

Fort Valley's Early Scientists: A Legacy of Distinction

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Abstract—When the Riordan brothers of Flagstaff, Arizona asked Gifford Pinchot to determine why there was a deficit in ponderosa pine seedlings, neither party understood the historical significance of what they were setting in motion for the field of forest research. The direct result of that professional favor was the establishment of the Fort Valley Experiment Station (Fort Valley) in 1908, and the insights produced through its research program are remarkable. The scientists that passed through Fort Valley are an accolade that commonly goes unmentioned, and includes extraordinary individuals such as: Gustaf “Gus” Pearson, Emanuel Fritz, Edward C. Crafts, and Ruthford H. Westveld.

Introduction

The following offers a glimpse into the early years of various Fort Valley Experiment Station (Fort Valley) researchers. This article serves to demonstrate that Fort Valley was a proving ground for research foresters who ultimately had colossal impacts reaching much further than the ponderosa pine forest of northern Arizona. There is a primary focus on the foresters who came to Fort Valley to further develop solid technical foundations for national forest management and how through their careers impacted early American silviculture and forestry at a national scale (Figure 1).

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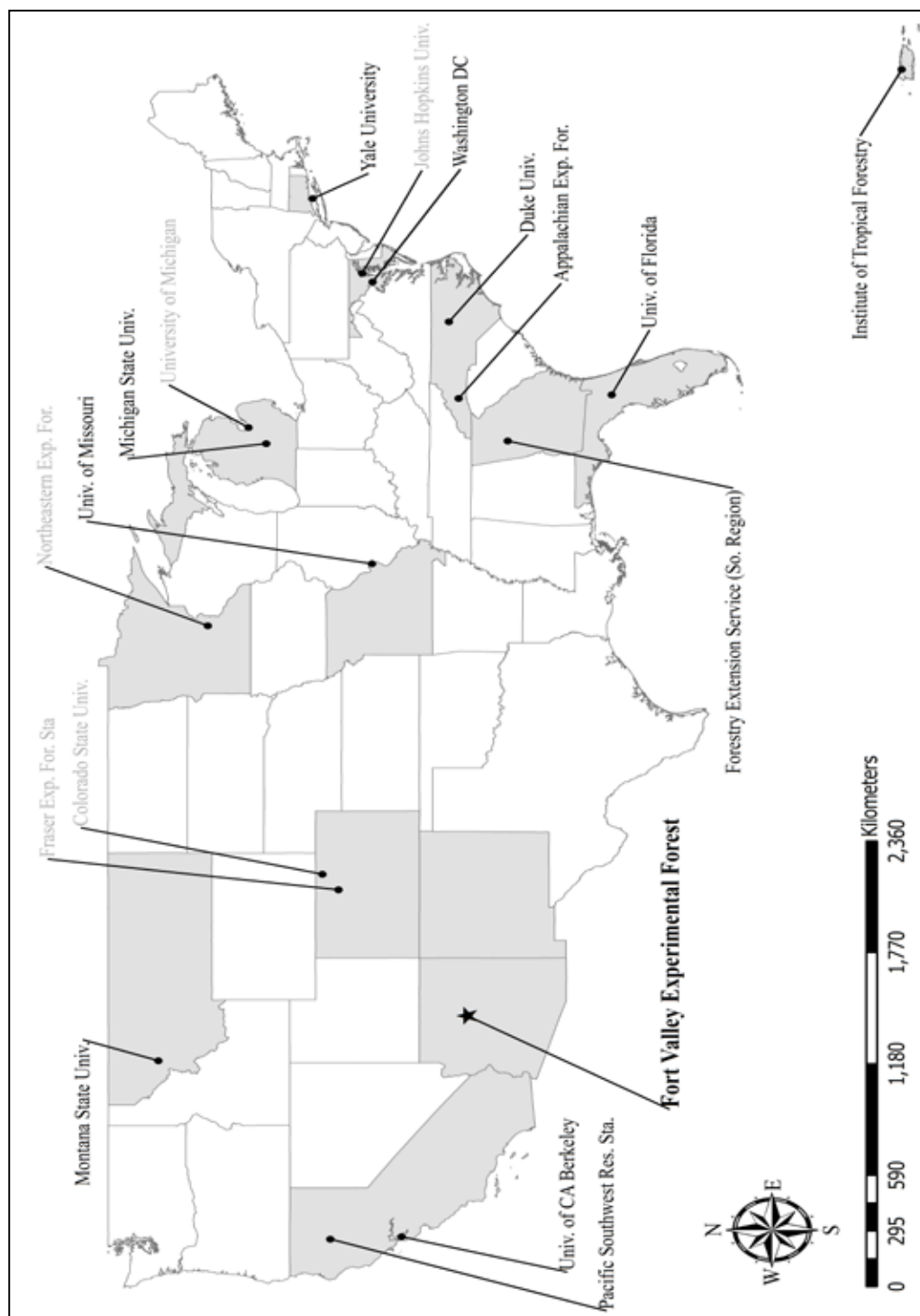


Figure 1. Known locations where early Fort Valley Experimental Forest scientists progressed to established research and/or service programs throughout the United States. The locations in black indicate places referenced in this manuscript.

Gustaf “Gus” Adolph Pearson (1880–1949)

It makes sense to begin with Pearson (Figure 2), a Nebraska farm boy who graduated from the University of Nebraska. Pearson joined the Forest Service in 1907 and began his career studying depleted range conditions on the Wallowa National Forest in Oregon, but transferred to work with the Arizona ponderosa pines by the summer of 1908 and was named the first Fort Valley Director. His entire career revolved around Fort Valley and southwestern ponderosa pine regeneration. Pearson retired in 1945 and spent the last years of his life compiling his decades of research into a book that became *THE* manual on ponderosa pine management. He died at his Tucson desk in 1949 while editing this monograph and it was published posthumously as *The Management of Ponderosa Pine in the Southwest*¹.

He is buried in Flagstaff alongside his wife, May Perkins Pearson. In 1951, a 154-acre ponderosa pine plot near Fort Valley was named the G.A. Pearson Natural Area by the Southwestern Section, Society of American Foresters (SAF), to honor and pay tribute to Pearson’s decades of service in perpetuating the southwestern ponderosa pine forest. The SAF also named Pearson one of the top four silviculturists of the twentieth century.

¹ Pearson, G.A. 1950. Management of ponderosa pine in the Southwest. Agriculture Monograph 6. Washington, D.C., United States Government Printing Office.



Figure 2. Gustaf “Gus” Adolph Pearson served as the first Fort Valley Director and was instrumental to sending off many durable foresters. 1924 photograph (USFS photo 193734) taken by E. S. Shipp.

Edward C. Crafts (1910–1980)

Crafts was assigned to Fort Valley in 1932 and began work with the range staff who were examining the effects of livestock browsing on forest vegetation. While at Fort Valley, he was placed in charge of the Civilian Conservation Corps (CCC) camp at Mormon Lake and conducted a large amount of tree thinning in and around Flagstaff. After seven years in the Southwest with about as many job changes and duty stations, he was promoted to Forest Economist and transferred to the California Forest and Range Experiment Station in Berkeley, CA. His long Forest Service career eventually led to him being named as USFS Assistant Chief in 1950², and an appointment by Secretary Udall as head of the Bureau of Outdoor Recreation.

Hermann Krauch (1886–1962)

Minnesota-born Hermann Krauch first arrived at Fort Valley in May 1913, where he worked on a Coconino National Forest marking study. Thus began his frequent occupancy of Fort Valley (as a base of operations) over the next three decades. He graduated with a degree in Forestry from the University of Minnesota in 1910 and accepted a summer job with the Kaniksu National Forest in Washington. By April 1914, he was on the Pecos (now the Santa Fe) National Forest in charge of the Gallinas nursery that produced Douglas-fir and Engelmann spruce for transplanting onto burned forest areas. Krauch also headed the Cloudcroft nursery on the Lincoln National Forest and worked on timber reconnaissance, compiled working plan data, and miscellaneous investigations. He spoke German, wore a hearing aid (as did Pearson and stories are told of shouting matches between the two men), and was known for keeping copious notes.

Charles Knesal Cooperrider (1889–1944)

Charles “Coop” Cooperrider (Figure 3) is little known in today’s world, but a man considered a prophet by legendary Aldo Leopold. “Coop” recognized the relationship between water, land, and people, and how the pace of use would deplete available natural resources. Cooperrider graduated from the University of Ohio in 1914 and moved to the arid Southwest to ease his tuberculosis. He joined the Forest Service in 1915 as assistant ranger on the Santa Fe National Forest and immediately recognized the dangers associated with erosion caused by overgrazing cattle. “Coop” would later be assigned to District 3 headquarters in Albuquerque as a range scientist where he studied the effects of grazing. In 1927, when Range Research received appropriation, “Coop” led the southwestern division and created the foundation for watershed studies. He lived between Fort Valley, Tucson, and Sierra Ancha most of the time. Many in the USFS recognized and respected him and often sought his advice on watershed projects. The majority of his career was spent in the Southwest, except for a short time at the Forest Products Laboratory in Wisconsin.

² Crafts E.C.; Schrepfer, S.R.. 1972. Edward C. Crafts: Forest Service researcher and congressional liaison - An eye to multiple use. Forest History Society.



Figure 3. Charles Knesal Cooperrider, an outspoken and respected rangeland and watershed scientist, who often publicly disagreed with Pearson and was said to have possessed a “spark of divinity” by Aldo Leopold. 1933 photograph (USFS photo 307644) taken by W.J. Cribbs.

During World War II, Cooperrider was assigned to work in Mexico with the Guayule rubber project. His fragile health worsened while in Mexico and he died in 1944 at 55 years of age. Leopold, who eventually would write Cooperrider’s obituary in the *Journal of Wildlife Management*³, considered “Coop” a mentor, a friend, and a man ahead of his time with respect to conservation.

Emanuel Fritz (1886–1988)

Emanuel Fritz, a Maryland native, graduated from Cornell in mechanical engineering in 1908 and received a Masters in forestry from Yale University in 1914. He joined the U.S. Forest Service in 1915, working first in Montana and then eventually ending up at Fort Valley for about a year. His *Recollections of Fort Valley*⁴ article tells of life in the early days that mentions Pearson’s appreciation of Fritz’ engineering background and knack for dealing with troublesome equipment. He left Fort Valley to serve in World War I, after which he became an Assistant Professor of Forestry at UC-Berkeley. For the following seven decades he was a major figure in California forestry, co-founding the California state forestry program, serving as editor for the *Journal of Forestry*, and was instrumental in developing redwood forestry⁵.

³ Obituary of Charles Knesal Cooperrider, July, *Journal of Wildlife Management*, republished in Aldo Leopold’s *Wilderness* (Harrisburg, PA: Stackpole Books 1990). 229.

⁴ Fritz, Emanuel. 1964 *Recollections of Fort Valley, 1916-1917*. *Forest History*. Vol. 8 (3).

⁵ J.A. Zivnuska H.J. Vaux R.A. Cockrell. 1989. Emanuel Fritz, Forestry: Berkeley. University of California: In Memoriam. http://sunsite.berkeley.edu/uchistory/archives_exhibits/in_memoriam/



Figure 4. Ruthford Henry Westveld would go on to become a professor of Silviculture and was the creative and persistent force behind the McIntire-Stennis Act of 1962. 1920 photograph taken by C.M. Linthicum at FVEF.

Ruthford Henry Westveld (1900–1985)

Westveld (Figure 4) served at Fort Valley as a forest examiner and went on to work for the USFS in Arizona, New Mexico, and Oregon. After two short tenures at Michigan State and the University of Missouri, Westveld joined the faculty of the School of Forestry at the University of Florida in 1938 as Professor of Silviculture. While at Florida, he did pioneering work on the nutritional requirements of southern pines and wrote two widely used texts, *Applied Silviculture* and *Forestry in Farm Management*. He then served as Director of the Forestry School at Missouri from 1947-1965. He was the creative and persistent force behind the McIntire-Stennis Act of 1962 that changed the face of forestry research by providing a continuing source of funding.

Clarence F. Korstian (1889–1968)

Like Pearson, Nebraska-born Korstian was educated in forestry at the University of Nebraska, but would go on to receive his doctorate from Yale University. His brief tenure as silviculturist at Fort Valley helped prepare him for his next assignment in 1921 to the newly-opened Appalachian Forest Experiment Station in Asheville, NC, where he continued to specialize in silviculture. In 1930, he left the Forest Service and went to work for Duke University in Durham, NC, where he became a professor of forestry and the first director of Duke Forest. He organized the Duke graduate school of forestry, and became its dean in 1938. He was president of the SAF national council from 1938-1941, and president of the North Carolina Forestry Association from 1943-1947.

Frank Wadsworth (1915–)

Frank Wadsworth began his career at Fort Valley in 1938 by being tasked with the 30-year remeasurement and individual tree pruning of the Wing Mountain plots, nearby to Fort Valley. While at Fort Valley, Wadsworth participated in many of the weekend social gatherings often put on by May Perkins Pearson, Gus Pearson's wife. Undoubtedly, it was at one of these functions where Wadsworth met Gus and May's daughter, Margaret, who was a concert soprano and whom he would later marry. Because of perceived nepotism laws, Wadsworth transferred from Fort Valley and went to the USFS International Institute of Tropical Forestry (IITF) in San Juan, Puerto Rico, where he spent his career as the leader in the preservation of fragile tropical forests and served as the Director of the Institute of Tropical Forestry and Supervisor of the Caribbean National Forest for over 22 years. Wadsworth was instrumental in the formation of Puerto Rico's Department of Natural Resources and Environment and the island's Environmental Quality Board, and played major roles in the protection of a Puerto Rican forest, mangroves, and natural resources at Maricao, Arroyo, and Mona Island, respectively. Over the course of his career, he has written over 100 technical papers and co-authored a book about tropical forestry and preservation, *Common Trees of Puerto Rico and the Virgin Islands*.

Conclusions

There can be no doubt that the time these scientists spent at Fort Valley was significant and their influence has had a profound impact on American Forestry. Much of their legacy is currently housed at the historical archives, located at the Rocky Mountain Research Station in Flagstaff, AZ. Artifacts conserved here, such as personal diaries and photographs, provide fascinating glimpses into the lives of these amazing pioneers of forest science and range management from brief to expansive. Examples include Pearson's diaries detailing budgetary and logistic matters to Krauch's diaries including many personal notes, such as what western novels he read (e.g., Zane Grey's *Riders of the Purple Sage*) and details on the Forest Service's new uniforms. While most of these men have passed on, their legacy and dedication to forest science and the field of forestry continue as a testament to the early USFS and the Fort Valley Experimental Forest.

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The content of this paper reflects the views of the author(s), who are responsible for the facts and accuracy of the information presented herein.