

26 May 2017

Dear Secretary Zinke,

We appreciate this opportunity to provide the perspective of the American Geosciences Institute (AGI) regarding the Department of the Interior's review of certain national monument designations under the Antiquities Act. This submission refers only to the Bears Ears National Monument; we will be submitting additional comments on other National Monuments that are under review.

AGI is a nonprofit federation of 51 geoscientific and professional societies that represent more than 250,000 geologists, geophysicists, and other Earth scientists. Founded in 1948, AGI provides information services to geoscientists, serves as a voice for shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resilience to hazards, and the health of the environment.

The American Geosciences Institute strongly encourages you to preserve the Bears Ears National Monument in its entirety because of the unique, world-class fossils – objects of immense scientific interest – that are within its boundaries. We believe that the continued protection of the Monument will preserve its cultural and historic legacy for the benefit of all Americans.

Bears Ears National Monument is considered one of the most significant cultural landscapes in the United States. For hundreds of generations, the area was populated by Native American tribes. Abundant remains of rock art, dwellings, ceremonial sites, granaries, and many other cultural properties throughout the region reflect its historical and cultural significance to the native peoples. Many Native Americans still consider the land profoundly sacred and visit the area on a regular basis for ceremonies. In addition to the stunning landscape and extraordinary paleontological and archaeological record, Bears Ears also provides a major source of economic opportunity for the region. The monument attracts visitors from across the world who wish to experience its natural wonders and partake in a variety of outdoor recreation activities, including hunting, fishing, rock climbing, hiking, and whitewater rafting.

Our member societies have expressed deep concerns about any attempt to reduce the status or size of the Bears Ears National Monument, which was designated in large part due to its outstanding vertebrate fossil resources. **Many of the fossils from Bears Ears are the only examples of their kind in the country or the world, including new species of extinct fish, amphibians, mammal-relatives, and reptiles.** The area's rich fossil record is crucial to understanding how dinosaurs once dominated land ecosystems, how vertebrate life transitioned from sea to land, and how our human ancestors evolved.

All areas of the Bears Ears National Monument contain world renowned fossil sites, many of which are just beginning to be explored, spanning the Pennsylvanian through the Cretaceous Periods that lasted from approximately 320 to 145 million years ago. We draw your attention to the following areas of the Monument for their particular paleontological significance:

- The central Dark Canyon, Bears Ears Buttes, and Cedar Mesa Region contains scientifically invaluable records of terrestrial vertebrate life prior to the Permian-Triassic extinction.
- The Valley of the Gods includes some of the earliest vertebrates to walk on land in America, as well as exquisitely preserved leaf fossils and petrified wood.
- The Red Canyon Region preserves one of the best records of the Triassic-Jurassic transition in the world, providing crucial information for palaeontologists seeking to understand how dinosaurs came to dominate the land. **Only parts of this region are currently protected within the boundaries of the Monument.** We recommend that the boundaries of the National Monument be expanded to include the area between the western “island” and the main part of the Monument in order to protect scientifically important, vulnerable, fossil localities.
- The Indian Creek Region has produced extinct amphibians and reptiles, such as dinosaurs and crocodylomorphs. Sites in this area were looted before the Monument was established.

On behalf of a quarter-million geoscientists, and particularly on behalf of the vertebrate paleontology community, we ask you and the Department to maintain and, if possible, expand the boundaries of the Bears Ears National Monument in order to preserve and protect its paleontological resources, which are of immense scientific importance. But perhaps more importantly, the fossils and rich geological history present at Bears Ears represents the collective imagination and interest of millions of amateur paleontologists and serve as an inspiration to people of all ages.

Respectfully submitted,

Maeve A. Boland
Director, Geoscience Policy

The American Geosciences Institute urges the Department of the Interior to protect paleontological resources at

Bears Ears National Monument

1. Bears Ears Buttes Region

The Bears Ears Butte region contains scientifically valuable Late Paleozoic fossils that document the lead up to the largest mass extinction in Earth's history.

2. Indian Creek Region

The Indian Creek region and areas east of Canyonlands National Park are among the most vulnerable. This area yields fossils from almost the entire Mesozoic, ranging from the amphibians to dinosaurs.

Important sites in this area were destroyed by looters prior to its designation as a National Monument.

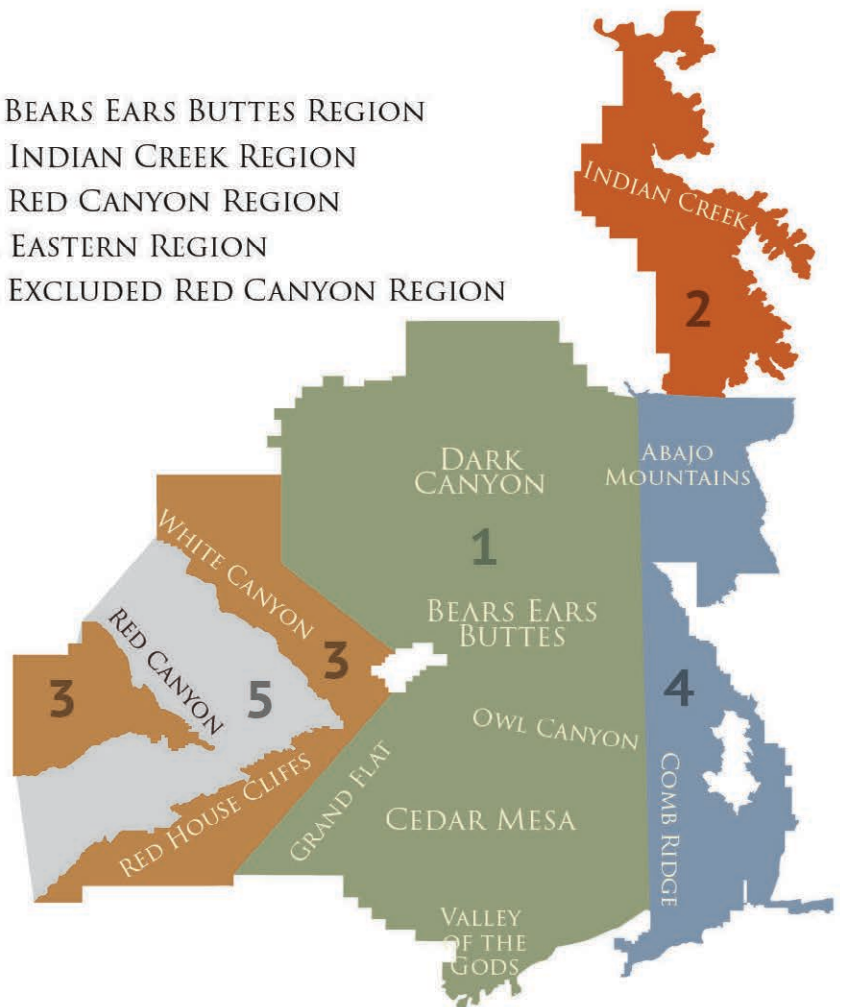
3. Red Canyon Region

The Red Canyon Region must be protected at all costs because it has the largest, most diverse, undescribed fossil assemblage from the Triassic Period of Utah. Its fossils document the time when life rebounded after the Permian-Triassic extinction.

4. Eastern Region

The eastern region has a unique record of Jurassic and Cretaceous vertebrate life, including many new dinosaurs.

1. BEARS EARS BUTTES REGION
2. INDIAN CREEK REGION
3. RED CANYON REGION
4. EASTERN REGION
5. EXCLUDED RED CANYON REGION



5. Excluded Red Canyon Region

Parts of the Red Canyon region were not included in the original proclamation, even though the richest Triassic paleontological sites are found here.

Based on map and information from The Society of Vertebrate Paleontology, 2017. Original design by P. David Polly.