Management Controversies at Oregon Caves National Monument

William R. Halliday
Founder and Honorary Member,
Cascade Grotto of the National Speleological Society
6530 Cornwall Court
Nashville, TN 37205
E-mail: bnawrh@webtv net

Jay Swofford
Founder and Director, Friends of Oregon Caves
5060 NW Kahneeta Drive
Portland, OR 97229
E-mail: jayswof@yahoo.com

ABSTRACT

The 1909 proclamation of a national monument to protect "the unusual scientific interest and importance" of the so-called Marble Halls of Oregon was the result of a misunderstanding; in southern Oregon and in California, marble caves now are known to be common. Oregon Cave is not "a natural feature so extraordinary or unique as to be of national interest and importance" and should never have become part of the National Park System. Its 1934 transfer from the Forest Service to the National Park Service was an irresponsible political action; the National Park Service was not prepared to accept responsibility for its protection. The cave never has been managed as a scientific resource as directed by President Taft in 1909. Until 1934, the monument was administered as a recreational area, primarily for the benefit of the people of southwestern Oregon. The National Park Service did not implement a management strategy until the tour route and most of the rest of the cave were damaged beyond reasonable expectations of restoration. It retains value as a show cave, however. Its management should be returned to the Forest Service for resumption of its pre-1934 management. strategy with off-trail areas designated as Research Areas to protect possible biological and known paleontological resources not yet inventoried. The transfer should be by Executive Order. The name Oregon Caves National Monument should be retained.

Introduction

Controversy has dogged the management of Oregon Cave for more than a century. Rather ludicrously, 19th century adventurers attempted to develop it as a private show cave on an unimproved mountain trail miles from even a dirt road. Poorly informed pioneer conservationists soon urged its protection as a cave uniquely in marble: "The Marble Halls of Oregon." They teamed with shrewd Oregon businessmen. With charismatic conservationist Gifford Pinchot as its first Chief Forester, the 1905 creation of the Forest Service added impetus. The first map depicting "Oregon Caves National Monument" appeared in August 1907, before such a monument existed. For President William Howard Taft, Pinchot's staff prepared a presidential proclamation of the monument, not quite in time for Taft to announce it during his February 1909 visit to nearby Grants Pass, Oregon. Later in 1909 his proclamation created the national monument because of its supposed "unusual scientific interest and importance." Taft specifically prohibited logging and mining, "and any (other) use of the land which interferes with its preservation or protection as a national monument," but left its management to the capitalist-oriented Forest Service.

In 1909, the Siskiyou National Forest had no advance guidance on how to achieve so grand an objective, and few relevant resources. Respected scientific academics, however, evi-

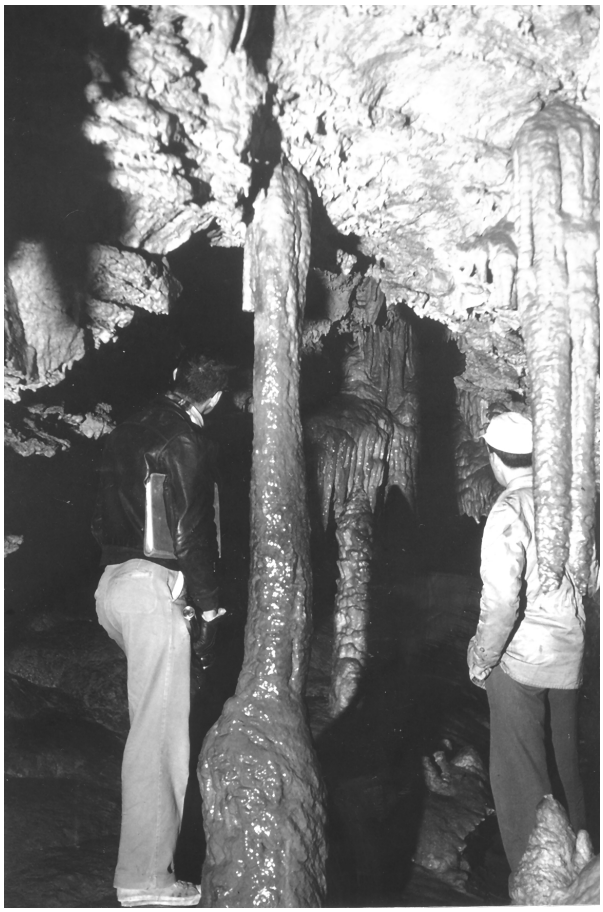

***Figure 1**. Joaquin Millers Chapel, considered one of the largest and best decorated rooms in Oregon Cave. Even here, it is almost impossible for visitors to avoid touching speleothems and walls. (1959 photograph by William R. Halliday. On left, Richard M. Brown, Crater Lake National Park Assistant Naturalist. On right, Ron Stanford, Cascade Grotto of the National Speleological Society.)*

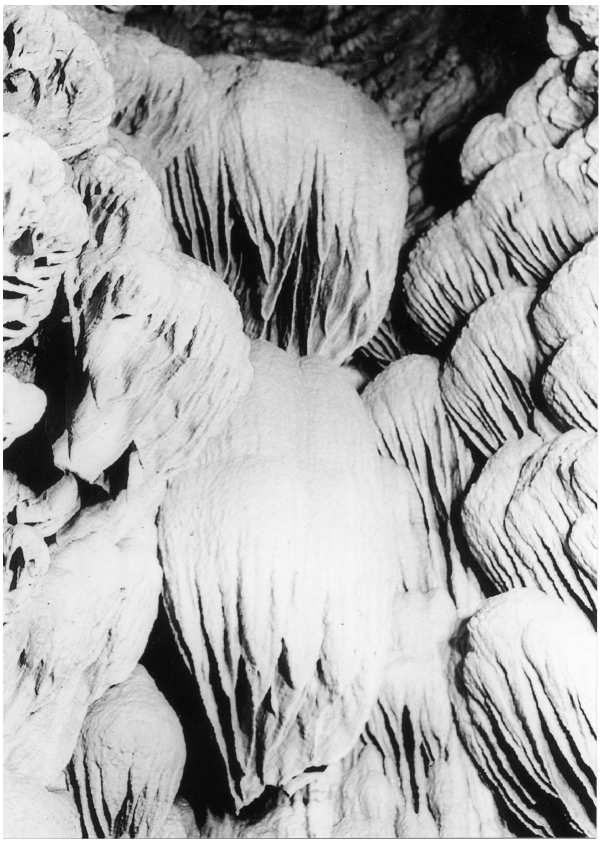

***Figure 2**. Paradise Lost is the most heavily decorated room in the Oregon Caves. Preserved primarily through location, breakage and discoloration have still marred its beauty. It is not possible for guides to prevent visitors from touching while in this room as the floor space is inadequate to allow for a buffer zone around the visitors. (From the collection of The Friends of the Oregon Caves, Frank Patterson, Photographer.*

dently provided important input, including John C. Merriam, fresh from notable scientific achievements at California's Samwel Cave (Merriam, 1906). Eventually, however, national forest managers decided to let local entrepreneurs run it as a show cave and to build a resort next to it after a road had been built.

In these days before recognition of human impacts on caves, this management strategy was supported enthusiastically by residents of the region, but the cave suffered. This was not entirely the fault of the Forest Service. The resort's cave guides lectured visitors about not breaking off souvenirs and pointed out shameful earlier vandalism. But most of the cave route was so narrow that everyone necessarily brushed against the walls and touched speleothems they were trying to protect, and guides were known to take up to 400 visitors on a single tour. For a long time, candles were the primary light source. Smoke damage and wax drippings caused speleothems to lose much of their original beauty. And it was some 70 more years until the cave was securely locked at night against determined vandals (Knutson, 2003). Further damage was inevitable.

In 1933, newly-elected President Franklin Roosevelt used Executive Order 6166 to transfer all national monuments to the comparatively new National Park Service. Some considered this irresponsible, including part of the staff of the National Park Service itself. We agree. Although as expansionist as most federal agencies, the National Park Service

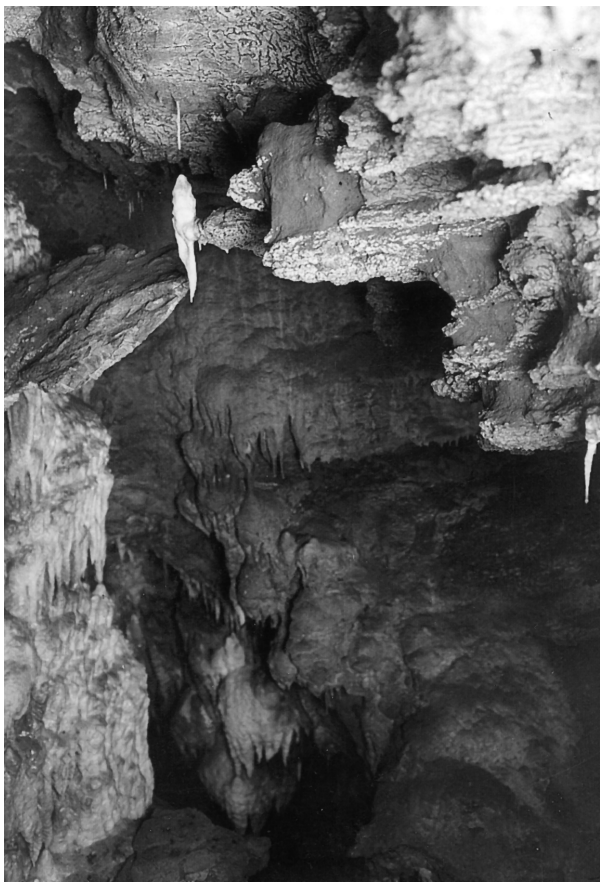

***Figure 3**.The Bird of Paradise. This formation was stolen July 22 or July 23, 1997. At the time of the theft, one entrance to the cave was completely unprotected (Icebox Cave Entrance) and the National Park Service installed non-functional electronic locks on the existing gates. Several weeks after the theft, the junior author of this paper worked as a volunteer in the park to fix the locks on the existing gates. Later a gate was installed at the unprotected entrance. Superintendent Ackerman was apparently unaware of these issues when he provided the* Medford Mail Tribune *information on the theft, as he reported, "Entrances to cave tours are locked when tours are not in progress, and all other known entrances are secured." (http://www.mailtribune.com/archive/97/august/80997n5.htm) (From the collection of The Friends of the Oregon Caves, Frank Patterson, Photographer.)*

then was primarily seeking jurisdiction over Civil War battlefields and other military parks. Oregon Caves National Monument did not meet the Park Service's criteria for additions to the National Park System (Unrau and Willss, 1983). Perhaps because of the anti-capitalist ideology of President Roosevelt's principal advisors, Interior Secretary Harold Ickes and Agriculture Secretary Henry Wallace, Oregon Cave and the other national monuments were taken away from the "capitalist" Forest Service and dumped in the collective lap of an unprepared National Park Service.

The National Park Service quickly removed much overhanging rock, filled passages for easier travel, rerouted streams, and created artificial tunnels for easier tourist travel. On the basis of recommendations by a young naturalist self-described as "inexperienced" (Finch, 1934), it otherwise maintained the status quo for many years. Uncontrollable crowds grew larger and larger and the cave's few attractive speleothems were decimated.

Nominally, the National Park Service managed the monument as an unimportant outlier of Crater Lake National Park, a park long notorious for its staff's disdain for caves and their resources (for example, filling the entrance of unique Hematite Cave with a truckload of rock and gravel only a few years before enactment of the Federal Cave Resource Protection Act). A full time administrator was not appointed for 35 years. A Resource Manager followed in 1989, but much of his time was diverted to other activities (see Roth, 1997). As a result, for almost 70 years, the Service essentially presided over destruction of the cave.

Innumerable postcards show that isolated areas of unspoiled beauty still existed along the tourist trail in the 1930s and 1940s, but destruction continued until the cave was secured at night in 1997. During extensive mapping in the 1960s, the senior author of this paper found only two scenes he thought worth photographing: massive Joaquin Miller's Chapel (Figure 1) and part of the dome called Paradise Lost (Figure 2) which is out of visitors' reach. Last to disappear (in 1997) was the little white "Bird of Paradise" (Figure 3), some bones and the "Crystal Club" vanished about the same time.

Although less than half the cave's passages are on the current tour route, only one other "through route" exists in the cave. In seeming violation of NPS-77 provisions on cave management (see section VI, paragraph 1) this carries the 1997 electric cable system and is heavily travelled. Most of the rest of its passages consist of short parallels and cutarounds within easy reach of vandals. A few remote, obscure areas preserve pristine milk-white flowstone and clumps of crystal-clear sodastraw stalactites as much as 22 inches long. But on and near the tour route, almost the sole surviving scenic

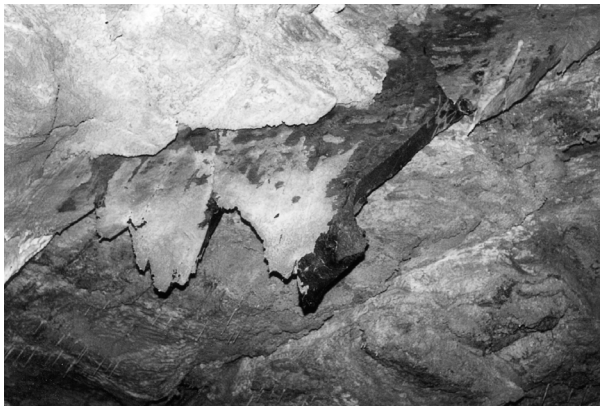

***Figure 4**. A plutonic dike exposed by the dissolution of the surrounding marble. (From the collection of The Friends of the Oregon Caves, Jay Swofford, Photographer.)*

resource is high overhead in Paradise Lost, the scenic climax of the tour.

Current Controversies

In theory the National Park Service thus has managed Oregon Cave for almost 70 years. Yet it still lacks inventory data essential for a meaningful cave management plan. Paleontologist James Mead of Northern Arizona University found so rich a yield in a scant sample that he recommended an extensive paleontological investigation. It has not happened, but controversy escalated when an Environmental Assessment of July 24, 2002, seemed to assert that it had been done.

The Environmental Assessment also referred to "two large mammal bones older than 10,000 years." But when cavers submitted a Freedom of Information Act request for its documentation, no record of such dating was found.

Still further, this Environmental Assessment referred to a "review" of a proposed route of a "spelunker" off-trail tour by National Park Serv-

***Figures 5 and 6.** A tree root in the cave.The tree root has been practically destroyed by trampling and visitor breakage. Figure 5 was taken just a few years before the National Park Service began managing the cave; figure 6 was taken by the junior author in 2001. The National Park Service refused on several occasions between 1985 and 1991 to investigate, talk to, or otherwise interact with visitors caught destroying this root by concession guides. (From the collection of The Friends of the Oregon Caves. Figure 5, Frank Patterson, Photographer. Figure 6, Jay Swofford, Photographer.)*

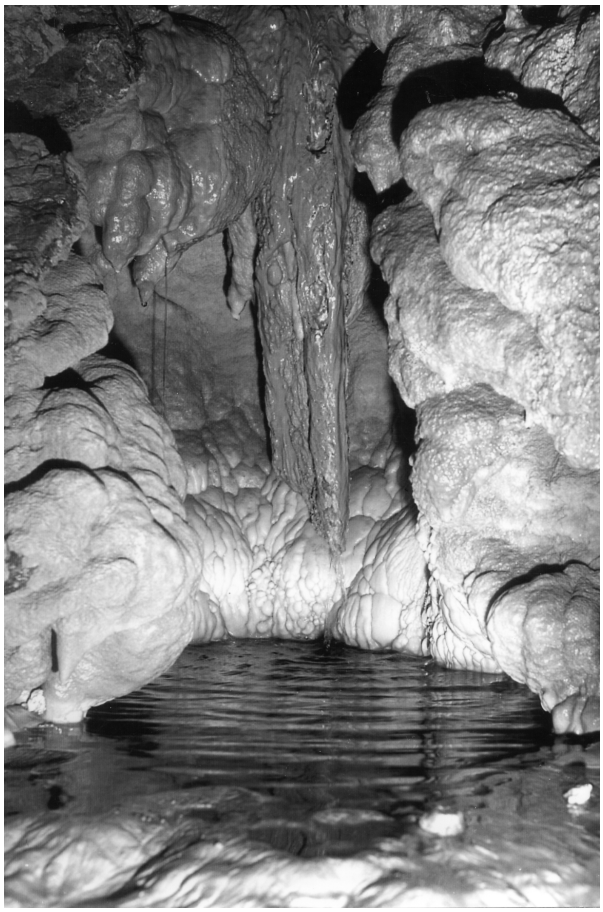

***Figure 7**. This is an example of the small, undamaged sections of the cave that still exist and need protection. Recently, a new species of water mite was discovered here, indicating the presence of an unknown crustacean somewhere upstream. (From the collection of The Friends of the Oregon Caves, Steve Talent, Photographer.)*

***Figure 8**. A bear claw mark in the clays of the south end of the Oregon Caves. The top mark was destroyed in 1985 by Ranger Bruce Muirhead. Ranger Muirhead was providing an "off-trail" experience for the concession cave guides. He identified this set of marks as "solution rills or possibly contraction crevices from drying clay." He then scooped clay from the top mark to allow each member of the tour to "feel its consistency" between their own fingers. The hope was to allow the tour members a better understanding of the cave through tactile interaction. The junior author was a member of that tour. (National Park Service File Photo, Steve Knutson, Photographer.)*

ice paleontologist Greg McDonald. He has denied conducting any such review.

In part because it extends through obvious paleontological sites, this "spelunker tour" continues to spawn controversies. All the monument's environmental documents show a single explicit route for it. But the monument's website currently informs potential visitors that they may reserve "spots on the 'off-trail tour' during summer months," with each tour being different, "exploring different parts of the south end of the cave" where no Environmental Assessment has been done.

Further controversy has arisen out of the staff's acknowledged long-standing policy of distributing scoping notices only to National Speleological Society members listed in the three Pacific Coast states. Apparently obsolete NSS lists have been used and the staff admittedly did not follow up when mail was returned. This selection process systematically excluded some of the most knowledgeable persons about Oregon Caves National Monument and about marble caves in general. Some of those excluded from input on recent management documents are Dr James Moore (expert on marble caves, as published in the 2003 NSS Convention Guidebook), Dr Stephen Cross (who has conducted bat studies in parts of the cave and recommended others), Dr James Mead (cited above) and the two authors of this paper. The National Environmental Protection Act requires that scoping notices be sent to such knowledgeable persons. The senior author prepared the first geological report on Oregon Cave (Halliday, 1969) and the first modern map of the cave, and also is co-author of a very popular booklet sold at the cave. He received no scoping notice of any of the National Park Service documents cited in the list of references for this paper. The junior author is Director of Friends of Oregon Caves. He maintains the largest known reference library about the cave, and guided there for years. He was included in the scoping list for the General Management Plan but not for the ensuing En-

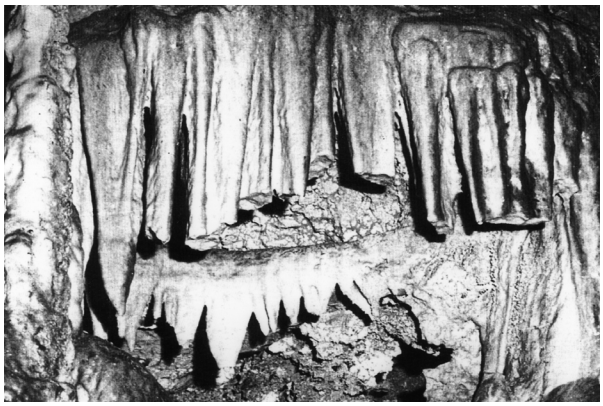

Figure 9. Regrowth of speleothems occurs very slowly in Oregon Cave. This vandalism of Niagara Falls (against which visitors brush) is evident in an 1899 photograph but not in another taken between 1889 and 1891. A 1991 study showed that the maximum regrowth here was 1/8 to 1/4 inch at the leading edges. Of several hundred measured, the longest soda straw regrowth was less than 2 inches. (National Park Service File Photo, Roger Contor, Photographer.)

vironmental Assessments, supposedly mailed from the same list.

Subsequently, ill-founded assertions and absurd errors of fact have appeared in some of these documents, and in on-line statements derived from them. Contrary to these supposedly authoritative documents, Oregon Cave does not have "one of the most adventurous cave tours in North America," nor is it "more like real cave exploring than perhaps any other cave in the country" (National Park Service, 1999). Nor was it, as asserted, the longest solutional cave "within 1,000 miles" prior to the discovery of Bigfoot Cave (Lilburn Cave in California was and is several times as long). Nor did its speleogenesis begin "220 million years ago" by "collisions of continental and ocean rock" (Connor, 1998). The senior author of this paper did not investigate the cave's bats in 1952 as asserted in the online Environmental Assessment for the controversial spelunking tour (he was not even in the region at that time). Many other errors of fact attributable to this lack of input can be cited.

Important geological interpretations in Connors (1998) and other documents seem strained and clearly were not reviewed by knowledgeable karstologists. A statement that "the marble outcrop appears to have formed on this volcanically active island chain . . ." reveals a fundamental misunderstanding of metamorphism of limestone into marble. And contrary to repeated assertions, metavolcanic and metasedimentary rocks alongside the Oregon Cave marble are not part of the cave just because they are exposed by breakdown or solution of adjacent marble. See below. Certainly, such noncarbonate rocks do not "decorate" the cave as asserted.

Perhaps the most important current controversy, however, has arisen from the overall thrust of the monument's 1999 General Management Plan. Comparatively little of this long document relates directly to Oregon Caves National Monument. Most of it is a hodgepodge of misorganized historical perspective together with explications of management concepts that seem intended to apply to all caves of all units of the National Park System (including Hawaiian lava tube caves). Those parts clearly identifiable as primarily pertaining to Oregon Caves National Monument, however, clearly establish multiple use management for the monument, excluding only the logging and mining prohibited in 1909. (Normally, multiple use management is considered the function of the Forest Service, not the National Park Service.) Further, they establish that management of the monument primarily is for the economic and recreational benefit of the people of southwestern Oregon as did the Forest Service's management prior to 1934. This role reversal refocuses the long-standing question of which agency should manage Oregon Caves National Monument.

Significance of Oregon Cave

Oregon Cave is one of hundreds of dissolution caves in the numerous narrow marble roof pendants within the Klamath and Sierra Nevada Mountains of Oregon and California—a topic discussed in detail by Stock and Moore (2003). Throughout the Grants Pass Quadrangle, this pattern is especially clear in Wells' preliminary geological map of the quadrangle (Wells, 1940). Depending on the local lithology, various non-carbonate rocks are commonly exposed in the walls of such caves. Their speleogenesis, however, uniformly began with dissolution of marble, not the volcanism or metamorphism which produced the non-carbonate rock (Halliday, 1969). Thus these other rocks are not features of the caves just because they may be seen in their walls (Halliday, 1953). Caves merely serve as windows through which limited exposures of these non-carbonate rocks may be viewed. Roadcuts are better than caves for this because exposures of the rocks are far larger, and the lighting is better.

Oregon Cave is one of the larger examples of such roof pendant caves. Its shape and pattern generally are quite similar to those of well-known Lilburn Cave, a day's drive to the south in Kings Canyon National Park, but Oregon Cave is far smaller (currently 4.87 kilometers to 32 kilometers for Lilburn Cave). In size, Oregon Cave is more comparable to Crystal Cave, another National Park Service show cave in marble, located a few miles from Lilburn Cave but in Sequoia National Park.

Both Oregon Cave and Crystal Cave are resurgence caves located beneath steep hillsides. Oregon Cave is slightly longer than Crystal Cave—4.87 kilometers vs 4.2 kilometers, not 5 miles as currently asserted on the monument's website. Excluding the Exit Tunnel, its tour route is slightly shorter—1,700 feet vs 1,800 feet in Crystal Cave. (Both are much shorter than those in Kazumura Cave, Hawaii; Ape Cave, Washington; Lava River Cave, Oregon; and several others in the western United States.)

But meaningful comparison stops here. In striking contrast to the passages of Crystal Cave, most of those of Oregon Cave are grubby squeezeways, with evidence almost everywhere of decades of abuse and neglect. In glorious contrast, Crystal Cave is notable for spacious, sweeping vistas of near-pristine white speleothems, with crystal facets sparkling even in the dim tour light. On a 1:10 scale, the scenic resources of Crystal Cave rate 9. Those remaining in Oregon Cave are 3 at most. Among the numerous other caves of the Klamath Mountains, at least one sizeable example rates 7, and protection of several other Klamath Mountains caves appears at least as important as Oregon Cave. One of these caves is within the area that the National Park Service has been vainly seeking since 1934 for an enlargement of Oregon Caves National Monument. But the Park Service evidently has no management strategy at all for the other caves presently within the monument, so there seems to be no reason to bring it into the monument.

But all this matters little to the average visitor to Oregon Cave, drawn to the site by decades of publicity and the magic phrase "national monument." Visitors typically take justifiable pride in visiting this, the largest marble cave in either of the two Pacific Northwest states, a huge area where soluble rocks and hence dissolution caves exist only on its fringes. After all, this is an impressively extensive cave with a scenic climax at Paradise Lost. And its narrow, sinuous passages are fun even if more than a trifle muddy. Hardly any of today's visitors know nor care how the cave looked in 1933, much less in 1833 before the coming of civilization. And indisputably it is a major financial and recreational asset to the people of the Illinois and Rogue River Valleys—their pride and joy. Such deep convictions cannot be dismissed lightly.

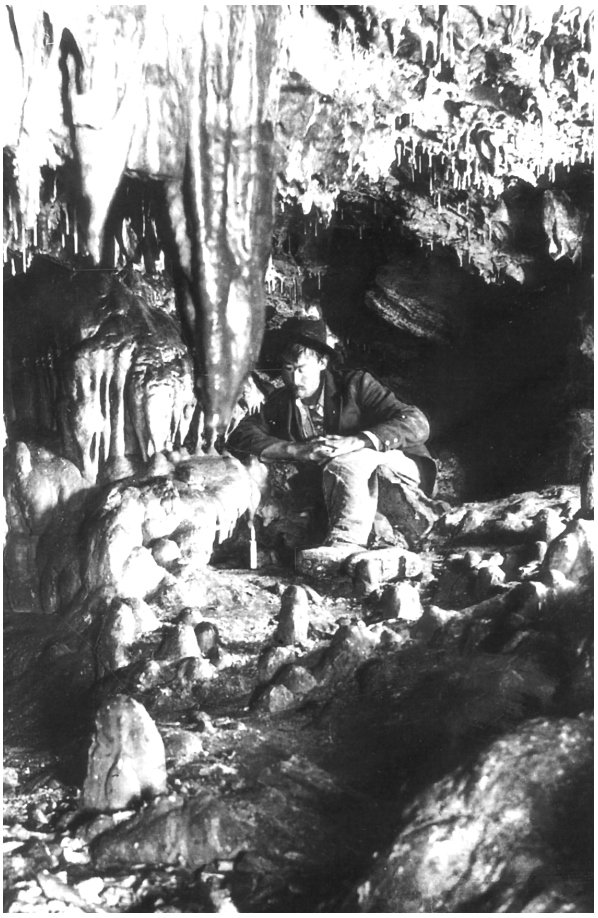

***Figure 10**. An early explorer in the Oregon Caves. (From the collection of The Friends of the Oregon Caves, B.L. Singley, Photographer.)*

Looking Forward

In the past few years, the National Park Service has developed a series of planning documents for the monument, not yet complete (National Park Service; 1997, 1998, 1999, undated). Some of the planned actions have disturbed influential segments of the local population (see National Park Service; 1998, Volume 2) just as predicted by Finch (1934). Nearly everyone considers some of its other actions to show really good intentions, however (securely locking the cave at night in 1997, for example). The resource impact of still other "improvements" is less clear. Physical modifications to the tour route may be harmful by destroying remains of small animals in the ma-

terial that was excavated and discarded; no environmental impact study preceded recent work. Nor was such a study conducted before opening a new entrance which may have altered the cave's air flow significantly. It is difficult to continue supporting management of a national monument that repeatedly disregards the need for environmental impact studies.

Past failure to follow through with good intentions also is an ominous sign for the future. In 1997, the General Management Plan Draft asserted that inventorying cave resources was "90% complete," and "cave deposits are currently being examined for small vertebrate fossils." The latter was restated in the 1999 General Management Plan, but neither has progressed beyond the stage of good intentions. Despite 70 years of National Park Service management of the monument, the inventory is nowhere near "90% complete." About ten years ago, some 10,000 biological specimens were sent to the University of Washington for identification. At the 2003 NSS Convention, the monument's Resource Manager acknowledged that more than 97% of them remain unidentified, due to a lack of funding by the National Park Service. The monument's inventory of both biological and paleontological resources thus is far insufficient for development of a meaningful Cave Management Plan or for confidence in its management.

Currently, high-tech photomonitoring and cave restoration are being touted as solutions for some of the management problems here. But the reasons espoused for photomonitoring and statements about the expected outcomes of restoration are so vague that these seem to fall into the category of good intentions which lack accountability. The junior author hopes that discovery of fresh vandalism through photodocumentation will lead to a prompt beginning of investigation and enforcement. On the basis of 70 years of history, the senior author fears that nothing useful will come of it (except perhaps praise for someone doing something which looks commendable, regardless of outcome). Steve Knutson hopes that it would be a useful demonstration project, valuable in other Park Service caves (R.S. Knutson, e-mail communication 2003). But in the absence of statements of purpose so clear that outcomes can be measured against them, such projects seem likely to merely produce additional controversies.

Even cave restoration projects seem likely to provoke still more controversy. Serious questions remain unanswered:

- Considering the vulnerabillity of restored speleothems in its narrow, twisting passages, would the cave be better off without the additional impact of restoration efforts necesssarily repeated every few years? Or every year?
- Are enough speleothem remnants present for meaningful restoration without unacceptible creation of new, largely artificial speleothems?
- How many of its speleothems were unaesthetic originally, with mud and silt embedded during their formation? And does that matter?

Under its present management strategy, Oregon Cave seems likely to continue indefinitely as a lightning rod for controversy.

Recommendations

To the surprise of many of us who long have been National Park Service advocates, the Forest Service recently has demonstrated clear ability to manage national monuments. Its Mount St. Helens National Volcanic Monument could be a model for Oregon Caves National Monument. Oregon Cave retains considerable value and wide public support as a show cave within a recreational area. In our opinion, the public and the cave would be served best by returning this ill-fated national monument to the Forest Service to again be managed as it was before 1934. Except for privately-owned Wilderville Quarry Cave, this would permit all the caves of the Klamath Mountains to be managed as a unit, something which we consider very desirable.

But in doing this, the 1907 scientific mandate for the monument should be applied in a new way. At least until inventories are complete, the untravelled sections of the cave should be designated Research Areas where even administrative access is severely restricted. This can be entirely compatible with management of the rest as a show cave.

With this proviso, another Executive Order should transfer the national monument back to the Forest Service at least by the end of the 2004 tourist season. Otherwise, with the passage of more and more time and more and more controversy the basic problem will merely become more and more obvious: Oregon Cave simply lacks the characteristics necessary for a National Park Service show cave.

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