



NATIONAL CONSERVATION LANDS

Utah
2021: Annual Manager's Report

Grand Staircase-Escalante

National Monument



Map

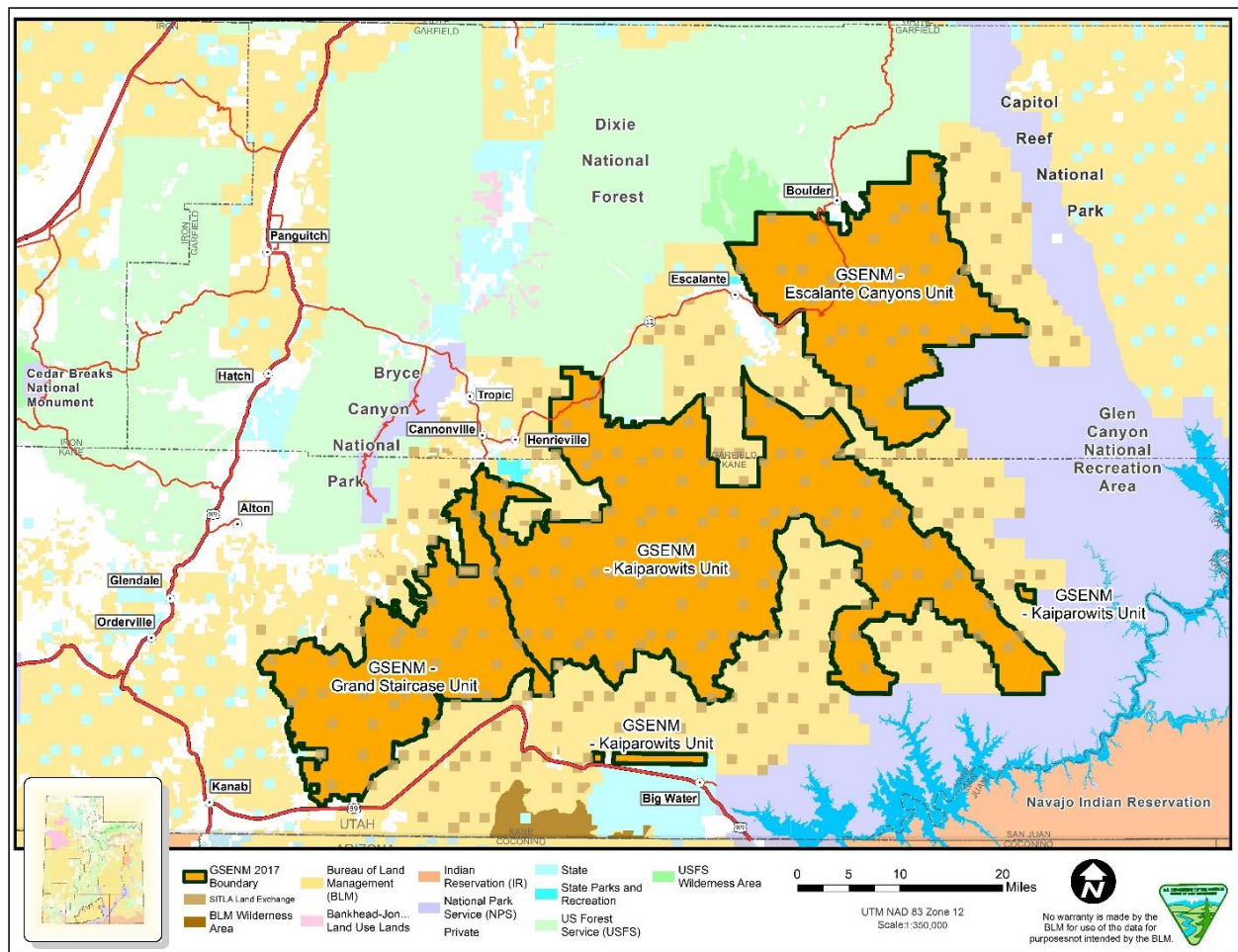


Figure 1: Grand Staircase-Escalante National Monument boundaries at the end of FY21 prior to Presidential Proclamation 10286.

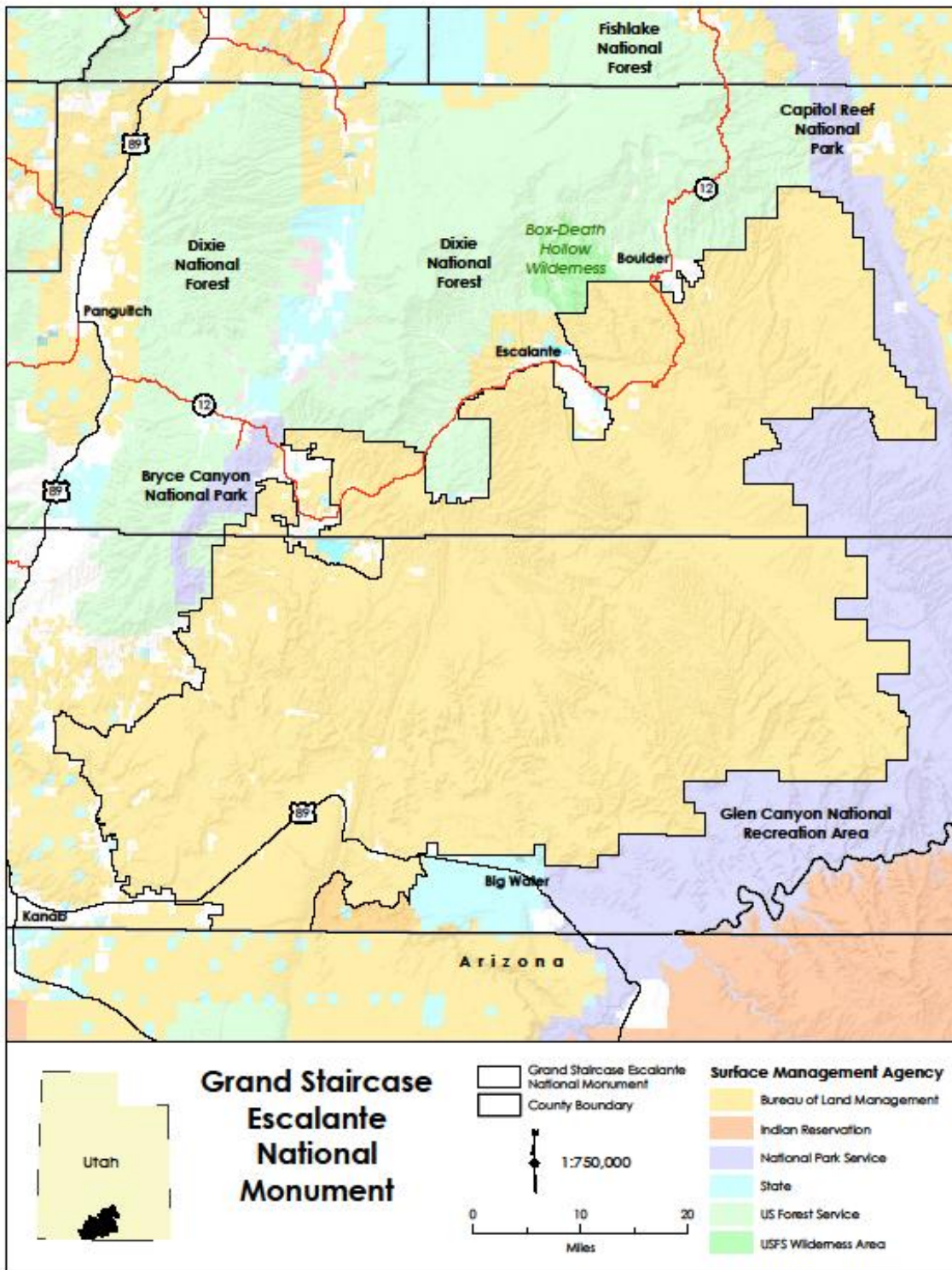
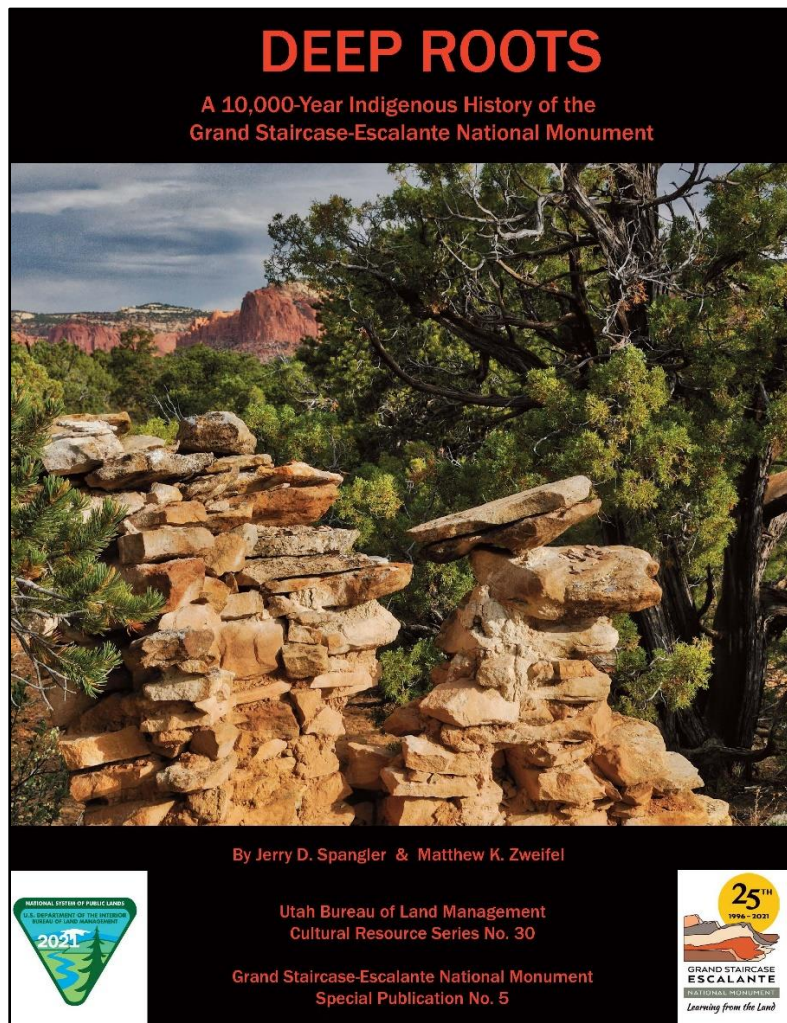


Figure 2: Map of Grand Staircase-Escalante National Monument after Presidential Proclamation 10285 was signed on Oct. 8, 2021.

Accomplishments

Grand Staircase-Escalante National Monument (GSENM) had many accomplishments in Fiscal Year 2021. Noteworthy accomplishments include several scientific publications. Staff paleontologists co-authored a geology and taphonomy study of the renowned Rainbows and Unicorns site in the scientific journal PeerJ, culminating years of research on this important tyrannosaur site, revealing that these dinosaur creatures likely hunted in packs. In collaboration with the Colorado Plateau Archaeological Alliance (CPAA), the monument published a monograph entitled *Deep Roots: A 10,000-Year Indigenous History of the GSENM*, as Utah BLM Cultural Resources Series No.30, GSENM Special Publication No. 5. The volume synthesizes all archaeological research conducted on the monument to date.



Challenges

In GSENM, the area's geologic features and stunning landscape are listed as primary objects in the monument. One of the specific challenges is visitation to these geologic features and sensitive cultural sites. Many of these areas within GSENM are remote and occupy small areas within the broader context of the monument. Field staff have observed that due to the influx and popularity of off-highway vehicles, visitors are able to access more areas throughout GSENM than ever before. The location of sites throughout the monument tends to focus a lot of people in small remote areas, resulting in heavy dispersed parking or camping, as well as an increase in graffiti and other resource damage across the sandstone landscape.

Over the years, GSENM staffing has decreased dramatically, yet visitor days have more than doubled between FY 2016 and FY 2021. Lack of staffing, four physical visitor centers, increased visitation, and increased exploration, make it challenging for the BLM to manage the primary monument objects and values. Without additional funds to support existing infrastructure and increase staffing, BLM managers will have to make difficult decisions on whether to close visitor centers to place more park rangers in the field, or station park rangers at visitor centers and reduce the field presence that helps address graffiti and other resource issues throughout the monument. While the four original visitor centers are still in use, the displays and buildings are outdated and in need of upgrades. There are only 8 career seasonal employees to run these four visitor centers. The current level of staffing and heavy visitation makes effective operation of visitor centers difficult, and the remoteness of the positions results in high staff turnover.

Visitors

Over the past 25 years, Grand Staircase-Escalante National Monument has seen a dramatic increase in public recreation. For example, in 2000, GSENM had just 600,000 visitors; in FY20, despite COVID-19, the monument recorded 950,000 visitors. In FY21, public demand rapidly increased, and visitation topped over 1.3 million.

Visitor use will continue to increase within GSENM. High visitation areas like the Calf Creek Recreation Area and Dry Fork Slot Canyons are at maximum capacity most weekends and especially holidays. The trailhead updates at Dry Fork have improved capacity and reduced resource impacts; however, many popular trailheads remain undeveloped with little or no visitor facilities. Other high use recreation destinations such as Toadstools and Willis Creek remain undeveloped with administrative challenges and resource degradation concerns.



Figure 3: Overflow parking at the Calf Creek Recreation Area, GSENM.

Partnerships

Grand Staircase-Escalante National Monument continues to partner with a variety of organizations and agencies. This year, the Utah Cultural Site Stewardship (UCSS) program was turned over to the Utah Historic Preservation Office (SHPO) with the purpose of administering, coordinating, and training volunteers in archaeological site monitoring activities. This partnership has allowed GSENM to transition administration of its long-standing site steward program to UCSS, freeing up valuable staff time for work on other cultural resource priorities. This year a total of 64 archaeological sites were monitored to assess site conditions by a total of 23 site steward volunteers and BLM staff.

GSENM worked alongside Grand Staircase Escalante Partners (GSEP) for several education and outreach events. Events included kids' science camps and involved GSENM staff such as Park Rangers and a Soil Scientist. Graffiti remediation events drew 26 volunteers who worked 224 hours remediating hundreds of square feet of graffiti, picking up trash from along trails, and installing signs along the Escalante River Trail to aid visitors in staying on the trail and protecting monument resources.

GSENM and interagency partners are experiencing increased resource degradation (i.e. graffiti and off-road vehicle incursions), likely due to increase visitation and uninformed users. GSENM is partnering with Utah's Office of Tourism, Garfield County and Kane County tourism departments, and several non-governmental organizations on the Forever Mighty Campaign to promote principles of responsible recreation.



Figure 4: Trail work volunteers in GSENM.

Science

Science research on Grand Staircase-Escalante NM largely occurs via cooperative agreements and contracts. Last year was the culmination of a five-year partnership with Southern Utah University (SUU) for the inventory and monitoring of reptiles and amphibians on GSENM. The crew also helped to determine species diversity and abundance within different habitat types.

The Spring Stewardship Institute (SSI) wrapped up their multi-year springs inventory and monitoring project. This project will result in a baseline inventory of springs and seeps across GSENM, input of data into the Springs Online database, and training for local specialists to continue inventory and monitoring efforts into the future. Data from the SSI inventory will be used alongside lentic Assessment Inventory and Monitoring (AIM) data and will influence future management decisions.

In coordination with the Natural History Museum of Utah (NHMU) and Denver Museum of Nature and Science (DMNS), paleontological research was conducted by monument staff, SUU interns, and volunteers, resulting in the documentation of 39 new fossil sites on GSENM.

The Colorado Plateau Archaeological Association (CPAA) and GSENM partnered to conduct limited test excavations in Johnson Canyon, affording the opportunity to answer research questions regarding the nature and distribution of early dry-farming Basketmaker II agricultural sites in the region. The project also enables BLM to gather and evaluate baseline archaeological data critical for monument management purposes.

Finally, GSENM completed year 3 of a 5-year water quality monitoring contract. Under a Memorandum of Agreement with Utah Department of Water Quality (UDWQ), water quality field parameters (i.e., discharge, water temperature, pH, specific conductivity, and dissolved oxygen), water chemistry samples, and bacteriological E. coli samples were collected, and water temperature sensors were also installed. Ongoing project data will be utilized in Proper Functioning Condition (PFC) and rangeland health determinations, as well as influence management decisions in both natural resources and recreation management.

Climate Impacts

Ongoing climate change and severe Western drought conditions seem to be impacting wildlife populations within Grand Staircase-Escalante National Monument. Mule deer fawns in 2021 exhibited a survival rate of 39%, which is their lowest survival rate in the past seven years. Adult doe mule deer in 2021 on the Paunsaugunt unit on GSENM had a survival rate of 63%, compared to an average regional annual survival rate of 85%. While there could be multiple factors contributing to this statistic, the ongoing drought, which was very severe in 2020-2021, no doubt plays a major role in these numbers. Mule deer obtain much of their water needs from the vegetation they consume. Last year, measured fuel-moisture levels were near all-time lows. This means that deer were forced to obtain water through other means, such as surface water, which is scarce in this region. The scarcity of water was only exacerbated by the ongoing drought. Poor vegetation conditions also mean that deer are malnourished and may not be able to survive harsh winters.

Potential climate change impacts have been observed in several water systems throughout GSENM. Calf Creek has been an EPA 303(d) listed waterway since 2008 due to high water temperatures in a system that supports cold water aquatic life. Harmful Algal Blooms (HAB) have also been detected and sampled throughout GSENM with some containing potentially harmful toxins. These HABs are similar to what has been found in the nearby Zion National Park.



Figure 5: Harmful algae bloom in a stream, GSENM.

Climate Resiliency

Grand Staircase-Escalante NM applied for and received funding from Utah's Watershed Restoration Initiative (WRI) for the construction of two wildlife watering drinkers in the Petrified Wash area, east of Kanab. The drinkers were installed in July of 2021. Both drinkers are located within crucial mule deer winter range for the Paunsaugunt mule deer herd. These wildlife drinkers should help mitigate some drought impacts to wildlife in this area.



Figure 6: Installation of a new wildlife drinker, GSENM.

Under an MOU with the Utah Department of Water Quality, the monument funded and contracted work in 2021 collecting water quality data from 9 different stream sites once a month from May to October. Bacteriological *E. coli* samples were also collected at 4 sites as well as water temperature on Calf Creek. GSENM also annually conducts BLM Assessment Inventory and Monitoring (AIM) to evaluate condition and trend data of terrestrial and aquatic resources under a standardized protocol. Under AIM, data collection includes soil physical properties, soil stability, vegetation composition, bare ground, vegetation height, stream substrate, water temperature, macroinvertebrates,

etc. Monitoring data, when coupled with management decisions and climate analysis can help GSENM better understand climate impacts to all the resources.

Social and Environmental Justice

Local Economies

Grand Staircase-Escalante NM is located entirely within Kane and Garfield Counties. About 68% of GSENM is in Kane County, while the remaining 32% is in Garfield County. Conversely, about 49% of Kane County and 18% of Garfield County lie within the monument boundaries. The lands in Garfield County are 93% federally-owned – 1 of 3 counties nationwide with such a high concentration (Federal lands consist of National Park Service, BLM and Forest Service lands). 85% of Kane County is federally owned. The high percentage of public lands in both counties presents a unique set of issues and opportunities. Small rural gateway communities such as Kanab, Boulder, Escalante, Cannonville, etc., continue to rely on public land commodities, such as grazing, timber, and mineral extraction. However, these more traditional uses have declined over the past decade, with more and more jobs devoted to the hospitality and leisure sector.

The remoteness of GSENM, and the lack of adequate living wage jobs, affordable quality housing, infrastructure, and inadequate access to goods and services is problematic for all land management agencies in the area. Tourists come from all over the world to enjoy the world-class scenery, but jobs in the leisure and hospitality industry are typically low paying and these positions experience high turnover, with most recruitment to these positions coming from outside the local area. This does little to help the local economy because many of these positions are seasonal or temporary, with little to no opportunity for long-term employment and a higher than average cost of living. As an example, Garfield County's median household income is 41% lower than the state average, while Kane County median household income is 33% lower than the Utah average. Both counties report approximately 10% of the population living below the poverty level (compared to 7% statewide).

GSENM continues to see an increase in visitation, largely because of overflow from more overcrowded, neighboring national parks, such as Capital Reef, Bryce Canyon and Zion. GSENM continues to work with local communities to support traditional values while also providing public land ethics messaging to visitors. Current efforts have focused on recruitment to vacant positions.

Tribal Engagement

During FY21, GSENM consulted regularly with 4 federally recognized tribes– the Hopi Tribe, the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the Navajo Nation. With increased emphasis on understanding and protecting traditional

landscapes and sacred places, GSENM expects to engage with more tribes during the next monument planning effort and into the future.

Events

GSENM celebrated its 25th anniversary as the first national monument managed by the Bureau of Land Management on September 18, 2021. Plans for in-person events scheduled in Kanab and Escalante over the anniversary weekend (including a science symposium and art exhibit) were cancelled due to COVID-19 restrictions. However, GSENM staff successfully pivoted in the face of the hardships by planning for and producing a “Monumental Science” video and audio series that highlighted scientific research on GSENM in the past 25 years. Topics discussed included paleontological ecosystems, Cretaceous-period dinosaur and turtle discoveries, petroglyphs, bees, penstemon, and geological processes on Navajo sandstone. The “Monumental Science” series is hosted on the Monument’s webpage (<https://www.blm.gov/national-conservation-lands/utah/gsenm-25-anniversary>). In addition, seven field trips with limited numbers of socially-distanced participants were carried out in September and October 2021 featuring topics that included paleontology, geology, natural history, hydrology, riparian flora, and archaeology.



Words from the staff

We have so many good things to offer and share. In April 2021, BLM staff and Southern Utah Wilderness Alliance (SUWA) volunteers partnered over three days to complete a decade-long historic structure stabilization project. In 2009, monitoring by GSENM archaeologists revealed the cabin was in danger of deterioration beyond the point of recovery if protective measures were not taken quickly. Subsequently, BLM developed a stabilization plan, commenced the start of stabilization efforts in 2012, and in 2021, the project resulted in the successful completion of stabilization of historic Watson Cabin – the oldest standing pioneer structure on GSENM.



Figure 7: Volunteers working to stabilize Watson Cabin in GSENM.



Figure 8: Volunteer group at newly completed Watson Cabin stabilization, GSENM.

As a National Monument, GSENM is charged with protecting, preserving, and studying what are considered national treasures for future generations. As a result of

completion of this stabilization project, hiking or equestrian visitors to Watson Cabin can continue to learn about and appreciate the historic-period pioneer history of the area, long into the future.

See also: [Helping Hands Work Together to Restore Historic Cabin](#)



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[Grand Staircase-Escalante National Monument Flickr Album](#)

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