

The Wisdom of the Sierra Madre: Apaches, Leopold, and the Land Ethic



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Aldo Leopold and the Ecological Conscience






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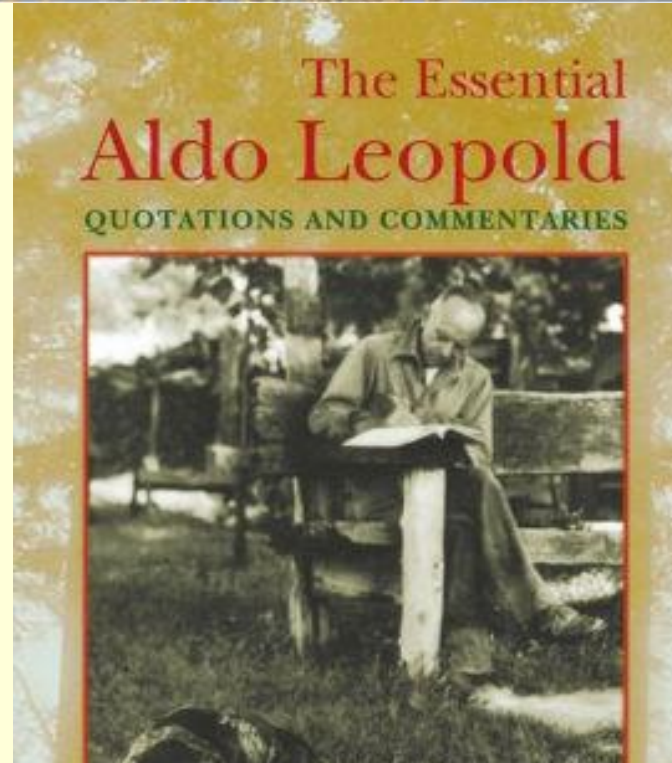
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Leopold's Land Ethic

"A land ethic...reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity."

Seven Formative Experiences

1. Ecological perspective
2. Public lands (USFS; Arizona, New Mexico), 1909-1924
3. Creates the world's first wilderness area in 1924
4. Private lands (Wisconsin), 1924-1949
5. Trip to the Colorado River Delta in 1922
6. Purchased abandoned Wisconsin farm in 1935 (began restoration)
7. Trip to Germany in 1935 (agricultural forestry)
8. Two trips to Mexico's Sierra Madre (1936, 1937-38)
9. A Sand County Almanac (1949)
10. Dies in April 1948, age 61



Rio Gavilan

Two visits

*1936

*1937-38



"It was here... that all my life I had seen only sick land, whereas Mexico's Sierra Madre was a biota still in perfect aboriginal health. The term 'unspoiled wilderness' took on a new meaning." Aldo Leopold ("Foreword," typescript, 31 July 1947, 9pp).



250 years of Apache persecution of Mexicans had kept the northern Sierra Madre wild...



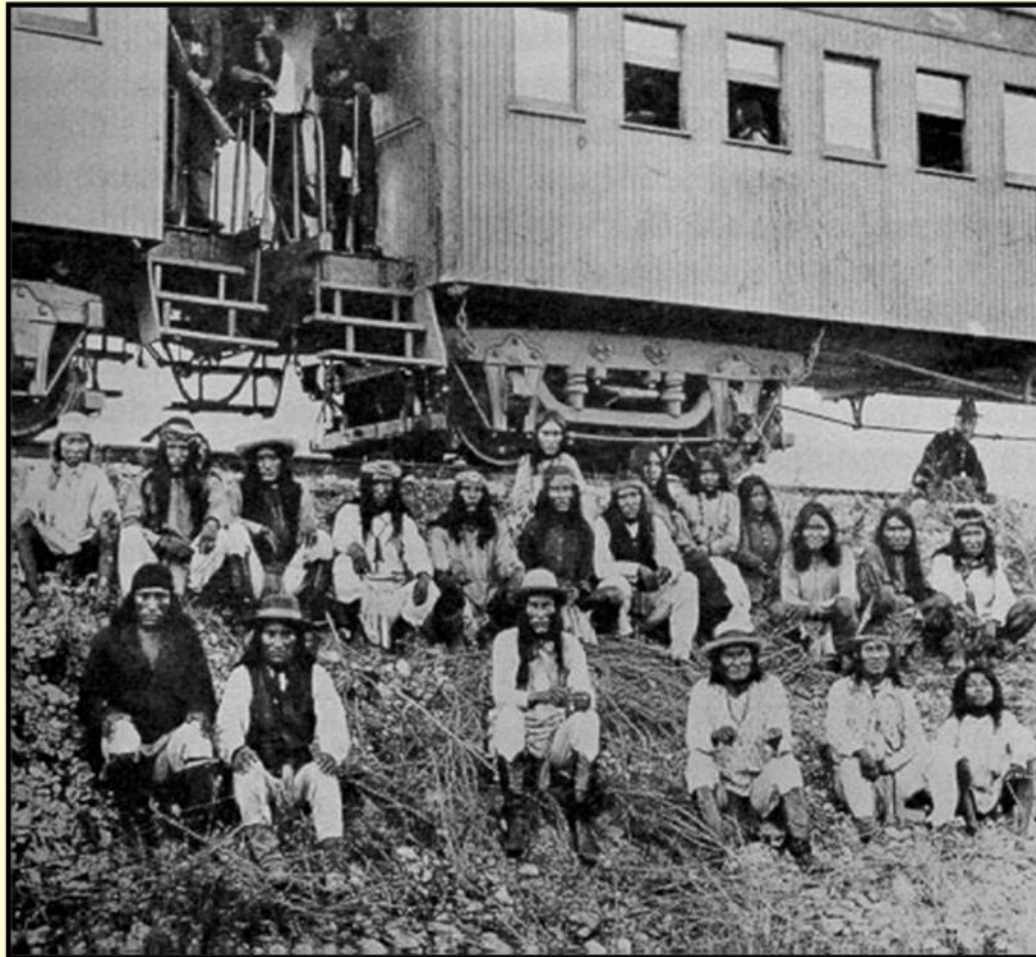
On our side the Apache were on reservations.

“The sierras escaped because of the mutual fear and hatred between Apache and Mexicans. So great was the fear of Indians that the Sierras were never settled, hence never grazed, hence never eroded. It is this chain of historical accidents which enables the American conservationist to go to Chihuahua today and feast his eyes on what his own mountains were like before the Juggernaut. To my mind these live oak-dotted hills fat with side oats grama, these pine-clad mesas spangled with flowers, these lazy trout streams burbling along under great sycamores and cottonwoods, come near to being the cream of creation.

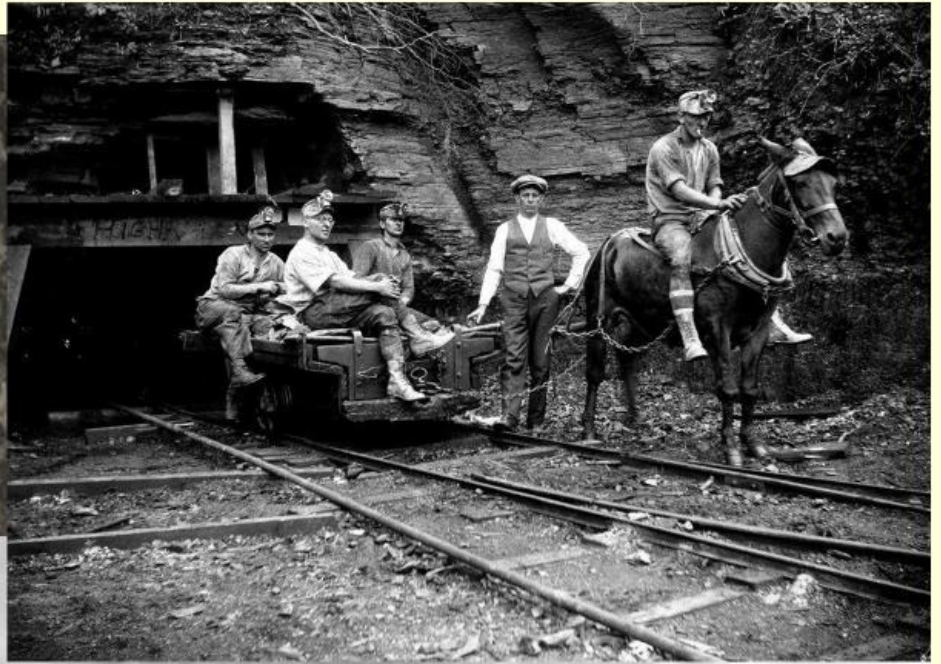
But on our side of the line the grama is mostly gone, the mesas are spangled with snakewood, the trout streams are now cobble-bars.” Conservationist in Mexico 1937



But Geronimo left the Sierra Madre
in 1886...



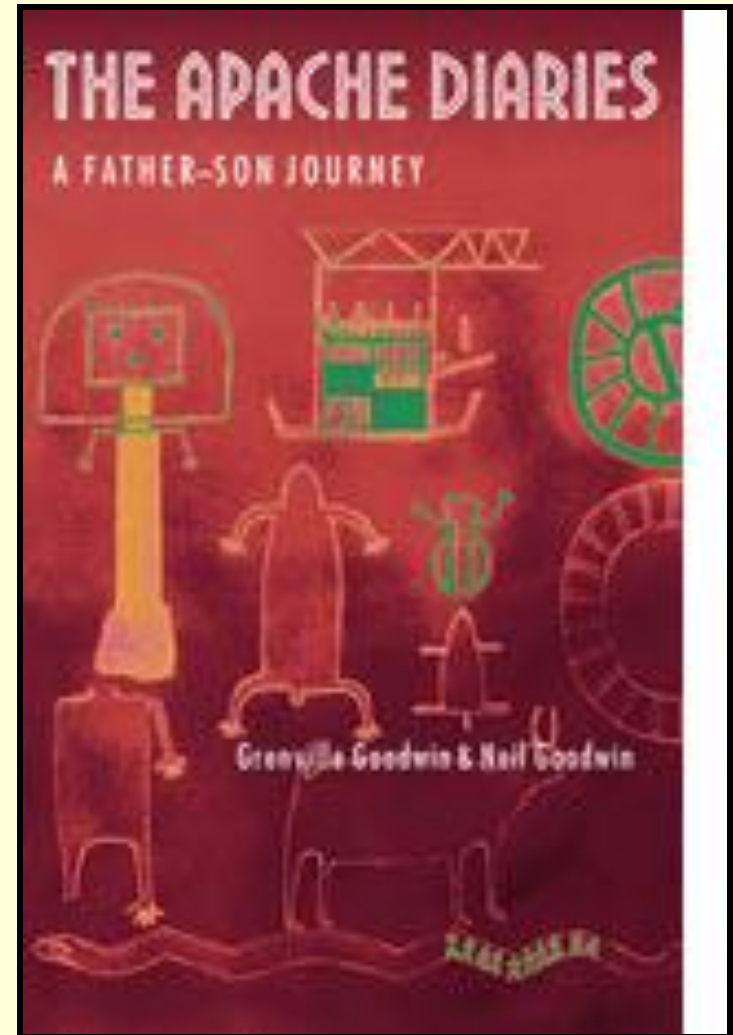
And Leopold's visits were 50 years later!



So why did these things, that happened in AZ & NM, not happen in the Sierra Madre?

Not all the Apaches left!

*With the surrender of Geronimo in 1886, all of the Apache bands were supposed to have been accounted for--either settled on reservations or in the custody of the U.S. Army as prisoners of war...**Only a few people knew there were Apaches who had never surrendered.** Numbering perhaps as many as one hundred in the 1890s, they were made up of four groups...Living entirely in the Sierra Madre of Mexico and never having spent time on American reservations, they would have been unknown to the U.S. Army or to reservation administrators. They were, of course, well known in Mexico, but once the massive campaigns of the 1880s were over and the infamous Geronimo was a prisoner, the relatively few Apaches that remained did not attract nearly as much attention." (Goodwin 2004).*



Indeed, Apaches were still being seen in the Gavilan Watershed two months *after* Leopold's 1936 visit



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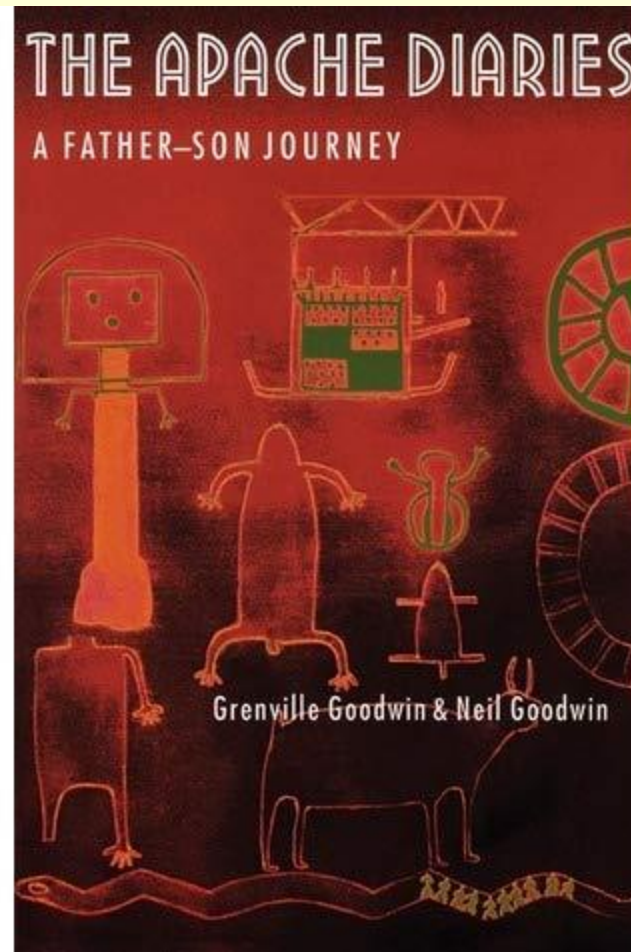
LIFE

Leopold saw what few of us will ever see...



On earth there
is no heaven,
but there are
pieces of it.

Leopold historians had missed this.
It wasn't until *Apache Diaries* was published
in 2000 that this missing piece of the story
became known...



Question 1: How Did Leopold Know About the Gavilan?

Carl Lumholtz,
Unknown
Mexico (1907)



"We soon found out that in the river Gabilan, some four miles south of our camp, there were immense quantities of fish...No one ever interfered with them...Never have I been at any place where deer were so plentiful. Almost at every turn one of them might be seen...At one time we had fifteen hanging in the kitchen...One morning our best marksman brought in three specimens of that superb bird, Campephilus imperialis, the largest woodpecker in the world" Lumholtz,

And Geronimo's stronghold was the Rio Gavilan!



Corral de los Indios – lower gorge of Rio Gavilan

Question 2: What happened to the Apaches?

“After Grenville Goodwin’s last visit to the Sierra la Espuelas in 1931, there were reports of contact with the Apaches through the 1930s. By the end of the decade, contact ended, and it seems they had disappeared-either through death or emigration.

Anecdotal information suggests that the remaining Apaches were still living in family groups in the Sierra Madre as late as the 1940s. Other accounts suggest that the remaining Apache assimilated with Tarahumara Indians to the south, or with Pima Indians to the north.”



Question 3: Did any Leopolds return? Yes, two of them...

"...initiate some long-term studies of the native fauna under virgin conditions. Of particular interest would be an investigation of the balance between deer and their natural predators--wolves and mountain lions...I hopefully visualized years of intermittent work in the Gavilan basin." Starker Leopold, 1948



Adios, Gavilan

"...the loggers had not reached the particular area where we hoped to camp, but they were working in that direction from three sides. We knew then that instead of initiating an era of renewed acquaintance with the wilderness, we had come to witness its passing."



Henry Suderman Sr. Photo

"I would like to think that there is another river filtering off hillsides of golden grama and winding under virgin pine. May my son some day explore its rimrocks and imagine there are still Apaches in its tributaries."

The second Leopold to return...



Jed Meunier- Leopold's great grandson

In 2008 we sought out areas that had escaped logging, grazing, and settlement...





**And
found
them!**

Tree recruitment in relation to climate and fire in northern Mexico

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Abstract. Extensive changes in montane forest structure have occurred throughout the U.S. Southwest following Euro-American settlement. These changes are product of confounding effects of disturbance, climate variability, species competition, and modern land use changes. Pronounced forest reproduction events in the Southwest have generally occurred in climatically wet periods but have also followed widespread fire exclusion. Understanding the ecological processes driving such events has important implications for forest restoration, although these efforts remain difficult due to confounding factors. Separation of these interacting factors was possible in the Sierra San Luis of northern Mexico where we investigate climate, fire, and tree recruitment in areas with continued frequent fires or where fire exclusion came relatively late (1940s). Fires were strongly tied to interannual wet–dry cycles of climate, whereas recruitment peaks were more closely tied to local processes, namely, fire-free periods, than to broad-scale climatically wet conditions. The greatest pulse of tree recruitment coincided with a pronounced mid-century drought (1942–1957) and a period of reduced fire frequency. The second largest pulse of recruitment (ca. 1900) preceded a well-documented period of recruitment (and an anomalously wet period) elsewhere across the Southwest in the 1910s–1920s, and also coincided with specific fire-free periods during belowaverage precipitation. We also found greater spatial dependence and clustering in older age classes of trees. This spatial pattern indicates a legacy of fire-induced mortality in shaping stand structure, underscoring the importance of frequent fire effects on spatial variability in forests.



Question 4: What of the Rio Gavilan today?



2012









"In a surprising number of men there burns a curiosity about machines and a loving care in their construction, maintenance, and use...Everyone knows this, but what few realize is that an equal bent for the mechanisms of nature is a possible earmark of some future generation."

Aldo Leopold, 1939,

“...the oldest task in human history is to live on a piece of land without spoiling it...” Aldo Leopold.

