, and rules have been enacted over the years to refine how natural and cultural resources are cared for within NPS units. With cave and karst areas being recognized as complex, important resources, a number of cave parks have hired “cave specialist” positions to improve understanding and to provide and to provide accurate information to park management during the decision-making process. The Federal Cave Resources Protection Act of 1988 was the first law enacted to specifically recognize the value of cave resources and instruct the Departments of Interior and Agriculture to document “significant” caves and to consider potential adverse impacts to them during the decision-making process. NPS units have an array of documents that they use to provide protection and conservation to cave and karst areas. In recent years, there has been a move to use more accurate scientific data during the decision-making process on projects that may affect cave and karst areas.

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