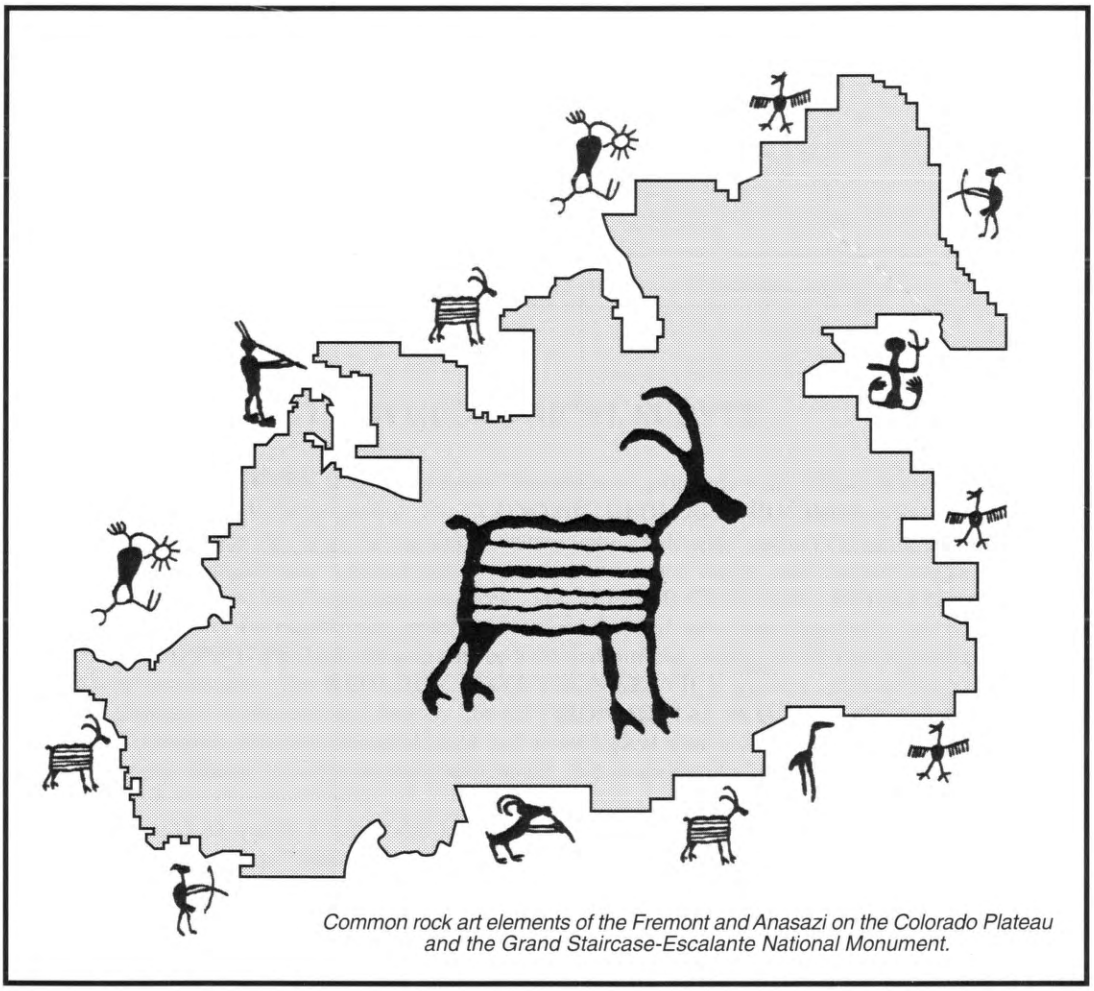
A PRELIMINARY ASSESSMENT OF ARCHAEOLOGICAL RESOURCES WITHIN THE GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT, UTAH

by
David B. Madsen



Common rock art elements of the Fremont and Anasazi on the Colorado Plateau and the Grand Staircase-Escalante National Monument.

CIRCULAR 95 **1997**
UTAH GEOLOGICAL SURVEY
a division of
UTAH DEPARTMENT OF NATURAL RESOURCES

ISBN 1-55791-605-5

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PREFACE

The purpose of this report is to provide a preliminary inventory of the archeological resources within the newly created Grand Staircase-Escalante National Monument for two principal reasons. First, in establishing the monument, President Clinton proclaimed the opportunities for scientific study, expounding at length on the archeological resources and sites. He directed the U.S. Bureau of Land Management to develop a management plan for the monument within three years. Information on the location, extent, and importance of archeological resources needs to be available to the monument planners, to archeologists and other scientists, and to the interested public to help determine how these resources will be incorporated into the management plan. Will scientists be allowed to excavate sites? Can a sample be removed for additional study or curation? These and many other questions will have to be answered in the management plan. The more information that can be provided to the BLM, the better they should be able to anticipate the location and size of potential impacts from scientific research.

Second, about 176,000 acres of surface lands managed by the Utah School and Institutional Trust Lands Administration for the benefit of Utah's school children are within the monument's boundaries. The President promised to trade out School Trust lands ("inholdings") for comparable federal lands elsewhere, presumably in Utah. The Trust Lands contain significant known and potential deposits of minerals and energy resources. In addition, these surface lands contain significant and potentially significant archeological artifacts and sites.

There are different opinions about the impact of artifacts and archeological sites on land values. The scientific values are difficult to assess financially and it is generally not even attempted. To place a dollar value on a scientific specimen may tend to establish a price for illegally obtained or stolen pieces. In some real estate markets, however, the presence of archeological sites, along with deed covenants to protect them, actually enhances land values. Alternatively, the presence of scientifically and culturally valuable artifacts may limit or, in rare cases, even prohibit other land development. In these instances, it is argued that the archeological resources have reduced the land value. It is not our intention to enter into these arguments here. Rather, it is the long-term goal of the Utah Geological Survey to provide an inventory of archeology resources on School Trust lands to identify their scientific importance and their impact on potential energy and mineral resource development.

The summary information in this report indicates that archeological resources in the monument may be extensive, but that their distribution and locations are not well known. An active program of resource assessment on School Trust lands needs to be completed as part of the inholdings exchange. Longer term, a continuing program of assessment on federal lands, along with recovery and preservation, needs to become part of one of the monument's principal missions: archeological study.

M. Lee Allison
February, 1997

Other publications on the Grand Staircase-Escalante National Monument from the Utah Geological Survey:

A preliminary assessment of energy and mineral resources within the Grand Staircase-Escalante National Monument, by M. Lee Allison, Circular 93

A preliminary assessment of paleontological resources within the Grand Staircase-Escalante National Monument, Utah by David D. Gillette, State Paleontologist, and Martha C. Hayden, 1997, Circular 96

Topographic map of the Grand Staircase-Escalante National Monument, Utah, 1997, Public Information Series 49

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INTRODUCTION

On September 18, 1996, by the authority vested through section 2 of the Antiquities Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), President Clinton established by proclamation the Grand Staircase-Escalante National Monument (appendix A). The monument sets aside some 1.7 million acres, or about 2,700 square miles, in southern Utah to be protected for its scientific, historic, biologic, cultural, and scenic attributes. The proclamation cites examples of the attributes of the monument including: (1) exposed sedimentary rock layers that offer unobscured views of stratigraphy and geologic processes; (2) natural features like The Grand Staircase, White and Vermilion Cliffs, Paria Canyon, East Kaibab Monocline (The Cockscomb), Circle Cliffs, Waterpocket Fold, Escalante Natural Bridge, and Grosvenor Arch; (3) numerous archeological sites of the Anasazi and Fremont cultures; and (4) the variety of life zones from low-lying desert to coniferous forest.

The U.S. Bureau of Land Management (BLM), the agency assigned to administer the monument, has begun a three-year program to formulate a management plan. Part of the management plan will likely focus on the disposition of nearly 176,000 acres of Utah School and Institutional Trust lands that are now within the monument. Recognizing their importance, President Clinton directed the Interior Secretary to act quickly to formulate plans to trade the Utah School Trust lands within the monument for other federal lands or resources in Utah that are of comparable value. The purpose of this report is to review the present understanding of archaeological resources within the monument to clarify how they may impact the development of other resources and to help assure that Utah's school children receive fair and just compensation.

The monument is located within the Colorado Plateau Physiographic Province, near its western margin (figure 1). The Kaiparowits Plateau is centrally situated in the monument surrounded by the towns of Escalante, Henrieville, and Glen Canyon City. Doelling and Davis (1989) describe the region as characterized by a series of plateaus, buttes, and mesas that reflect the type and structure of the underlying geologic strata. The Grand Staircase is a broad feature which extends into the western half of the monument, and consists of a series of topographic benches and cliffs which, as its name implies, step progressively down in elevation from north to south. These step-like features include the Paria Terrace and the White and Vermilion Cliffs, which extend southward decreasing in elevation from the Paunsaugunt Plateau near Bryce Canyon (greater than 9,000 feet) to the Shinarump Flats (less than 5,000 feet).

The Kaiparowits Plateau covers approximately 1,650 square miles in the central part of the monument and merges to the north with the Aquarius Plateau, and to the northwest with the Paunsaugunt Plateau. The plateau is a dissected mesa that rises as much as 6,500 feet above the surrounding terrain. The landscape is defined by

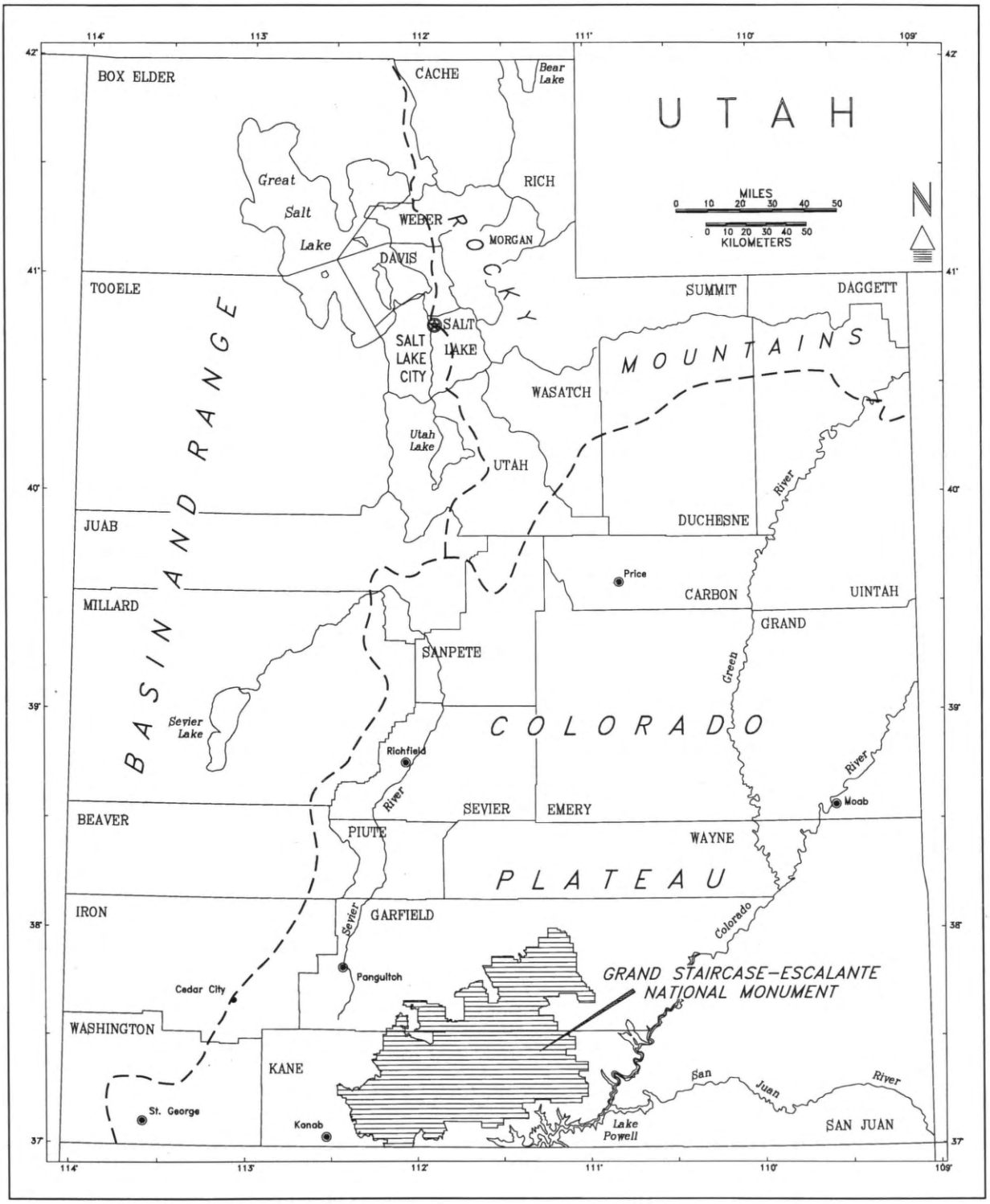

Figure 1. *Location of the Grand Staircase-Escalante National Monument and physiographic provinces of Utah.*

four sets of cliffs and benches that form a step-like topography between the Aquarius Plateau and Lake Powell. The Straight Cliffs form a prominent escarpment that extends northwest to southeast along the plateau's eastern flank; the escarpment is as high as 1,100 feet along Fiftymile Mountain.

The monument, comprised mostly of BLM Public Lands and State Institutional School Trust sections, is bordered by several other federally administered land units. The Dixie National Forest lies to the north of the monument. The southern boundary abuts the Glen Canyon National Recreation area. Bryce Canyon National Park is to the west of the monument and Capitol Reef National Park is to the east of the monument. About 275 square miles of School Trust lands are scattered throughout the monument as in-holdings (figure 2).

SITE TYPES AND DENSITIES

One of the principal reasons given for the establishment of the Grand Staircase-Escalante National Monument was identified in the Presidential Proclamation of September 18, 1996:

> *Archaeological inventories carried out to date show extensive use of places within the monument by ancient Native American cultures. The area was a contact point for the Anasazi and Fremont cultures, and the evidence of this mingling provides a significant opportunity for archeological study. The cultural resources discovered so far in the monument are outstanding in their variety of cultural affiliation, type and distribution. Hundreds of recorded sites include rock art panels, occupation sites, campsites and granaries. Many more undocumented sites that exist within the monument are of significant scientific and historic value worthy of preservation for future study* (see appendix A for full text).

While this is generally true, archaeological resources within the monument are not as well known as this statement implies. To date, only 4,136 and 4,373 Smithsonian trinomial site numbers (state/county/sequence numbers used to track documented sites) have been issued for Garfield and Kane Counties, respectively, while tens of thousands of site numbers have been issued for other southern Utah counties. For example, in San Juan County, just east of the monument, more than 23,120 site numbers have been issued. The sites in the monument range from small lithic scatters of chipped stone debris, representing only brief visits, to large, visually impressive masonry village sites on the Kaiparowits Plateau and in the canyons of the Escalante River drainage. Preliminary work suggests site densities range from less than 20 sites per square mile to as many as 100 sites per square mile

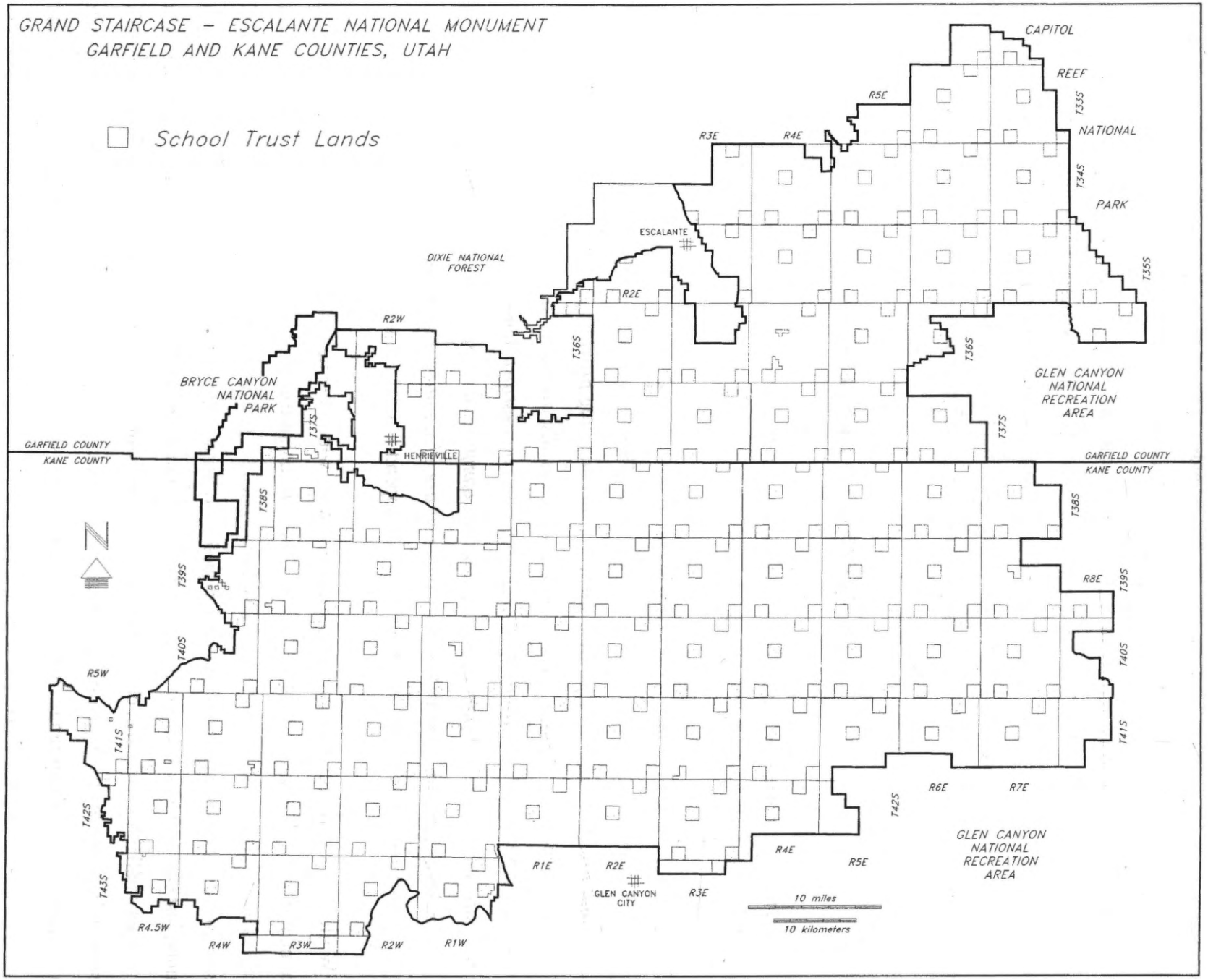

Figure 2. *Location of School and Institutional Trust Lands within the Grand Staircase-Escalante National Monument.*

within the monument. A recent analysis of a limited number of archaeological inventory projects in the southern portion of the monument suggests site densities there average 37 sites per square mile (McFadden, 1996). Anecdotal reports suggest site densities may be much higher in other areas of the monument. Taking 40 per square mile as an average, more than 100,000 archaeological sites may exist within the monument as a whole, but only a very small fraction of these has been documented.

Most of these sites (a "site" is any locus of prehistoric human activity which can be defined by material remains) are small lithic scatters and campsites. The computerized data base for Kane and Garfield Counties at the Utah State Historic Preservation Office is not yet accessible, but if the sites in San Juan County can be used as a guide, about 53% of the sites in the monument are lithic/ceramic scatters or campsites, about 43% are sites with identifiable masonry or subsurface structures, about 3% are caves and rock shelters, and about 2% are rock art sites. A predictive model based on limited sampling in the Circle Cliffs area of the northeastern portion of the monument suggests more than 90% of the prehistoric sites are lithic scatters and campsites (Tipps, 1988). Sites in the monument are probably somewhere between these two sets of figures. About 60% of the sites in the monument likely meet federal standards of "significance" and would require the application of some mitigation measures prior to disturbance (again, using San Juan County as a guide). In other areas of southern Utah, archaeological mitigation programs range from simple surface mapping, to minimal subsurface testing, to full-scale excavation, to complete avoidance, depending on the complexity and uniqueness of the site.

The limited amount of data available for archaeological resources within the monument is due, in large measure, to the relatively limited amount of development projects in the area. Over the past 40 years, the vast majority of archaeological research in the region has been associated with Cultural Resource Management (CRM) programs. These programs require surveys and mitigation projects where ground-disturbing activities may impact archaeological sites. Within the past 10 years, only 456 and 287 CRM inventory projects have been recorded for Garfield and Kane Counties, respectively, while 1,118 such projects are listed for San Juan County alone. As a result of this lack of CRM-related work in the area, most of what we know about archeological resources within the monument is derived from research carried out between 1920 and 1960, when archaeology was just beginning to develop as a science.

This lack of information is particularly egregious for Utah School and Institutional Trust Lands (trust lands) within the monument (figure 3). For a variety of reasons, archaeological inventory work in the monument area has focused on public lands administered by the BLM and only about 60 recorded CRM projects have been conducted on the 276 square miles of trust lands within the monument. Virtually all of these are spot surveys associated with drill holes, road projects, and mine developments, and none are comprehensive surface

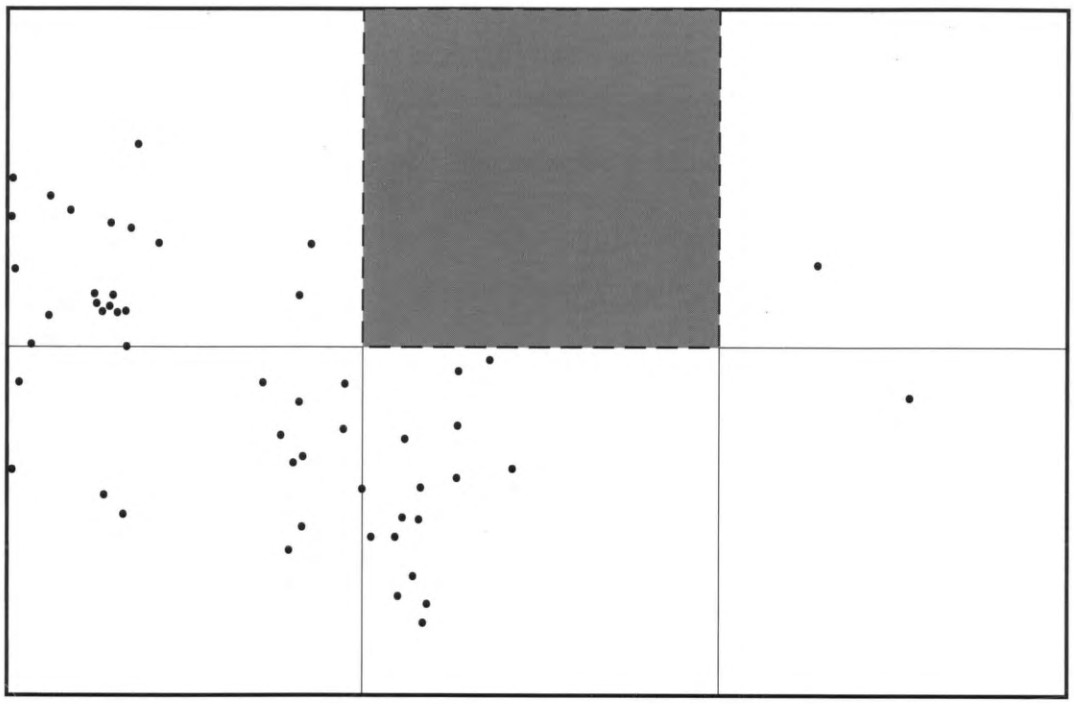

Figure 3. *Plot of known archaeological sites in six sections of a township in the Grand Staircase-Escalante National Monument (specific locations are not given to protect the sites). The dichotomy between the presence of sites on BLM-administrated public lands and the lack of sites on trust lands (shaded) is an example of the bias produced by limited inventory work on trust lands.*

inventories. As a result, only 116 archaeological sites have been identified on the 176,600 acres of school trust lands within the monument (appendix B), and the nature, distribution, significance and value of archaeological resources on these lands can only be guessed at.

CULTURAL SEQUENCE

The work of Neil Judd and others in and near the monument in the 1920s helped to define what today we know as the prehistoric Anasazi Culture (Judd, 1926), while the Fremont Culture was not even recognized as a separate entity until Noel Morss first described it in 1931 after conducting research along the northern margin of the monument (Morss, 1931). Most of what we know about the archaeology of the monument proper is a product of work carried out by Jesse Jennings and his students in the late 1950s and early 1960s as part of the development of Glen Canyon dam. This research included surveys and excavations on the Kaiparowits Plateau

and along many of the Escalante River drainages, areas that are now included in the monument (such as Fowler, 1963; Fowler and Aikens, 1963; Lister, 1964; Sharrock, 1964).

The cultural sequence within the monument is broadly known as a result of this work, but there are many gaps, and a clear picture of how prehistoric peoples interacted with the environment and with each other does not yet exist. Three broadly defined environmental zones were available to prehistoric peoples within the monument area (Geib, 1996). These include lowland canyon areas characterized by steeply walled slickrock canyons and riparian zones along permanent water sources. Bighorn sheep are common in this zone (figure 4). Mid-elevation areas consist primarily of relatively dry bench areas above the canyon rims. Water in these midland areas is limited, but grasses such as Indian Ricegrass are relatively abundant where dunes rather than bedrock exposures occur. Antelope are common here. Higher elevation areas above about 6,000 feet, such as the Kaiparowits Plateau, contain areas of pinyon-juniper woodlands producing seasonal pine nut crops. Dry farming is viable in these highland zones, and deer and rabbits are commonly available.

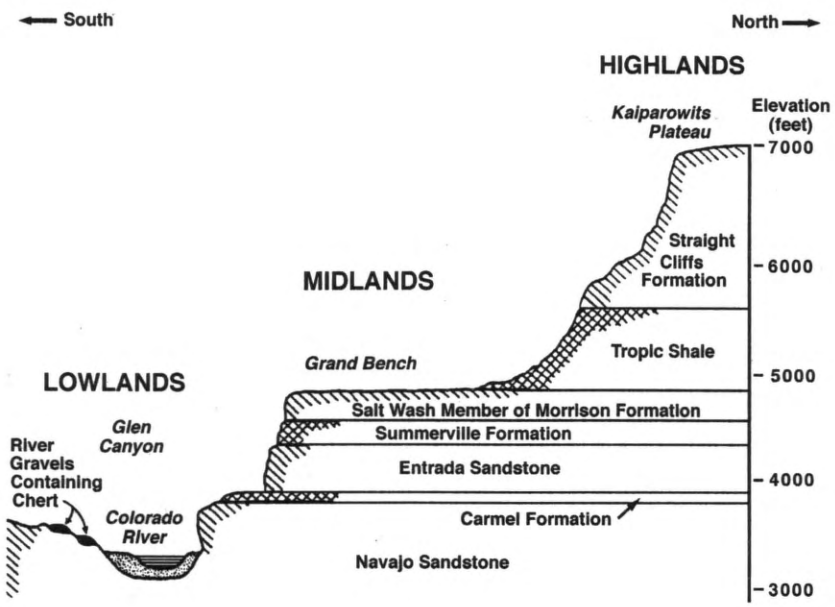

Figure 4. *Schematic of environmental zones available to prehistoric peoples in the Grand Staircase-Escalante National Monument (from Geib, 1996, page 7).*

Generally speaking, the cultural sequence in the monument follows that found elsewhere on the Colorado Plateau (Jennings, 1978). There is virtually no evidence in the monument of Paleoindian peoples who occupied the rest of Utah and North America from about 12,000 to 9,000 years ago. These early hunter-gatherers, many of whom relied to some extent on extinct megafauna such as camels and mammoths, appear to have been thinly scattered over the landscape, and their sites are comparatively rare in relation to those of later prehistoric peoples. The lack of known Paleoindian sites within the monument is thus likely the result of a small sample size, and more in-depth analyses of archaeological resources should produce evidence of these early peoples. Fluted points, characteristic of this period, have been recovered from areas near the monument (see Copeland and Fike, 1988). Between about 9,000 to 2,500 years ago, the monument area was occupied by Archaic hunter-gatherers. These people had a broad subsistence base and relied on an array of plants and animals. Most of the sites dating

to this period are in cave and rock shelter locations, but there are a substantial number of open sites as well and the apparent preference for sheltered sites may be a product of preservation. None of the few surveys within the monument has been comprehensive enough to identify settlement patterns employed by these mobile hunter-gatherers.

Most of the known sites within the monument are associated with Fremont and Anasazi farming societies. After about 2,500 years ago and the introduction of corn/beans/squash agriculture from Mexico, a transition to more sedentary year-round site occupation began. By about 1,500 years ago, pit house villages had developed and pottery manufacture had largely replaced basketry. Occupation was generally restricted to the better watered canyon bottoms and mesa tops, although the hunting and gathering of wild resources continued to supplement the diet and temporary campsites are found in virtually every environmental setting. The relationship between the Anasazi on the south end of the monument and the Fremont on the north end remains unclear. There continues to be a debate over whether the two groups formed clearly separate societies or, rather, merely represented opposite ends of a social continuum. Madsen (1989) contends agricultural peoples in the monument area might well be called "Freazi" or "Anamont" due to similarities to groups both to the north and south. Geib (1996), alternatively, suggests that, while this might be true for later periods, during the earlier portion of the agricultural period a clear ethnic boundary existed between the Anasazi and the Fremont, marked by an area of non-occupation between the two. The transition/border between the two groups lies almost entirely within the monument, and a more detailed analysis of archaeological resources in the monument will be required before this question can be answered. Late prehistoric sites, dating to after about 700 years ago and often attributed to the Ute/Southern Paiute peoples who occupied the region historically, are almost as rare as Paleoindian sites within the monument. Clarification of how these groups used the monument also requires extensive additional investigation.

CONCLUSIONS

There are a number of overviews of varying quality and comprehensiveness which treat archaeological resources in the monument region. These include a CRM study of the proposed coal-mine operations in the area (Hauck, 1979) and a review of cultural resources in the Glen Canyon area (Geib, 1996). Predictive models of site types and distribution are also available for areas near the monument (such as Tipps, 1988), although they may or may not be applicable to the monument itself. Since these broader studies are available, only this general review is provided here. What is clear, is that the nature of archaeological resources in the Grand Staircase-Es-

calante National Monument is so poorly known that it may be difficult to plan any viable management strategy. This is particularly a problem for the 275 sections of School Trust Lands within the monument. At the assumed density of 40 sites per square mile, there may be about 11,000 sites on trust land inholdings which need to be identified and managed properly. While the large majority of these sites are most likely small lithic scatters or camp sites of limited size and complexity, more complex village sites, ceremonial locations, and rock art sites undoubtedly exist as well (figure 5). Whether management is directed towards developing sites for public consumption or towards preservation, a detailed assessment of archaeological resources will be required to determine the nature and distribution of sites on School Trust lands.

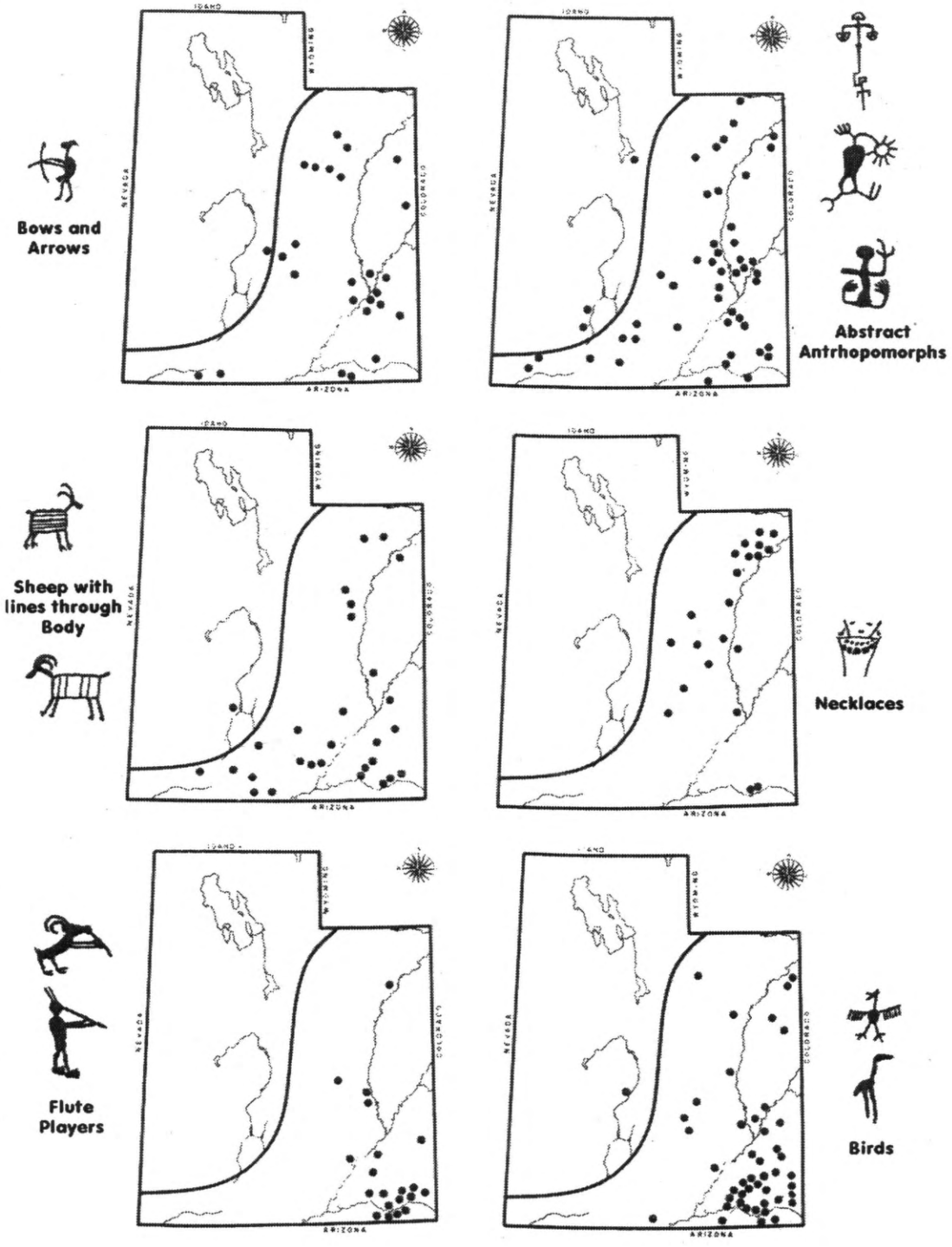

Figure 5. *Common rock art elements of the Fremont and Anasazi in the Colorado Plateau area (from Castleton and Madsen, 1981, page 169) (line approximates the Colorado Plateau boundary).*

ACKNOWLEDGMENTS

Illustrations were prepared with the assistance of Kimberly Waite, Jim Parker, Vicky Clarke, Sharon Hamre, and Monson Shaver of the Utah Geological Survey. Much of the introduction was prepared by Robert Blackett. Evelyn Seelinger, of the Utah Division of State History provided valuable statistical data from the statewide archaeological data base. Mike Hylland, Kimm Harty, Mike Lowe, and Lee Allison reviewed the manuscript and provided useful suggestions.

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APPENDIX A

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release
September 18, 1996

ESTABLISHMENT OF THE GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT

By the President of the United States of America

A Proclamation

The Grand Staircase-Escalante National Monument's vast and austere landscape embraces a spectacular array of scientific and historic resources. This high, rugged, and remote region, where bold plateaus and multi-hued cliffs run for distances that defy human perspective, was the last place in the continental United States to be mapped. Even today, this unspoiled natural area remains a frontier, a quality that greatly enhances the monument's value for scientific study. The monument has a long and dignified human history: it is a place where one can see how nature shapes human endeavors in the American West, where distance and aridity have been pitted against our dreams and courage. The monument presents exemplary opportunities for geologists, paleontologists, archeologists, historians, and biologists.

The monument is a geologic treasure of clearly exposed stratigraphy and structures. The sedimentary rock layers are relatively undeformed and unobscured by vegetation, offering a clear view to understanding the processes of the earth's formation. A wide variety of formations, some in brilliant colors, have been exposed by millennia of erosion. The monument contains significant portions of a vast geologic stairway, named the Grand Staircase by pioneering geologist Clarence Dutton, which rises 5,500 feet to the rim of Bryce Canyon in an unbroken sequence of great cliffs and plateaus. The monument includes the rugged canyon country of the upper Paria Canyon system, major components of the White and Vermillion Cliffs and associated benches, and the Kaiparowits Plateau. That Plateau encompasses about 1,600 square miles of sedimentary rock and consists of successive south-to-north ascending plateaus or benches, deeply cut by steep-walled canyons. Naturally burning coal seams have scorched the tops of the Burning Hills brick-red. Another prominent geological feature of the plateau is the East Kaibab Monocline, known as the Cockscomb. The monument also includes the spectacular Circle Cliffs and part of the Waterpocket Fold, the inclusion of which completes the protection of this geologic feature begun with the establishment of Capitol Reef National Monument in 1938 (Proclamation No. 2246, 50 Stat. 1856). The monument holds many arches and natural bridges, including the 130-foot-high Escalante Natural Bridge, with a 100 foot span, and Grosvenor Arch, a rare "double arch." The upper Escalante Canyons, in the northeastern reaches of the monument, are distinctive: in addition to several major arches and natural bridges, vivid geological features are laid bare in narrow, serpentine canyons, where erosion has exposed sandstone and shale deposits in shades of red, maroon, chocolate, tan, gray , and white. Such diverse objects make the monument outstanding for purposes of geologic study.

The monument includes world class paleontological sites. The Circle Cliffs reveal remarkable specimens of petrified wood, such as large unbroken logs exceeding 30 feet in length. The thickness, continuity and broad temporal distribution of the Kaiparowits Plateau's stratigraphy provide significant opportunities to study the paleontology of the late Cretaceous Era. Extremely significant fossils, including marine and brackish water mollusks, turtles, crocodilians, lizards, dinosaurs, fishes, and mammals, have been recovered from the Dakota, Tropic Shale and Wahweap Formations, and the Tibbet Canyon, Smoky Hollow and John Henry members of the Straight Cliffs Formation. Within the monument, these formations have produced the only evidence in our hemisphere of terrestrial vertebrate fauna, including mammals, of the Cenomanian-Santonian ages. This sequence of rocks, including the overlaying Wahweap and Kaiparowits formations, contains one of the best and most continuous records of Late Cretaceous terrestrial life in the world.

Archeological inventories carried out to date show extensive use of places within the monument by ancient Native American cultures. The area was a contact point for the Anasazi and Fremont cultures, and the evidence of this mingling provides a significant opportunity for archeological study. The cultural resources discovered so far in the monument are outstanding in their variety of cultural affiliation, type and distribution. Hundreds of recorded sites include rock art panels, occupation sites, campsites and granaries. Many more undocumented sites that exist within the monument are of significant scientific and historic value worthy of preservation for future study.

The monument is rich in human history. In addition to occupations by the Anasazi and Fremont cultures, the area has been used by modern tribal groups, including the Southern Paiute and Navajo. John Wesley Powell's expedition did initial mapping and scientific field work in the area in 1872. Early Mormon pioneers left many historic objects, including trails, inscriptions, ghost towns such as the Old Paria townsite, rock houses, and cowboy

line camps, and built and traversed the renowned Hole-in-the-Rock Trail as part of their epic colonization efforts. Sixty miles of the Trail lie within the monument, as does Dance Hall Rock, used by intrepid Mormon pioneers and now a National Historic Site.

Spanning five life zones from low-lying desert to coniferous forest, with scarce and scattered water sources, the monument is an outstanding biological resource. Remoteness, limited travel corridors and low visitation have all helped to preserve intact the monument's important ecological values. The blending of warm and cold desert floras, along with the high number of endemic species, place this area in the heart of perhaps the richest floristic region in the Intermountain West. It contains an abundance of unique, isolated communities such as hanging gardens, tinajas, and rock crevice, canyon bottom, and dunal pocket communities, which have provided refugia for many ancient plant species for millennia. Geologic uplift with minimal deformation and subsequent downcutting by streams have exposed large expanses of a variety of geologic strata, each with unique physical and chemical characteristics. These strata are the parent material for a spectacular array of unusual and ??diverse soils that support many different vegetative communities and numerous types of endemic plants and their pollinators. This presents an extraordinary opportunity to study plant speciation and community dynamics independent of climatic variables. The monument contains an extraordinary number of areas of relict vegetation, many of which have existed since the Pleistocene, where natural processes continue unaltered by man. These include relict grasslands, of which No Mans Mesa is an outstanding example, and pinon-juniper communities containing trees up to 1,400 years old. As witnesses to the past, these relict areas establish a baseline against which to measure changes in community dynamics and biogeochemical cycles in areas impacted by human activity. Most of the ecological communities contained in the monument have low resistance to, and slow recovery from, disturbance. Fragile cryptobiotic crusts, themselves of significant biological interest, play a critical role throughout the monument, stabilizing the highly erodible desert soils and providing nutrients to plants. An abundance of packrat middens provides insight into the vegetation and climate of the past 25,000 years and furnishes context for studies of evolution and climate change. The wildlife of the monument is characterized by a diversity of species. The monument varies greatly in elevation and topography and is in a climatic zone where northern and southern habitat species intermingle. Mountain lion, bear, and desert bighorn sheep roam the monument. Over 200 species of birds, including bald eagles and peregrine falcons, are found within the area. Wildlife, including neotropical birds, concentrate around the Paria and Escalante Rivers and other riparian corridors within the monument.

Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431) authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and to reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.

NOW, THEREFORE, I WILLIAM J. CLINTON, President of the United States of America, by the authority vested in me by section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), do proclaim that there are hereby set apart and reserved as the Grand Staircase-Escalante National Monument, for the purpose of protecting the objects identified above, all lands and interests in lands owned or controlled by the United States within the boundaries of the area described on the document entitled "Grand Staircase-Escalante National Monument" attached to and forming a part of this proclamation. The Federal land and interests in land reserved consist of approximately 1.7 million acres, which is the smallest area compatible with the proper care and management of the objects to be protected.

All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from entry, location, selection, sale, leasing, or other disposition under the public land laws, other than by exchange that furthers the protective purposes of the monument. Lands and interests in lands not owned by the United States shall by reserved as a part of the monument upon acquisition of title thereto by the United States.

The establishment of this monument is subject to valid existing rights. Nothing in this proclamation shall be deemed to diminish the responsibility and authority of the State of Utah for management of fish and wildlife, including regulation of hunting and fishing, on Federal lands within the monument.

Nothing in this proclamation shall be deemed to affect existing permits or leases for, or levels of, livestock grazing on Federal lands within the monument; existing grazing uses shall continue to be governed by applicable laws and regulations other than this proclamation.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation.

The Secretary of the Interior shall manage the monument through the Bureau of Land Management, pursuant to applicable legal authorities, to implement the purposes of this proclamation. The Secretary of the Interior shall prepare, within 3 years of this date, a management plan for this monument, and shall promulgate such regulations for its management as he deems appropriate. This proclamation does not reserve water as a matter of Federal law. I direct the Secretary to address in the management plan the extent to which water is necessary for the proper care and management of the objects of this monument and the extent to which further action may be necessary pursuant to Federal or State law to assure the availability of water.

Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this eighteenth day of September, in the year of our Lord nineteen hundred and ninety-six, and of the Independence of the United States of America the two hundred and twenty-first.

WILLIAM J. CLINTON

APPENDIX B

Summary of known archaeological resources on School and Institutional Trust Lands within the Grand Staircase-Escalante National Monument, Kane and Garfield Counties, Utah.

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Garfield	33S	5E	36	640.00	0	
Garfield	33S	6E	16	640.00	0	
Garfield	33S	6E	32	640.00	0	
Garfield	33S	6E	36	640.00	0	
Garfield	33S	7E	32	640.00	0	
Garfield	33S	7E	36	640.00	0	
Garfield	34S	3E	2	634.24	0	
Garfield	34S	3E	32	619.06	0	
Garfield	34S	3E	36	638.08	1	1
Garfield	34S	4E	16	640.00	0	
Garfield	34S	4E	32	640.00	0	
Garfield	34S	4E	36	640.00	7	2
Garfield	34S	5E	2	627.20	0	
Garfield	34S	5E	32	640.00	0	
Garfield	34S	5E	36	640.00	0	
Garfield	34S	6E	16	640.00	0	
Garfield	34S	6E	32	640.00	0	
Garfield	34S	6E	36	640.00	0	
Garfield	34S	7E	2	639.16	0	
Garfield	34S	7E	16	640.00	0	
Garfield	34S	7E	32	640.00	0	
Garfield	34S	7E	36	640.00	0	
Garfield	35S	1E	36	640.00	0	
Garfield	35S	2E	16	320.00	2	1
Garfield	35S	2E	32	633.35	0	
Garfield	35S	2E	36	640.00	3	2
Garfield	35S	3E	2	640.00	0	
Garfield	35S	4E	2	640.96	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Garfield	35S	4E	16	634.84	0	
Garfield	35S	4E	36	640.00	0	
Garfield	35S	5E	2	584.76	0	
Garfield	35S	5E	16	640.00	3	1
Garfield	35S	5E	32	640.00	0	
Garfield	35S	5E	36	640.00	0	
Garfield	35S	6E	2	639.79	0	
Garfield	35S	6E	16	640.00	1	1
Garfield	35S	6E	32	640.00	1	1
Garfield	35S	6E	36	640.00	0	
Garfield	35S	7E	2	640.64	0	
Garfield	35S	7E	16	640.00	1	1
Garfield	35S	7E	32	640.00	0	
Garfield	35S	7E	36	640.00	0	
Garfield	35S	8E	16	160.00	0	
Garfield	35S	8E	32	640.00	0	
Garfield	36S	1E	2	600.87	0	
Garfield	36S	2E	2	613.80	0	
Garfield	36S	2E	16	640.00	0	
Garfield	36S	2E	32	640.00	0	
Garfield	36S	3E	36	640.00	0	
Garfield	36S	4E	2	613.80	0	
Garfield	36S	4E	28	120.00	0	
Garfield	36S	4E	29	160.00	0	
Garfield	36S	4E	32	640.00	0	
Garfield	36S	4E	36	640.00	0	
Garfield	36S	5E	2	636.48	0	
Garfield	36S	5E	16	640.00	0	
Garfield	36S	5E	32	640.00	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Garfield	36S	5E	36	640.00	6	2
Garfield	36S	6E	2	634.04	0	
Garfield	36S	6E	16	600.00	0	
Garfield	36S	8E	2	626.36	0	
Garfield	36S	8E	16	640.00	1	1
Garfield	37S	1E	32	640.00	0	
Garfield	37S	1E	36	640.00	0	
Garfield	37S	2E	16	640.00	0	1
Garfield	37S	2E	32	640.00	0	
Garfield	37S	2E	36	640.00	0	
Garfield	37S	3E	2	654.12	0	
Garfield	37S	3E	16	640.00	0	
Garfield	37S	3E	32	640.00	0	
Garfield	37S	3E	36	640.00	0	
Garfield	37S	4E	2	639.44	1	1
Garfield	37S	4E	16	640.00	0	
Garfield	37S	4E	32	640.00	0	
Garfield	37S	4E	36	640.00	1	1
Garfield	37S	5E	2	637.20	0	
Garfield	37S	5E	16	640.00	0	
Garfield	37S	5E	32	640.00	0	
Garfield	37S	5E	36	640.00	0	
Garfield	37S	6E	16	640.00	0	
Garfield	37S	6E	32	640.00	2	1
Garfield	37S	6E	36	640.00	0	
Garfield	36S	1W	32	640.00	0	
Garfield	36S	1W	36	643.24	0	
Garfield	36S	2W	16	640.00	0	
Garfield	36S	2W	36	640.00	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Garfield	37S	1W	2	637.34	9	1
Garfield	37S	1W	16	640.00	0	
Garfield	37S	1W	32	640.00	0	
Garfield	37S	1W	36	640.00	0	
Garfield	37S	2W	2	637.88	0	1
Garfield	37S	2W	36	640.00	0	
Garfield	37S	3W	16	640.00	0	
Kane	38S	1E	2	481.52	0	
Kane	38S	1E	16	640.00	0	
Kane	38S	2E	2	471.60	0	
Kane	38S	2E	16	640.00	0	
Kane	38S	2E	32	640.00	0	
Kane	38S	2E	36	640.00	0	
Kane	38S	3E	2	471.60	0	
Kane	38S	3E	16	640.00	0	
Kane	38S	3E	32	640.00	0	
Kane	38S	3E	36	640.00	0	
Kane	38S	4E	2	492.84	0	
Kane	38S	4E	16	640.00	0	
Kane	38S	4E	32	640.00	0	
Kane	38S	4E	36	640.00	0	
Kane	38S	5E	2	489.80	1	1
Kane	38S	5E	16	640.00	0	
Kane	38S	5E	32	640.00	0	
Kane	38S	5E	36	640.00	0	
Kane	38S	6E	2	488.56	0	
Kane	38S	6E	16	640.00	0	
Kane	38S	6E	32	640.00	0	
Kane	38S	6E	36	640.00	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Kane	38S	7E	16	640.00	0	
Kane	38S	7E	32	640.00	1	1
Kane	38S	7E	36	640.00	0	
Kane	39S	1E	16	640.00	0	
Kane	39S	1E	32	640.00	0	
Kane	39S	1E	36	640.00	0	
Kane	39S	2E	2	641.08	0	
Kane	39S	2E	16	640.00	0	
Kane	39S	2E	32	640.00	2	1
Kane	39S	2E	36	640.00	0	
Kane	39S	3E	2	640.16	0	
Kane	39S	3E	16	640.00	0	
Kane	39S	3E	32	640.00	0	1
Kane	39S	3E	36	640.00	0	1
Kane	39S	4E	2	638.46	0	
Kane	39S	4E	16	640.00	0	
Kane	39S	4E	32	640.00	0	
Kane	39S	4E	36	640.00	0	
Kane	39S	5E	2	640.44	0	
Kane	39S	5E	16	640.00	0	
Kane	39S	5E	32	640.00	0	
Kane	39S	5E	36	640.00	3	2
Kane	39S	6E	2	638.64	0	
Kane	39S	6E	16	640.00	1	1
Kane	39S	6E	32	640.00	0	
Kane	39S	6E	36	640.00	0	
Kane	39S	7E	16	480.00	0	
Kane	39S	7E	32	640.00	0	
Kane	39S	7E	36	640.00	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Kane	39S	8E	32	640.00	0	
Kane	40S	1E	2	638.12	0	
Kane	40S	1E	16	640.00	0	
Kane	40S	1E	32	640.00	0	
Kane	40S	1E	36	640.00	0	
Kane	40S	2E	2	639.52	3	2
Kane	40S	2E	16	640.00	0	
Kane	40S	2E	32	640.00	0	
Kane	40S	2E	36	640.00	3	1
Kane	40S	3E	2	640.04	4	1
Kane	40S	3E	16	640.00	0	
Kane	40S	3E	32	640.00	0	
Kane	40S	3E	36	640.00	0	
Kane	40S	4E	2	639.72	0	
Kane	40S	4E	16	640.00	2	1
Kane	40S	4E	32	640.00	0	
Kane	40S	4E	36	640.00	0	
Kane	40S	5E	2	641.88	1	1
Kane	40S	5E	16	640.00	0	
Kane	40S	5E	32	640.00	0	
Kane	40S	5E	36	640.00	0	
Kane	40S	6E	16	640.00	0	
Kane	40S	6E	32	640.00	0	
Kane	40S	6E	36	640.00	0	
Kane	40S	7E	2	640.00	0	
Kane	40S	7E	32	640.00	0	
Kane	41S	1E	2	685.60	1	1
Kane	41S	1E	16	640.00	0	
Kane	41S	1E	32	640.00	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Kane	41S	1E	36	640.00	0	
Kane	41S	2E	2	691.12	0	
Kane	41S	2E	16	640.00	0	
Kane	41S	2E	32	640.00	0	
Kane	41S	2E	36	640.00	0	
Kane	41S	3E	2	680.40	1	1
Kane	41S	3E	16	640.00	2	3
Kane	41S	3E	32	400.00	0	
Kane	41S	3E	36	640.00	4	2
Kane	41S	4E	2	725.84	0	
Kane	41S	4E	16	640.00	0	
Kane	41S	4E	32	640.00	0	
Kane	41S	4E	36	640.00	0	
Kane	41S	5E	2	729.00	0	
Kane	41S	5E	16	640.00	0	
Kane	41S	6E	2	731.96	0	
Kane	41S	6E	16	640.00	0	
Kane	41S	7E	16	640.00	0	
Kane	42S	1E	2	667.92	0	
Kane	42S	1E	16	640.00	0	
Kane	42S	2E	2	668.32	0	
Kane	42S	2E	16	640.00	0	
Kane	42S	3E	2	675.96	0	
Kane	42S	3E	16	640.00	5	1
Kane	42S	3E	32	640.00	0	
Kane	42S	3E	36	640.00	0	
Kane	42S	4E	2	640.72	0	
Kane	42S	4E	16	640.00	0	
Kane	43S	3E	2	647.56	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Kane	38S	1W	2	639.84	0	
Kane	38S	1W	16	640.00	0	
Kane	38S	1W	32	640.00	0	
Kane	38S	2W	16	520.00	0	
Kane	38S	2W	32	640.00	0	
Kane	38S	2W	36	640.00	0	
Kane	38S	3W	16	600.00	0	
Kane	38S	3W	32	640.00	0	
Kane	38S	3W	36	640.00	0	
Kane	38S	4W	36	640.00	0	
Kane	39S	1W	16	640.00	0	
Kane	39S	1W	32	640.00	0	
Kane	39S	1W	36	640.00	0	1
Kane	39S	2W	2	297.16	0	
Kane	39S	2W	16	640.00	0	
Kane	39S	2W	32	640.00	0	
Kane	39S	2W	36	640.00	0	
Kane	39S	2.5W	36	531.36	0	
Kane	39S	3W	32	640.00	0	
Kane	39S	3W	36	640.00	0	
Kane	39S	4W	2	334.48	0	
Kane	40S	1W	2	636.26	0	
Kane	40S	1W	32	640.00	1	1
Kane	40S	1W	36	640.00	0	
Kane	40S	2W	2	653.60	2	1
Kane	40S	2W	16	640.00	0	
Kane	40S	2W	32	480.00	0	
Kane	40S	2W	34	40.00	0	
Kane	40S	2W	36	640.00	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Kane	40S	3W	2	648.36	0	
Kane	40S	3W	16	640.00	0	
Kane	40S	3W	32	640.00	0	
Kane	40S	3W	36	640.00	4	1
Kane	40S	4W	2	640.36	0	
Kane	40S	4W	16	640.00	0	
Kane	40S	4W	32	640.00	1	1
Kane	40S	4W	36	640.00	0	
Kane	40S	4.5W	32	280.00	0	
Kane	40S	5W	32	640.00	0	
Kane	41S	1W	2	683.68	0	
Kane	41S	1W	32	318.15	0	
Kane	41S	1W	36	640.00	0	
Kane	41S	2W	2	690.64	1	1
Kane	41S	2W	16	630.16	0	
Kane	41S	2W	32	625.38	0	
Kane	41S	2W	36	360.00	0	
Kane	41S	3W	2	680.40	0	
Kane	41S	3W	16	640.00	4	3
Kane	41S	3W	32	640.00	1	1
Kane	41S	3W	36	640.00	0	
Kane	41S	4W	2	680.72	0	
Kane	41S	4W	16	640.00	0	
Kane	41S	4W	32	640.00	0	
Kane	41S	4W	36	480.00	0	
Kane	41S	4.5W	16	640.00	0	
Kane	41S	4.5W	32	640.00	0	
Kane	41S	5W	2	636.43	0	
Kane	41S	5W	36	640.00	0	

Appendix B (continued)

County	Township	Range	Section	Surface Acreage	Known Sites	Inventory Projects
Kane	42S	1W	2	638.13	0	
Kane	42S	1W	28	80.00	0	
Kane	42S	1W	33	40.00	1	Historic grave
Kane	42S	1W	36	640.00	0	
Kane	42S	2W	2	209.00	0	
Kane	42S	2W	16	640.00	0	
Kane	42S	2W	36	640.00	0	
Kane	42S	3W	2	640.00	13	2
Kane	42S	3W	16	640.00	3	2
Kane	42S	3W	36	640.00	0	
Kane	42S	4W	2	612.96	2	2
Kane	42S	4W	16	640.00	0	
Kane	42S	4W	36	640.00	4	2
Kane	42S	4.5W	16	640.00	0	
Kane	42S	5W	2	596.40	0	
Kane	43S	1W	13	360.00	0	
Kane	43S	1W	14	320.00	0	
Kane	43S	1W	16	640.00	6	1
Kane	43S	2W	2	632.20	0	
Kane	43S	2W	16	640.00	0	
Kane	43S	2W	32	640.00	0	
Kane	43S	3W	2	641.85	0	
Kane	43S	3W	16	640.00	0	
Kane	43S	3W	32	640.00	0	
Kane	43S	3W	36	640.00	0	
Kane	43S	4W	2	655.84	0	
Kane	43S	4.5W	16	648.00	0	
Kane	44S	3W	2	692.24	0	
Totals:				176,599	116	60