



Office of the Assistant Secretary of Defense for Energy, Installations and Environment

CULTURAL RESOURCES

Developing Forward-Thinking Sustainability Practices for Cultural Resources

The Office of the Assistant Secretary of Defense for Energy, Installations, and Environment oversees the Department of Defense (DoD) Cultural Resources (CR) Program. The CR Program advises the Secretary of Defense and DoD leadership on historic preservation policy to optimize performance and support mission assurance through responsible cultural resources stewardship and management. Cultural resources connect our Service members with their proud history and traditions and link descendant communities who inhabited areas now under DoD management with their cultural, traditional, and sacred places.

Fort Eustis Saves Sites from Erosion

Fort Eustis in Hampton Roads, Virginia boasts a rich history dating back to prehistoric times. Christopher McDaid, 733rd Mission Support Squadron archaeologist and cultural resources manager, leads a team that monitors hundreds of archaeological sites and a few historic structures on the base. The team also works hard to ensure that the effects of climate change do not wipe out the installation’s abundant cultural resources.

The Mulberry Island Peninsula is a piece of land on the base that sits between the James and Warwick rivers. The peninsula has 10,000 years of human history, over 230 recorded archaeological sites, and two museums.



Matthew Jones House. Source: Fort Eustis Cultural Resources

The peninsula’s 18th-century red-brick Matthew Jones House is a prime example of early Georgian Architecture—a style known for its symmetry, brickwork, and elegance.

“The Matthew Jones house, as near as I can tell, is the oldest building that the Department of Defense owns and occupies,” McDaid said. “It was originally built about 1715 or 1720.” The original builders’ decision to construct the house on high ground has helped protect it from three centuries of floods, rain, and changing shorelines of nearby bodies of water.

The base also contains the historic Davis and Kimpton Brickyard—a 19th century brickmaking operation that includes pieces of industrial equipment, cemeteries, food production sites, and other areas that tell a story about what life was like over two centuries ago.

Unfortunately, some of these historic sites are at risk. Climate change is raising sea levels, which lifts the levels of the two rivers, and causes the land on the base to erode into the water. Moving the base is not an option and sea level rise has not slowed.



19th century brickyard archaeological site endangered by erosion and rising sea levels along the Warwick River. Source: DoD Cultural Resources Program.



To meet this challenge, McDaid is working with the US Army Corps of Engineers to develop solutions to mitigate these threats, such as installing a living shoreline of oyster beds adjacent to endangered sites. Oyster beds, created by sinking concrete or other materials into the water and seeding oyster larvae in the sunk structures, help combat dangerous erosion. These beds grow into colonies of oysters that absorb energy from the waves that break apart the shoreline. Thanks to efforts like these, future generations can come and enjoy the rich history and many stories told by the sites at Fort Eustis.



National Guard Sticks up for Cacti

Cultural resources do not have to be man-made. The towering saguaro cactus is an iconic symbol of Arizona and the culture of the Southwestern United States. Arizona Air National Guard (AANG) efforts to protect the cactus recognize the saguaro is more than just a natural resource to be enjoyed for its beauty—to the Native American tribes in the region, natural and cultural heritage are often one and the same.

The O’odham people who live in the region of Arizona around Florence Military Reservation believe saguaro cacti were once human and retain a human spirit. Members of the community use the cactus for food, tools, and in religious ceremonies. Drinking wine made from saguaro fruit is common practice to mark the new year and the coming of summer rains. Barnaby Lewis, Tribal Historic Preservation Officer (THPO) for the Gila River Indian Community, explains that “they are people, not just plants.”

Unfortunately, invasive plants can increase the likelihood of fires that threaten the saguaros’ habitat and contribute to damaging erosion. In June 2020, plants like non-native buffelgrass



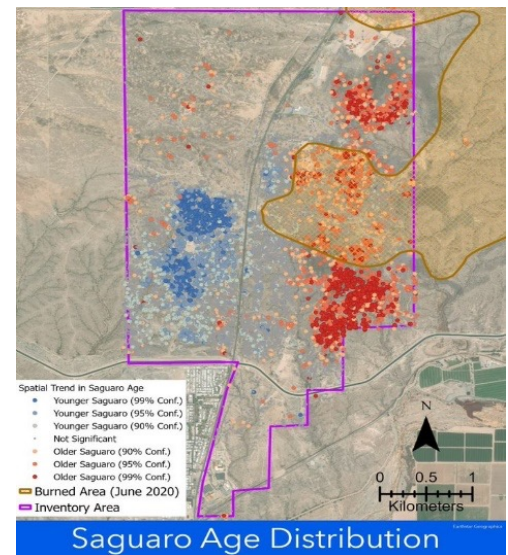
A 7.8 m tall flowering saguaro cactus documented by the Arizona Game and Fish Department during a monitoring project on Florence Military Reservation in April 2012. Source: Arizona Game and Fish Department

fueled a fire on Florence Military Reservation that burned saguaros and other native plants.

Between 2005 and 2011, the Arizona Game and Fish Department inventoried a portion of Florence Military

Reservation, documenting nearly 21,000 saguaros. AANG reanalyzed these data to identify important spatial variation in saguaro demography, reproductive potential, and wildlife use. Saguaro inventory data are also being used to train a deep learning model for identifying saguaros across unsurveyed areas using aerial imagery.

The results of these analyses will be used to identify critical habitats in need of conservation and investigate the nature and distribution of cultural resources managed by AANG. This information will contribute to restoring living landscapes of the Sonoran Desert and help conserve a resource of great importance to tribal stakeholders.



Map showing Saguaro Age Distribution. Source: AANG

Want to learn more?

Additional information about the Cultural Resources Program can be found at the links below:

For more information about the DoD Cultural Resources program visit www.denix.osd.mil/cr

Check the website Summer 2023 for a forthcoming guidebook and fact sheet: *Guide to Incorporating Climate Considerations into Integrated Cultural Resource Management Plans*

