



EMORY OAK

Collaborative Tribal Restoration Initiative

Newsletter

December 2020



Project Mission

The goal of the Emory Oak Collaborative Tribal Restoration Initiative (EOCTRI) is to restore and protect Emory oak groves (*Quercus emoryi*) and to ensure the sustainability of subsistence foods for Arizona tribes.

2020 Accomplishments

Despite the challenges imposed by COVID 19, the EOCTRI made significant progress in 2020. A total of 18 Emory oak groves have been identified by tribal elders for restoration. These include groves on the Tonto and Coconino National Forests, and on the White Mountain Apache Reservation.

Over 1,000 acres were field surveyed by archaeologists and Tribal Monitors—360 of those acres comprise the three groves on White Mountain Apache Tribe lands. Tribal Monitors identified significant archaeological, botanical, and mineral resources in the proposed treatment areas and provided reports to each agency. Treatment boundaries were redesigned to avoid significant resources. Nine groves have been identified for first treatments over the next 3 years.

The Elders' Advisory Board met each quarter of 2020 (3 were virtual meetings) to review the results of the surveys and to guide future activities.

How are Groves "Restored"?

Several methods are available for grove restoration:

- *Mastication*: a machine grinds trees into pieces that are left on the ground as mulch.
- *Hand Thinning*: chainsaws or feller bunchers are used to reduce underbrush and competing species, and the materials are burned or removed from the grove.
- *Exclusion Fencing*: protective fencing can prevent herbivores from eating small trees.
- *Planting/Transplanting*: there is a narrow window during acorn production when acorns are most successful in starting new trees; acorns can be planted directly in the grove or seedlings can be started in a nursery and transplanted into the grove.

Tribal Employment

One of the goals of the EOCTRI is to use tribal labor and businesses to accomplish the surveys and the treatments. Tonto National Forest's Tribal Monitors received initial training from the U.S. Forest Service in how to conduct cultural field surveys and prepare reports. Tribal Monitors received botanical training from WestLand Resources, Inc. that included in-field identification of native plants. Native-owned small businesses will be implementing the treatments. Tribal staff, elders, and youth will assist with annual harvests when COVID restrictions are lifted.



White Mountain elders confer on sites within the Sparky grove

EOCTRI Partners:



EMORY OAK

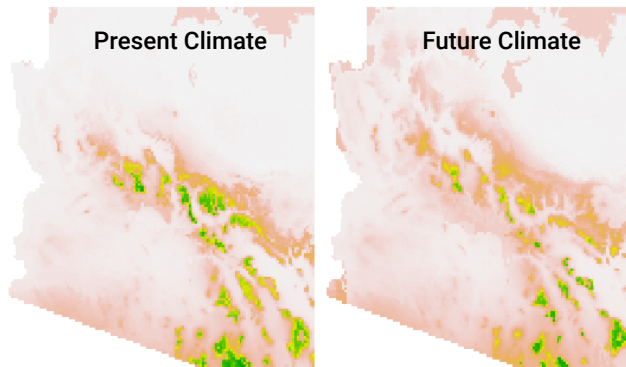
Collaborative Tribal Restoration Initiative

Newsletter

December 2020

Research on Emory Oak

Dr. Sara Souther of Northern Arizona University completed background research on Emory oak. Her research shows, if current warming trends continue unabated, the distribution of Emory oak groves in central Arizona will dramatically shrink or disappear in 50 years.



Predicted suitable habitat for Emory oak based on Forest Inventory and Analysis data for the current time period and in 50 years under a middle-of-the-road climate warming scenario.

Designated sample plots in each grove will be used to compare treatment results. Dr. Souther developed an *EOCTRI Handbook for Ecological Data Collection* and a video <https://youtu.be/AmJFRyNr-eA> to train Tribal Monitors in how to collect baseline data for each plot. The guide begins with how to distinguish Emory from other oaks.



Photo courtesy of Patricia Ringle

White oak characteristics

- Leaves slightly fuzzy, whitish on underside
- Tends to be wider towards the leaf tip
- Gray bark

Emory oak characteristics

- Leaves shiny green on both sides
- Leaf margins pointy
- Tends to be wider towards the leaf base
- Dark, almost black, bark
- Savanna tree-like growth form

Spread the Word

Participants continue to spread news about the project. We now have a 5-minute video about the program on YouTube. Check it out!!!

<https://vimeo.com/showcase/7601286>



VINCENT RANDALL
APACHE CULTURE DIRECTOR, YAVAPAI-APACHE NATION

Additional presentations and publications:

- *Emory Oak Project*, Earth Note, radio program by Melissa Sevigny for KNAU, Flagstaff (6/12/20).
- *The Use of Citizen Science to Restore Traditional Harvest Practices on Public Lands*. Presentation by S. Souther, V. Randall, and N. Lyndon at the North American Congress for Conservation Biology, virtual conference (7/27/20–7/31/20).
- EOCTRI video, showcased at New Mexico Historic Preservation Division's Virtual Archaeology Fair (10/17/20–10/29/20).
- *Insights into the Restoration and Sustainable Management of Emory Oak: A Southwestern Cultural Keystone Species* by Sara Souther, Nanebah Nez Lyndon, and Dee Randall, will be published in March 2021 in *Forest Ecology and Management*.