

A Century of Cooperation: The Fort Valley Experimental Forest and the Coconino National Forest in Flagstaff



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Abstract—This poster presents the continuing cooperative relationship between the Fort Valley Experimental Forest (FVEF), Coconino National Forest (CNF), USFS Region 3, and the long-term partnerships with the Museum of the Northern Arizona and the NAU School of Forestry.

Fort Valley was initially named the Coconino Experiment Station and funds were channeled through Region (then District) 3 and the CNF. CNF Ranger William Wilson assisted G.A. Pearson that first winter at Fort Valley. Since Fort Valley's establishment as an experimental area, Forest Service Research has worked in conjunction with the National Forest System to sustain the magnificent ponderosa pine forest. Scientists study the forest and range ecosystems on the National Forests and make recommendations to ensure the natural resources are protected in perpetuity (Figure 1). Some of the permanent sample plots implemented in 1912 are still used for research and urgently need protection from other National Forest activities. A proposal to list the permanent sample plots on National Forests in Region 3 on the National Register of Historic Places is a step that will safeguard the research sites. Both Fort Valley and the Coconino celebrate centennials in 2008. Also included are the connections of Fort Valley scientists to the Museum of Northern Arizona and Arizona State College, now Northern Arizona University (NAU).

FVEF and the Coconino National Forest

Ranger Training Camps

“An all-important thing here is building a Service-spirit of morale and esprit de corps.”

(G.A. Pearson, 1941 Ranger Training camp.)

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COOPERATIVE AGREEMENT

COCONINO EXPERIMENT STATION--COCONINO NATIONAL FOREST



WHEREAS: The Coconino Experiment Station has been established within the Coconino National Forest which is under the jurisdiction of the Supervisor of said National Forest, and

WHEREAS, It has been deemed best that there should exist a mutual plan regarding the withdrawal, and an agreement regarding the subsequent status, of areas within said Coconino Experiment Station,

W I T N E S S E T H

THIS AGREEMENT, in duplicate, entered into this 7th day of April, 1909, between the Supervisor of the Coconino National Forest and the Director of the Coconino Experiment Station:

1. Areas needed by the said Experiment Station for administrative sites or for experiments of long standing or special importance shall be withdrawn from entry in the following manner, to-wit: Recommendations for permanent withdrawals, signed by the person in charge of the station, shall be presented for the approval and signature of the supervisor. Following this, a report in proper form

Figure 1. Page 1 of a document between the FVEF and the Coconino National Forest that sets aside lands around the Fort Valley Experimental Forest headquarters.

THE FOREST RANGER SCHOOL

Opens Wednesday With Attendance
From Arizona, New Mexico, Oklahoma and Arkansas.

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The Forest Service ranger school opened Wednesday at Fort Valley, where a fine tent city has been provided by the Service, with a complete camp outfit. The school will be conducted by A. O. Waha, chief of silviculture, of Albuquerque, and will continue through September and October. The following rangers are present from the different forests of the southwest: B. M. Thomas, Jones Forest; Lou Mossiman, Pecos; Ranger Rogers, Lincoln; Ranger Hammond, Manzano; Wm. P. Johnson, Alma; Geo. K. Pradt, Zuni forest of New Mexico; Ranger Boyes, Wichita, Oklahoma; B. J. Phillips, Carson; C. H. Jennings, Tonto; Ranger Stuart, Chiricahua; Louis Benedict, Wm. M. Rudd, Coconino; H. O. Eaton, Apache; Albert Abbott, Garces; Thomas Ruth, Sitgreaves; J. H. Woolsey, Crook, all of Arizona; Arkansas, S. A. Chappell; Ozark, R. C. Huey.

Instructions will be given by the following officers: A. C. Ringland, district forester; J. K. Campbell, grazing; A. B. Recknagle, silviculture; Supervisor Pooler, O. A. Waha, operation; E. H. Hinderer, supervisor's office; Jameson or Franklin, laws and claims.

Commencing October 1st, twenty more rangers will be sent here for instruction during October, covering a similar course.

Figure 2. News article from the *Coconino Sun* of September 3, 1909 announcing the Coconino Ranger School.

District 3 held its initial ranger training camp in 1909 at Fort Valley. Newly hired forest rangers received instruction on how to do their jobs and also heard about the purpose of research projects initiated by Fort Valley scientists. The camps lasted two weeks and much camaraderie was established between the rangers and scientists (Figure 2). A camp-closing baseball game between the Arizona and New Mexico rangers included two rules: players were not to carry firearms or wear spurs when running the bases. Ranger camps continued usually annually until the 1940s with the start of World War II (Figure 3). They have been held sporadically since. District 3 constructed three buildings at FVEF in 1927 to serve the ranger camps: a schoolhouse (still extant), and a dorm and mess hall (moved offsite in the 1970s).

Little Leroux Springs Nursery

A forest nursery began near Little Leroux Springs in 1935, managed by Roland Rotty. National Forest philosophy placed emphasis on transplanting seedlings into the Forest and offered the trees to residents (Figure 4). The waters of Little Leroux Springs became USFS

property in the 1930s and an underground pipeline carried water from the Springs to FVEF headquarters. FVEF personnel, equipment, and headquarters buildings were used for this project. In the 1980s, Rocky Mountain Research Station, CNF, and the NAU School of Forestry collaborated to plant an arboretum at the site.



Figure 3. The Ranger training camp at Fort Valley Experimental Forest. USFS photo 90925 by A.G. Varela, 1910.

Permanent Sample Plots

District 3's Investigative Studies Committee, of which G.A. Pearson was a member, planned and implemented research projects around the southwestern National Forests in the early years. The Committee determined research projects based on budget and most immediate needs. An early project around District 3 National Forests established permanent sample plots to intensely study life cycles in the forest. The plots vary in size and research scope and are monitored over long periods. As time passed and personnel changed, the importance of maintaining the long-term records on these plots diminished. In the 1990s, NAU School of Forestry professor Margaret M. Moore began remeasurement of these plots to document changes over the past century. Fire management specialists from the Coconino National Forest have assisted with prescribed fire projects at the G.A. Pearson Natural Area and on other plots. Today, NAU, CNF, and RMRS are working to list these plots on both the general Forest maps and the National Register of Historic Places so that the plots are known to Forest planners, who will then ensure the areas are not impacted by logging or other uses. This project has already occurred on some plots on the Kaibab National Forest.

Arizona State College (ASC), School of Forestry

Earle H. Clapp, once of District 3 and later of the Washington, D.C. office, expanded on Raphael Zon's idea to locate experiment stations near urban universities so that students could actively be involved in projects on a long-term basis. In Flagstaff, Forester Charles O. (Chuck) Minor began the School of Forestry at ASC (now Northern Arizona University (NAU)) that enabled Zon's vision to transpire. FVEF-based personnel participated by lecturing, offering laboratory opportunities to students, and serving on graduate committees.



Figure 4. “Clipper” fanning mill for cleaning tree seed before planting at the Little Leroux Springs nursery. Photo taken at FVEF by Roland Rotty in May 1937. USFS photo 345054.

Commencement of the ASC Forestry program coincided with the fiftieth anniversary of FVEF and activities celebrated both events with more emphasis on the on-campus research center and less on the historic FVEF headquarters. The combined office and lab was located next to the ASC Forestry building, then housed in Frier Hall (Figure 5). Studies included silviculture, forest utilization, range management, watershed, surveying, and economics. Research and Forestry professionals team-taught a multi-resource forest management curriculum.

The USFS Rocky Mountain Research Stations (RMRS) and the School of Forestry moved into the Southwest Forest Science Complex constructed on NAU’s south campus in 1992 (Figure 6). RMRS Station (the administrator for FVEF) consolidated its research programs into this new building and closed other labs and offices around Arizona. Professionals, graduate students, and undergraduates now share offices and labs in one structure. Also housed in the Southwest Forest Science Complex is the Ecological Research Institute (ERI), which has projects on the FVEF. Nearby is a 20,000 square foot greenhouse used for plant propagation, cold hardiness, and other research.

The Forest Service and the University plan cooperatively to offer students forestry-related courses. Several graduate papers included in these proceedings have evolved from NAU students utilizing historic FVEF archival material and comparing it to today’s landscape.

Museum of Northern Arizona (MNA)

MNA co-founder Harold S. Colton and neighbor FVEF Director G.A. Pearson formed a lifetime friendship, as they were both scientists intensely curious about the natural environment of northern Arizona. The two well-respected men became champions for the other’s institution. Pearson served on the MNA Board of Directors for several decades until his permanent move to Tucson. Subsequent USFS research scientists would fill this seat after Pearson’s retirement. Colton persuaded the U.S. Department of Agriculture in the 1930s to keep FVEF open when operating funds were scarce. Four decades later, Colton’s successor, Edward B. (Ned) Danson, repeated the request when another proposal to dismantle FVEF was planned.

The Museum of Northern Arizona honored FVEF’s 50th anniversary with an exhibit on the sites’ history, and Colton attended the banquet held during the weekend festivities. Program highlights included talks by ex-FVEF scientists Emanuel Fritz and Bert Lexen and a tour of research sites.



Figure 5. A 1967 winter scene at the Forestry Science Lab on the NAU campus. USFS photo by G.H. Schubert.



Figure 6. Current USFS Rocky Mountain Research Station headquarters on the NAU campus. USFS photo by Wade Hubbard.

FVEF personnel have contributed articles to MNA's publications and loaned equipment. MNA named its meeting hall after G.A. Pearson and houses FVEF collections (Figure 7).

Other Collaborations

Between 1971 and 1982, the Agricultural Research Service (ARS) managed a "poppy lab" at FVEF, to study genetics of opium production and provide targets to calibrate remote sensors to recognize poppy fields.

The US Geological Survey (USGS) rented FVEF buildings from the 1970s through the early 1990s and established a paleomagnetism laboratory, the story of which is featured in a poster paper.

Acknowledgments

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Figure 7. Pearson Hall on the Museum of Northern Arizona campus, Flagstaff, AZ. Photo by S.D. Olberding.

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