FINDING OF NO SIGNIFICANT IMPACT

CAVE AND KARST MANAGEMENT PLAN

South Dakota
Jewel Cave National Monument
USDI, National Park Service

October 2007

INTRODUCTION

The National Park Service (NPS) has prepared an Environmental Assessment (EA) for the Cave and Karst Management Plan at Jewel Cave National Monument (the Monument) that addresses proposed changes in cave use. Karst is a three-dimensional landscape shaped by the dissolution of a soluble layer or layers of bedrock, typically resulting in the development of caves and cave systems. These landscapes display distinctive surface features and underground drainages, often with enhanced hydrologic connections between surface and subsurface.

Jewel Cave is a characteristic Black Hills cave formed by the dissolution of the Mississippian Pahasapa Limestone. The cave is a complex three-dimensional maze beneath about three square miles of surface area. With more than 140 miles surveyed, Jewel Cave is recognized as the second longest cave in the world. Airflow within its passages indicates a vast area yet to be explored. Jewel Cave is a nearly pristine cave system that includes a variety of speleothems (cave formations) including stalactites, stalagmites, draperies, frostwork, flowstone, boxwork, and hydromagnesite balloons. The cave is also an important hibernaculum for several species of bats. Although Jewel Cave has many wilderness qualities, it is not a designated wilderness. However, the Monument strives to preserve the cave as a *de facto* wilderness.

This plan has been written to establish and formalize specific direction and appropriate policies for science-based management of the cave and karst resources of Jewel Cave National Monument and adjacent mineral withdrawals. The purpose of the plan is to provide a consistent framework for addressing Jewel Cave's increasingly complex cave and karst issues in accordance with all legal authorities and in the spirit of its enabling legislation. The objectives of this plan are to:

1. Provide for appropriate science-based management of cave and karst resources within the Monument.
2. Select key resource and impacts indicators based on the ability to detect change.
3. Establish appropriate surface/subsurface activities, access policies, and acceptable levels of use and impact.

The NPS has prepared an EA to look at alternatives in cave management in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations 1500 through 1508) for implementing NEPA, and the NPS NEPA compliance guidance handbook

(Director's Order (DO)-12, *Conservation Planning, Environmental Impact Analysis, and Decision-making*). The EA was released on August 7, 2007 for a 30-day agency review and public comment period.

PREFERRED ALTERNATIVE

The NPS has selected Alternative B as the NPS Preferred Alternative. This alternative defines the management direction of the cave with respect to administration and infrastructure, cave access, cultural and historic resources, and natural resources. Detailed actions for these management areas are described in the EA and summarized here.

Administration and Infrastructure:

To protect the cave, maintenance and related activities will be conducted in a manner that minimizes or eliminates impacts to the cave environment, such as following specific paths to minimize tracking of manganese. Such practices will be implemented to a greater degree in the Preferred Alternative than are in current use.

The lighting system along the Scenic Tour route will be redesigned so that only the sections occupied by a tour group would be turned on. In the off season, the lights in unoccupied sections will be left off until a tour group arrives.

Only solvents, cleaning solutions, absorbents, etc. that are acceptable for cave use will be used. Special measures would be taken to prevent introduction of construction debris (e.g., sawdust, aluminum filings, stray bolts, nails, or wire insulation).

Although the cave management staff has advised the maintenance staff regarding cave procedures in the past, instructions have never been formalized into a policy or training program. Consequently, unnecessary impacts have occurred when people forget a procedure or when new maintenance staff members are not adequately trained. Under this alternative, a maintenance training program is formalized and maintenance instructions and procedures are incorporated into a written policy. Surface maintenance activities, such as use of chemicals, are also formalized into a policy.

Cave Access:

The four public tours will remain unchanged and Education/Interpretation trip leaders will be qualified to lead trips on these tours: the Scenic, Discovery, Lantern, and Spelunking Tours.

Existing off-trail routes will be treated as travel corridors defined as a system of foot trails not to exceed two feet in width with a two-foot monitoring zone on each side. The maximum allowable impact will be limited to the travel corridors, allowing essentially infinite impact to the actual foot trail in the form of compaction, tracked sediments and manganese, and worn rock surfaces. With cavers staying on this trail, the rest of the cave passage will receive none of this type of impact.

Impact monitoring will be done within the adjacent "monitoring zones." Although impact will always extend beyond the trail and monitoring zones, the monitoring zones will receive more impact than the rest of the passage. They will be monitored to ensure the rest of the passage receives even less impact, and never reaches a point of impairment.

Although the cave management staff has advised trip leaders in the past as to needed training, experience, and skills, these factors have never been formalized into a policy or training program. Under this alternative, a trip leader qualification program is formalized and incorporated into a written policy.

In order to ensure safety for cavers, protection of cave resources, and quality of exploration, research, and caver experience, all cave access will be done with well-trained trip leaders who have an understanding of management needs and the ability to lead other cavers effectively during normal and emergency circumstances.

Available routes for orientation routes will not change: the Spelunking Route, Hub Loop, Bunyan's Loft, Japanese Gardens, Rambling Loft/Logomites, Hell's Half Acre, and Miseries to Metrecal Cavern. Available routes for recreation caving trips will be increased from two (the Spelunking Route and the Hub Loop) to include five additional routes: Bunyan's Loft, Japanese Gardens, Rambling Loft/Logomites, Hell's Half Acre, and Miseries to Metrecal Cavern. Exploration will be allowed close in and peripherally for both "mopping up" and "pushing the edge."

A survey team may include members without prior survey experience and they may learn to read instruments or record inventory date under the guidance of a person who already has that experience. Only sketchers approved by the cave management staff may sketch. To become approved, a sketcher must meet the requirements on the sketcher evaluation form in appendix G. It is the trip leader's responsibility to ensure that all survey data meets park standards.

Cultural and Historic Resources:

If a cultural or historical resource is encountered during any in-cave activity, that activity will be immediately discontinued if there is likelihood of damage to the resource. A report will be made to Jewel Cave's Cultural Resource Advisor (at the NPS Midwest Regional Office), and their input solicited before any more work or travel (if the travel is causing damage) is to be done in the area.

Natural Resources and Processes:

To reduce the risk to hibernating bats, no exploration or public tours will be allowed through the historic entrance of the cave from October 1st to May 31st. Other activities, such as the annual mid-winter bat count in the vicinity of hibernating bats, will be kept to an absolute minimum.

To prevent impacts to native microorganisms, or the unnatural increase of non-native microorganisms, rest stops will be made only at established areas. Trip leaders will be trained to avoid corrosion residue sites and water when exploring away from travel corridors.

There are very few pools in Jewel Cave and all sources of drinking water have been collected from drip sites. Intercepting water as it falls from the ceiling virtually eliminates the possibility of contaminating the cave water. Though highly unlikely, differing circumstances will be handled on a case-by-case basis.

The Monument will reduce collection, redirection, and treatment of cave water to the minimum necessary to facilitate monitoring, research, and exploration needs; remove any collection devices that are not in current use; and replace any collection equipment that facilitates growth of biota.

Leaks in artificial entrances will be evaluated and sealed as needed. Changes in microclimate and airflow resulting from enlarged constrictions will also be evaluated. If changes from original conditions are determined, inert constricting material will be put in place to restore the passage to its original cross-sectional area.

Zones are established as part of the Preferred Alternative to delineate zones within the Monument where pesticides should not be applied due to water quality concerns. Pesticides will only be used if necessary and other available options are either not acceptable or not feasible. Pesticides will only be applied via spot treatments and only in areas that pose the least risk to cave and karst resources. Chemical treatment of areas above known cave drip sites and areas where permeable rock layers are uncapped will be avoided. Based on these principles, the "No-Pesticide Treatment Zone," is delineated as an area where pesticides may not be used. A "Minor Risk Treatment Zone" designates areas where pesticides can be considered as part of the Integrated Pest Management (IPM) practices for the area. The two species targeted for pesticide control are Canada thistle and leafy spurge.

Monitoring:

Additional cave monitoring will be implemented as part of the Preferred Alternative to select key resource and impacts indicators based on the ability to detect change. New monitoring points will be added as needed. Photomonitoring will be supplemented using lint/sediment collection at representative points along established trails. Initially, particulate matter will be collected in Petri dishes and documented with digital photography; image arithmetic will be used to identify and quantify changes resulting from impact. These techniques will be evaluated and modified, supplemented, or replaced as needed. Measured impact will be determined using photo monitoring at existing sites.

As needed, programs to monitor drip water in the cave will be established to analyze water quality so that the pesticide treatment zones could be re-evaluated if chemicals used by the park are detected in cave drip water.

Similar to the concept of "carrying capacity," a "maximum allowable impact" concept will be used to prevent any given area from becoming impaired over the years by small gradual impacts that would be virtually imperceptible without specific monitoring actions. The maximum acceptable coverage of rock surfaces with impacts such as manganese tracking will be set at 10%

because that is the level when impacts start becoming visible to casual observation. A long-term timeframe (50-100 years) would be set as the target for such impact.

OTHER ALTERNATIVES CONSIDERED

The EA prepared for this project analyzed the NPS Preferred Alternative described above and a No-Action Alternative. Under the No Action Alternative, current cave management practices would continue. Key differences between the No Action and the Preferred Alternative include:

The current lighting system for the Scenic Tour route, in which the lights remain on for the entire half-mile loop whenever a single tour group is in the cave, would remain the same. Lights would not be redesigned so that only the sections occupied by a tour group would be turned on.

Maintenance procedures would not be formalized into a written policy.

No formal park policies, procedures, or training requirements would be in place to allow for new exploration trip leaders. Informal survey trip leaders would exist to accommodate two survey parties per exploration trip. Recreation/orientation trip leaders would be trained formally or informally before and during caving trips as part of seasonal training or standard job training.

The Monument would attempt to seal artificial entrances, except the Historic entrance, on an as-needed basis.

Pesticides would not be used to control exotic plants. Control would continue through the use of hand-pulling of exotic plants and other non-chemical techniques.

Additional cave monitoring would not be implemented and a "maximum allowable impact" concept would not be used to prevent cave damage.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in NEPA, which is guided by the CEQ. The CEQ provides direction that "the environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA (Section 101(b))." The six NEPA goal statements include:

(1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
(2) Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
(3) Attain the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences;
(4) Preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible, an environment which supports diversity and variety of individual choice;

(5) Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
(6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Following environmental analysis, the environmentally preferred alternative is the alternative that causes the least damage to the biological and physical environment or that best protects and enhances the natural, historic, and cultural resources of the site. As evaluated against the CEQ regulations, Alternative B is the Environmentally Preferred Alternative.

Alternative A (the No Action Alternative) represents the current situation of continuing cave management without a formalized policy, without a science based approach, and without a comprehensive monitoring and mitigation program to detect changes in the cave environment.

The Environmentally Preferred Alternative is Alternative B because it surpasses the No Action Alternative and the other action alternatives in realizing the full range of national environmental policy goals as stated in §101 of NEPA. This alternative also fulfills NPS responsibilities as trustees of the environment by providing vital resource information used to guide management decisions. Alternative B would not result in significant impact to the cave environment due to the management controls and mitigation measures put in place. The benefits of cave exploration and mapping would outweigh the environmental impacts of this activity. More off-trail cave routes would be open to recreation and orientation. Orientational use would provide a variety of caving experiences for the park staff, augmenting their understanding of cave resources and better preparing them for discussions with the visiting public. Recreational use would provide a variety of caving experiences for the caving public on the same fixed routes as the orientational use. These recreation trips would provide for greater recreational opportunities than are currently offered and would also increase the number of cavers familiar with Jewel Cave who can assist the park (e.g. in a rescue situation). For both orientational and recreational uses, there would be no significant impact to the cave environment because the impacts would be confined to fixed travel corridors. In conclusion, Alternative B affords the highest level of protection of natural and cultural resources for Jewel Cave while providing for cave access on a variety of levels.

MITIGATION

Best management practices and mitigation measures would be used to prevent or minimize potential adverse effects associated with any use of Jewel Cave. These practices and measures would be incorporated to reduce the magnitude of impacts and ensure that major adverse impacts would not occur. Currently, mitigation is used to reduce the effects of unavoidable recurring impacts. As an example, the Scenic Tour route which is used to provide for public enjoyment results in ongoing impacts. Mitigation includes such activities as lint and algae removal and reducing manganese tracking.

The Monument would seek to mitigate any unavoidable impacts. The mitigation itself would be designed to cause no additional impact to the resource. If special circumstances required a trade-off, then the project would be peer-reviewed by at least two other NPS employees working with

cave-related resource management. An EA would be pursued for any controversial technique. In no case would impact of mitigation exceed the benefit of the mitigation activity.

Mitigation measures would be necessary in the case of unavoidable recurring impacts, such as public tours. Mitigation activities would be scheduled to avoid conflict with bat hibernation, interpretive programs, and maintenance activities. When necessary, interpretive and maintenance activities may have to be scheduled around mitigation projects. This would require careful prior planning between all divisions and consultation with the Superintendent. The cave management staff would maintain a permanent record of all mitigation activities, including dates, personnel, and techniques.

To minimize the potential impact of pesticides on surface water and ground water resources and cave resources, the following Best Management Practices (BMPs) would be implemented:

- Only pesticides that are registered for use in or near water would be used in those areas.
- Only those pesticides that have a low potential toxicity, such as glyphosate (Roundup Pro and Rodeo) would be used within areas near surface waters or in areas with a high leaching potential. Glyphosate is strongly adsorbed into soil, with little potential for leaching to ground water. Microbes in the soil readily and completely degrade it even in low temperatures. It tends to adhere to sediments when released to water and does not accumulate in aquatic life.
- Applications of pesticides would be avoided during periods and in areas where seasonal precipitation or excess irrigation water is likely to wash residual pesticides into waterways.
- Applications of pesticides within 50 feet of surface water bodies (including streams, rivers, lakes, and waterways) would be done by hand or with vehicle mounted ground equipment to minimize the potential impacts to surface waters.
- The park currently monitors potable drinking water quality. This monitoring would continue to confirm that potable water meets drinking water standards as outlined by the Safe Drinking Water Act (SDWA).
- Surface water and ground water monitoring programs would be implemented as appropriate to protect natural resources. Rigorous testing of pesticides is required prior to release as a registered product.
- When available from the Regional IPM Coordinator, vertical buffer zones to ground water would be used.
- "No-Pesticide Treatment Zones" would designate areas in which no pesticides would be applied. These zones would include areas above known cave drip sites, areas within the watersheds, which have potential to drain into cave and karst resources, and areas where permeable rock layers are uncapped.
- "Minor Risk Treatment Zones" would designate areas where pesticides can be considered as part of the IPM practices for the area. These zones would be areas that pose very minor risk to cave and karst resources. Chemicals with high specificity, low leaching potential, and low persistence would be preferred for use in these areas, and pesticides would be hand sprayed on individual plants. Broadcast spraying of pesticides would not be permitted in these zones.
- The park would develop programs to monitor water quality in the cave, and would re-evaluate the pesticide treatment zones if chemicals used by the park are detected in cave drip water.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined by 40 CFR 1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse and which on balance may be beneficial, but that may still have significant adverse impacts, which require analysis in an Environmental Impact Statement (EIS).

No major adverse or beneficial impacts were identified that will require analysis in an EIS. Resource topics that were addressed in the EA were macrobiotic resources, microbiotic resources, microclimate, physical cave features, water resources, exotic vegetation, public health and safety, and visitor use and experience. All other resource topics were dismissed from further evaluation in the document because the associated impacts will be negligible or less.

The Preferred Alternative will have long-term, negligible, local, direct, adverse impacts on macrobiotic resources due to cave visitation, maintenance activities, and possibly pesticides and other chemicals in cave water. Impacts on microbiotic resources will be short- and long-term, minor, local, direct, and adverse due to cave visitation and possible pesticides or other chemicals in cave water; formalized trip leader training and maintenance policies, and monitoring of impacts would have long-term, minor, local, direct, beneficial effects on microbiotic resources. There will be short- and long-term, negligible, local and widespread, direct, adverse and beneficial impacts to microclimate due to cave visitation, the modified lighting system, and sealing of artificial entrances. Impacts on physical cave features will be long-term, moderate, local and widespread, direct and indirect, and beneficial due to establishment of travel corridors, implementation of impact monitoring, and redesign of the lighting system; and there will be long-term, minor, local and widespread, direct adverse impacts on physical cave features due to increased recreational use on established routes. Possible contamination of cave water with pesticides and surface chemicals will cause short- and long-term, minor, local and widespread, direct, and adverse impacts on water resources. Long-term, moderate, local, direct, and beneficial impacts on exotic vegetation will occur due to comprehensive IPM control of exotic plants, including pesticide treatments. Public health and safety will have long-term, minor, direct, adverse impacts from continued opportunities for recreation, orientation, and exploration in Jewel Cave and possible pesticides in drinking water. Finally, impacts on visitor use and experience will be long-term, moderate, direct, and beneficial due to continued and improved opportunities for recreation, orientation, and exploration in Jewel Cave.

Degree of effect on public health and safety.

Inherent dangers exist with cave travel due to such conditions as confusing passages, low ceilings, loose rocks, unstable floor material, ledges and pits, tight constrictions, conditions conducive to hypothermia, and radon gas exposure. Cave travel requires special equipment and skills. To ensure the safety of all trip participants, all access would be overseen by qualified, formally trained tour guides or off-trail trip leaders.

Pesticides used on the surface to control exotic vegetation could contaminate cave water collected for drinking on extended caving trips. However, Best Management Practices, along with the designation of pesticide treatment zones, should minimize if not preclude the presence of pesticides in cave water.

Under this alternative, impacts to public health and safety would be minor, adverse, and long-term due to continuing cave visitation and possible presence of pesticides in cave drinking water, but they would be offset beneficially by formally (vs. informally) trained trip leaders.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There are no park lands, prime farmlands, wetlands, wild and scenic areas, or ecologically critical areas that would be affected by implementation of the Preferred Alternative. In addition, the project would not directly, indirectly, or cumulatively affect historic and cultural resources.

Degree to which effects on the quality of the human environment are likely to be highly controversial.

There were no controversial impacts identified during either preparation of the EA or the public review period. Fifteen comment letters were received from interested parties during this review period. Several comments pointed out that they agree with implementing the Preferred Alternative. None disagreed. Among the comments received concerns were expressed about the use of using pesticides to control exotic plants above the cave, the data distribution policy, trip leader requirements, cave survey data collection standards, and the passage enlargement policy.

Degree to which the possible effects on the quality of the human environment are highly uncertain, or involve unique or unknown risks.

There were no highly uncertain or unique or unknown risks identified during preparation of the EA or the public review period.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The Preferred Alternative does not establish a precedent for any future actions that may have significant effects, nor does it represent decisions about future considerations. Future NPS actions will be evaluated through additional, project-specific planning processes that incorporate the requirements of NEPA and NPS policies.

Whether the action is related to other actions with individually insignificant, but cumulatively significant, impacts.

Impacts of the NPS Preferred Alternative to macrobiotic resources, microbiotic resources, microclimate, physical cave features, water resources, exotic vegetation, public health and safety,

and visitor use and experience were identified. As described in the EA, cumulative impacts were determined by combining the impacts of the NPS Preferred Alternative with other present and reasonably foreseeable future actions. The impacts of other present and reasonably foreseeable future actions on resources, in conjunction with the impacts of the NPS Preferred Alternative, will result in both beneficial and adverse cumulative impacts of varying intensity.

Past, current, and future recreation, orientation, and exploration opportunities have important beneficial impacts on visitor use and experience. Surface and subsurface development, such as hardened trail routes and an elevator to access the cave, establishment and use of off-trail routes, and establishment of a permanent underground camp site have added greatly to the visitor experience at Jewel Cave primarily by allowing easy access to the cave for many visitors. No future actions are planned that would affect visitor use and experience. Cumulatively, these other actions have had important beneficial impacts on visitor use and experience. The Preferred Alternative would continue and improve these visitation practices and would contribute minor, beneficial cumulative impacts on visitor use and experience.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources.

Jewel Cave contains items that may be of cultural and historic value. A few passages near the Historic entrance are known to have some items from the early 1900s. These include such things as rotted rope, newspaper fragments, and other incidental objects. Potential impacts to cultural resources are dust accumulation, accidental breakage or trampling, and natural degradation in the cave environment. However, cavers would be required to avoid passing by any cultural resources if there was a possibility of impact.

There are 20 known archeological sites on the Monument. One is in a rock shelter, and several of the small caves are potential archeological sites. The entrance to Jewel Cave was humanly impassible until 1900, and there is no evidence of prehistoric occupation or use of the cave. There is one known paleontological site on the Monument, located just inside the gated historic entrance.

However, cultural and historical resources, archeological resources, and paleontological resources were dismissed from analysis in the EA as none of these resources will be impacted by actions in the cave and karst management plan.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat.

No federally listed threatened or endangered species occur in the project area, and none will be affected by project implementation.

Whether the action threatens a violation of Federal, State, or local environmental protection law.

The implementation of the Preferred Alternative violates no Federal, State, or local environmental protection laws.

IMPAIRMENT

In addition to reviewing the list of significance criteria, the NPS has determined that implementation of the Preferred Alternative will not constitute an impairment to the Monument's resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the EA, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in NPS Management Policies 2006. As described in the EA, implementation of the Preferred Alternative will not result in major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Jewel Cave National Monument; (2) key to the natural or cultural integrity of the Monument or to opportunities for enjoyment of the Monument; or (3) identified as a goal in the Monument's General Management Plan or other relevant NPS planning documents.

PUBLIC INVOLVEMENT

Public scoping for this EA was conducted from April 9, 2002 through July 25, 2002. The park hosted internal scoping meetings for the division chiefs and staff, three scoping meetings in neighboring communities for the general public and local caving community, a meeting for the extended local caving community, as well as at special sessions at the 2002-2005 and 2007 National Speleological Society (NSS) Conventions. It also solicited input via local newspapers, the NSS News, an electronic mailing list called the Cavers Digest, and all NPS cave parks. In addition, the park consulted with the Hell Canyon District Office of the Black Hills National Forest, which has jurisdiction over cave management and resource protection above portions of the cave that extend beyond the Monument boundaries. Consultation letters were also sent to the US Fish and Wildlife Service (USFWS), the State Historic Preservation Office (SHPO) and appropriate Tribal Governments.

The Environmental Assessment, prepared in accordance with NEPA, CEQ regulations, Section 106 of the NHPA, and DO #12, was made available for a 30-day public review and comment period beginning August 9, 2007. A press release announcing the document's availability was published in local newspapers and on the park website. Copies of the document were sent to certain agencies and interested parties; made available at the Parkway's visitor center; and posted on the internet at the NPS Planning, Environment, and Public Comment website (http://parkplanning.nps.gov/). Fifteen comment letters were received during this review period.

Public review and comments resulted in some minor changes to policies addressed in the NPS Preferred Alternative of the EA. However, the findings presented in the Environmental Consequences chapter did not change. NPS responses to substantive comments and errata, resulting in minor revisions to the EA, are included in Attachment A to the EA.

CONCLUSION

With guidance from NPS Management Policies 2006, natural and cultural resources information, professional judgment, consideration of agency and public comments, the NPS has decided to implement Alternative B (Preferred Alternative) to manage cave and karst resources at Jewel Cave National Monument.

The Preferred Alternative does not constitute an action that normally requires preparation of an EIS. The Preferred Alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are negligible or minor. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the NRHP, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any Federal, State, or local environmental protection laws.

Based on the foregoing, it has been determined that an EIS is not required for this proposed project on NPS lands, and thus, will not be prepared. Implementation may take place immediately after the date of this decision.

Recommended: Todd J. Suess — 10-29-07
Superintendent, Jewel Cave National Monument — **Date**

Approved: [signature] — 11-15-2007
Regional Director, Midwest Regional Office — **Date**