Canyons of the Ancients
National Monument

Annual Manager’s Report—Fiscal Year 2017
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Cover: Painted Hand Pueblo, Bob Wick, BLM
Back Photo: Lowry Pueblo, Bob Wick, BLM
Canyons of the Ancients Profile

Designating Authority

Designating Authority: Canyons of the Ancients National Monument (CANM) Proclamation (#7317). CANM celebrated its 17th anniversary in 2017 by accomplishing the work summarized in this Monument Manager’s Report.

Date of Designation: June 9, 2000

Acreage

Total Acres in Unit 176,000 Includes acquisitions (inholdings and edge holdings)
BLM Acres 176,000
Other Federal Acres 370 NPS Hovenweep National Monument
State Acres* 0
Private Acres* 9,500 Inholdings

*State and Private acres are not part of the total unit acres

Contact Information

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Field Office Name Tres Rios
District Office Name Southwest
State Office Name Colorado

https://www.facebook.com/BLMCanyonsoftheAncients
https://www.blm.gov/visit/canyons-of-the-ancients

Budget

Total Fiscal Year 2017 Budget $1,736,123
Subactivity 1711 $1,474,535
Other Subactivities’ Contributions $261,588
Map of Canyons of the Ancients National Monument and Headquarters at the Anasazi Heritage Visitor Center & Museum
Managing Partners
N/A

Staffing
CANM dedicated staff includes nine employees with supplemental support from the Tres Rios Field Office (TRFO) for Lands, Range, Wildlife, Recreation and GIS. In 2017, the organization lacked one staff position, as currently defined in the existing table of organization.

<table>
<thead>
<tr>
<th>TRFO Staff Support</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>40</td>
</tr>
<tr>
<td>Assistant Manager</td>
<td>40</td>
</tr>
<tr>
<td>Assistant Manager</td>
<td>40</td>
</tr>
<tr>
<td>Range</td>
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</tr>
<tr>
<td>Wildlife</td>
<td>40</td>
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<tr>
<td>Realty</td>
<td>40</td>
</tr>
<tr>
<td>GIS</td>
<td>30</td>
</tr>
<tr>
<td>Recreation</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Days</strong></td>
<td><strong>270</strong></td>
</tr>
</tbody>
</table>

CANM Table of Organization
Planning and NEPA

Canyons of the Ancients Resource Management Plan (CANMRMP), 2010

Completed CANM Activity Level Plans

- Fire Plan
- Business Plan
- Interpretive Plan

CANM also implemented Standard Operating Procedures (SOPs) for multiple activities, such as photogrammetry documentation of standing walls, standardized stipulations for permits, tribal consultation, and collections handling, to name a few.

RMP Implementation Strategy

The schedule of implementation for decisions in the RMP derives from a spreadsheet developed in collaboration with the BLM Washington Office (2012). Each program uses their individual sections as a way to document implementation, to set work targets, identify and schedule annual work, and to manage priorities throughout the year. CANM is in the queue for an RMP evaluation in 2019.

In addition, this method tracks other projects, as CANM is managed broadly for multiple-use and sustained yield. Other on-going projects in the CANM portfolio include fluid minerals, livestock grazing, wildlife, recreation, and conservation, protection and restoration. The following list demonstrates a selection of projects implemented in 2017:

- Cultural Resources
  - Lowry Pueblo Documentation Project
    - Field Schools (see Science)
      - Maryland Institute College of Art MICA
      - CU Denver
      - Jagiellonian University, Krakow, Poland
    - Monitoring – Site Stewards (see Partnerships)

- Curation
  - High density storage
  - Packing Collections – new housing
  - Research (see Science)
  - Wetherill Exhibit & Archive (see Partnerships)
  - Curation Volunteers (see Volunteers)
  - Intern Mentoring – National Council of Preservation Education (NCPE)

- Recreation/Interpretation/Visitor Services
  - Destination Strategy & Business Plan
  - Education, Interpretation & Outreach
    - Special Exhibit – The Wetherill Family (see Partnerships)
  - Visitation analysis
- Sand Canyon Trail
  - Southwestern Conservation Corps (SCC) Acoma, social trail obliteration (see Partnerships)

- Biology/Wildlife/Botany
  - Special status species surveys (animals)
    - Colorado Pikeminnow – Pit tag readers
    - Eagles
  - Special status species surveys (plants)
    - Plants G-2 Sensitive
    - Long-nose Leopard Lizard
    - Desert Spiny Lizard
    - Biocrusts
    - Invasive species
    - Weeds inventory and mapping program

- Fire
  - Fire Zone formally established FMZ B (area where wild fire is generally not desired under current conditions and suppression is emphasized).
  - Fire models

- Lands & Realty
  - Empire Electric Right-of-Way (ROW)
  - Cadastral National Park Service (NPS)/BLM Goodman Point (see map below)
- Range
- Improvements Rock Slide EA
- Implemented Land Health Assessment (LHA) in the F/YJ allotments.

![Figure 2. Longhorn livestock](image)

![Figure 3. Rock fall after trail construction](image)

- Fluid minerals >80% leased (ca. 139,000 acres)
Developing SOPs for Section 106 consultation to streamline SHPO consultation for fluid mineral development

- Reclamation – Burro Point

### NEPA Actions

<table>
<thead>
<tr>
<th>ACTION NUMBER &amp; TYPE</th>
<th>PROJECT TITLE &amp; DESCRIPTION</th>
<th>LOCATION</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>S010 2013-0014 CX</td>
<td>Lands: Administrative Right-of-Way Renewals</td>
<td>Various</td>
<td>Last steps of completion are in process</td>
</tr>
<tr>
<td>S070 2014-0010 DNA</td>
<td>Range: Grazing Permit Issuance for Yellow Jacket and Flodine Park Grazing Allotments; Determination of NEPA Adequacy; Tiers to: CO-SJPLC-03-099 Environmental Assessment; Finding of No Significant Impact and Decision Record; Grazing Schedule Application; Grazing Preference Application; Grazing Application Supplemental Information</td>
<td>Allotment Map; Yellow Jacket: T36N/R20W/Sec 1, 12-13, 24-25; T36N/R19W/Sec 2-9, 16-18, 20-22; Flodine Park: T35N/R20W/Sec 3, 10-15, 22-23; T35N/R19W/Sec 7, 16-18, 20-21</td>
<td>Initiated 1/28/2014; DECISION DATE 2/12/2015; Amended Public Notice Availability of Term Grazing Permits; Application Period Closed 4/6/2015. Analysis conducted in 2017.</td>
</tr>
<tr>
<td>SO10 2014-0016 EA</td>
<td><strong>Minerals:</strong> Yellow Jacket Geographic Area Development Plan</td>
<td>Yellow Jacket area: roughly T37N/R17W; T37N/R18W; T38N/R17W; T38N/R18W</td>
<td>Initiated 3/7/2014; Scoping Notice; Public Scoping Period Closed 4/12/2014</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------</td>
<td>----------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>SO10 2012-0057-EA</td>
<td><strong>Recreation:</strong> <a href="#">South Sand Canyon Parking Lot</a></td>
<td></td>
<td>Public Scoping</td>
</tr>
<tr>
<td></td>
<td><strong>Project Status:</strong> Preparation and Planning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2017 Projects and Accomplishments

General Accomplishments

Archaeology

Lowry Pueblo Documentation Project: planning for the 50th Anniversary of Lowry designation as a National Historic Landmark.

Maryland Institute College of Art Landscape Documentation Project (see Science for a detailed description).


Jagiellonian University’s Sand Canyon-Castle Rock Community Archaeological Project (See Partnerships for a detailed description).
Curation

Directives from the WO provided funding for the Anasazi Heritage Center (AHC) Curation Program to hire contractors to catalog backlogged collections from Sand Canyon Pueblo.

BLM deferred maintenance funding enabled the AHC to hire curation staff to work with volunteers to pack, preserve, and catalog thousands of whole and reconstructed vessels to be stored in new high-density space saver shelving. Shelf installation began in September 2017.

Museum Collections
The Anasazi Heritage Center accessioned 12 collections this fiscal year, totaling 7.25 linear feet of archives and 454 cubic feet of artifacts.

Over 68 curation agreements, including five Interagency Agreements for curatorial services, were active FY17.

The AHC is the artifact and archival repository for the BLM San Juan, Gunnison, and Uncompahgre field offices; contract archaeology firms with valid permits from the BLM; the Bureau of Reclamation (BOR); San Juan National Forest; the Ute Mountain Ute Tribe; the Bureau of Indian Affairs; Crow Canyon Archaeological Center; Colorado Department of Transportation; Hovenweep National Monument (NPS); State of Colorado; and the Anasazi Historical Society.

The AHC received a number of gifts, including a diary composed by Syndey LaVern Palmer, detailing his travels through the American West as a youngster in the 1880s.

Figure 6. Contractors re-housing priceless artifacts
Tribal Consultation
CANM continues a long-standing tradition of building and maintaining tribal relationships, and currently engages in government-to-government consultation with 25 tribes, including:

- The Hopi Tribe,
- Jicarilla Apache Nation,
- Navajo Nation,
- Ohkay Owingeh (formerly Pueblo of San Juan),
- Pueblo of Acoma,
- Pueblo of Cochiti,
- Pueblo of Isleta,
- Pueblo of Jemez,
- Pueblo of Laguna,
- Pueblo of Nambe,
- Pueblo of Picuris,
- Pueblo of Pojoaque,
- Pueblo of San Felipe,
- Pueblo of San Ildefonso,
- Pueblo of Santa Ana,
- Pueblo of Santa Clara,
- Kewa Pueblo (formerly Pueblo of Santo Domingo),
- Pueblo of Taos,
- Pueblo of Tesuque,
- Pueblo of Ysleta del Sur,
- Pueblo of Zia,
- Pueblo of Zuni,
- Southern Ute Tribe, and
- Ute Mountain Ute Tribe
- Ute Indian Tribe (Uintah and Ouray)
Recreation, Education & Interpretation

Visitation

In 2017, visitation increased by almost 4,000 people (15%). Since the signing of the RMP, visitation continues to show steady growth on an annual basis. An increase in diverse program offerings enticed more visitors, along with last minute purchases of Senior Passes. More buses and RV groups coming to visit as well with consistent high ratings on Trip Advisor. Also, a more concerted effort to get the word out contributed to the increase. The trend in growth for both locations is parallel.

<table>
<thead>
<tr>
<th>Year</th>
<th>Museum</th>
<th>Monument</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>23,894</td>
<td>43,000</td>
</tr>
<tr>
<td>2016</td>
<td>25,106</td>
<td>48,000</td>
</tr>
<tr>
<td>2017</td>
<td>29,097</td>
<td>50,000</td>
</tr>
</tbody>
</table>
A growing number of visitors also came to the Anasazi Heritage Center in 2017. A Destination Strategy, under development will provide visitors the information for a safe and rewarding visit, whether in the front country or back country.
A Night with the Ancients
A new series on night skies began with several components, the first of which CANM will use in applying for “Night Sky Sanctuary Status” in 2018. The “Night with the Ancients” series took place on the darkest Sunday night each month March - August and included an interpretive talk followed by star hunting and viewing.

Eclipse Extravaganza
The Eclipse Extravaganza was another event and included educational booths, orientation and safety information. Participants viewed the eclipse through safety glasses and a telescope to view the event up close and to see how quickly the event progressed. Fifty students from Dolores High School, including the Astronomy Club docents, assisted with the event.
Other related local outreach event occurred at the Cortez Public Library Pre-K with a book reading of Moon Bear’s Dance for pre-school and kindergarten students. This book introduced the upcoming eclipse in a way that delighted and educated the children.

**Third Thursday** events hosted by the City of Cortez provided BLM the venue, in which to share how to safely observe the eclipse for the “Eclipse Extravaganza” at the AHC. BLM provided an interpreter for the related Third Thursday event at the Cortez Welcome Center and focused on the upcoming partial eclipse (see Partnerships).

**Four Corners Lecture Series**
The annual Four Corners Lectures Series brings agencies and institutions together from the region for presentations from a range of speakers and topics that have garnered a dedicated following. CANM’s interpreter provided a hands-on lesson for Battle Rock Charter School on stratigraphy and archaeology.

Three lectures also focused on astronomy as part of the 2017 Four Corners Lecture Series.
- “Of Coyotes and Moon Landings,” featured Astronaut Harrison Schmitt
- GB Cornucopia “Archaeoastronomy and the Ancestral Puebloan Culture”
- Jennifer Frost, “Our History is in the Stars”
2017 Artist-In-Residence

Bonnie Schmader completed her musical composition project and provided a live concert accompanied by photos taken by her husband.

Figure 11. Bonnie Schmader composing and recording flute music on the monument.

To hear “Canyon Eclipse” by Bonnie go to: https://soundcloud.com/user-222961677/canyon-eclipse?utm_source=soundcloud&utm_campaign=share&utm_medium=facebook

Current Areas of Focus
The following were the primary areas of focus in FY 2017:

- **Continuing energy development.** CANM overlies the largest CO₂ deposit known in the world and this remains a working landscape that acknowledges and respects Valid Existing Rights.

- **Installation of high-density storage.** Storage neared capacity and required upgrading to continue the proper management of collections. Other curation issues relate to capacity in staffing, particularly in the curation/museum arena. Curation is a highly specialized discipline and is not a common staffing need. As such, CANM is developing classifications for seasonal staff to help with recruitment. In turn, CANM and the AHC provides a diverse training ground for future leaders in this field.

- **Outreach & Education/Interpretation programs.** To increase visitation for the public, more programs have provided a direct way to encourage additional visitors at the AHC and on CANM by providing evening and family oriented programs.

- **Developing a destination strategy for marketing CANM.** CANM remains a place of mystery and discovery. With interest on the increase, the need to provide more and better information became apparent so visitors can feel safe in the front or back country.

- **Maintaining effective tribal consultation.** CANM/AHC has a premier Tribal Consultation program that is almost 30 years old. Maintaining and nurturing this relationship is critical for this cultural landscape. Annual consultation and site visits help to strengthen these relationships.
The major issues identified in FY 2017 included:

- **Yellow Jacket/Flodine Allotment Land Health Assessments (LHA) with NGOs.** The Flodine/Yellow Jacket EA has been controversial since the data collection began due to the allotments having been un-grazed for 12 years. However, there has recently been public interest in determining if these allotments can successfully sustain grazing and the CANM RMP specifically permits grazing in the Monument. The fieldwork for the EA included a wide range of participants including Non-Governmental Organizations (NGOs) with a deep interest in the process, as well as ranchers and their contractors, all of whom received invitations to the field sessions. It is expected that the NGOs will submit an alternative for the EA. As a Monument, a great deal of interest exists in the process and analysis and continues through spring 2018.

- **Improving grazing access.** One rockslide closed access for a historic stock trail that has been at the heart of a grazing permittee’s operation. An EA resulted in the decision to clean up the debris for a narrower trail with a thinner tread, which still facilitates the movement of herded livestock on a long-term permit.

- **Increasing visitation and maintaining capacity.** CANM continues to forge ahead with efforts to increase visitorship. The BLM continues to welcome visitors and colleagues to an educational venue with family-oriented offerings, which provide something for everyone. Representatives of the BLM are proud to provide access and information to visitors so that their preparation for exploration results in an enjoyable visit to their public lands.

- **Maintaining Partnerships.** CANM depends on multiple partnerships to maintain projects in archaeology, curation recreation, education and interpretation. Finding ways to provide resources to our partners is a continued challenge.

- **High-density storage installation.** Half of the high-density storage now installed will allow BLM to initiate unpacking artifacts previously put in storage. This accomplishment occurs with staff, contractors and volunteers with support from the BLM Washington Office.

- **Monument Review.** Presidential Executive Order 13792 provided an opportunity to synthesize information on the status of the Monument and garnered additional interest for visitors, many without prior familiarity with the unit. This likely brought first time visitors to explore CANM and the AHC.

- **Operation of the AHC.** Running a facility like the AHC falls outside the regular resource management of BLM. CANM/AHC will make efforts to provide more outreach internally and externally in 2018.

In 2018, projects identified for focus include:

- **Continue South Sand Canyon Trailhead and Parking Lot EA.** The highest visitation on CANM is at Sand Canyon and limited parking creates congestion problems that require resolution. Currently discussions with Montezuma County continue to explore long-term options to alleviate the concerns.

- **Scoping on Flodine/Yellowjacket EA.** The EA for this project comprises two allotments on CANM for which no permit exists for the last 12 years. The current process includes...
running analysis for the capacity of these areas for sustainable livestock grazing. A great deal of interest from NGOs and existing grazing permittees exists.

- **Process oil & gas permits as submitted.** CANM continues to honor APDs and other energy related projects.
- **Document Sand Canyon sites with photogrammetry.** In partnership with two universities, CANM staff continue to document walls with standing architecture. This efficient process takes less than a quarter of the time to record status and a baseline for future monitoring.
- **Develop Recreation Management Area Plan (Sand Canyon, Mockingbird Mesa).** With seven Special Recreation Zones on the Monument, the first priority will focus on the heavy use areas and on providing additional access for the public. Private farms, ranches, and homes surround much of the Monument, resulting in limited access for the public. The near term focuses on identifying three to five additional access areas and initiating the NEPA process to improve public access.
- **Continue Tribal Ethnography Collection.** The Tribal Ethnographies for TRFO, including CANM, provide critical information to guide the management of this cultural landscape. The value in continuing this effort provides information that may allow BLM to avoid future conflict.
- **Update Preservation Plan, Lowry Pueblo.** Photogrammetric documentation at Lowry provides the baseline for monitoring this National Historic Landmark and guides future stabilization at a very critical juncture in the conservation of this site. Pieces in place now allow for the development of a detailed plan for future management.
- **Finalize Tribal MOU – Native American Graves Protection and Repatriation Act (NAGPRA).** CANM continues to work on developing an MOU to streamline inadvertent discoveries of human remains and to be respectful to descendants. A second draft hits the streets in early 2018.

Update Preservation Plan for Sand Canyon. With ever-increasing visitation at CANM, updating the preservation plan for this area stands as a critical task.

- **Continue to streamline Tribal Consultation.** Consultation remains a heavy time commitment when dealing with 25 different tribal entities. Annual meetings are held and copious amounts of correspondence are sent that can be overwhelming to both parties. CANM is making an effort to move consultation toward a digital venue to minimize the time and effort of multiple entities and to gain some efficiency in moving projects forward.
- **Develop the Next Special Exhibit.** Annually, the AHC has provided a temporary exhibit. Usually that schedule comes in February. New exhibits about the multiple resources in CANM should provide visitors with more information, and therefore, more enjoyment.
- **Release “Discover for Yourself”.** This is a recent video created in the Colorado BLM State Office that should be posted on BLM’s Facebook site soon. [https://www.facebook.com/BLMCanyonsoftheAncients](https://www.facebook.com/BLMCanyonsoftheAncients)

Looking ahead, some projects are on-going and currently “in process”. The work conducted at CANM provides the foundation for future citizens to enjoy this cultural landscape and wonder it
presents. With the public helping to serve as stewards of this treasured resource, it will ensure its safekeeping in the future. Working in an area with the extreme density of cultural resources presents unique considerations. It takes time to consider the options and avoid impact to sensitive resources. Few other BLM offices face this particular issue at this scale. Success in avoidance of all cultural resource sites has continued to work well since the signing of the RMP and this will continue as the preferred approach.

Partnerships & Volunteers

CANM in cooperation with Mountain Studies Institute and Anthropological Research, LLC, conducted three ethnographic overviews. This ethnographic overview of the Hopi, Zuni, and Santa Clara Tribes includes tribally vetted interviews, manuscripts, published reviews and archival literature to summarize tribal histories and traditional associations with CANM and the greater Four Corners region. Field visits and oral interviews included the Hopi Tribe, Pueblo of Santa Clara, and Pueblo of Zuni.

Figure 12. Hopi Tribe cultural advisors at a rock art panel in CANM. Photograph by Maren P. Hopkins, Anthropological Research, LLC.

This ethnographic overview has to date, engaged the Hopi Tribe, Pueblo of Zuni, and San Felipe. One goal of the project is to gain a better understanding of their perspective on this cultural
landscape, and its contemporary importance. Information that the tribes choose to share helps BLM manage CANM’s cultural landscape.

San Juan Mountains Association
The Monument Cultural Site Stewardship Program (MSSP), administered through the San Juan Mountain Association (SJMA), the BLM, and through a program administrator, includes 71 prehistoric cultural sites (Ancestral Puebloan), 2 historic sites (one homestead and one unknown Anglo or Navajo structure), and 2 dual-component sites (historic and Ancestral Pueblo).

In total, Site Stewards have participated in over 2,500 hours of training, lectures, and volunteer work since March of 2015, helping them all better understand the sites and landscape for which they volunteer.

The 2017 Site Stewards Program included a cadre of 47 stewards, many of whom monitor more than one site. The combined effort resulted in 780 hours of time, covering about 8,000 miles. This equates to a total of $22,800 of donated labor and support.

Most recently, CANM staff engaged in the Mancos “Alternative” Friday schools program developed through a partnership facilitated by the San Juan Mountain Association, who seeks to connect this small community with their surrounding local public lands. Collaborators include BLM’s CANM and the AHC, the National Park Service sites (Mesa Verde National Park and Hovenweep National Monument) and, the Forest Service. Students’ families were affected by a massive fire that destroyed an excelsior plant (a major employer), severely challenging this small community which moved to a four-day school week. The Alternative Friday provides a fifth day of hands-on learning activities every week for students in an underserved rural community.
During the Christmas Holiday, in Partnership with Mesa Verde Country, BLM hosted an event normally hosted annually by Mesa Verde National Park while their archaeological sites underwent maintenance. This well-attended event welcomed visitors with almost 1,000 luminaria lining the plaza, the Escalante Trail, and Escalante Pueblo. A multitude of volunteers from multiple organizations made this a glowing success.

Canyonlands Natural History Association (CNHA) supported the Museum with this exhibit. The Wetherill Family Exhibit evolved from an interest in highlighting the Family Archive, established over a decade ago by avid historic researcher, Fred Blackburn, while his wife was the archaeologist for the AHC. A collaborative effort resulted in the current display that has generated great interest in this pioneering Quaker family who first detailed, for the public, the amazing cliff-dwellings at Mesa Verde and on Canyons of the Ancients National Monument and beyond.
In 2017, CANM hosted the Ancestral Lands Southwest Conservation Crew #691 from Acoma, New Mexico. This outstanding crew of five members worked to find and collect material for future stabilization projects, obliterated social trails, preservation of archaeologically protected locations, and advised on interpretation ideas for the AHC.

For the seventh year, project director Dr. Radoslaw Palonka travelled with a mixed group of twelve graduate and undergraduate archaeological students from Krakow, Poland to CANM to continue their research. The project is the first independent Polish archaeological project in the United States, and seeks to further our understanding of prehistoric community organization within the 13th Century Puebloan society. While the project’s primary focus is on the Sand Canyon–East Rock Canyon area of the Monument, the group conducted archaeological survey, as well as electrical resistivity, Light Detection and Ranging (LiDAR) documentation and photogrammetry of a number of sites within CANM.
Volunteers

Volunteers provide an astounding amount of support to CANM/AHC, approximately equal to two to three staff. Approximately 100 volunteers currently fill the roster at CANM and the AHC. Multiple opportunities abound for volunteers to engage in working to greet the public in the museum, or in curation working with archives, artifacts and collections, conducting research, working in the library, or in other areas such as the “Plant Select” garden, which provides a showcase for species that grow well in a particular environment. On CANM, the Site Stewards Program, Trail Information Specialists, and Wilderness Monitoring program succeed because of volunteers. Many important programs would suffer if not for the volunteer cadre on the unit.

Anasazi Heritage Visitor Center & Museum
- Front Desk
- Museum Shop
- Museum Docents
- Library
- Curation

Canyons of the Ancients Outdoor Museum
- Site Stewards
- Trail Information Specialists
- Wilderness Stewards
- National Public Lands Day

Figure 18. Volunteer Gardener offer a tour of the particularly beautiful grounds at the AHC

Monument Cultural Site Stewards Program (MSSP)
The Monument Cultural Site Stewardship Program (MSSP), administered through the San Juan Mountain Association (SJMA), the BLM, and through a program administrator, includes 71
prehistoric cultural sites (Ancestral Puebloan), 2 historic sites (one homestead and one unknown Anglo or Navajo structure), and 2 dual-component sites (historic and Ancestral Pueblo).

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Curation Interns and Volunteers
The AHC curation program hosted one curation intern through the National Center for Preservation Education. Audree Espada brought with her a desire for learning ways to improve access to museums by minority communities.

Curation volunteers were essential to completing the packing for installation of high-density shelving. Other volunteer highlights included developing a finding aid for the Chappell Collections, identifying objects for the annual museum inventory, cataloging, and researching LEO collections.

Land (or Interests in Land) Acquisitions
N/A
University of Colorado Denver
At CANM, facing the challenge of managing a cultural landscape that has invoked new and rapidly evolving technologies in response to the mandates in the RMP to conserve, protect, and restore the resources, objects and values (ROVs) created the foundation for the monument’s management.

In collaboration with the BLM National Operations Center (NOC) and the Monument Cultural Resource program, a multi-year partnership with the University of Colorado at Denver (UCD) is using technology to document prehistoric architectural features late Pueblo III (ca. AD 1250) sites within CANM. The project support came from the Colorado State Historic Fund and the National Park Service’s National Historic Landmark (NHL) program.

In 2017, UCD’s third season of digital documentation, they focused on Lowry Pueblo by creating three-dimensional models and scaled Historic American Buildings Survey (HABs) drawings using the following four methods:

• Advanced Light Detection and Ranging (LiDaR),
• High Definition Surveying (HDS),
• Close-range photogrammetry, and
• High Dynamic Range photography (HDR)
Maryland Institute College of Art Landscape Documentation Project

Students from the Maryland Institute College of Art (MICA) in Baltimore began work at Lowry Pueblo in 2017. Their collaboration with the BLM and Native American tribal consultants brought together elements of archaeology, architecture, ethnography, and geography to work on a Historic American Landscapes Survey documenting the cultural landscape surrounding this important prehistoric Native American site and its setting.

The method developed by MICA employs techniques, which diverge from a standard archaeological approach. Using graphic medium, the project articulates the more subtle concepts of a cultural landscape, allowing for artistic interpretations and representations lacking in photography. The focus to articulate these concepts succeeds using the unique skills and philosophy of MICA’s art and design students.

MICA’s philosophy recognizes that drawing and mapping are ways of thinking about and seeing objects, spaces and places. The students capture landscapes with hand drawings, watercolors, photographs, digitalized drawings, GIS maps and 3D computer terrain reconstructions.

Figure 19. Southern viewshed from Lowry Pueblo National Historic Landmark, Canyons of the Ancients National Monument, Colorado

Curation

Karen Schollmeyer is an archaeologist with Archaeology Southwest, a non-profit preservation archaeology organization based in Tuscan, Arizona. Karen pursues research interests in zooarchaeology, long-term human-environment interactions, and food security and landscape use. Karen continues to focus on long-term insights that have application to contemporary issues, by studying the chemistry of animal bones from archaeological sites in the Mesa Verde conservation. Her work at CANM analyzed gopher and deer long bones. The study examines how people’s access to food animals—especially deer and turkey—changed over time, specifically the period from A.D. 750–1280. The bone samples undergo inductively coupled plasma mass spectrometry and carbonate analysis to successfully identify the isotopic signatures of geologically distinct parts of the study area. The chemical signatures can link the bones of larger animals in archaeological sites to the parts of the landscape they came from, providing insights into questions like how far people traveled to hunt certain species and how that changed over time as human populations grew.

Figure 20. Karen Schollmeyer measuring bones from the AHC collections
5

Resources, Objects, Values, and Stressors

Archaeology/Cultural Resources

Containing the highest known density of archaeological sites in the Nation, the Canyons of the Ancients National Monument holds evidence of cultures and traditions spanning thousands of years. This area, with its intertwined natural and cultural resources, is a rugged landscape, a quality that greatly contributes to the protection of its scientific and historic objects. The monument offers an unparalleled opportunity to observe, study, and experience how cultures lived and adapted over time in the American Southwest. Monument Proclamation, June 9, 2010.

Archaeology/Cultural Resources Status and Trend Table

<table>
<thead>
<tr>
<th>Status of Resource, Object, or Value</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair to poor</td>
<td>Archaeology, by its very nature is in a deteriorating condition without extreme intervention. Only public use sites are stabilized to withstand visitor presence.</td>
</tr>
</tbody>
</table>

Archaeology/Cultural Resources Inventory, Assessment, Monitoring Table

<table>
<thead>
<tr>
<th>Acres in Unit</th>
<th>Acres inventoried</th>
<th>Acres possessing object</th>
<th>Sites monitored in FY2017</th>
</tr>
</thead>
</table>

To see additional information about this work go to this link:
https://www.archaeologysouthwest.org/2015/10/02/gopher-jaws-and-the-past/
Stressors to Archaeology include natural processes that over the last millennium continue to alter the remains of prehistoric cultures. Erosion, water, wind, wildlife and vegetation contribute to the declining condition of standing walls and rock art in particular. Tribes insist that this natural process, in some cases, should continue without intervention. In order for sites to be open and accessible to the public, action requires intervention in the form of stabilization and hardening. This keeps visitors and sites safe.

Locations across CANM are prioritized for monitoring. The CANM LEO is trained in recognizing cultural sitesconducts investigations, and issues citations. Furthermore, education is the first solution and that comes through various outreach programs. A new LEO outreach to local schools exemplifies the goal to grow stewards by teaching them early and annually.

Continued looting and vandalism to cultural resources may continue to be an issue. This activity provides, albeit illegal, entertainment and a potential supplemental income for thieves. Site monitors and BLM Law Enforcement Rangers continue patrols and collecting information to combat this.

**Reptiles**

*The monument is home to a wide variety of wildlife species, including unique herpetological resources. Crucial habitat for the Mesa Verde nightsnake, long-nosed leopard lizard, and twin-spotted spiny lizard can be found within the monument in the area north of Yellow Jacket Canyon. Peregrine falcons have been observed in the area, as have golden eagles, American kestrels, red-tailed hawks, and northern harriers. Monument Proclamation, June 9, 2010.*

**Reptiles - Lizards Status and Trend Table**

<table>
<thead>
<tr>
<th>Status of Resource, Object, or Value</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>The trend for reptiles is stable, in fair condition. The McElmo (Research Natural Area) RNA has the most northeastern populations known for the Long-nose leopard lizards and spiny desert lizards. To date no documented Mesa Verde Night Snakes occur on CANM.</td>
</tr>
</tbody>
</table>
Reptile Inventory, Assessment, Monitoring Table

<table>
<thead>
<tr>
<th>Acres in Unit</th>
<th>Acres Inventoried</th>
<th>Acres Possessing Object</th>
<th>Acres Monitored in FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>176,000</td>
<td>20,000</td>
<td>9,000</td>
<td>6000</td>
</tr>
</tbody>
</table>

Stressors affecting reptiles include human disturbance, disease, mortality, habitat alterations and a healthy prey base. The population trend remains steady. Access to the RNA is limited and the continued monitoring assesses grazing impacts. Stressors for these reptiles are currently minimal. Changes in habitat would create concerns. Livestock fences protect the area as well. No inventories for or reports of Mesa Verde Night Snake exist.

Raptors

Raptors Status and Trend Table

<table>
<thead>
<tr>
<th>Status of Resource, Object, or Value</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Stable</td>
</tr>
</tbody>
</table>

Raptors Inventory, Assessment, Monitoring Table

<table>
<thead>
<tr>
<th>Acres in Unit</th>
<th>Acres Inventoried</th>
<th>Acres Possessing Object</th>
<th>Acres Monitored in FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>176,000</td>
<td>10,000</td>
<td>Unknown</td>
<td>8000</td>
</tr>
</tbody>
</table>

Stressors affecting raptors include human disturbance, disease, climate fluctuations, mortality, and prey base. An unusually high number of raptors nest in CANM. Raptors nesting within 1/2 mile of canyon rims are particularly sensitive and their nesting seasons require protection. The population is steady with numbers of nesting eagles and hawks.

Geology

The natural resources and spectacular land forms of the monument help explain why past and present cultures have chosen to live in the area. The geology of the monument evokes the very essence of the American Southwest. Structurally part of the Paradox Basin, from a distance the landscape looks deceptively benign. From the McElmo Dome in the southern part of the monument, the land slopes gently to the north, giving no indication of its true character. Once inside the area, however, the geology becomes more rugged and dissected. Rising sharply to the north of McElmo Creek, the McElmo Dome itself is buttressed by sheer sandstone cliffs; with mesa tops rimmed by caprock and deeply incised canyons. Monument Proclamation, June 9, 2000.

Geology Status and Trend Table

<table>
<thead>
<tr>
<th>Status of Geology, Object, or Value</th>
<th>Trend</th>
</tr>
</thead>
</table>
Geological processes controlled by erosion, albeit at a slow rate. Exposed formations are prone to wind, rain and human caused erosion.

Geology Inventory, Assessment, Monitoring Table

<table>
<thead>
<tr>
<th>Acres in Unit</th>
<th>Acres Inventoried</th>
<th>Acres Possessing Object</th>
<th>Acres Monitored in FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>176,000</td>
<td>0</td>
<td>176,000</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Stressors Affecting Geology
Geology, by its very nature, is a constant and slowly moving process of erosion. In 2017, a rockslide occurred on the Monument and a new route cleared enabled BLM to facilitate livestock grazing management.
## Summary of Performance Measure

<table>
<thead>
<tr>
<th>Resource, Object, or Value</th>
<th>Status</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Resources</td>
<td>Fair to Poor</td>
<td>The natural process for archaeological sites is downward</td>
</tr>
<tr>
<td>Raptors</td>
<td>Good</td>
<td>Stable</td>
</tr>
<tr>
<td>Reptiles</td>
<td>Fair</td>
<td>Stable</td>
</tr>
<tr>
<td>Geology</td>
<td>Fair</td>
<td>Erosion is the natural process and continues in a downward trend</td>
</tr>
</tbody>
</table>
Manager’s Letter

In my sixth year as the Monument Manager at Canyons of the Ancients National Monument, my gratitude for such an honor remains undiminished. This unique landscape offers the opportunity to achieve an important component of National Conservation Lands in that these lands remain working modern landscapes. In the case of CANM, the resources, objects, and values for which it was established focus on the conservation and protection of lizards, raptors, and the most concentrated area of archaeological sites in the nation. Furthermore, the remnants of past cultures continue to be vitally important to 25 contemporary tribes who remain actively engaged with this cultural landscape and consider this their homeland.

About 80% of CANM, leased decades ago for fluid mineral development, remains active in its extraction. The BLM’s obligation to honor these valid existing rights while avoiding impact to archaeological sites continues to be effective. The largest CO₂ deposit in the world underlies much of the Monument at about 8,300 feet below the surface. This product supports enhanced oil recovery in New Mexico, Oklahoma and Texas.

The critical facets of success on the monument comes from an incredibly dedicated staff who, in turn, supervise committed interns and volunteers. The volunteer cadre at the Monument provide very tangible support. With over 100 volunteers to provide expertise in everything from visitor services and customer service, to trail information specialists and wilderness monitors, to library and curation support, we leverage a multitude of opportunities. In addition to the contributions to each program, volunteers provide inspiration for BLM staff and visitors.

Our partners continue to provide opportunities that enhance the experience for our guests and provide programs that reach outside of our own unit. These loyal partners encourage us by their loyalty and dedication to our mission and to our visiting public.

Visitation to the unit increased approximately 14% at both the Anasazi Heritage Visitor Center and Museum and on the Monument in 2017. We welcome visitors and provide them with information to have a safe and satisfying experience in the cultural landscape of the Monument and through multiple opportunities at the AHC.

A new exhibit, opened in February, “Trowels, Trading Posts and Travelers: The Wetherill Family”, has created buzz and may be one of the most popular exhibits in the history of the AHC. Supported by Canyonlands Natural History Association, the exhibit provides a historic window through which the visitor can reach further into the past.

Measuring protection of the resources, objects and values of the monument, receiving comments from visitors, and learning of the experiences that visitors have at Canyons of the Ancients National Monument and the Anasazi Heritage Center will result in successful management in the future. Yet, we cannot rest and should not become complacent in our efforts to always improve. The proof for visitors lies in the experience you can have here, so please come and “discover for yourself”.

Gratefully,

Marietta Eaton
Monument Manager
Canyons of the Ancients

National Monument
Southwest District Office
Bureau of Land Management
Tres Rios Field Office
27501 Hwy 184
Dolores, CO  81323
Phone: 970-882-5616

October 31, 2018

The mention of company names, trade names, or commercial products does not constitute endorsement or recommendation for use by the federal government.

Figure 2. View of Yellow Jacket Canyon. Photo by Vince MacMillan.