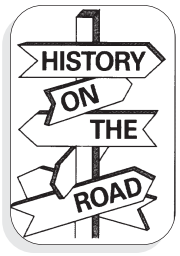
HISTORY ON THE ROAD

EL YUNQUE NATIONAL FOREST

By Char Miller | Photographs by Tim Palmer



Government reports are not known for their vivid prose, especially not an early-twentieth-century technical paper crammed with scientific data and close observations. For the most part, John Clayton Gifford's on-the-ground survey in Puerto Rico of what is now known as El Yunque National Forest but then was named the Luquillo Forest Reserve after the dominant mountain range, remains true to form. A dense field report submitted to his Washington-based supervisors in 1905, Gifford's text offered the first overview of the 5,000-acre reserve that the United States claimed in the aftermath of the Spanish-American War. It is chockablock with details about the site's geology, soils, and hydrology, its forest types, grasslands, and riparian systems—comprehensive but not exactly a compelling read.

Except for that moment when Gifford let his scientific guard down. "Seen from a distance, the Sierra de Luquillo is strikingly serrated," he wrote. "These high mountains are flanked by numerous lateral ridges which extend in every direction. These ridges are very sharp and are called 'cuchillas.' The word cuchilla means blade; and nowhere in the world could it be more aptly applied. The crest line is often so sharp and the sides so steep that traveling, even by foot, is exceedingly difficult."[1]

El Yunque's terrain is not the only thing that sets it apart from its mainland peers. It is one of the first forest reserves set aside in the entire Western Hemisphere and is thus the oldest national forest in the U.S. National Forest System. El Yunque is also the only one not established by a president. In 1876, King Alfonso XII designated the remote mountainous region as a crown reserve that the Spanish Forest Service would manage for the conservation of its soils, timber, and water. Twenty-two years later, after Spain ceded Puerto Rico to the United States, the U.S. Bureau of Forestry (predecessor to the U.S. Forest Service) took over supervisory authority. Under its aegis, Gifford inspected the forest and wrote of its razor-sharp topography.

This brief history of the forest—which now contains 28,000 acres—reflects the global character of forestry in the late nineteenth century. The profession's origins are in Europe, and that continent's land management concepts and practices were quickly transplanted to its far-flung colonies. The U.S. experience mirrored this trend. The Forest Service's first two chiefs studied forestry in Europe, as did John Gifford. He is credited with being the first American to earn a PhD in the field, receiving the degree

Mount Britton, which has two peaks, is in the center of the national forest.

from the University of Munich in 1899. One year earlier, as empires old and new clashed for control of Puerto Rico, what was not in dispute was the value of forest management—the Americans simply picked up where the Spanish had left off.

That said, the land itself was unlike anything U.S. foresters had encountered on the mainland. Instead of oaks, pines, and firs, they now worked with ausubo (*Manilkara bidentate*), tabonuco (*Dacryodes excelsa*), and palo colorado (*Ternstroemia luquillensis*) trees, the last of which is now endangered, and did so in a terrain drenched with more than 200 inches of rain annually. In this tropical rainforest (the only one the Forest Service stewards), the "most prominent feature is its diversity and the great number of little-known species in mixture," Gifford observed. Its composition "makes it extremely difficult to divide into sylvicultural types and to estimate the amount of timber, and would make it still more difficult, if not impossible, to determine annual accretion." In other words, this tropical woodland did not function like those in the United States and could not be managed in the same way, so Gifford's professional peers would need to adapt to this new and confounding set of conditions.[2]

Understanding the Luquillo forest's dynamics would require research, but it was not until 1939 that Congress provided the necessary funding to launch the Tropical Forest Experimental Station (now the Institute of Tropical Forestry). Its mission ever since has been, among other things, to study the 225 species of trees growing in the forest, virtually every one of them different from any found in North America, a variety emblematic of tropical rainforests worldwide.

El Yunque supports as well a bewildering array of flora and fauna endemic to the island, and in some cases is the last known home of particular species. The most celebrated of these is the Puerto Rican parrot (*Amazona vittata*), the sole parrot extant on the island. This beautiful bird—its vivid green plumage is offset by white eye-rings and a bright red forehead—is now endangered, though that was not always the case. In the mid-nineteenth century, it could be found in great squawking numbers, feeding on the fruit of the abundant Sierra palm tree (*Prestoea montana*), which John Gifford had dismissed as having no commercial value. The bird's numbers began to shrink,

La Coca Falls is one of several easily accessible waterfalls in El Yunque.

An ausubo tree along Big Tree Trail.

however, with the spread of large-scale agriculture—coffee and tobacco, primarily—into its cooler, higher habitat. Its life chances were further compromised in the mid-twentieth century as the swiftly growing human population penetrated the forest's perimeter. Hunters also bagged the bird for sport, and others captured immature parrots to feed the American pet industry's hunger for exotica. When simultaneously the pearly-eyed thrasher invaded its niche through aggressive nest predation, the Puerto Rican parrot population crashed.

TOM MACKENZIE, USFWS

An endangered Puerto Rican parrot.

Surprisingly, the work of the Civilian Conservation Corps in the 1930s and heavy logging in the forest during World War II had limited effect on the parrot's habitat.[3] Nonetheless, by the late 1940s, scientists had begun calling for the establishment of parrot reserves in the national forest. These and other conservation efforts, including the construction of thrasher-resistant nest boxes to stabilize the number of breeding pairs, have shown some success. From a low of roughly 20 adults in the early 1970s, by 2013 an estimated 100 adults lived in the wild, with another 400 bred and living in captivity.

Whether these numbers signal that conservationists have managed to pull the parrot back from the "edge of oblivion," as a 1987 report described its then-precarious position, is unclear. The authors of that study recognized the difficulty of the task ahead. The "preservation of biotic diversity on earth surely ranks as one of the most difficult challenges facing our generation and the generations to come." Nowhere is this more true than in Puerto Rico, given its dense population and deeply modified environment. Here, as elsewhere, battles "to save endangered species have to be won over and over again, but once lost there are no second chances."[4] □

To learn more about El Yunque National Forest, visit www.fs.usda.gov/main/elyunque/learning/history-culture.

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NOTES

1. John C. Gifford, "The Luquillo Forest Reserve, Porto Rico," *U.S. Department of Agriculture Forestry Bulletin* 54, (Washington, DC: Government Printing Office, 1905), 8.
2. Ibid., 17.
3. Harold K. Steen, *Evolution of Tropical Forestry: Puerto Rico and Beyond. An Interview with Frank Wadsworth* (Durham, NC: Forest History Society, 1996), 42.
4. Noel F. R. Synder et al., *The Parrots of Luquillo: Natural History and Conservation of the Puerto Rican Parrot* (Los Angeles: Western Foundation of Vertebrate Zoology, 1987), 273.