I. Introduction

In this paper, I shall examine the interrelationships of the objectives of our National Wilderness Preservation System on the one hand, and the goals of archeological conservation on the other. Archeological resources are, of course, limited and nonrenewable. They must be conserved and managed for maximum longevity if the field of archeology is to continue to evolve so that research can provide an increasingly successful understanding of past cultures, and if the public is to receive the benefits of this research through books, films, museum exhibits, and the interpretation of the sites themselves. (More detailed discussion of archeological conservation is found, for example, in Lipe 1974 and Thompson 1974.) The principal question addressed here, then, is what are the prospects and problems for archeological resource conservation posed by the inclusion of these resources in Wildernes ses.

I assume that the "wilderness system" includes not only lands officially designated as Wilderness under the Wilderness Act of 1964, but lands designated as Primitive Areas by the Bureau of Land Management. The Primitive Area classification is modeled after the Wilderness Area. The BLM manual states (section 6221.06):

B. Wilderness Act of 1964. BLM primitive areas will be managed to maintain the same quality as lands included in the National Wilderness Preservation System.

There are also, of course, other public lands which are managed to preserve at least some wilderness values, and many areas which are de facto wilderness. Many of my remarks can apply equally well to such lands, but I shall not refer to them as being part of the Wilderness System.

My personal involvement with archeological resources in a wilderness setting covers much of my research career in the Southwest. From 1958 through 1961, I worked with the University of Utah's
archeological salvage project in the Glen Canyon area, much of the time in de facto wilderness. Most of these areas are currently under study by the National Park Service for formal Wilderness status. I have also spent six field seasons since 1967 doing research in the Cedar Mesa-Grand Gulch area of southeastern Utah, a substantial part of which has been designated the Grand Gulch Primitive Area by the Monticello District of the Bureau of Land Management. The BLM now has a ranger team operating in this area and is developing a management plan. I have been an advisor to this program since its inception, and will draw a number of examples from this experience later in the paper, particularly in the section on visitor management in relation to archeological conservation.

II. Wilderness System Objectives and Archeology

As I interpret the Wilderness Act and the BLM Primitive Area regulations, our system of designated Wilderness has three principal objectives, each of which can be viewed in relation to the conservation and management of archeological values.

The first of these objectives is the preservation of natural landscapes and ecosystems in a state relatively free of man's (at least modern man's) influence. Both the Wilderness Act (Section 2(c)) and the BLM Primitive Area regulations (Section 6621.11) state that the areas so preserved may contain

... ecological, geological, or other features of scientific, educational, scenic, or historical value.

The inclusion of archeological resources in Wildernesses is, therefore, clearly permitted. To my mind, the fact that this language appears in the "criteria" sections of both the Wilderness Act and the Primitive Area regulations suggests that the presence of such values may improve the chances for a piece of land to be designated a Wilderness or Primitive Area, provided the other conditions are met. Certainly in the decision to establish the Grand Gulch Primitive Area, a very important factor was the desire to protect the many well preserved cliff ruins and pictographs found there.

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The next question is "preservation for what purpose?," and that leads us to the remaining objectives.

The second objective, as I see it, is study or research. In addition to the criteria quoted above, various passages of the Wilderness Act and the Primitive Area regulations speak to this objective, and I quote them (the underlining is mine):

... For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as "wilderness areas," and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness. . . . (Section 2(a), Wilderness Act)

... Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use. (Section 4(b), Wilderness Act)

Nothing in this Act shall prevent within National Forest wilderness areas any activity, including prospecting, for the purpose of gathering information about mineral or other resources, if such activity is carried on in a manner compatible with the preservation of the wilderness environment. . . . (Section 4(d)(2), Wilderness Act)

The BLM Primitive Area regulations are not quite as explicit as the Wilderness Act; but, in addition to the passage already cited, they provide that such areas

... are established to preserve, protect, and enhance areas of scenic splendor, natural wonder, scientific interest, and other natural values for the enjoyment and use of present and future generations. (BLM Manual 6621.06)
Further, one of the objectives of the Primitive Area program is to

Preserve natural ecosystems as a standard against which the effects of civilization can be measured. (BLM Manual 6221.02)

To me, such measurement implies research.

My conclusion, then, is that study and research are not only permitted in Wildernesses, but are encouraged as one of the objectives of the Wilderness System. One purpose of such study and research is clearly to provide information that will ultimately enhance the public's "use and enjoyment" of Wildernesses. Archeological sites in the Wildernesses are not going to be developed and interpreted a la Park Service with signs and conducted tours. Except in a limited way, they are not going to "speak" to the uninitiated visitor. The visitor is going to have to learn something about the archeology of the area from books, or exhibits elsewhere, or from a contact with a ranger or other agency staff person in order to be able to understand and interpret the unexcavated sites he or she will observe. This information that will help the visitor "use and enjoy" ultimately comes from research. Furthermore, the BLM regulations state, and to me the Wilderness Act implies, that Wildernesses are to serve as a standard so that we may compare our changing civilization and its effects to an earlier, more primitive, more "natural" state. On both counts, archeological research would appear to be approved and, in fact, encouraged.

This leads us to the final objective of the Wilderness System, which is public use and enjoyment. Bowman (1973) has analyzed wilderness values from the standpoint of the ordinary visitor. His studies are based on several years of interviews with visitors to Glacier National Park. According to him, the successful wilderness experience has three components. First, there is the sense that man's use of the area remains definitely subordinate to maintaining predominantly natural conditions. Bowman stresses that this does not necessarily mean ecological purity--introduced exotic species are accepted by the public so long as they do not detract from the predominance of nature over the man-made. Second, there is a quality of remoteness from civilization and ordinary life, both in space and in the types of
activity engaged in. Historical sites do not detract from the Wilderness so long as they do not disturb this sense of remoteness from the ordinary contemporary life style of the visitor. Third, as a result of the first two components, there is created in the Wilderness user a sense of self-reliance. The visitor thus plays an active rather than a passive role in the recreational and educational aspects of the experience.

The presence of archeological resources in the Wilderness appears congruent with this model of "use and enjoyment." They help provide the visitor with a perspective on his or her ordinary life by showing how man used the area differently in the past.

How then do these objectives of wilderness preservation, study and research, and public use and enjoyment interrelate with our concerns for conservation and management of archeological resources. These topics will be considered in the following sections.

III. Wilderness Preservation and Archeological Conservation

The positive aspects of Wilderness preservation are fairly obvious. By limiting competing and potentially destructive uses such as roadbuilding, and by limiting easy public access, Wilderness status can definitely help preserve sites. The fact that people must walk or ride beasts of burden into Primitive Areas is especially important. In my experience, most archeological vandals do not go far from motorized vehicles. Screens, shovels, and looted artifacts are not only difficult to pack on one's back, they are more obvious and are exposed for a longer time than if they were in a car or pickup. Furthermore, a trip into a Wilderness generally requires much more time than does a trip into an area accessible by motor vehicles.

Wildernesses are also generally set up on some type of "natural region" basis, such as a canyon system or mountain range. To the extent that prehistoric settlement systems had similar regional bases, all or parts of them may be preserved. By settlement system, we mean the relationship of sites of human activity to one another, and to the resources provided by the physical and biological environment. Data on these types of relationship are of great interest in current research and promise
to add greatly to the public's understanding and appreciation of archeological resources. Data of this sort are, however, becoming increasingly hard to obtain because of man's alteration of the landscape. Wildernesses can provide havens from this type of disturbance.

A related value of Wilderness preservation is the fact that the natural setting is retained more or less as it was prior to modern man's intrusion. Obtaining data on the current physical and biological environment of sites is generally important for reconstruction of past environments and of prehistoric man's adaptive relationships to those environments. Of course, the prehistoric environments may not have been identical to those of today, even if the latter are "pristine," because of climate change or of prehistoric man's alteration of the environment. But, for techniques such as palynology, faunal analysis, study of macrofloral remains, etc., the archeologist and paleoenvironmental specialist generally are much better off if the present environment is relatively natural than if it is a plowed field, overgrazed pasture, or suburban housing development.

Negative aspects of Wilderness preservation include the remoteness of sites from frequent surveillance by either the general public or the staff of the land managing agency. Although many pothunters are not determined enough to invade Wildernesses, those who are may have a good chance of getting away undetected. Furthermore, protective fences and warning signs are not in keeping with preserving the character of the Wilderness. Visitors may also unintentionally damage sites; e.g., by climbing on walls, because they do not realize how fragile they are. In the Grand Gulch Primitive Area, the ranger team is using a number of techniques to circumvent some of these difficulties; these will be discussed later.

The problem of site stabilization is also a knotty one for the Wilderness area manager. What is to be done if a site is being eroded away by a stream? Should the site be salvaged, should it be stabilized by building an embankment in front of it, or should nature be allowed to take its course? The Forest Service and Bureau of Land Management seem to be taking different positions on this. In the Southwest, at least, the Forest Service seems to eschew any sort of excavation or stabilization in Wildernesses.
as contrary to the Wilderness Act, while the BLM has already stabilized at least one site in the Grand Gulch Primitive Area. Since the Wilderness Act permits mining, hunting, telephone lines, reservoirs, motor boats, motor vehicles, grazing, etc., under certain conditions, the Forest Service position on stabilization seems extreme to me. I think, however, that any site stabilization that is done in Wildernesses should be as discreet and minimal as possible and should be dictated by specific needs of preserving the site. Reconstruction and "interpretive stabilization" of excavated sites, such as is often done in parks and monuments, would be inappropriate in Wildernesses. If a site is threatened and cannot be stabilized without obvious violation of the wilderness character of the area, then salvage may be a preferred alternative.

In general, the positive aspects of Wilderness preservation seem to outweigh the negative ones from the standpoint of archeological conservation. If this is so, and the establishment of Wildernesses having substantial archeological resources is desirable, how can this best be promoted by archeologists?

In the first place, archeologists must join forces with professionals from other disciplines and most probably with conservationists and other public groups if their efforts are to be successful. Wildernesses are not going to be established on the basis of a single value, such as geology or archeology. If archeologists are concerned about getting involved in politics by lobbying for a Wilderness, they should explicitly confine their activities to providing accurate information on the characteristics and importance of the archeological resources to all concerned parties.

In most cases, the lead agency for a Wilderness proposal will establish multi-disciplinary teams to study the area and will hold public hearings. Concerned archeologists should attempt to see that archeological expertise is represented at both levels.

In working toward the establishment of Wildernesses, archeologists should emphasize the importance of including total settlement systems and a variety of ecological settings. Too often, Wilderness selection seems to have been biased toward the extremely remote and the extremely rugged landscapes. Wilderness criteria do not, in fact, place these kinds of limits on selection.
In the Grand Gulch region, for example, one of the principal reasons for setting up the Primitive Area was to preserve archeological resources. Yet the boundaries were drawn to include primarily the canyons. Recent studies show, however, that the prehistoric settlement system included both mesa top and canyon environments, that most of the prehistoric people were probably on the mesa most of the time, and that despite their well preserved sites, the canyons were less densely settled than was the mesa top over most of the area (Lipe and Matson 1971, 1974, 1975). In my opinion, this Primitive Area should be enlarged so as to include more of the mesa top and hence more of the prehistoric settlement systems. Archeology may not be the only scientific field with a need for a regional approach and environmental variety; common cause can be made with other fields having similar needs; see, for example, Sullivan and Shaffer 1975.

IV. Wilderness Study and Research and Archeological Conservation

In the preceding section, I indicated that archeological resources preserved in a Wilderness setting often had special potential for research, because of the preservation of the settlement system and of associated ecological data. To the extent that archeological research, through collection and excavation, diminishes the resource, research archeologists, whether in a Wilderness or not, are constrained to use the resource conservatively. They should be able to justify their research problem as important and the target sites as important to it; they should collect and excavate so as to use the resource as economically as possible and leave data for later workers if feasible; and they should take special care with sites not threatened with destruction by means other than research.

Outside of these general conservation bounds, however, what constraints does the Wilderness setting itself impose on the archeological researcher? In at least some regions, the Forest Service apparently interprets the Wilderness Act to preclude excavation and testing. This is a severe constraint indeed. Yet the BLM, proceeding from a set of regulations modeled after the Wilderness Act, does not at this point, at least, place a blanket prohibition on excavation in Primitive Areas. To me, the Forest Service position, if I have represented it fairly, is unreasonable. The Wilderness Act clearly establishes study
and research as one of the objectives of the Wilderness System. And, as I pointed out with respect to stabilization, it allows a number of other intrusions on pristine wilderness that seem much more disruptive than does archeological excavation. And finally, research, including excavation, would seem to be essential to provide the public with the information it needs to get maximal enjoyment from the archeological remains encountered.

Assuming, therefore, that excavation as well as surface observations and collection are appropriate within Wildernesses, the question remains of what special constraints this situation may impose.

First, most of the sites preserved in a Wilderness are not threatened with disturbance, either by the forces of nature or the works of man. The archeologist will not be able to select sites for excavation or collection from among a set soon to be destroyed by means other than research. Should such sites be disturbed? I would say yes, if these sites provide the best data for justifiable research questions and if they can be economically used; i.e., if similar sites can be left unexcavated for the future or if the sites that are studies are only partially excavated. After all, the main purpose of conservation of archeological resources is so they can be used, albeit gradually, so they can yield information over a long period of time to an evolving and increasingly sophisticated research discipline.

Second, research must be conducted in such a way as not to intrude on the wilderness quality of the area. No motorized transport or equipment can be used; and camps, if they are within the Wilderness, must be primitive. Crews must be small; they must walk or ride animals to and from work; and they must use hand tools only. This means research will take more time, will take more labor, will have greater logistical complications, and hence will be more expensive than research conducted outside a Wilderness setting. It also requires recruitment of workers with the ability to master the logistic and living skills required for working in a Wilderness setting. In my experience, these constraints do not present particularly great problems. The problems increase, of course, with the size and duration of excavations. A related benefit, in my opinion, is the closer involvement with the environment that wilderness work generally entails. This subjective involvement
can be a source of insights and hypotheses about prehistoric environmental relationships; these can be tested in the usual way.

Third, even more care than usual must be taken in backfilling and restoring excavated or tested sites to as near as possible original condition. This may require consultation with environmental specialists on proper reseeding or other reclamation practices.

Finally, it will probably be necessary to leave some portion of the archeological resource forever unstudied. Sites that have never been studied can play an important role in the wilderness experience of visitors. They are a reminder that man has been only a brief intruder in the area. Unstudied sites can encourage the active participation of the visitor in interpreting the site because he or she is starting from the same point as the archeologist, who didn't "get there first."

V. Wilderness Use and Enjoyment and Archeological Conservation

As previously noted, Wilderness users may present some threat to sites, either because they intentionally commit acts of vandalism or because they inadvertently damage fragile sites by scrambling over them, camping on them, etc. Wilderness managers have the obligation to protect the sites, yet the visitors' wilderness experience will be damaged if not destroyed by constant surveillance or the fencing and signing of sites. The Wilderness user must experience a sense of remoteness from reminders of civilization such as land managers, and must be free to engage actively in exploration and discovery on his or her own, without being lectured to or receiving a packaged tour.

It seems to me that this second requirement of the wilderness experience provides a mechanism for getting a conservation message across to the visitor. The Wilderness user needs enough information about the features of the area being visited to be able to pose challenging questions and have some chance of coming up with satisfying answers. If the management team can provide this sort of information, they also have the opportunity to get across a conservation message as part of the informational package.
As an example, the ranger team in the Grand Gulch Primitive Area is attempting to do this through personal contacts with visitors to the area. They have a contact station at the point where one of the main trails into the area departs from a main access road. Prospective visitors who write to the BLM District Office in Monticello for information are encouraged to stop at the Ranger Station, and persons who are using this point of access to the Gulch are usually encountered by the rangers whether or not they have had previous communication with the BLM. In addition, patrols are conducted in which an attempt is made to contact some of the visitors who have not "checked in" at the Ranger Station. In visitor contacts, the rangers try to convey information about safety, water, campsites, and restrictions (e.g., no bathing in main drinking water sources), and to answer questions about natural history and archeology. They also discuss the fragility of the sites, the need to protect them, and the legal basis for doing so. There is an attempt to cover certain points, but not to provide a "canned" lecture. Visitors are offered an information flyer which covers essentially the same points and has a general map of the area showing locations of favored camping spots and water sources.

In my opinion, this educational approach, while good as it stands, could be furthered by making more detailed printed information available, in the form of better maps and a trail guide. The latter would provide more detailed background information, plus specific information on selected sites of archeological and natural historical interest. Safety and conservation messages could be presented as well. This type of material would provide the visitor with more information than could the brief personal contact (which would, of course, not be superseded), and would provide it in a form that could be consulted, absorbed, and used in the exploration and discovery process while the visitor was actually in the Wilderness.

Wilderness is often used by commercial packers and hiking tour leaders who take groups into the area. It is essential that Wilderness managers make contact with such persons and enlist their cooperation in archeological conservation. In an area which contains well preserved archeological remains, such as Grand Gulch, commercial guides will generally already have an interest in preserving the sites because they are features of their own interpretive program. Commercial guides must also
generally obtain permits from the land managing agency, and this provides an opportunity for the agency staff to seek cooperation in getting conservation information across to the public. In the Grand Gulch Primitive Area, the principal commercial packer has shown great interest in archeological conservation, as well as in obtaining more information on the sites so as to make his tour presentations more effective.

In addition to informational exchanges with the visiting public, some type of patrolling is necessary to establish a management presence in the area. Visitors will then know that there is some chance they will encounter management personnel while in the area. The trick is to establish this "presence" without becoming "big brother" and destroying the feeling of remoteness and self-reliance sought by the visitor. In the Grand Gulch Primitive Area, the ranger team conducts horseback patrols through the Gulch (over an approximately 50-mile course) on the average of once a week during the busier months of the year (March through October), but not always on the same days or from the same starting points. In addition, foot and horseback patrols are conducted in other parts of the area on a random basis, or in order to meet parties known to be in the area but which have not made contact with the rangers. Pickup patrols are also run every few days on the various access roads to the Primitive Area; and, if parked vehicles are encountered, a note is left asking the party to stop by the Ranger Station and report on their hike and if they need information or assistance. In some cases, the rangers will go into the Primitive Area in order to contact such a party directly. A helicopter patrol of the boundaries of the Primitive Area has been conducted regularly this spring in order to spot parked vehicles. This is part of a helicopter patrol of a much larger area. The rangers report that the reactions to contacts made while on patrol have generally been favorable, but there have been some negative reactions, particularly to overflights by the helicopter. Guidelines on use of the helicopter are still being developed, and the entire patrol program can still be said to be in an experimental stage.

In my opinion, patrol of some type is essential, but contacts must be made very informally and subtly so as not to dash the wilderness experience which the visitor is seeking. Extreme caution must be used in motorized patrols, especially with the
helicopter. Overflights of the Primitive Area are not now being made, nor should they be. In my opinion, whether or not they are actually in the Primitive Area, hikers should not be "landed on" except in emergency, and only vehicles on main access roads should be contacted in this way. In all cases, I think the boundary patrol problem would be eased if the area could be expanded. Currently, it is very long and narrow, and is confined primarily to Grand Gulch, some of its tributaries, and the immediately surrounding rim areas. I have already argued that on archeological grounds, the area should be enlarged. From the standpoint of effective people management, enlargement would help, too. In many places now, the heart of the Primitive Area is less than a mile from the boundary on either side. With an enlarged area, visitors could get farther away from the edges and, hence, be more remote; vehicular patrol of the boundaries would be less disruptive; and more visitors might be inclined to use the main trail which starts at the Ranger Station rather than look for short cuts into the canyon.

In addition to "soft-sell" education and patrols, there is a third possibility for archeological conservation. This is naturalistic site modification to control visitor access. In the dry shelters of Grand Gulch, one of the principal impacts of visitor use is the erosion of trails in the dry soil. In some cases, these are undermining walls or destroying midden deposits. Careful placement of boulders or dead logs might subtly direct visitor traffic away from the more easily damaged spots without it being obvious that the site had been modified for this purpose.

Wildernesses with fragile archeological resources may ultimately have to have limitations on access to preserve these features. Grand Gulch, for example, has currently less than 1,000 visitors a year in an area over 70 miles long, but some of the sites are clearly showing wear and tear. It may be that eventually only a certain number of persons per day will be permitted to enter the area, or that parties will be requested not to enter certain ruins. There already are restrictions on the size of hiking and horseback parties.

VI. Conclusions

The establishment of Wildernesses having significant archeological content can be an important tool in the archeological conservation
movement. Such Wildernesses offer unique potential for preservation, research, and public enjoyment of archeological resources.

As with other avenues of archeological conservation, the ultimate objective of conservation is use. Research, including excavation, must be permitted in Wildernesses to satisfy one of the main objectives of the Wilderness System and to provide information needed by the visiting public to attain maximum enjoyment and appreciation of such areas. Research, however, must be conducted with maximum economy and respect for the other requirements of Wilderness management, and there may be some segment of the archeological research base in Wilderness that should remain forever untouched.

Because of remoteness and visitor's need to be isolated, there are special conservation problems associated with visitor enjoyment of archeological resources in Wildernesses. The active engagement of the Wilderness visitor in the interpretation and conservation process holds promise, however, for especially interesting forms of interaction between research producers (archeologists) and research consumers (land managers and the public).

From a conservation standpoint, the advantages of expanding the Wilderness System to include more areas of substantial archeological resources, and the development of archeological management programs in such areas, far outweigh the associated disadvantages and problems. Archeologists must work with professionals from other disciplines and with public groups including conservationists in order to obtain Wilderness System protection for more areas of archeological interest. They must also work with public land managers to develop effective archeological conservation programs for Wildernesses.