This dissertation explores the development of ecological conservation and science in the southern coastal plain’s dominant ecosystem – the longleaf pine-grassland forest. It examines how the impetus for conservation changed over the long twentieth-century from concerns over bodily health, landscape aesthetics, and recreation, into concerns for ecological integrity and landscape diversity, and argues that the biocentric turn in twentieth-century science and society was rooted in the very processes of production that it sought to moderate. To unearth this story, it focuses on the region surrounding Thomasville, Georgia and Tallahassee, Florida, known as the Red Hills, where wealthy northerners came after the Civil War and Reconstruction in search of health, and remained to convert failing farms and plantations into winter retreats and hunting preserves. In the years covered here, roughly 1880-1960, this land of wealth and poverty was a working landscape that produced a variety of goods and supported a large number of people; yet, at the same time it was a conservation landscape and laboratory where a great deal of scientific knowledge about the longleaf pine-grassland environment came to light. The central figure in this dissertation is Herbert L. Stoddard, an ornithologist, wildlife biologist, and ecological forester who came to the Red Hills in 1924 as an agent of the U.S. Bureau of the Biological Survey to examine the life history and preferred habitat of the bobwhite quail. Stoddard’s research on fire ecology, predator-prey relations, wildlife management in agricultural systems, and forestry all helped to initiate a critical national shift toward a more ecologically-based vision for land management. Charged by seasonal landowners to maintain what they considered a pre-industrial landscape aesthetic, Stoddard adapted the land use patterns and local knowledge of black and white tenant farmers to craft land management strategies that foreshadowed what we call today conservation biology.
BURNED TO BE WILD: SCIENCE, SOCIETY, AND ECOLOGICAL CONSERVATION IN THE SOUTHERN LONGLEAF PINE

by

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BURNED TO BE WILD: SCIENCE, SOCIETY, AND ECOLOGICAL CONSERVATION IN THE SOUTHERN LONGLEAF PINE

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INTRODUCTION

Just outside of the city limits of Thomasville, Georgia runs a public dirt road called Pine Tree Boulevard. It was once a perimeter road, but in recent years the city moved parts of it due to various zoning or planning schemes. There remains, however, one section about a mile in length that is surrounded by the most spectacular longleaf pine-grassland forest one will ever see. The forest is part of Greenwood Plantation, a former antebellum plantation taken over by wealthy northerners a few years after the Civil War. The big house and surrounding structures are impressive, and have an important place in this story, but it’s the forest that is most stunning.

Like anyone who drives the thoroughfares and back roads of the Southern coastal plain, I am familiar with what is classed as the region’s “forest land.” And it does not look anything like Greenwood. The oldest longleaf pines on Greenwood are over 400 years old and stand with their gnarly flat tops at over 100 feet tall. Younger pines of various ages are scattered in piecemeal groups throughout the mid-story canopy—nothing like the uniform rows of planted pines that occupy so much of the southern landscape. The forest is open, and sunlight streams down in waves through the canopy, easily reaching the lush grasses and legumes of the understory. The longleaf-grassland forest has a claim at the most biologically diverse environment in temperate North America, and Greenwood’s forest is commonly referred to as “the best of the last.” An obvious question arises: How did this piece of land, and a few others with similar appearance and provenance, escape the myriad economic and social forces that transformed the rest of the southern countryside throughout the long twentieth century? The quick answer is that shortly
after the Civil War, the nation’s wealthiest industrialists sought retreat in this area surrounding Thomasville, Georgia and Tallahassee, Florida, an area known as the Red Hills for its gently rolling terrain and red clay soils. They purchased large swaths of former plantation land, kept it free of human manipulation, and thus allowed the forests to grow unmolested. The complete answer, however, is much more complicated. These lands never lay outside the realm of market economics, and their ecosystems were certainly never free from human manipulation. On the contrary, these longleaf forests remain as they are because of human manipulation. The word manipulation usually implies devious intent, often rightfully so. But at least one definition is more ambiguous: “skillful or artful management.” When applied to human relationships, a certain Machiavellian quality lingers, but what about human-environmental relations? The skillful and artful management of the environment implies a knowledgeable mind, a discerning eye, and a caring hand.

Today, in the longleaf forests of places like Greenwood, the skill and art is part of the conscious design of land management, one that seeks to maintain or restore native biological diversity. But that was not always the case. Diversity in the Red Hills was once a byproduct of a management with different designs—designs that had productivity and profit in mind. When wealthy northerners found a winter’s stay in the Red Hills to be a healthful respite from their region’s growing industrial centers, planters and former slaves were busy negotiating a system of tenantry and sharecropping that would continue to dominate the Red Hills countryside well into the twentieth century. Into the 1880s and 1890s, the exhilarating hunt of the bobwhite quail amidst stately longleaf forests brought visitors back again and again, and they took advantage of the precarious position of planters to eventually purchase over 250,000 acres of plantation land, largely leaving tenant arrangements just as they were. The shift toward managing this land for
biodiversity in the late-twentieth-century, then, emerged as a hybrid system rooted in the productive processes of southern agriculture and the aesthetic ideology of northern industrialists. But it also required much broader social, political, and economic changes to build a scientific understanding of this region’s environmental processes.

This dissertation charts those local, regional, and national trends in science and conservation, and offers an alternative path toward what may be called the biocentric consensus in American environmental thought. This consensus refers to the ideas of a loosely-organized coalition of scientists, nature lovers, and ordinary citizens who began to see the world through an ecological lens in the early twentieth-century, and who rose out of the World War II-era “thinking like a mountain,” to use Aldo Leopold’s evocative language. The rise of this modern environmental consciousness began with Progressive-era concerns for dwindling resources and the concomitant growth in knowledge about how natural environments worked. Government experts helped to create administrative state structures to efficiently protect and control land and water resources, while academic biologists created the organizational framework necessary to discover, test, and disseminate scientific knowledge about nature. As these state and academic entities gained capacity, the American public joined the fray, as well, growing increasingly interested in nature, and concerned about losing the nation’s former natural bounty. The public also worried over their ability to determine control of local resources. Indeed, many communities resisted state authority in local environments, as well as the efforts of scientific experts to direct local land-use practices. In some areas, state conservation projects facilitated

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the movement of people from the countryside, disrupting long-time agrarian traditions and turning lives upside down. In other areas, on the other hand, communities embraced natural resource conservation through state-making, and actually directed much of the project.

Within this project of government conservation, there developed a concern for nature on its own terms. Perhaps influenced by environmental moralists such as Henry David Thoreau and John Muir, scientists and naturalists during the interwar years became anxious about the environmental effects of industrialization and modernization, as well as what these modes of production and consumption meant for the ways Americans experienced nature. In constructing a scientific base to explain nature, biologists attempted to give evidentiary credibility to a moral concern for nature in decline. In the midst of this knowledge-making came a tremendous expansion of governmental capacity to control the nation’s natural resources. New Deal programs like the Agricultural Adjustment Administration told farmers what and how much to plant, the Soil Conservation Service told them how to plant, the Resettlement Administration removed people from worn out lands, and the Civilian Conservation Corps sent men into the countryside to reclaim those lands, just to name a few. While most economists and land planners

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applauded these efforts, some scientists and naturalists grew concerned that government administrators were making the wrong choices about managing nature. They wondered if the attempts of state and federal agencies to protect nature were actually doing it harm.5

This dissertation is about the ways scientists and laypersons came to know nature in an effort to save it. To unearth this story, I explore the development of ecologically-based conservation and science in the southern coastal plain’s dominant environment—the longleaf pine-grassland forest—and how the impetus for conservation changed over the long twentieth-century from concerns over bodily health, landscape aesthetics, and recreation, into concerns for ecological integrity and landscape diversity. I examine how a variety of actors in this small corner of the South devised a unique form of conservation and implemented it, and pay particular attention to the complex processes through which a handful of scientists questioned, tested, and finally codified local environmental knowledge into a kind of hybrid science. In the years covered here, roughly 1880-1960, the Red Hills was a working landscape that produced a variety of goods and supported a large number of people. At the same time it was a conservation

landscape and laboratory where a great deal of scientific knowledge about the longleaf pine-
grassland environment came to light.

The central figure here is Herbert L. Stoddard, an ornithologist and wildlife biologist who
came to the Red Hills in 1924 as an agent of the U.S. Biological Survey to examine the life
history and preferred habitat of the bobwhite quail, and to develop a management scheme to
reverse quail population declines. He remained until his death in 1969, all the while developing
a land management program focused on maintaining and restoring biological integrity, while
simultaneously engaging in the processes of production. His scientific work on fire ecology,
predator-prey relations, wildlife management in agricultural systems, and ecological forestry all
mirrored a critical national shift toward a more biocentric vision of nature. But Stoddard still
considered the environments he worked in and on to be a bundle of natural resources, and his
constituencies continued to plow the earth, cut the forests, and shoot, trap, and snare the animals.
One argument of this study, then, is that the biocentric turn in twentieth-century science and
society was rooted in the very processes of production that it sought to moderate.

Stoddard is my main character, but this is not his biography. Instead, I explore the local,
regional, and national implications of his work in a natural system that once dominated the
southern coastal plain, and I use his life and work as a window into the social and environmental
realities that created a conservation landscape in the Red Hills. It also examines the broader
conservation and scientific tradition from which Stoddard came, and the important contributions
of his work to the growth of ecological conservation in the United States and beyond. Through a
focused study of Stoddard and his social, professional, and environmental surroundings, we see a
form of conservation that was not imposed as a high-modernist plan of the administrative state or
created to meet the economic exigencies of an industrial ideal. Nor did it develop solely through
grassroots organization from the bottom-up. Conservation and science in the Red Hills fell somewhere in between. The preserve owners used state capacity and expertise to develop local policy, but scientific expertise on the quail preserves developed far from the centralized control of a federal bureaucracy; instead, it came from knowledge gained in the field, on the local level. Conservation in the Red Hills, then, was a hybrid system of land management that incorporated informal knowledge from the region’s agricultural past with the insights and methodologies of a burgeoning scientific establishment.

This study also explores the social relations of science and conservation. I began this journey on Pine Tree Boulevard, a public thoroughfare, because this is the only vantage point from which the majority of Thomasville’s residents have ever caught a glimpse of Greenwood’s forest. This was and is private land, and anyone raised in the modern South knows better than crossing a property line without permission. They also know that any piece of land that looks like this will be fiercely guarded. And it was, even in representation. Unlike public conservation landscapes, the expanding boundaries of the Red Hills hunting preserves in the early twentieth-century were not visible on public maps. Within this hidden landscape of prestige and exclusivity, Herbert Stoddard was among the first to couch the management choices of private landowners in ecological terms, and he did so largely from outside of the state and academic apparatus. In a region where agricultural and timber interests continued to transform native longleaf ecosystems wholesale—often under the banner of conservation—this private network created a land ethic that nourished the historical environment, rather than reordering local practice to fit conservation from above. This southern story not only offers a new variation on how conservation played out locally and regionally, but it also forces us to more fully portray the local elements of national conservation policy.
The type of conservation science Stoddard practiced in the Red Hills was profoundly influenced by the scientific and environmental context of Progressive-era North America, and it came into its own during the interwar years. Stoddard developed his environmental sensibilities during a time that historian Robert Kohler calls the “age of the survey,” the time between 1880 and 1930 when “scientists became fully aware of the world’s biodiversity.”\textsuperscript{6} Essential to the surveyor’s conception of the natural world was what Kohler calls modernizing America’s “inner frontiers.” These were the uninhabited, yet easily accessible spaces where natural processes carried on amidst economic and social modernity. As Kohler explains, “For a period of some four or five decades, from the 1870s to the 1920s, the landscape of North America afforded an unusual intimacy between settled and natural areas. Densely inhabited and wild areas were jumbled together. Areas of relatively undisturbed nature, with much of its original flora and fauna intact (except for large game animals and predators), were accessible to people who lived in towns and cities, with their cultural and educational institutions. It was this combination of wildness and accessibility that defined the inner frontiers.”\textsuperscript{7} The age of the survey was about collecting and cataloguing the pieces of nature in these inner frontiers, activities that set the stage for a new scientific understanding of the natural world in the age of ecology. Indeed, one aspect of Stoddard’s career that makes him such an interesting subject is that he bridged these two scientific ages, and he represents a transitional figure between a taxonomic and ecological understanding of nature. He trained as a taxonomic surveyor but he became a practicing ecologist.

The Red Hills makes an ideal case study in the development of southern conservation and science. First of all, as one of the few places in the southern coastal plain where a significant

\textsuperscript{7} Ibid., 18.
portion of the longleaf pine-grassland forest—one of North America’s signature eco-regions—survived the twentieth-century onslaught of industrial timber, forestry, and agricultural interests, it retained the qualities of an inner frontier. This was largely due to the aesthetic value placed on these forests by wealthy northern landowners. By aesthetics, I mean something more than just natural beauty; in helping to shape the natural environment, social relations were also a part of the much-prized aesthetic.\(^8\) And when northerners claimed this southern aesthetic as their own, their urge to maintain it opened the environment up to scientific scrutiny and discovery by people like Herbert Stoddard. These quail preserves, then, were conservation landscapes, but they also contained all the economic, social, and cultural currents of other southern landscapes that were not. Tenant agriculture, staple crop production, racial tensions, private land ownership, wealth, poverty—it was all there within the borders of these reserves of biological diversity. These human activities and relationships were crucial variables that helped to shape the development of conservation and science in the Red Hills. Without people living and working in this landscape, the region would not only have looked vastly different, but the processes of learning about the region’s ecology would have been different as well.\(^9\)

In the South, any form of conservation had to take cultural landscapes seriously, and such a realization goes a long way toward placing the region within the broader context of environmental history. Such has not been the ambition of many environmental historians.\(^10\)


\(^10\) After a slow start, southern environmental history has recently gained ground. Book length studies include, Albert E. Cowdrey, *This Land, This South: An Environmental History* (Lexington: University of Kentucky Press, 1983); Timothy Silver, *A New Face on the Countryside: Indians, Colonists, and Slaves in South Atlantic Forests,*
Mart A. Stewart has done much to explain the South’s blip on the environmental historian’s radar. He argues that there was no southern wilderness in the classical sense—that wide open, uninhabited space of frontier legend. The South was an agrarian land, and even in the wilder areas, it never developed “an indigenous notion of ‘wilderness’ as unoccupied or relatively undisturbed nature.” What, then, did southern conservation look like in the first half of the twentieth-century, when most of the nation’s attention was turned toward the public lands of the West?

Herbert Stoddard and the Red Hills, I think, provide one answer. Stoddard was well-connected to the national conservation establishment. More importantly, his work exemplified the public-private cooperation and conflict that was so common to many aspects of life in the South. In a region pervaded by the values of private landownership and dominated by the geography of agriculture, there were few reasons, or possibilities, for a state preservation intervention. When those opportunities did arise during the New Deal-era, they were on supposedly marginal lands of the piedmont and coastal plain, or in scenic areas of the mountains, and they facilitated the removal of a great many local people. Stoddard, whose own experience...
with working landscapes limited his notions about pristine nature, was more interested in working within the context that he lived than setting aside wild areas to let nature take its course. In so doing, he was among the first to articulate for scientists and conservationists the potential ecological value of particular southern agricultural landscapes. Though his work was informed by modern science and conservation, Stoddard relied more heavily on his practical experience in the field to challenge accepted conservation wisdom.

The development of this conservation regime can only be understood within the ecological and historical context of the Red Hills. Historically, the Red Hills was a small part of a 90 million acre fire-dependent longleaf-grassland eco-region that stretched across the southern coastal plain from southern Virginia to east Texas. It was one of North America’s largest pre-contact natural communities, and today it barely hangs on as a viable ecological entity. The longleaf-grassland community, though it dominated the coastal plain, was not an ecological monolith; it was part of a diverse mosaic of hardwood bottomlands, upland forests, and transitional areas, all overlapping and intermingling, gradually giving way from one to the other. The well-drained upland longleaf forest—which usually contained an understory of highly combustible wiregrass (Aristida stricta)—was the region’s most prominent ecological feature, but even its compositional make-up varied across space and time as a result of soil quality, fire patterns, disturbance histories, human land use practices, and other factors. The most prominent disturbance event, and the single most important natural element that held the longleaf-grassland system together was, and still is, fire.13


Forest ecologists call this system a fire-climax. Historians of ecology, on the other hand, might call it a post-Clementsian system, in reference to the climax ecology of Frederic Clements. Clements argued in the early twentieth-century that self-contained ecosystems develop from early successional to mature climax stages in normative, linear ways. He left little room for disturbance as a regular part of nature. But as a fire-climax community, the species in the longleaf-grassland ecosystem are not only resistant to fire, their very existence is dependent on it. So contrary to Clements’s explanation of a climax vegetation complex, the longleaf-grassland system reaches maturity only with the disturbance of fire. Without fire the upland coastal plain grows any number of mature hardwood communities depending on soil type. It seems simple enough; the natural presence, or absence, of fire shapes the coastal plain’s ecological communities.

But paleo-ecologists have only recently begun to reckon with the role of anthropogenic fire. If Native Americans arrived in the coastal plain region while the longleaf system was still taking shape, what evidence exists that their land use practices shaped the forests that European and Africans found thousands of years later? As it turns out, a great deal, a fact that has

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15 See Paul A. Delcourt and Hazel R. Delcourt, Long-Term Forest Dynamics of the Temperate Zone: A Case Study of Late-Quaternary Forests in Eastern North America (New York: Springer-Verlag, 1987); W.A. Watts, “Vegetational History of the Eastern United States 25,000 to 10,000 Years Ago,” in H.E. Wright, Jr., ed., Late Quaternary Environments (Minneapolis: University of Minnesota Press, 1983), 294-310. I thank the participants of the “Workshop on the Historic Range of Variability,” March 6-8, 2006, at the Joseph W. Jones Center for Ecological Research at Ichauway, particularly Steve Jackson and Robert Mitchell, for alerting me to the insights offered by paleo-ecology.
enormous implications for twentieth-century conservation. The longleaf-grassland system that we now essentialize as normative is actually both a natural and cultural construction. In one sense it is an ideological construction based on a variety of historical contingencies, but going further, the historic longleaf forest was a physical environment borne of human manipulation and natural adaptation. The longleaf pine-grassland system represents a dynamic conjuncture of nature and culture, not just a static, mature wilderness. The normative environment that conservationists like Herbert Stoddard came to advocate was a flexible, diverse landscape with a multi-layered history, and fire was the key element holding it together. As both a natural process and cultural technology, fire perpetuated the many components of the longleaf-grassland environment while simultaneously aiding in its exploitation. When we speak of ecological preservation in the longleaf pine forests, then, we are also speaking of cultural preservation.

The Red Hills contains most of the environmental characteristics of the longleaf belt at large, yet it is also a discrete region within that larger system. Politically and socially, the Red Hills of 1880 overlapped the boundaries of three counties: Thomas in Georgia, and Leon and Jefferson in Florida. The Georgia State Legislature carved Grady County, which included the western edge of the Red Hills, out of Thomas in 1905. Thomasville, Georgia and Tallahassee, Florida were the social and economic hubs of the region, and they will be this study’s most

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17 On nature as an ideological construction, see the essays in William Cronon, Uncommon Ground: Rethinking the Human Place in Nature (New York: W.W. Norton and Company, 1996), especially Cronon’s “The Trouble with Wildness; or Getting Back to the Wrong Nature.”
important urban reference points. Geographically, the Red Hills is relatively easy to define. Its	northern and southern borders are Thomasville and Tallahassee, respectively; on the west is the
Ochlocknee River and to the east, the Aucilla River. Below Tallahassee, the Cody Escarpment
drops off into a sandy-soiled flatland that slowly descends toward the Gulf of Mexico.\(^{19}\) The
Red Hills’ key topographical features include gently rolling upland hills, transitional bogs,
streams, sinks, and bottomlands around the larger rivers. As the region’s name suggests, the
soils of the uplands are a rich red clay, which historically hosted a complex mix of plant
communities. One study counts as many as twenty-four natural communities within a portion of
the Red Hills, with the fire-maintained upland pine forest as the most common.\(^{20}\)

The longleaf forests of the Red Hills stood as unlikely survivors after the Civil War.
Unlike most other areas in the longleaf uplands, the Red Hills grew to be a prominent plantation
district before the war, a distinction that, ironically, would play an important role in its becoming
a conservation landscape. Unlike so many other areas across the nation that eventually came
under the control of various conservation regimes, the Red Hills was not known for its economic
or agricultural marginality. The soils were rich, and where suitable for cultivation, slaves and
planters cleared the land in the 1820s, 1830s and 1840s to make way for cotton, particularly in
Leon County.\(^{21}\) The rolling hills, however, made large-scale cultivation untenable in much of
the region. The result was a patchwork landscape of large and small fields usually situated on

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\(^{19}\) Botanist Roland Harper was one of the first to identify the Red Hills as a distinct geological region. See Roland

\(^{20}\) Steve Gatewood, et al., *A Comprehensive Study of a Portion of the Red Hills Region of Georgia*. (Thomasville:
The Thomas College Press, 1994).

\(^{21}\) On the antebellum era in the Red Hills, see Edward Baptist, *Creating an Old South: Middle Florida’s Plantation
Frontier Before the Civil War* (Chapel Hill: University of North Carolina Press, 2002); William Warren Rogers,
*Antebellum Thomas County, 1828-1861* (Tallahassee: Florida State University Press, 1963); Clifton Paisley, *The
Red Hills of Florida, 1528-1865*; and Paisley, *From Cotton to Quail.*
Figure 0.1: The Red Hills quail preserves. Reproduced by Jean Brock and author from the map of the Cooperative Quail Investigation, 1925. Archives of Tall Timbers Research Station.
the flatter lands, with substantial blocks of fire-maintained forest covering the hillier terrain.

After the war, as in other plantation districts, landowners and former slaves adopted the crop-lien system and former slave families dispersed over the land as tenants and sharecroppers. Planters struggled to come to economic terms with losing their major source of wealth—slave labor—and croppers entered a crushing debt cycle that required an increasing reliance on cash crops. Despite this structural reordering, the Red Hills continued to be an agricultural landscape, and the longleaf-grassland forests remained as well. In fact, many of the land management traditions of southern agriculture were responsible for the maintenance of these forests. Tenants, sharecroppers, and landowners continued the long tradition of burning in late winter and spring to rid the fields and forests of a year’s worth of accumulated growth. Aside from its ecological function, the yearly burning habit had several practical purposes. It helped to prepare for spring planting, it regenerated succulent forbs and grasses for grazing livestock, and it helped to control pests such as ticks, chiggers, and mosquitoes. Moreover, setting fire to the forests’ brushy undergrowth made living in and near the woods easier. This cultural practice of burning, in turn, allowed the region’s longleaf-grassland forests to flourish, though that was not necessarily the intent behind it. This was the unlikely confluence of ecological function and cultural preference.  

It was in this context that wealthy northern travelers began to value the Red Hills region for its aesthetic, recuperative, and recreational properties. Chapter 1 examines the northern tourist trade in the Red Hills and the subsequent conversion of southern farms and forests into

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22 Unlikely is the key word here. I do not mean to dredge up the earlier debates of human ecologists and anthropologists who argued that some societies reached a functional equilibrium with their environments. Perhaps the most well-known and controversial of these studies is Roy A. Rappaport, *Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People* (New Haven: Yale University Press, 1967); for an overview see Donald Worster, “History as Natural History,” in *The Wealth of Nature: Environmental History and the Ecological Imagination* (Oxford: Oxford University Press, 1993), 30-44.
private northern-owned retreats. Scholars have long noted the many important links between northern capital and the New South, but few mention health, disease, climate, wildlife, and aesthetics.\(^{23}\) Whereas many northern industrialists fixed on the region for its timber, ore, soils, and plentiful cheap labor, in the Red Hills—and several other areas in the South—the healing properties of the natural environment were initially the primary draw.\(^{24}\) In searching for healthy, restorative landscapes, the new class of landowners in the Red Hills brought with them distinct ideas about nature and land use; and they effectively superimposed their ideas about the aesthetic environment over the systems—ecological and human—that were already in place. These notions of aesthetic nature came from urban concerns about disease, bodily health, and new threats to the entrenched power structure in the Gilded Age and Progressive Era. By keeping large chunks of this landscape outside of government oversight and industrial production, they promoted ecological stability, for sure, but these exclusive estates also represented and fortified a social hierarchy.\(^{25}\)

The rigid social and economic hierarchies that wealthy northerners found in the Red Hills were important to their project. Labor was already on the land, and their business acumen in other areas—steel, oil, and finance—allowed for the maintenance of a certain “quaintness” that other southern landowners were discovering was not so efficient. Also, tenantry and


sharecropping meshed well with the purposes of absentee northern landlords, as did the crop-lien system. Landowners kept close watch over rents and expenditures, resulting in income that largely paid the costs of maintaining a preserve. Furthermore, the expanding boundaries of northern-owned preserves effectively closed the open range in the Red Hills. Unlike most government conservation regimes, however, tenant families remained on the land, a decision that was partly economic, but also aesthetic. The new landowners wanted to maintain the environment they initially found, and, in their minds, black tenants were a “natural” part of it. Landowners were unaware, however, that the tenants’ land management measures were responsible for creating the quail habitat northerners came to appreciate. The small fields and brushy edge effects scattered throughout the open longleaf forest, all maintained with annual burning, made ideal quail habitat, and populations flourished for many years. But when it came to land management, northerners did not completely trust locals as their guides. In one of many contradictions found in this conservation landscape, these conservative champions of industry considered the government, and its growing cadre of scientific experts, better equipped to study their landscape and help implement management strategies to maintain their desired natural conditions.

Preserve owners turned to a federal agency, the U.S. Bureau of Biological Survey, to help them manage their lands, but what they got was far from a government directive. Instead, they got Herbert Stoddard, who borrowed from and synthesized a variety of local, regional, and national traditions of land management and natural history. From his arrival in 1924 until his death in 1969, Stoddard was a major voice of conservation in the South, and to understand his distinctive intervention in the Red Hills we need to understand his background. Chapter 2 thus leaves the region to examine Stoddard’s ascent into the role of conservation practitioner and
scientific expert. It follows his growth as a child in the longleaf forests of central Florida, his apprenticeship as a taxidermist in the upper Midwest, his work as a professional taxidermist and specimen collector in natural history museums, and, finally, his rise as an ornithologist of national prominence—all with no formal training beyond primary education. Stoddard’s biography reveals the still fluid nature of science and conservation in the years leading up to and after World War I. Despite the increasing specialization of the biological sciences and the growing professionalization of government conservation departments, figures such as Stoddard remained in positions of prominence. When Stoddard came to the Red Hills as a field agent of the Biological Survey, there was still no formal route to such work; he became a professional through a series of apprenticeships, and a scientific expert through rigorous study, trial and error in the field, and fortuitous personal connections. Nor was there a codified method for carrying out research on wildlife and its habitat; as a federal employee he had a great many resources on hand to be sure, but he relied most on his own background to devise a research agenda that drew on both scientific and local knowledge. The result, I argue, was a practical system of scientific land management that reflected the contingencies of place. An exploration of Stoddard’s meandering career path toward becoming a professional ornithologist and wildlife biologist not only reveals the multi-layered story of the Red Hills, but also that of modern biological science and conservation.

Stoddard’s research on bobwhite quail would have a major impact on the development of wildlife management as a distinct scientific field, and a revolutionary influence over the management of longleaf-grassland forests. Chapters 3, 4, and 5 detail the implementation and management of Stoddard’s Cooperative Quail Investigation, and assess its major results. Chapter 3 examines what was perhaps Stoddard’s most important contribution to science and
conservation on the regional level: he concluded, against prevailing, and dogmatic, wisdom, that the generations-old southern practice of burning the woods was a crucial component for the stability of the longleaf pine-grassland forest. From his rather innocent proclamations of fire’s beneficence, to his stern defense of his findings, this chapter charts a controversy in the piney woods that still resonates throughout the nation today. After the South’s forest resources fell during the industrial cut from the 1880s to the 1920s, professional foresters entered the region for the first time with little knowledge of the coastal plain’s historical ecology. They immediately attempted to snuff out the long tradition of burning the woods, and in the process transformed environments on a large scale. Without fire, vast areas of the coastal plain’s environment changed almost irrevocably. Stoddard’s land base in the Red Hills, on the other hand, was largely protected from the industrial cut, and it became his laboratory to observe and then demonstrate the beneficial uses of fire. He was not alone in his efforts, but his landscape became one of the premiere strongholds of longleaf pine-grassland remaining in the South. By arguing vehemently for the continued use of fire in the southern coastal plain, Stoddard became a defender not only of fire itself, but also of a fire culture.

The second major outcome of Stoddard’s study was a reexamination of predator-prey relations. Chapter 4 thus details how Stoddard came to many of his conclusions regarding predator and prey, and assesses his work in the context of the rising field of wildlife management. In 1930, soon after Stoddard completed his quail study, he left the confines of the Biological Survey to become a private consultant, but his national stature as a wildlife conservationist grew tremendously. In a time when the Biological Survey participated in numerous predator eradication efforts throughout the country, his work on quail and their predators led to a thorough reconsideration of the subject. Stoddard’s work helped to create a
scientific basis for early public opposition to the eradication programs, and it also led him to become one of a handful of figures to shape a national policy regarding wildlife conservation. On the heels of Stoddard’s The Bobwhite Quail (1931) came Aldo Leopold’s Game Management (1933), and wildlife management came into its own as a viable profession for a new generation of conservation experts. By 1936, several prominent figures formed the Wildlife Society to fill an organizational void and provide a national outlet for research and professional development. Many scientific and ethical arguments over predators and prey came to a head over the formation of the Wildlife Society, arguments that shot to the core of questions about culture and nature. Through these developments, we begin to see the formation of a conservation ideology that borrowed from the theoretical principles of ecological science and the everyday practice of wildlife management; the result was a pioneering template for today’s conservation biology.

Chapter 5 examines this new ecological perspective within the context of agricultural landscapes. The growth of a large agricultural bureaucracy during the New Deal opened up new opportunities for the new field of wildlife management, but it also led people like Herbert Stoddard and Aldo Leopold to question the motivations and results of such expansion. The mechanization and industrialization of agriculture became a major source of contention for conservationists interested in biological resources. On the advice of government experts and industry representatives, farmers across the nation commenced an “agricultural face lifting,” as Stoddard called it, and transformed the very environments that were beneficial to so many wildlife species. From their interest in wildlife, wildlife biologists mounted a major challenge to agricultural intensification. On his Red Hills hunting preserves, Stoddard turned to the landscape mosaic of tenantry as a normative environment against which to measure change. Though not interested in maintaining the social arrangements of tenantry, he argued that its landscape
diversity formed a type of biological reserve that would meet the productive needs of both people and nature. His philosophy of ecological conservation, then, arose within a peopled landscape, but not an industrial one.

World War II was a time of major transition in the Red Hills preserve environment. Chapter 6 explores the effects of the war and its aftermath on conservation in the region, focusing primarily on the increased attention to forestry on the quail preserves, and the effort to balance expanding productivity with wildlife habitat. As other areas of the postwar South made a wholesale move toward industrialized agriculture and forestry, the quail preserve owners also felt increased pressure to make their land economically productive. Again, they turned to Herbert Stoddard and his assistant, Ed Komarek, to adapt their land management into a system that met financial needs, yet maintained the desired conditions of aesthetic and ecological diversity. Stoddard took over the forestry operations on the quail preserves to make them economically productive, and Komarek became an agricultural consultant to expand the agricultural operations. Both were deeply concerned with the increased industrialization of forestry and agriculture in the South, and the imminent environmental transformation it would fuel, and felt they were better equipped to guide the preserves into market production than the flock of state and industry consultants newly available to landowners.

Stoddard’s work in the forests is of particular interest in this chapter. World War II created a seller’s market in timber that continued unabated with the postwar housing boom, so landowners found the most lucrative return in their mature stands of longleaf pine. Far from a disappointment to Stoddard’s environmental sensibilities, he considered cutting timber to be an opportunity to put the forests into better ecological shape. He developed a selective-cut system of forestry and continued to apply fire in frequent intervals, thereby opening up the forest for
wildlife habitat and encouraging vigorous longleaf pine regeneration. Selection forestry was nothing new, but while Stoddard devised his own variation on that theme, the pulp and paper industry was busy changing the face of southern forestry. Pulp and paper moved into the region in the 1930s, but not until after World War II did they have the technical and organizational development necessary to transform the South’s forests. Forestry schools, state departments, and industry foresters spread the gospel of short-rotation, industrial forestry across the South, and many of them characterized Stoddard’s system as an anachronism in a modern world. In some ways, they were right. Stoddard’s system was productive, but it was not industrial. The timber that he cut and sold moved through a system of brokers, machines, markets, and corporations, but his method of forestry itself was not a product of that systemic industrial world. It was, instead, formed at the margins of industrial forestry, a product of trial and error experimentation based on ground-level concerns for ecological health. The quail preserves, then, in some ways sustained their original intent of being a refuge from modern industrialism, even as it pervaded the post-World War II rural South. They became environmental spaces on which to practice a type of forestry and agriculture that was connected to the modern industrial ideal, yet not shaped by it.

This dissertation ends with an epilogue that briefly covers the Red Hills from 1958 to the present. After the demise of the Cooperative Quail Study Association in 1943, there had been no institutional home for scientific research and conservation in the Red Hills, and in the late 1950s Stoddard, Komarek, and preserve owner Henry Beadel set out to raise money for a permanent research base. Founded in 1958 on land owned by Beadel, Tall Timbers Research Station would

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27 I borrow this conception of systemic industrialization from Deborah Fitzgerald, Every Farm a Factory: The Industrial Ideal in American Agriculture (New Haven: Yale University Press, 2003).
become a crucial voice of conservation and science in the Southeast. With the inception of their Fire Ecology Conferences in 1962, Tall Timbers became the only real outlet for the dissemination of research on the ecological effects of fire. In the beginning, the focus was on the Southeast, but as Komarek grew into his role as director, Tall Timbers expanded its field of view to address fire regimes in the western United States, as well as in African, Australian, and Mediterranean fire ecosystems. With his focus on fire and its use to regulate natural systems, Komarek became a leading voice for the active management of ecological resources.

Though these chapters occasionally leap from place to place, they do so to demonstrate the disparate places that generated knowledge about the longleaf pine-grassland environment, and how that knowledge, in turn, informed conservation in other landscapes. The development of science and conservation, and their application in practice, was highly dependent on the historical contingencies of place. In the Red Hills, the origins of conservation did not spring from environmentalist concerns as we know them today. The original intent of northern landowners was to preserve an aesthetic, one based on the natural, social, and cultural conditions they found in the 1880s. Within this aesthetic were local land management traditions that created abundant habitat for the bobwhite quail, a game bird that became the object of a tasteful, opulent, even socially-fortifying hunt. A concern about the declining number of quail brought to the region Herbert Stoddard, an ornithologist who used local knowledge and modern science to craft a hybrid management system that shifted the conservation focus from the overall landscape aesthetic to the specific components of the longleaf-grassland environment. This new focus on the natural processes of individual components brought about a renewed interest in a landscape aesthetic. The aesthetic itself was the same, but now its value was in ecological diversity, and its maintenance the result of intentional human management to enhance the interlocking features of
longleaf pine-grassland ecology. This dissertation, then, is the unlikely history of the rise of a new environmental ideal based in a distinct corner of the South, but with implications for the entire nation.
CHAPTER 1

THE AESTHETICS OF HEALTH: FROM PUBLIC PLAYGROUND TO PRIVATE PRESERVE

John W. Masury, a wealthy paint manufacturer from New York, recounted his 1889 southern journey to Thomasville, Georgia as nothing less than an ascent into the heavens. On the train ride from New York “rain was the order all the way…until Thomasville was almost in sight. An hour before we reached our destination the clouds broke away and revealed the sun’s face, and for sixty consecutive days ‘old Sol’ rose in splendor and set in glory.” His stay that winter was almost Edenic. In contrast to the dirty, urban environs of New York, in Thomasville “one might sit in abstraction on the veranda, might ride or drive or walk in the pine forests, with entire comfort and without danger to health.” His healthy jaunts were possible because of the climate, which Masury described in spiritual terms: “There is ever about it a softness and sweetness which cannot be enjoyed elsewhere. To inhale the air there is equal to a drink of the ‘nectar of the gods.’”¹

Just six years before Masury penned his flowery prose, another visitor, this one from Louisville, Kentucky had a very different view of the Red Hills. He reported to his newspaper audience in 1883 that “the broad, roomy mansions under the liveoaks and magnolias have disappeared or fallen into decay.” Turning his attention from the landscape to the people, he described planter families who were “for the most part broken in spirit and ruined in purse by the war,” and African-American tenants who struggled to engage a “simple and aboriginal style of

farming without the most distant idea that there are other crops than cotton or that the progress of agricultural science has developed new methods and new implements…He lightly scores the surface of the ground with a plow that is but a slight advance on the pointed stick figured upon the obelisks of the ancient Egyptians.”

What accounts for these ostensibly contradictory accounts? How could a landscape full of such obvious economic despair be the subject of Masury’s effusive praise?

That he had just opened an eighty room hotel in Thomasville is partly responsible for his rhetoric, but Masury was not alone in promoting the Red Hills. Simply put, the Red Hills environment had become healthy, at least in the eyes of wealthy northerners. During the last three decades of the 1800s, any place deemed healthy—first by the medical community, then by local commercial elites—was bound to attract the attention of an expanding class of health seekers. While tenants and planters still negotiated postwar economy and society, a smaller group of town folk in Thomasville worked to lure the health seeker. This new class of traveler, borne from America’s booming industrial economy, headed into particular natural spaces in search of cures for all sorts of physical and psychological maladies, including tuberculosis, hay fever, asthma and what was then called neurasthenia. Along with mountainous, coastal, and hot spring regions, physicians and health seekers considered the piney woods of the South as particularly salubrious. As happened in many places that dealt in the health trade, the local commercial elite—in Thomasville, in particular—expanded their publicity efforts beyond the sick, and soon began attracting wealthy northerners who traveled south for a variety of reasons. Many had a romantic penchant for the Old South, others an enthusiasm for healthful outdoor exercise or the rugged challenge of Florida’s frontier. Some sought respite from cold northern

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winters and the emotional and physical rigors of urban life. The connecting thread to all of these motivations was the then malleable notion of health. Wealthy northerners, whether suffering from bodily disease or not, wanted to find a healing landscape, one they could rely on to impart salubrity.

Historians have only in recent years explored how changing notions of health—and the accompanying travel cure at the end of the nineteenth century—may have influenced environmental change and perception in “healthy” destinations like the Red Hills. When northerners began visiting the countryside surrounding Thomasville and Tallahassee in the 1880s, they brought with them a long line of popularized medical thought that directly linked their bodies to the environment. As historian Conevery Bolton-Valencius writes, the world of nineteenth-century Americans was not one “in which the environment stopped at the seeming boundary of the skin,” and many experts and laypersons alike assessed particular environments in terms of bodily health. Despite the late nineteenth-century move towards theories of disease that isolated the body from its environmental surroundings, the linkages that connected the two persisted during the Red Hills’ heyday as a health resort.

Even more critical, especially in this work, is the extent to which the perceived health of place acted as an important marker of conservation concerns. Americans in the late nineteenth-century understood and judged landscapes in terms of which ones were and were not healthy, and those judgments often translated to acts of conservation. Therapeutic remedies like the “climate cure” may carry very little medical weight today, but, as historian Gregg Mitman has

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4 The germ theory of disease, in particular, turned the physician’s gaze inwards to the body. Linda Nash writes “germ theory held that disease could be traced to singular and discrete etiologic agents that penetrated the body rather than to the much vaguer and more nuanced concept of imbalance. However, nineteenth-century medicine was intellectually capacious, and most physicians had no difficulty mixing germ theories with long-standing environmentalist beliefs.” See Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006).
argued, perceptions of health, and the resulting actions of physicians, patients, and promoters, have sometimes had a profound influence on local land use and environmental change. The search for healthy places, particularly by wealthy urbanites, left in their wake a sizable ideological and material footprint throughout the late nineteenth and early twentieth centuries. In the Red Hills, such perceptions about health—and the efforts of some locals to capitalize on them—led not only to a substantial demographic shift in landownership, but they also introduced a new perspective on what was expected of the land. As Mitman argues, health itself became a natural resource.

Covering roughly the period from 1880 to 1920, this chapter explores northerners’ motivations for coming to the Red Hills, the role of the local elite in luring them, and the transformational ideological and material results of their seasonal journey. The northern health seeker’s expectations of the Red Hills landscape were decidedly different from those of most locals. While locals struggled to make a living off the land, these travelers wanted relaxation, physical and psychological restoration, and recreation—all typical prescriptions for escaping the rigors of urban life. As a resort, the healthfulness of the Red Hills became most closely aligned with the aesthetic of its agrarian forests. The longleaf pine-grassland forests of the Red Hills, while not possessing the grandeur of western mountains and canyons, offered a compelling aesthetic to city-worn travelers. Visitors saw towering pines growing up to 120 feet tall, and had a view through the forests unobstructed by any other growth. Besides the pine trees, and a few

hardwoods here and there, little else in these forests grew head-high. The undulating topography of the Red Hills afforded vistas that were rare in other areas of the piney woods South. Elsewhere on the southern coastal plain, visitors referred to pine forests more often as “pine barrens” because of the flat monotony and the nutrient-deprived sandy soils. Where forests still stood in the pine barrens—fast becoming a rare phenomenon by the turn of the century—one view was much like any other. The Red Hills, on the other hand, changed around each corner, from each ridge to each bottom.

Scattered throughout these forests were the remnants of plantation agriculture, the components of which offered another visual indicator of health. If a little derelict due to war and Reconstruction, the plantation houses, surrounding fields, and recently-scattered tenant shacks were still testaments to the social and economic hierarchies many travelers thought to be under threat in this industrializing age. As historian Nina Silber has shown, many northerners came South in search of an antimodern refuge, and came to view the region “from the standpoint of growing concern regarding their own society’s declining Victorian standards.”6 They considered the South as a refuge not only from modernism and its shifting moral base, but also from industrial production. In the aesthetic of plantation agriculture, productive labor seemed suspended in a natural state. Travelers, in other words, saw what they thought was an organic bond between labor and nature not mediated by the artifice of the factory. This forested plantation landscape, then, was not only a salve for bodily disease. In northern hands, it eventually became a symbol of health in a nation under threat from the discomfiting forces of industrialization.

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The transformation of the Red Hills by health tourism first required a major shift in medical thought, particularly regarding therapeutics. Remedies for diseases such as tuberculosis and neurasthenia were wide-ranging, but for those patients who could afford it, physicians deemed a change in climate the most effective treatment. What was known as the “climate cure,” or climatotherapy, dominated the literature on a host of diseases between 1870 and 1900. Flowing out of Hippocratic and Galenic humoral medicine, climatotherapy posited that certain types of air, depending on a mix of altitude, temperature, and humidity, invigorated the depleted consumptive. The climate cure, and its relative, the wilderness cure, represented a shift in thinking on the internal workings of disease that began around the mid-nineteenth-century. Whereas traditional humoral medicine considered disease to be inflammatory, requiring treatments like blood-letting, physicians now thought diseases depleted vitality. This shift was responsible for a therapeutic revolution. As urban Americans drifted away from their agrarian roots, sufferers traveled into the countryside to infuse their bodies with vitality through physical activity and a change in climate. According to historian Georgina Feldberg, late nineteenth-century "physicians associated consumptive disease with a changing social order, [and] their therapeutic advice to consumptives attempted to preserve and re-create the world that they feared was slipping away." Early on, such therapy was little more than an informal jaunt through uninhabited space, but by the 1870s and 80s, there developed a more codified taxonomy of climate as it related to disease, thus leading to the development of health resorts in what came to be regarded as the most salubrious places. Due to its mild climate and its relatively non-

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industrial landscape, the South was particularly attractive. “Remote, informal, and often located in the South,” these new resorts, argues Feldberg, “enabled patients to take advantage of a healthful climate, engage in vigorous outdoor exercise, and otherwise imitate the life of the ‘first settlers.’”

Though the Red Hills region had much to recommend it, the health trade seemed, in the 1870s, just as likely to bypass the area as transform it. First of all, promoters of Thomasville and Tallahassee had a great deal of competition: The mountains of New England and Colorado, the dry air of Minnesota, the mildness of southern California. Even in their own region there were scores of other purportedly healthy places. Pinehurst, North Carolina and Aiken, South Carolina, like Thomasville, offered their pine forests as purifying filters for miasmic air; Asheville, North Carolina, situated high in the Appalachian Mountains, advertised its dry air as a salve to aching consumptive lungs; and the therapeutic hot springs of Arkansas, West Virginia, and Virginia were a major draw for rheumatoid arthritics. All offered physical and spiritual rejuvenation to physician and patient, as well as the recreational traveler. The sun-spackled coasts and wild interior of peninsular Florida also beckoned. Despite being the site of the continent’s oldest settlement, vast stretches of Florida still seemed void of human improvement, just the sort of unconfined wilderness that increasingly appealed to health tourists. The Red Hills emerged as a health retreat, then, in competition with many other places making similar claims.

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Almost immediately after the Civil War, travel writers flooded northern markets with tracts about the South. Florida was a particularly popular destination, and local leaders in Thomasville and Tallahassee soon realized an opportunity to capture some of that southbound traffic. Writers like Ledyard Bill, Daniel Brinton, George Barbour, and Sidney Lanier, wrote glowingly of the peninsula’s warm winter air, especially in regards to pulmonary tuberculosis. By the time Brinton published his _Guide-Book of Florida and the South_ in 1869, “even those who lay no claim to medical knowledge are well aware how often the consumptive prolongs and saves his life by a timely change of air…. _Consumption is curable, IF TAKEN IN ITS EARLY STAGES_. And in its cure, change of climate is an essential element.”\(^{11}\) This is not to say that all southern air would put you back on your feet. Though there was a shift in thinking about the flow of vitality into the body as being therapeutic, medicine remained Galenic until the discovery of the germ theory of disease; that is, it was humoral, and the body still supposedly reacted to specific environments in predictable ways. The Floridian lowlands were long thought to be a pestilent, malaria-ridden expanse of muck. Brinton recognized the region’s threat to the body, and counseled that seasonal timing was key to southbound travelers. Come too early and they might encounter “the swamp miasm [that] begins to pervade the low grounds, and spreads around them an invisible poisonous exhalation.”\(^{12}\) Miasmic air was a very old threat, one that had sent antebellum coastal planters fleeing for the piedmont and mountains during the summer. The lowland South was infamous for exuding noxious air thought to cause a host of diseases, including malaria and yellow fever. So as Brinton’s comments indicate, a shift in medical thought did not suddenly make the South healthy. Miasmic air continued to flow in the summertime, but with cold weather the miasm “loses its power,” and only after “one or two

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\(^{12}\) Ibid., 9.
sharp frosts have been felt in New York or Philadelphia, [is] the danger chiefly past.”\(^{13}\) Beyond avoiding miasmatic air, northerners coming south in the winter would not suffer through the general unpleasantness of summer in the South. In coming only in the winter, or the dormant season, health seekers thus developed a skewed perspective on the landscape and climate in general. Plant life rarely intruded on their living and personal space; bug life rarely attacked their bodies; and heat and humidity did not affect their comfort or personal hygiene. For the winter traveler, then, this place had a benevolent influence on their bodies.\(^ {14}\)

If the traveling invalid did choose the South, that was only the first of many decisions. A simple change of air, any air, was an improvement over stale city air, but as climatotherapists developed their trade, the decision of which climate to choose became “a question of vital importance. An error here is fatal,” according to Brinton. If, for instance, the consumptive followed friends or fashion to the crisp mountainous air of Asheville, North Carolina, when the disease called for the balmier atmosphere of St. Augustine, “He goes at his peril…There are some whose safety lies in the mountains, others who can find it nowhere but on the sea shore.”\(^ {15}\)

Dr. Charles J. Kenworthy, president of the Florida Medical Association, advised that “facts, figures, experience, and favorable factors of climate” should be tailored to each individual patient.\(^ {16}\) In fact, there were about as many therapeutic locations as there were individuals, each with its own elaborate justification as the most suitable place to begin the healing. Some

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\(^ {14}\) For more on the body’s relationship to particular environments and the development of ideas about healthy and unhealthy places, see Bolten-Valencius, *The Health of the Country*. Another work that discusses the urban desire for “weather at its best” is Gail Cooper, *Air Conditioning America: Engineers and the Controlled Environment, 1900-1960* (Baltimore: The Johns Hopkins University Press, 1998).

\(^ {15}\) Ibid., 120.

physicians and travel writers engaged in a type of regional promotion that skewed evidence in favor of their own region, but others could not point a patient in any one direction with much confidence no matter how elaborate the reasoning. Even Brinton, after matching a long list of constitutional complaints with particular climates, threw up his hands, saying: "Have you a fancy for any particular spot among those famous for salubrity? Is there a pastime or pursuit to which you are addicted? Do you love to boat, fish, hunt, ride, camp out, botanize, photograph? Indulge your taste. Such considerations have quite as much weight as many a medical reason."\textsuperscript{17} Indeed, recreational pursuits would soon take precedent for the majority of winter visitors.

As early as 1869, a few years before Henry Flagler and Henry Plant created their tourist wonderlands on the Atlantic and Gulf shores, northerners were already indulging their tastes in Florida. Ledyard Bill reported in that year that it had already “attracted considerable attention as a winter resort for invalids and pleasure-seekers…Visitors to the State are already numbered by thousands, and each year since the war has witnessed a rapid increase.”\textsuperscript{18} The most common entry point was Jacksonville and the St. John’s River. From there, most visitors would travel upriver to coastal St. Augustine and the Indian River section, or into the less inhabited areas further south. Some, though, preferred the older, more cultivated countryside around Thomasville and Tallahassee. As an interesting side trip, or as a layover on the way to Florida, the Red Hills drew growing numbers of curious health travelers looking to discover what they considered to be the Old South. And when local commercial elites in the Red Hills noticed more northerners passing through, they also began to conjure up ideas about holding them there. Both towns were relatively well connected to the East by rail, though not to each other. By the late 1870s, Thomasville had particularly good rail connections, with lines running to Savannah and

\textsuperscript{17} Brinton, \textit{Guide-Book of Florida and the South}, 123.
\textsuperscript{18} Ledyard Bill, \textit{A Winter in Florida} (New York: Wood and Holbrook, 1869), 7.
Albany, both of which connected to points Northeast, as well as the booming Ohio and Mississippi Valleys.\textsuperscript{19}

Although the rail system brought them to the Red Hills, it was the region’s uniqueness, both environmental and social, that captured the northerners’ prolonged interest. Early northern visitors clearly considered the Red Hills a distinct landscape compared to the flatwoods and coastal environments further to the south. George Barbour noted in 1882, that his trip up the St. Johns River allowed him to see “the wilder and more remote regions,” while his visit to the Red Hills gave him “an opportunity to learn of the older and more populous sections.” “On every side in all that region,” he wrote, “were seen large old plantations…giving evidence of a long-settled region.”\textsuperscript{20} Bradford Torrey was thrilled to leave “the monotony” of the St. John’s hinterland. As he approached the eastern edge of the Red Hills,

there came a sudden change in the aspect of the country, coincident with a change in the nature of the soil, from white sand to red clay; a change indescribably exhilarating to a New Englander which had been living, if only for two months, in a country without hills. How good it was to see the land rising, though ever so gently, as it stretched away toward the horizon! My spirits rose with it. By and by we passed extensive hillside plantations, on which little groups of negroes, men and women, were at work. I seemed to see the old South of which I had read and dreamed, a South not in the least like anything to be found in the wilds of southern and eastern Florida; a land of cotton, and, better still, a land of Southern people, instead of Northern tourists and settlers.\textsuperscript{21}

In the Red Hills, Torrey and other northern health seekers not only discovered a unique physical environment; they also found what they considered an authentic cultural landscape. This was the landscape many visitors came to see—not an unpeopled wilderness, but a picturesque landscape of the mythologized southern past. As northerners witnessed the industrial transformation of their own region, in the South they found the opposite. A land, according to George Barbour,

\textsuperscript{19} On rail lines, see Rogers, \textit{Thomas County, 1865-1900}, 101-127.


\textsuperscript{21} Bradford Torrey, \textit{A Florida Sketch-Book} (Boston: Houghton Mifflin Company, 1894), 207.
“arrested in its growth, and in a state of suspended animation.”\textsuperscript{22} In reality, of course, what Torrey and Barbour saw as the authentic Old South was actually a brand new social and economic system, but such a sense of arrested growth was essential to the traveling health seeker. Making the southern fields and forests a place of health forced both travel writers and visitors to naturalize and objectify these surroundings as something separate—they created a naturalized landscape aesthetic that had little regard for the currents of history, economy, or culture. But they were not the first to naturalize this cultural and historical landscape. By turning sharecropping and tenantry into a static, ahistorical system, they followed the lead of many other observers, both northern and southern.

Even before the Civil War, the elite white classes of the Red Hills were in the process of defining their identity as part of a timeless plantation South. Settlers came to Thomasville and Tallahassee in the 1820s and 1830s from other seaboard states to establish a new frontier in the Red Hills’ piney woods. Both Thomas and Leon counties attracted large planter families, but as historian Edward Baptist has shown, building the plantation economy was a piecemeal process constantly interrupted by disease, war, financial bankruptcy, and an uncooperative environment. By the eve of the Civil War, though, life and labor seemed so deeply entrenched as to give the appearance of an older settled land. Thomasville, Tallahassee, and Monticello were thoroughly established as county centers, and total population in 1860 grew to 10,766 in Thomas, 12,343 in Leon, and 9,876 in Jefferson County. African-American slaves outnumbered whites 21,707 to 11,278 in all three counties. The majority of farms ranged anywhere from fifty to five hundred acres, but there were at least 57 plantations of over 1000 acres, most of them located on the good

\textsuperscript{22} Barbour, \textit{Florida for Tourists, Invalids, and Settlers}, 71.
clay soils of the Red Hills portions of each county. These plantations—in Leon county in particular—dominated the landscape. Like so many other plantation districts, by 1860 there was an engrained perception among local elites that slavery was a natural system that held all of society’s parts in place. According to Baptist, the “planter class redrew their particular corner of a very new South as one that was 'Old,' unchanged from the past and unchanging in present and future”

After a period of turmoil during war and Reconstruction, the process of remaking the new into the old began again in the Red Hills. In the historical context of slavery it was not much of an ideological stretch to naturalize tenantry into the landscape. Neither Bradford Torrey nor George Barbour distinguished much between hill, dale, field, forest, mule, or plow; they were all part of a picturesque landscape whole. They witnessed a landscape that held a great deal of diverse nature, but they also saw a new system of life and labor mimicking the old, one that was very much a human construction. Along with the aesthetic beauty of the natural scene were white planters anxious over losing much of their wealth with the fall of slavery, and poorly capitalized black tenants with little more than their freedom. This was essentially a new system of debt peonage based on old hierarchies of racial, political, and economic control; and it created subtle but important changes in the landscape.

While other post-Reconstruction southern locales set about enticing northern capital with the promise of cheap labor, or inexhaustible extractive resources like timber, local elites in the Red Hills recognized their economic opportunity in the flow of tourists to Florida. They were

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close enough to the wilds of Florida, but the countryside possessed a number of distinguishing qualities that made it unique. As Barbour saw it, “a vast range of hills, valleys, brooks, lakes, park-like clusters of large trees, broad, well-cultivated fields, large plantation dwellings and cotton-gins, and distant forests--in all, a remarkably beautiful natural panorama of nature, such as is seen nowhere else in Florida.”\textsuperscript{25} This combination of pastoral countryside and arrested development would prove an inviting mix for those travelers looking to make the countryside their own.

For locals to capture the health travel market, though, they needed to make the area more than a layover point or side trip destination. So with the last Radical Republican not yet over the county line, a small group of Thomasville elites looked to capitalize fully on the nation’s newfound mobility and its search for healthy places by luring a different type of northern Republican. This local group coalesced around the new ideas of New South boosterism. Following the ideas of Henry Grady and his ilk, Red Hills elites encouraged local citizens to shape up and take advantage of the economic opportunity sure to be found in tourism. Thomasville was far ahead of Tallahassee and Monticello in bringing in tourists. John Triplett, the editor of the Thomasville \textit{Times}, was one of that town’s more visible health trade recruiters. In 1873, he observed that “the tendency is growing stronger every year, among northern tourists, to stop short of the humid atmosphere of Florida, and take advantage of the high pine lands of South-west Georgia, which affords relief in pulmonary diseases that no other section does; whilst as a summer resort, this point might, if the proper accommodations were offered, secure a large number who annually leave the low country.”\textsuperscript{26} Thomasville had several boarding houses, but nothing that could cater to finer tastes. Planter Thomas C. Mitchell stepped up to the civic plate

\textsuperscript{25} Barbour, \textit{Florida for Tourists, Invalids, and Settlers}, 80.
\textsuperscript{26} Thomasville \textit{Times}, April 5, 1873.
to offer such accommodations. After a quick gestation and construction period, he completed Mitchell House in March 1875 to much praise from local media. For the *Weekly Floridian*, “the best thing about the whole business is, that the lot was bought and the hotel is being built by an old planter of Thomas County with his own capital!” Mitchell did indeed build it from his own means, but he called on experienced northern hotel management to lease and run the hotel. The summer health resort industry of the Northeast had many years experience by this time, and had a well-developed network of managers for Mitchell and his partners to tap. Massachusetts hotelier C.S. Sanderson signed a five year lease on Mitchell House in 1876, and A.L. Fabyan, “one of the most accomplished hotel men of this age,” was the first in a long line of northern managers. While this was not the exact type of enterprise envisioned by New South architects, its origins in the commercial milieu of town life, and its collaborative nature between North and South, was typical of other more industrial pursuits in the region.

Triplett was prepared to solicit Mitchell’s putative customers, but there was still the question of therapeutic legitimacy. It was not enough for a newspaper man to speak to the healthfulness of place; that was the realm of the physician. While construction neared completion, Dr. Thomas S. Hopkins produced an elegant argument supporting the healthfulness of the Red Hills. Hopkins, a Thomasville native and recent mayor, was active in the Medical Association of Georgia and a founding member of the South Georgia Medical Society. In an 1874 address to the Medical Association of Georgia, he doubted that “there is on the globe any region of country, of the same extent, more exempt from all diseases of the respiratory organs,”

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27 Quoted in Rogers, *Thomas County, 1865-1900*, 135.
28 See Mitman, “Hay Fever Holiday."
29 Quoted in Rogers, *Thomas County, 1865-1900*, 137.
30 On north-south collaboration, see Woodward, *Origins of the New South*, 107-141. That this effort to attract tourism was a town-based movement is significant. The influence of towns on southern life was a relatively new phenomenon in the New South. The transition of wealth to land and the resulting settlement of the countryside led to an exponential growth of towns throughout the South. Capital investment flowed towards population centers, and towns like Thomasville and Tallahassee were beneficiaries. See Ayers, *Promise of the New South*, 55-80.
as was the region between the Altamaha and Flint rivers of south Georgia. In his thirty years experience he rarely found a case of pulmonary tuberculosis in the region that could not be “traced to hereditary transmission,” and it could never “be attributed to climatic influence.” He recommended the entire region as therapeutic, but if forced to choose, Hopkins “would select Thomas County, and preferably the town of Thomasville, on account of its elevation, its thorough natural drainage, its pure and delightful freestone waters, its dryness, its equability of temperature and its remoteness from the sea.” Perhaps most importantly, Thomasville was situated “in the midst of a vast pine forest of almost unlimited extent.” With such a buffer of pine acting as a filter, “the winds from the ocean reach it sifted of all saline vapor and moisture, comparatively warm and innoxious.” The Association quickly adopted a resolution to “earnestly and fully endorse the opinions and statements” in Hopkins’s paper, and “in view of its importance to the whole country, desire to give to it the widest possible publicity.”

Almost a decade later, none other than booster extraordinaire, Henry Grady, wrote, “Dr. T.S. Hopkins has been a pioneer in setting forth Thomasville’s claims, and to him, as much as any man, is due her present pre-eminence as a health resort.”

With this focus on health tourism, Hopkins, Triplett, Mitchell, and others clearly hoped to boost their town out of its postwar economic miasma, but they did not have to corrupt the scientific literature of the time to do it. They simply capitalized on it. Hopkins apparently followed the literature closely, seizing on themes that centered on climate and trees as purveyors of health. For the Red Hills, the therapeutic keys consisted of a piedmont-like topography nestled within the warmer coastal plain, and the “vast pine forest of almost unlimited extent” that surrounded Thomasville. Unlike the Leon county portion of the Red Hills, which had much

32 Atlanta Constitution, April 21, 1882, quoted in Rogers, Thomas County, 441.
more agriculture, Thomas County was indeed covered with forest. The 1880 census reveals that Thomas County had over 200,000 acres (60% of total) of forested land, whereas Leon County had only 56,107 forested acres (30% of total).\textsuperscript{33} So when trees became the subject of much therapeutic talk, Thomasville was in a unique position to capture tourists.

As the numbers show, the Red Hills pine forest was not of “unlimited extent,” but it was significant, particularly in the southern half of Thomas County. In this forest lay the Red Hills’s value as therapeutic sanctuary. The value of trees as purveyors of health was a very old theme in medical literature, most likely beginning with Pliny the Elder’s belief that the more resinous trees “are very beneficial to consumptives,” and it regained increasing medical legitimacy in America around the turn of the nineteenth century.\textsuperscript{34} Benjamin Rush, Noah Webster, and Benjamin Franklin all backed the health-giving attributes of various tree species. One early nineteenth century traveler through central Georgia wrote that, despite the lack of infrastructural development, he enjoyed the vast stretches of pine forests, because they “are healthy; and the circumstance may be properly accounted for by supposing, that the resinous particles of the pine may contribute to increase the oxygen in the atmosphere; while…no pernicious gasses are generated uncongenial to the human system.”\textsuperscript{35} When Samuel George Morton published his treatise on pulmonary tuberculosis in 1834, he gave full credence to the tree theory, writing that “experience has amply proved that a dry air, in conjunction with the aroma of pine forest, is most congenial to delicate lungs.”\textsuperscript{36} Following the view that diseases like malaria and consumption were miasmatic—that is, they were atmospheric, with the air itself transmitting the disease—

\begin{footnotesize}
\textsuperscript{33} Tenth Census, 1880, Vol. III, Agriculture, 109, 111.
\textsuperscript{34} Quoted in Kenneth Thompson, “Trees as a Theme in Medical Geography and Public Health,” Bulletin of the New York Academy of Medicine 54, no. 5 (1978), 517.
\textsuperscript{35} John Melish, Travels Through the United States of America in the Years 1806 & 1807, and 1809, 1810, & 1811; Including an Account of Passages Between America and Britain, and Travels Through Various Parts of Britain, Ireland, and Canada. With Corrections and Improvements Till 1815 (Philadelphia: J. Smyth, 1818), p. 42.
\textsuperscript{36} Quoted in Thompson, “Trees as a Theme…”, 521.
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practitioners and theorists began to believe trees like pine and eucalyptus could both filter and counteract the offending maladies. As historical geographer Kenneth Thompson has shown, by the mid-nineteenth century the “belief in the therapeutic and prophylactic value of trees and forests…was firmly implanted in both lay and medical opinion.”

This shift in thinking about the healthy effects of trees led to increasing concern in the late nineteenth-century, especially among physicians, that the unencumbered stripping of timber might create serious public health problems. As the northern timber industry began to make inroads on the southern longleaf forests, Hopkins’ paper became more than a local promotional tool. In 1875, the Georgia Board of Health followed up on Hopkins’ address to issue its biennial report, titled “The Influence of Trees on Health.” Investigator Benjamin M. Cromwell argued that the prevalence of trees influenced the climate of any given locality, and attempted to gauge the "specific influence they exert by means of the odorous emanations they give off from their leaves, bark, wood or gum.” Of the various species available in Georgia, he knew of “none that are indigenous, more worthy of mention, than the common pine of our forests….Besides, its merits have been ably brought before the medical profession of Georgia, by Dr. T.S. Hopkins, of Thomasville.” Cromwell, though, went further than Hopkins. He not only championed the “odorous emanations” of pines, but also linked them to the quality of water and soil. Like many other physicians across the United States, he recognized a vital link between environmental conditions, human land-use, and human health. In what can be read as an early plea for forest conservation, he explained the “silent and unobtrusive agency” of trees in “keeping up the

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38 Benjamin M. Cromwell, “The Influence of Trees on Health,” in Biannual Report, (Georgia Board of Health, 1875), 165.
39 Ibid., 179.
40 On other physicians seeing this link, see Nash, Environmental Inequalities, esp. Chapter 2.
springs, streams, and water courses of a country and thus maintaining its water supply.” They also acted as sponges to drain standing water, and screens from “poisonous emanations generated to the windward of them.” As the industrial deforestation of the South geared up, Cromwell appealed to discretion in favor of health. Trees, he argued, protected air and water, two basic elements of life that could easily go bad. Just as the piney woods South became recognized nationwide as a place of health, Cromwell feared that the ravages of industrial timbering would transform the region into its former miasmic self. He concluded almost desperately: “Instead, therefore, of regarding forests as encumbrances, to be got rid of as expeditiously and as cheaply as possible, to make way for the plow, would it not be better for us to exercise some discrimination in removing these valuable coadjutors of health and guardians of the fountains?”

The idea that leaving trees standing would secure health was a powerful one for many. Laypersons in medicine and natural history even commented on the correlation between standing trees, well-drained soils, and health, all the while maintaining a healthy since of awe at the aesthetic of the surrounding forests. One visitor related to his fellow Chicagoans that Thomasville “is located in the highest and driest part of the ‘uplands’ of Southern Georgia, in the very center of an immense pine forest, the health-giving qualities of which are so valuable that to over-estimate the potency of their remedial virtues would be well high impossible.” Another effused, “The health-giving breezes that sweep through the pines are nowhere more delicious.” Even years after Robert Koch’s 1882 discovery of the tubercle bacillus, the local literature continued to play up the health angle and visitors continued to judge these landscapes based on their health-giving properties. An 1898 pamphlet, “The Great Winter Resort Among the Pines,”

41 Cromwell, “The Influence of Trees on Health,” 166.
42 Ibid., 173.
reported that the “ablest physicians and specialists have for many years recommended a residence among the pines of this section, as being most beneficial to parties troubled with weak lungs or bronchial affections; and the thousands who have been cured here bear testimony to the efficacy of this climate in such cases.”45 Amid the praise, there was also concern for the region’s forests. One Thomasville native, S.G. McClendon, lamented in 1889 that south Georgia’s pine forests were “steadily growing smaller under the ravages of the axe,” adding that deforestation “would be an incalculable disaster to the human race…It keeps more people alive than even the plantain tree.”46 Racist assumptions about tropical locations aside, McClendon’s apprehension was as much about economic health as bodily health, but his views echoed those of physicians. Many in the Red Hills, locals and visitors alike, agreed, and health tourism was an essential component to the survival of many longleaf pine-grassland forests.

Within a few short years, Thomasville was among the finest resort destinations in the South. By 1891, another visitor from Chicago could write that “Prominent Northern capitalists are investing large amounts of money there, as they consider it the most beautiful and prosperous health resort in the South.”47 Besides Mitchell House and a number of smaller hotels, a group made up of local and northern investors completed the 160-room Piney Woods Hotel in time for the 1885 season, and in 1889 John W. Masury opened his 80-room Masury Hotel. Around November every year, locals began to look for migrating visitors from New York, Boston, Philadelphia, Chicago, and Cleveland among other northern cities. Mitchell House burned in 1883, but its 3,194 registered guests the previous season were evidence enough of demand for reconstruction. It reopened in February, 1886.48 Tallahassee and Leon County felt the winter

45 “Thomasville, Georgia: The Great Winter Resort Among the Pines,” (E.M. Mallette, 1898).
48 On hotel construction, see Rogers, Thomas County, 1877-1920, 131-154.
influx, too. As the state capital, Tallahassee’s business was more geared to state and local politics, but visitors from Thomasville, Jacksonville, or St. Augustine appreciated its local fare. In 1894 Bradford Torrey proclaimed that “it was exactly what I had hoped to find it: a typical Southern town; not a camp in the woods, nor an old city metamorphosed into a fashionable winter resort; a place untainted by 'Northern enterprise,' whose inhabitants were unmistakably at home.” Tallahassee did not have the lavish hotels of Thomasville, but in Torrey’s eyes it stood as the authentic South, a characteristic that was fast becoming as commoditized as health.

The entrepreneurs of the Red Hills were not presenting a backward-looking Confederate stronghold, however. Like other southern destinations, Thomasville’s tourism industry played an important role in postwar reconciliation. John Triplett, for instance, rolled out the welcome mat, imploring northerners to “see a live, progressive town, and meet with people who are not repining or looking back over the desolate wastes of the past, but a people who are looking hopefully forward.” Visitors would still receive “a hearty, old fashioned, cordial southern welcome,” but talk of past sectional conflict would not arise. Triplett insisted that the citizens of Thomasville were very much in tune with the national project of reconciliation: “There are two things which are never asked about, religion and politics. Every one is left free to entertain his own views on these questions without criticism.” If the Red Hills was to sustain itself as a winter haven for northerners, the nation’s past sectional conflicts would need to be soft-pedaled, or swept under the rug altogether. But the rhetoric of reconciliation did not always prevail in more private venues. James Brandon expressed genuine surprise that his Aunt took northern boarders. Because of her “implacable resentment and intense hatred of all Yankeedom,” he

51 Thomasville Daily Times-Enterprise, January 25, 1891.
“would advise those boarders to keep quiet on the subject of the late war and the kindred one of politics in her presence.” Any breech of etiquette might cause her to “‘boil over’ some day and pour forth the vials of her wrath [into] the devoted heads of her amazed boarders.”53 Despite such unreconstructed feelings, the arrival of tourists in the early days often elicited little more than a shrug. Even when James Brandon’s father, David, observed “a full supply of Yanks on hand,” there was little to get excited about: “The town is dull—business unusually so.”54

Most locals apparently toed Triplett’s line in public at least, for northern visitors thought of the Red Hills as nothing short of an Arcadian paradise. From the northerners’ perspective, the landscape itself—along with its health-giving properties—made reconciliation a much more pleasant venture. Dr. John T. Metcalf of New York wrote the Boston Medical and Surgical Journal to say “I wish more Northern doctors knew what I know from a series of years, of this wonderful corner of the vineyard!...What would you Bostonians have said had you seen us lying on my big wagon—robe, al fresco, at noon, whilst taking our bit of luncheon.”55 Visitor G.Q. Colton reported to the New York Times that Thomasville was “situated on a high belt of land 450 feet above the level of the Gulf of Mexico, and is surrounded by immense pine forests, so that the atmosphere is constantly impregnated with the aroma of the pines.”56 William Drysdale echoed Colton by elaborating on what “nature has done for Thomasville… Every breeze that blows from the south or from the east must come through from fifty to two hundred miles of wholesome pine forest, and every wind from the north and west is sure to be healthful and braceful.”57

53 James A. Brandon to Harriet Jones Brandon, March 8, 1878, Brandon Collection, 77.33.142, Thomas County Historical Society, Thomasville, Georgia.
54 Dr. D.S. and Harriet Jones Brandon to James A. Brandon, February 25, 1878, Brandon Collection, 77.33.141, TCHS.
56 New York Times, December 5, 1885.
57 New York Times, March 6, 1892.
As was the case for the majority of visitors, Metcalf, Colton, and Drysdale were not invalids; they were, according to one writer in *Popular Science Monthly*, members of “the numerous and increasing class of well-to-do, leisurely, and healthy people who seek a change of climate purely as a matter of personal enjoyment…They constitute the great mass of the patrons of Southern winter resorts.”58 Indeed, health tourism catered to both the wealthy and the sick, two ostensibly separate demographics that were actually indistinct. On “the question of money,” physician Daniel G. Brinton warned that the healing would only begin if sufferers were able to free their minds from the trappings of work: “If you carry the cares of business with you; if you have to pinch and spare on your journey; if you are worried about your expenses, the trip will do you little good.”59 The healing that places like Thomasville offered was clearly the domain of America’s new business and industrial elite, a class that experienced its own unique health trouble around the turn of the century.

As the germ theory of disease emerged in the 1880s and it became clear that people contracted tuberculosis from each other, the closed-off sanitarium took over as the consumptive’s destination. The middle and upper class urge to flee the city, however, held strong, and they found an appropriate medical justification for doing so after physician George M. Beard’s identification of neurasthenia, a new ailment born of the industrial age. Beard first identified neurasthenia in 1869, and outlined its causes, symptoms, and cure in his classic medical text, *American Nervousness* (1881). He portrayed it as “a lack of nerve force,” which was expended not through overstimulation of the body, but of the mind. A difficult disease to pinpoint, neurasthenia, according to Beard, included a broad constellation of symptoms—dyspepsia, insomnia, hysteria, asthma, hot and cold flashes, premature baldness, exhaustion. The

common thread, though, was the correlation between modern industrial growth and increased nervousness, particularly in the classes that placed the “labor of the brain over that of the muscles.”

Travel writers of the time followed—and sometimes preceded—Beard’s remedies for neurasthenia. Daniel Brinton, writing before Beard gave a name to the disease, called it paresis, but his descriptions were indistinguishable from Beard’s. Brinton took it as seriously as consumption, writing that paresis manifested itself as a state of “nervous and mental exhaustion, consequent on the harassing strain of our American life, our over-active, excitable, national temperament.” Ledyard Bill, too, wrote that such external excitement required serious attention, and thought the South to be an ideal place for “those who seek rest and recuperation from the steady and exacting demands of business. There is needed among those who fill the various professions more of rest and play than they get.” Following a narrative convention of the day, Bill passed on the experience of a contemporary who had recently been “snatched away, in the meridian of life, from over brain-work…It is this over-worked class, as well as the invalid, who need to go to Florida.” Dr. Charles J. Kenworthy also advised that “the worn-out man of business, suffering from 'broken health,' will find the necessary relaxation from 'brain-fag,' opportunities to take out-door exercise, plenty of sunshine, pure and bracing air, and other necessary adjuncts to relieve a condition affecting the many.”

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63 Ibid.
the external pressures of the city, and Brinton characterized it as “a new disease, a visitation of nature upon us for our artificial, unquiet lives.”

This duality is of critical importance in the development of health resorts and the later conservation of the Red Hills’ forested landscape. Brinton almost characterizes nature as exacting revenge on the wayward urbanite for creating something as unnatural as the industrial city. But in reconciling with his avenger, the urbanite may be able to salvage the loss of vitality. In instructing his readers to go forth into the wilds of the South, he tells them to face their opposite. But more than wilderness, travelers were looking for a rural time and place they thought to be vanishing. This theme pervades most of the early travel literature on the Red Hills as well. The influence of diseases like neurasthenia, and the ideas about the city and countryside that informed them, provide one framework through which to understand travelers’ activities and perceptions in and about places like the Red Hills. Even after the climate cure fell out of favor in regards to diseases like pulmonary tuberculosis, Thomasville’s promotional literature still stressed the region’s restorative qualities, but now it was about escaping the demands of an urbanized modern America. In its towering longleaf forests and quaint farms, the Red Hills possessed the restorative aesthetic of non-industrial production that fleeing urbanites demanded.

Under the influence of this new type of health seeker, by the 1890s the Red Hills became better known for its scenic drives and its sport in quail hunting than for its direct therapeutic effects on disease. Thomasville’s hotels sported a variety of entertainment, including baseball, tennis, progressive euchre, billiards, dances, and concerts. Three particular activities, though, showcased the Red Hills countryside and reflected well the disposition of most visitors: lounging, driving, and hunting. The twenty-foot wide verandas of the Piney Woods Hotel gave visitors ample space to lounge in the sun, thus escaping the demands of the business world. The

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Piney Woods also faced a patch of ground that impersonated the park-like aesthetic of the Red Hills’ forested countryside. Known as Smith’s Grove or “Yankee Paradise” until the city of Thomasville purchased the sprawling park in 1889, Paradise Park was the center of tourist social life. During the winter months it teemed with northerners variously strolling, chatting, or stretched out for an afternoon siesta. Underneath towering old-growth longleaf pines was a well-manicured lawn with ample seating and crisscrossing pathways. The bond issue to pay for the park included provisions not to cut trees or erect buildings, a nod to the area’s health-giving aesthetic.  

Touring the countryside in horse and buggy was a particularly popular activity. With good roads extending in all cardinal directions, as well a fifteen-mile loop at a two-mile radius from downtown—completed in 1891—the opportunities to survey Red Hills life were ample to the curious visitor. Known as Sanford Boulevard, and later renamed Pine Tree Boulevard, the loop was especially attractive. One observer called the drives “delightful, [with] good roads leading in every direction.” This was something that “should be very distinctly emphasized, for herein lies the chief charm of Thomasville as a place of resort for tourist, pleasure and health seekers…No other resort in the entire South has such drives.”  

Another patron of the Piney Woods Hotel, A.F. Boynton of Pennsylvania, was a “most liberal patron of the livery stables,” and kept a log of his driving days. Boynton spent the winters of 1888-1893 in Thomasville, and out of a possible 329 days, excluding Sundays, he and his wife went driving 295 of those days. One local real estate agent, E.M. Mallette, reckoned there was no other “place in the South where one could drive an equal number of days during the winter; certainly not over the same smooth 

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roads, penetrating the pine forest in every direction.” Good roads, and the scenery to go along with them, were of highest importance to visitors, and their popularity suggests that the appeal of the Red Hills was in a settled character that retained much wildness. In the horse and buggy they would not have to leave behind the domestic comforts they came to appreciate about industrialization, but they could still enjoy the scenery and fresh air of the forested landscape.

These buggy rides serve as a reminder that most upper class travelers were already in the process of separating themselves from urban life back in their home regions. As concerns about urban health sent travelers in search of healthy places in the South, landscape architects in northern cities such as Andrew Jackson Downing, Frederick Law Olmsted, and Calvert Vaux were busy building naturalistic parks and bucolic suburbs, blending the domestic comforts of urbanity with the pastoral scenery of the countryside. The curving road, as opposed to the rectangular grid, was a central component to the new landscape architecture, and the carriage ride a crucial part of the suburban and park experience. In their penchant for cruising the open forests of the Red Hills, northern travelers brought a part of their northern experience to the South. These travelers were not looking for the primeval experience of those who went into the wilds of Florida; instead they wanted a relatively developed infrastructure, not unlike their own suburban enclaves, to ease their penetration of the region’s forests. The roads they traveled in the Red Hills, however, did not pass through the manicured landscapes of bucolic suburbs or urban parks, or an untended wilderness. These forests and fields were economically productive, yet ecologically diverse, places of work.

Figure 1.1: Thomasville’s perimeter road, Pinetree Boulevard, around the turn of the twentieth-century. Thomas County Historical Society.

Hunting was by far the most important activity for visitors. It gave them an opportunity to interact directly with nature, and to restore the ties they thought modern society had severed. Throughout America in the late nineteenth and early twentieth centuries, hunting acquired a revered status among recreational pursuits. Many groups undoubtedly considered it popular recreation throughout the 1800s, but after the Civil War, and especially after the American interior opened to development, middle class urbanites flocked to the woods as interested in
finding their ancestral selves as they were in finding game.\textsuperscript{70} While the booming industrial economy pushed the nation toward a modernity that retained few links to its agrarian past, there was a reactionary move to restore those ties. Supporters expressed their views in a number of ways. Some hunters adhered to the diffuse back to nature movement, others to a primitivism that shed all ties to modern life.\textsuperscript{71} Teddy Roosevelt’s admonishment to cast off an effete, overrefined society in favor of the ‘strenuous life’ also motivated many to recapture their manhood from the effeminizing ways of the city.\textsuperscript{72} Organizations like the Boone and Crockett Club, and periodicals like \textit{Forest and Stream} and \textit{The American Sportsman}, cropped up to define the ethical and moral standards that distanced this new class of sportsman from the less savory traditions of pot and market hunting. In doing so, elite hunters joined with a growing American conservation movement that alerted the nation’s public to a dwindling supply of natural resources. But, as historian Thomas Dunlap has argued, the root of the sportsman conservation effort was as much about a threat to American hierarchies in an industrializing world as it was a threat to nature itself.\textsuperscript{73} The growing influence of new immigrant groups, the sustained dissent of racial minorities and women, and the increased regulatory reform of Progressive era legislation signaled a new threat, and, as several historians have argued, sportsmen groups and landowners


\textsuperscript{72} Bederman, \textit{Manliness and Civilization}, 170-215.

began lobbying state and federal governments to tighten control over the nation’s fields and forests.\textsuperscript{74}

Travelers to the Red Hills were no doubt troubled by these trends, and what they found by way of Southern society may have helped to bolster their spirits. As timber and mining interests were discovering in other areas, the South’s land was cheap, its resources abundant, and its people at turns both accommodating and powerless, thus making exploitation of any kind a relatively smooth venture. Instead of resource extraction, though, visitors to the Red Hills looked to secure sanctuary from the forces of modern life. In doing so, these creators of modern American capitalism, commercialism, and consumerism—the forces then transforming so much of the countryside—also preserved some of the last remaining longleaf pine-grassland forests in the Southeast. But more than a passive act of preservation for nature’s sake, the sportsmen’s concern for their natural surroundings, and their apprehension over fluid social hierarchies, materialized on the ground in the form of a desired aesthetic—an aesthetic based on pre-industrial natural and cultural conditions. Small-scale peasant agriculture, mixed with the towering canopies of open forests, produced the scenery in which to pursue a civilized, artful hunt. They had little understanding of ecological processes—or that their aesthetic tastes would soon lead to a greater understanding of those processes—but they did know that their preferred game animal—the bobwhite quail—thrived in the agrarian forests of the Red Hills.

The bobwhite quail had a particularly lofty status in the game animal hierarchy of the late 1800s. Known variously as partridge, bobwhite, \textit{colinus virginianus}, or quail, they are ground-dwelling birds that only take to the wing for short distances when flushed. During the spring and

summer months they split into pairs to mate and tend nests, and they then reconvene in the fall to form coveys of five to thirty individuals. Although slaves, yeomen, and planters commonly hunted and trapped quail before the Civil War, the modern form of quail hunting—using dogs to locate and flush the coveys—followed the widespread availability of breech loading, hammerless shotguns and the proliferation of new dog breeds in the 1870s and 1880s. Though the range of the bobwhite quail spreads throughout the eastern United States, only in the South did it become a source of regional identity. The planter class, in particular, embraced quail as a symbol of perseverance in changing times. Quail adapted to the environmental upheaval of Civil War, Reconstruction, and the transition to tenantry, not only surviving but thriving. Southern planters considered such survival during hard times as a suitable nature metaphor for their own social, political, and economic purgatory.

Although southerners gave bobwhite quail anthropogenic traits, and felt strongly about their identities as a distinctly southern bird, it was the northern visitors to the Red Hills who first borrowed from the ritualized hunting traditions of English nobility, thus turning the quail hunt into the most distinguished of field sports. And the environs of the postbellum Red Hills were ideal for both quail and quail hunting. As a species that thrives on early successional habitat—plant communities that re-colonize land after ecological disturbance—quail proliferated in the postbellum Red Hills. Three distinct habitats were of particular import for quail: field edges, old fields, and open longleaf-grassland forests. By the 1880s, as planters and laborers together forged the tenant system, dividing up expansive fields into smaller plots, field edges became far more abundant. In Leon County, for instance, the number of farms jumped from 319 in 1860 to

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75 Marks, *Southern Hunting in Black and White*, 171; and Brueckheimer, “Leon County Hunting Plantations,” 86.
76 There is a strong southern literary tradition that makes this connection. See Marks, *Southern Hunting in Black and White*, 42, 170-173; Haveliah Babcock, *My Health is Better in November: Thirty Five Stories of Hunting and Fishing in the South* (Columbia: University of South Carolina Press, 1947).
1,789 in 1880, and 2,428 in 1900. In Thomas County, there was a similar leap: 299 in 1860, 1,588 in 1880, and 3,183 in 1900. Such disparate figures can be misleading—they reflect the new census taking methodology of counting individual tenant farmers instead of just the farm owner—but they do signal decentralization, and the corresponding increase in edge effects also created an environmental change that benefited quail and other wildlife.

The amount of old field acreage also increased in the years after the Civil War. A mixture of fluctuating cotton prices, an unstable labor supply, and soil erosion and the corresponding decrease in soil fertility gave many planters little choice but to withdraw land from cultivation at particular moments. The 1880 census reported 17,204 acres of old field land in Leon County, and 20,833 acres in Thomas County. Moreover, in the same year the Florida Geological Survey estimated that only half of the Red Hills region was in cultivation, the rest being in either forest or old field land. After many years of cultivation, an abandoned field converts in the first ten to fifteen years to successional grasses like broom sedge, bull grass, and Florida beggarweed, depending on the available seed stock, all of which provides prime food or cover for quail. Quail, though, despite being known as a farm bird, did not confine themselves to field edges and old fields. The longleaf pine-grassland forests, as maintained in the Red Hills, also provided prime habitat. The yearly burning of the forests kept the understory low and free of any mid-story plants that would choke out the bird food supply, thus mimicking the early successional stages of edges and old fields.

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80 See Chapter Five for a deeper discussion of the ecology of the tenant landscape, and what it meant for longleaf conservation in the Red Hills.
Early northern visitors hunted quail in much the same fashion as white and black southerners. With guidance from locals, they would simply take gun and dog to the nearest fields or forest and begin the hunt. In the early years, landowners saw little incentive to charge for hunting rights and the traditional informality of property boundaries persisted. Visitors easily gained permission to hunt, or more often, did not have to ask. Writer and sportsman Charles Hallock found Leon County to be especially rich for the hunter:

To the sportsman, the prospect is admirable. In every direction, for miles from the town, are wide fields, which swarm with quail. A fair day's shooting—allowing the sportsman to take his breakfast at a reasonable hour, and start leisurely, returning for supper at dark—for a good shot, and with a good dog, is not less than from sixty to one hundred and forty birds. The coveys are all large, and often two or more are found in one field...There is abundance of accommodation in the city, and the young gentlemen take pleasure in giving the sportsman all necessary information and assistance.81

By the 1880s, locals could expect during the winter months to see northern tourists knocking about both town and countryside with gun in hand. Dr. John T. Metcalf had full access to Thomasville and surroundings, and seemed perfectly at home: “within sight of my bedroom window I have made a bag of ten quail and eleven snipe. One can do it now, if permission be given by his honor the mayor, my great friend and crony, who lets me shoot anywhere within the city limits.”82 The casual hunting atmosphere that Metcalf described would not last. Within a few short years, northern quail hunters developed elaborate, ritualized performances to distinguish themselves from local hunters.

The movement of hunters from field edge to open forest was central to the quail hunting experience in the Red Hills. To facilitate movement, northerners modified the road-ready horse and carriage to ride more fluidly over the rough ground of the woods. The openness of the

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longleaf forests already suggested a certain ease of passage, so instead of following dogs from covey to covey entirely on foot, they developed a hunt based out of the horse (or sometimes mule) and carriage, eventually arriving at a design in the 1880s since known as the Thomasville hunting wagon. As one participant remembered, the hunting wagons’ “chief characteristic was their rugged simplicity; strongly but lightly built of stout wood with four large, wooden, iron-rimmed wheels, high clearance…Each carried two leather-covered seats, stiff and not too luxurious, and a dog crate of wire in the rear.”\(^8\) Hunters, usually driven by African-American drivers and followed by dog handlers on horseback, rode to their hunting grounds on main roads, then veered off into the fields and forest to begin the hunt. Another observer remembered that

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upon reaching the hunting grounds, the dog handlers would release the dogs—either pointers or setters—and “the shooters ride in these comfortable wagons following in a very leisurely manner through the open pine woods and fields after the dogs and the workers on horseback. When a covey is pointed, those whose turn it is to shoot get out and approach for the shot.”

Hunters alternated in twos throughout the morning, until servants brought out a lavish picnic lunch, and the hunt continued in the afternoon until they covered a previously set amount of ground. By the 1890s, Thomasville became known as the home of this highly stylized, and fashionable, quail hunt. Like the conspicuous leisurely drive, the pageantry of the Thomasville hunt made clear it was a leisure activity of the upper classes.

Local landowners quickly seized on the northerners’ enthusiasm for quail. By the turn of the century the leasing of hunting rights added to the coffers of landowners large and small, and it was often a precursor to title exchange as well. The acquaintance of John Metcalf’s “friend and crony,” mayor H.W. Hopkins, was not yet required for those visitors who wished to hunt quail, but it was fast becoming beneficial indeed. Hopkins almost invariably acted as mediator between landowners and sportsmen. From the 1880s until the late 1920s, roughly speaking, no one possessed more control over the Red Hills countryside than Hopkins. Known as “Willie” to kith and kin, and “Judge” to the rest, Hopkins filled many roles in Thomasville: mayor, judge, state legislator, lawyer, sportsman, ombudsman, and, perhaps most importantly, real estate agent. Toward the end of his career he was able to boast that he had “located nearly every Sportsman owning preserves in this neighborhood.”

The nephew of Dr. Thomas Hopkins, he came from a strong Thomasville family lineage, and early on recognized the transformative possibilities in the flow of northern capital to the Red Hills. In his various roles, he knew which landowners were

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84 Herbert Stoddard Field Diaries, February 11, 1924, HLS Papers, TTRS.
85 Undated Advertisement, File 10, Elizabeth Hopkins Collection, Thomasville Genealogical, History, and Fine Arts Library, Thomasville, Georgia.
ready to sell, which northern visitors were eager to buy, and often speculated in cheap
agricultural land before selling to northerners. In the process he gained a great deal of wealth
and influence, and maintained a vigilant eye over the comings and goings of the Red Hills.\textsuperscript{86}

![Quail hunt in open longleaf pine forest. H.W. Hopkins is on the right. Thomas County Historical Society.](image)

Figure 1.3: Quail hunt in open longleaf pine forest. H.W. Hopkins is on the right. Thomas County Historical Society.

Once landowners recognized the interest in quail as a money-making opportunity, there
were three primary ways for northerners to gain access to quail land. For the less serious
sportsman, 1) most resort hotels leased land and provided guide services. As late as 1914,
Tallahassee’s Leon Hotel continued to lease 13,000 acres for any guests wanting to hunt quail.

\textsuperscript{86} For background on Hopkins see his “Historical Sketch of Sherwood Plantation, From the Red Man 1814 to 1934,” in file “Sherwood Plantation, Abstract of Title;” and “Our Vanishing Wildlife, With Notes on the Past and Present,” in the Elizabeth Hopkins Collection, TGH&FAL.
And both the Piney Woods and Mitchell House leased land for many years. A more exclusive group of northerners—those who returned year after year—began to assert far more influence on the area’s landed resources than the hotels and their one-time guests ever could; and they commenced to 2) lease land for the season as individuals or in partnership. Or as was increasingly the case, they 3) purchased land outright.

The major push to buy and sell land was concomitant with Thomasville’s decline as a major resort. By 1900, the many visitors of previous years began to bypass the uplands of the Red Hills for Florida’s booming coastal resorts. Henry Flagler’s Palm Beach and Henry Plant’s Tampa Bay were in particular demand, but the infrastructure they built also led the way for a spate of smaller resorts up and down both the Atlantic and Gulf coasts. The Red Hills no longer welcomed a large number of visitors, but in the minds of many, quality spoke more loudly. One visitor from Savannah observed that “The crowd goes to the east coast of Florida…But while the rabble may have gone after new sights and sensations, the best element…has anchored in Thomasville and built beautiful winter quarters.” Writers of the promotional literature seized on the theme of genteel exclusivity to differentiate Thomasville from the coast. One pamphlet proclaimed, “Thomasville’s first appeal is to the wealthy man who desires to winter in the South’s congenial climate yet would be away from the ostentatious hilarity of the fashionable set that feels it incumbent upon itself to grace the sands of the seaside.

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87 On the Leon Hotel, see Henry Beadel Diaries, January 1, 1914, Tall Timbers Research Station. On Thomasville hotels leasing land see hotel pamphlets in Moore Collection, TCHS.
89 Thomasville Weekly Times-Enterprise, quoted from Savannah Press, May 12, 1905.
resorts further south. Thomasville is quite as fashionable, but in a more sedate manner. “In its
decline as a tourist town, Thomasville repositioned itself as an enclave of taste and grace.

While other tourist areas became more commercialized, and new middle-class consumers
increasingly looked to fulfill their wanderlust, industry barons like Mark and Mel Hanna, John
D. Archbold, and Oliver Hazard Payne sought to cordon themselves off from the “ostentatious
hilarity.” With the help of locals like H.W. Hopkins, they did so in the Red Hills by purchasing
struggling farms and plantations, and piecing them together into their own private sanctuaries,
causing a demographic shift in landownership that had lasting effects on the Red Hills
environment and populace. For some locals in the right position, the shift meant increased
wealth and influence; for small landowners, it meant selling out and moving either to town or
another part of the countryside; for non-landowning tenants, it meant different bosses in the same
system; and for the new landowners themselves, the creation of these sanctuaries meant the
preservation of an upper-class aesthetic thought to be lost in a quickly commercializing world.

On its surface, the sale of a plantation to a northerner constituted the removal of that
piece of land from economic production. Buyers such as John Archbold had no desire to become
cotton planters. A closer look, however, reveals that along with the land came labor, and new
owners were not inclined to remove tenants from the land. In fact, the presence of a labor force,
as a potential source of income, was attractive to prospective buyers. Tenant contracts carried
over when landowners took control, and in many cases they allowed for the transaction to occur.
There were many variations on the tenant contract, but the most common gave tenants rights to a
forty-acre “one-horse farm” in exchange for 500 pounds of cotton. This was an appealing selling
point that H.W. Hopkins used repeatedly. In 1910, Hopkins informed Sydney E. Hutchinson, a

90 “Thomasville, Georgia,” (Thomasville Tourist Association, undated), Moore Collection, Box 3, TCHS.
91 On the transformation of American tourism in general, see John Sears, Sacred Places: American Tourist
Philadelphia industrialist and financier, of a 1340-acre parcel of land as a good “investment on account of the interest it would be made to pay…[I] am enclosing the statement of rents for 1910. You will see that the property is paying over 7% net.”

Opting for a 7 percent annual return on investment was not the worst financial decision a businessman could make, but with the amount of return tied to the price of cotton, neither was it the most stable. By the mid-1910s cotton prices fluctuated wildly due to overproduction and unstable markets in war-time Europe. Returns on investment fluctuated accordingly. Hopkins, though, had cause for optimism in discussing a potential sale to E.B. Eppes: “The rent role of the Diamond Plantation amounts to 21,665 pounds of cotton, which at ten cents would amount to about three percent interest on a price of twenty dollars per acre, but I think the rents could easily be increased, as the late Mr. Diamond was very easy on his tenants and let them off much lighter on their rents than the average plantation owner. In this way many of the renters cultivate more land than they are strictly entitled to, and could be made to pay a larger rent by careful management.”

As cotton prices remained low throughout the 1910s and 20s, many quail plantation owners heeded Hopkins’s advice to tighten control of rents and production. At the same time, though, it became increasingly clear that a quail plantation was anything but a lucrative enterprise.

When the first northerners began buying land in the Red Hills, land prices were directly tied to commodity prices, but that changed as more visitors became interested in establishing retreats in the Red Hills. By 1920, Hopkins no longer classified the Red Hills as agricultural land, even though a great deal of tenant agriculture remained. As he explained it to Chicagoan

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92 H.W. Hopkins to S.E. Hutchinson, undated, H.W. Hopkins Collection, Box “Real Estate: Sale of,” Folder “Charles Thorne,” TCHS.
Charles H. Thorne, “Cotton at 40 cents and corn at $2.00 per bushel was the prime cause” of the early century increase in land prices. “Recently,” he continued, “cotton has dropped below 20 and local corn is sold from wagons on our streets at 75 and 80 cents per bushel. Owing to these conditions and the banks having all tightened up on loans, the real estate is at a standstill in farm land business and my lists are crowded with property with very few purchasers. This is the condition that applies generally to agricultural lands.” On first glance, this was bad news for Thorne, who bought his 3,828 acres in Leon County for $44,477 and wished to sell for a profit. But Hopkins reassured him that there was a large and flourishing market for quail land quite separate and distinct from the market for agricultural land. The decline in agricultural land, Hopkins wrote, “does not necessarily apply to your property, and I would not think of offering it as farm land. In my opinion, it is one of the most desirable holdings for sportsman able to own it that there is in the State of Florida…I would say that a price for the land of around $75,000 would be about right.” Hopkins obviously did not have a buyer from the South in mind. This new market in quail land was relatively immune to the economic fluctuations of the southern economy, and while the high commodity prices early in the century were welcome perquisites, the lows did little to curtail northern buying.

In fact, low cotton prices spurred a proliferation of northern-owned quail preserves. As Hopkins’s comments to Thorne indicate, there was no shortage of available property; the trick was to piece small farms together to create tracts of land large enough to satisfy northern tastes. Quail preserves were to be estates, with all the advantages of exclusivity and privacy that a large spread of land affords. The buying typically began with the purchase of a larger plantation. For example, when local planter John Linton left five heirs to settle his estate, Cleveland

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businessman Jeptha H. Wade stepped in to buy the Linton plantation, thus creating a base from which to begin what the Thomasville *Weekly Times Enterprise* called his “campaign of prospecting.” Editor S.R. Blanton reported that Wade’s “land owning appetite, once aroused within him was not easily put aside, and with more than three thousand acres of land already credited to him, Mr. Wade still purchases.” Blanton continued, “The way this land owning appetite gnaws at the wealthy northerner is peculiar. It is finding illustration around Thomasville nearly every week. They never get quite enough.” Indeed, Wade’s buying spree was not unique. In years of low commodity prices, it made little economic sense for local landowners to reject inflated offers from northerners in search of quail land.

In one respect, the nature of these purchases created its own demand. As men like Wade expanded their holdings, the amount of land available for lease dwindled, causing lease disputes between northerners and even more inflated offers to buy. Of the heavily forested land in southern Thomas and Grady Counties, Lewis Thompson—a Standard Oil heir—thought in 1916 that it would not “be a great while before we will not be able to lease lands for shooting.” Until that point, the leasing of locally-owned land in that area was largely controlled by Thompson and his like-minded neighbors—Archbold, Charles Chapin, and Thomas Chubb—and facilitated by Hopkins. These neighbors, though, had been in the Red Hills for about twenty years by this point and worked out standing relationships with local landowners, as well as with each other, regarding who purchased leases on particular properties.

When new northerners entered the picture they sometimes upset the equilibrium of “the neighborhood.” Sydney Hutchinson, for example, began purchasing a few small tracts in Grady and Leon Counties in 1910, and eventually amassed over 20,000 acres to form Iamonia

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96 *Thomasville Weekly Times-Enterprise and South Georgia Progress*, April 21, 1905.
97 L.S. Thompson to H.W. Hopkins, April 1, 1916, Hopkins Collection, Box “Real Estate: Plantation,” Folder “Sherwood Plantation,” TCHS.
In the process of expanding his holdings, Hutchinson and his partner, Gerald Livingston, also secured hunting leases on more land—land that was previously leased by Thompson. The going rate—more accurately called the fixed rate—for leased land was five cents per acre, but rumors abounded that Hutchinson and Livingston offered up to ten cents, thus causing locals to cancel their arrangements with Thompson and others. Initially, Thompson reflected that Hutchinson did not seem like “that particular kind of S.O.B.,” but Hopkins was less sanguine. He called Hutchinson’s actions a “cowardly stab in the back,” and informed him they “had never had any trouble of this kind until your appearance upon the scene.” After much bickering and misunderstanding, Hutchinson ostensibly worked out his differences with Hopkins and Thompson, but only two years later, in 1914, Thompson retaliated. According to Hutchinson, he “took another dig at me by buying another place over which I had shot for years.” The competition to lease land led sportsmen like Thompson to bypass the lease process altogether. Some local landowners suddenly began fielding offers of twenty to thirty dollars per acre or more, leaving them little choice but to sell out. As northerners began purchasing previously leased land outright, they secured control over an expanding portion of the Red Hills countryside.

In the first two decades of the twentieth century, land titles transferred from residents to non-residents at a rate no one could have predicted. Gradually, the quail plantations multiplied and expanded, eventually merging to form what was practically a singular unit. In 1919 alone,
Lewis Thompson purchased 44 different tracts of land ranging from 7 to 680 acres to expand his Sunny Hill Plantation in Leon County, which eventually encompassed about 20,000 acres. Thompson became one of the more influential preserve owners, but his name is only one among a long and illustrious list: John D. Archbold, one of the original Standard Oil trustees, amassed over 10,000 acres to form Chinquapin Plantation; Cleveland’s Hanna family pieced together acreage running into the tens of thousands to form Elsoma, Melrose, Pebble Hill, and Inwood estates; Philadelphia industrialist Clement A. Griscom bought over 10,000 Leon County acres to create Horseshoe Plantation; New York banker and bakery heir, Udo Fleischmann, cobbled together 16,000 acres in Leon County for Welaunee Plantation; New Jersey Senator Walter E. Edge and another Standard Oil scion, Walter C. Teagle, eventually purchased more than 18,000 Jefferson County acres and named it the Norias Club. This is only a partial list. Far from a mindless buying spree, the intent was to insure the utmost privacy.

Shoring one’s borders with those of another quail plantation meant a solidarity of purpose: the de facto enclosure of the open range. No longer could neighbors cross ownership boundaries without a thought; there were few landowning neighbors left. Of this enclosure, Hopkins wrote to one potential buyer, “You will note from the map that the tracts of land I mention are surrounded by other large game preserves. This ensures protection from poachers, as all of these parties are wealthy and influential, and combine their efforts to prevent poachers from interfering with their rights and privileges. This gives quite an advantage, as compared

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102 From deed copies in Hopkins Collection, Box “Real Estate: Plantation,” Folder “H.E. Thompson,” TCHS; also see Paisley, From Cotton to Quail, 83.
103 There has been much detail written on the creation of these preserves and the personalities involved. See Paisley, From Cotton to Quail; William Warren Rogers, Pebble Hill, The Story of a Plantation (Tallahassee: Sentry Press, 1979); Rogers, Foshalee: Quail Country Plantation, With an Overview of Leon County, Florida, and Thomas County, Georgia (Tallahassee: Sentry Press, 1989); William R. Brueckheimer, Leon County Hunting Plantations: An Historical and Architectural Survey (Tallahassee: The Historic Tallahassee Preservation Board, 1988).
with a community where sentiment in favor of poaching prevails.”

Hopkins’ implication was that local landowners would feel free to cross property lines as they had in the past, and the easiest way to close the open range was to have like-minded neighbors who respected rigid ownership boundaries. What was once a community right to access was now poaching, and unimproved land in the Red Hills gradually fell under the individual’s right of enclosure.

Enclosure of the range was not the exclusive province of northern quail hunters, of course. Southern planters were also engaged in the effort. The right of landowners to control access to unimproved land was a relatively new phenomenon in the South; until the Civil War, they were much more concerned about their right to control slave property. The southern range was open, allowing small herdsmen and farmers to graze livestock, hunt, and fish on any unimproved land. As their source of wealth transferred to land, large planters pushed to close off the range through fence and stock laws, as well as strict enforcement of trespass laws. When northern quail hunters entered the picture, though, this transformation was hardly complete.

Some laws restricting hunting were on the books—Thomas County passed a law in 1876 making it “unlawful for any person…to shoot, snare, trap, or kill in any manner, any wild turkeys or partridges” during the mating and nesting seasons, between March 1 and October 15. But during the hunting season, residents of both town and country continued to visit old hunting grounds, and when northerners began leasing and buying land, predictable confrontations

105 See Gavin Wright, Old South, New South, 49.
107 Acts and Resolutions of the General Assembly of the State of Georgia, 1876, 334-335. Steven Hahn makes a compelling, but not entirely convincing, argument that the curtailment of hunting during the spring and summer months had as much to do with getting labor in the fields as it did with the protection of game animals. On the quail plantations there is little evidence that the motives for enclosure extended beyond a concern for quail—a possessive concern, but a concern nonetheless.
ensued. Some northerners were nonplused by the South’s custom of the open range. Ned Crozer, who held a lease in Leon County, complained that “it looks to me the way things stand now as if any one could shoot on our lands;” he was “almost willing to do anything to protect myself against trespassers, as most of them would be only too glad to get a chance to bush the quail in our country.”\(^{108}\) Crozer’s concern is less one of wildlife conservation than one of possession. Quail, unlike most other game animals, occupy a small range and spend most of their life within a quarter mile from where they are born. Crozer’s mind worked more like that of a British landowner, whose rights of land ownership included control of all that was on it; and since quail were not likely to leave his land, he held possession over them. To Crozer, it was only logical that quail on his land belonged to him, and that his neighbors had no right to encroach on his property, fixed or movable.\(^{109}\)

Quail preserve owners, like local planters, occasionally looked to the law to resolve their problems, but successful enclosure came more often by simply continuing to buy land, thus dispensing of neighbors and reorienting local custom. The open range was, after all, borne of tradition and custom, and could be repealed in the same way. To paraphrase Marc Bloch on enclosure in the French context, the violation of custom itself became a tradition.\(^{110}\) The legal right to post land under fee simple ownership was always present for landowners, but because of long decided upon community custom, it was very difficult for southern planters to keep others

\(^{108}\) First quotation from Ned Crozer to H.W. Hopkins, June 15, 1912; second from Ned Crozer to H.W. Hopkins, July 26, 1912, Hopkins Collection, Box “Letters of Judge Hopkins,” Folder “Plantations, Not Typed,” TCHS.


off their land.111 Once northerners possessed so much land, they erected fences around property boundaries, posted land, and dealt with violators on an individual basis. Before Udo Fleishmann began buying land, he leased from no fewer than ten landowners in 1910, and announced in the Tallahassee Weekly True Democrat that these “lands are posted and all persons are warned not to hunt on said lands as they will be prosecuted to the extent of the law.”112 The law did not extend much further than a small fine, but Fleischmann’s shot across the bow served notice that local custom was quickly shifting.

Even when preserve owners posted their land under fee simple rights, monitoring and enforcement proved difficult, especially when few authorized hunters were in the woods during the out of season months. There was little public protest about the loss of hunting rights in the Red Hills, but many did resort to subterfuge. Those areas on the edges of the Red Hills seemed especially vulnerable to poachers slipping in and out of the heavily wooded areas without detection. Landowners instructed overseers and tenants to keep a close eye out for any suspicious looking characters. Hopkins monitored many estates when preserve owners were not in residence, and contracted local informants to report any possible poaching. When one unknown informant reported that poaching was “getting to be general again” on parts of Susina Plantation during the spring and summer of 1912, Hopkins responded by hiring a full time game warden to patrol the land and turn in poachers to law enforcement for hunting out of season.113 The owner of Mistletoe plantation remembered being “worried all the time by poachers.” Despite building “5026 miles of fence around the place” between 1914 and 1918, “Cairo men

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112 Tallahassee Weekly True Democrat, November 25, 1910.
113 Unknown Sender to Hopkins, June 12, 1912, Box “Read Estate: Plantation,” Folder “Mason’s Susina,” Hopkins Collection, TCHS; on hiring game wardens, see “Statement of Rents from Susina,” Ibid.
came down in the middle of the night and camped to be ready to shoot at light.”

Indeed, “Cairo men” seemed to act as a synonym for “poacher.” The seat of the newly formed Grady County, the town of Cairo was situated in an extensively farmed section east of the Ochlocknee River where deer hunting was notoriously poor. Many of its residents became so adept at easing across the river into the heavily wooded section to the east that most preserve owners did not want the publicly accessible stream as their boundary. In shoring up his borders, John Archbold figured “there is something like 275 acres lying North and West of the river that I don’t own,” and inquired of Hopkins, “Do you suppose it would be possible for me to buy the balance of this land now at a reasonable figure? I would be glad to do so as I don’t like the river as a boundary.” “Cairo men” continued to spill into the Red Hills, however. Years later, Herbert Stoddard complained to Aldo Leopold about poachers on his Grady County property, saying “our poaching situation is very bad all the way around…Certain bad actors are shooting deer day and night.”

Though there were few public protests about the loss of hunting rights, many farmers did lament non-residential ownership of good agricultural land. Public calls to curtail the northern purchase of land occasionally appeared in the Tallahassee newspapers. The Weekly True Democrat editorialized in 1914 that the large preserves prevent “the prosperity we are so anxious to see. Small farms are the true source of dependence, and the policy that prevents an increase of population is wrong and damaging.”

116 John D. Archbold to H.W. Hopkins, June 24, 1924, Box “Early Real Estate,” Folder “(Magnolia) Springwood #2,” Hopkins Collection, TCHS.
117 Herbert Stoddard to Aldo Leopold, August 6, 1933, Aldo Leopold Papers, Series 9/25/10-1, Box 3—Stoddard Correspondence, University of Wisconsin, Madison Archives.
118 Tallahassee Weekly True Democrat, July 3, 1914.
Leon County by way of Iowa, in 1913 could not “see that farming conditions are any better than they were when I moved here” seventeen years earlier. He reserved his true ire for Tallahassee’s merchants who buy “everything we grow way below market prices,” and added “what business has any white farmer with one grain of sense left to remain in this sickly malaria country?” This was, indeed, a far cry from the flowery prose northern visitors had penned about the area just a few years earlier. Herold concluded sardonically, “I think we all had better turn it over to the colored race, or else sell it to northern sportsmen, so they can post it, build high fences around it and raise snakes and birds.”¹¹⁹ Farmers like Herold found no utility in birds and snakes; they were out to make a living from the land, not cordon it off as a landscape of leisure.

This departure between what local farmers and preserve owners expected from the land was real, but such public opposition also reveals a great deal of white apprehension over black tenants having access to so much land. In many ways Herold’s conclusion reflected reality: local whites had, in fact, sold to northern sportsmen, and at the same time turned the land over to African-American tenants. The problem from the local white perspective was that tenants continued renting land and farming cotton with northerners and not local planters. Many local whites felt the trend toward northern ownership a colossal waste of prime resources. Another 1920 editorial in the Tallahassee Daily Democrat, proclaimed “Untilled Lands a Leach,” and recommended “summary action against the individuals or corporation who buys up large tracts of rich farm lands and refuses to cultivate them or sell them to people who will.”¹²⁰ Such critiques usually neglected to mention that a great many people were still turning the soil and making a living on the quail preserves.

Despite the protestations, northerners continued to expand, closing off the range to outsiders as they grew. For insiders, however, the preserves became a type of private commons. Those tenants who remained on the quail preserves and knew the land best generally had free range to hunt (sometimes even quail), fish, and, in the early years, graze livestock throughout the preserve environment. There were limitations, especially as preserve management became more regimented in the 1920s and 30s (as we will see in Chapter 5), but both African-American and white tenants and employees continued to use the land much as they had for many years previously. Legally, the common fixed-rate rent—as opposed to farming on shares—gave tenants temporary possession of their parcel, and, moreover, there is little to indicate a reduction in traditional access to former common areas.\footnote{121} Henry Beadel, owner of Tall Timbers Plantation, continually remarked with little apparent surprise or judgment in his diary of tenants in “a blind or boat shooting at everything that came along,” or of their roaming “droves of pigs” interrupting a quail hunt.\footnote{122} The overwhelming number of tenants who remained on the preserves after exchange of title is evidence enough of their access. Henry Vickers, a tenant born on Tall Timbers, estimated that at least 200 people lived on the 2,500 acre property in the early 1900s.\footnote{123} At least 39 tenants worked on James Mason’s Susina Plantation in 1909, not to mention their families.\footnote{124} And about 400 people lived on Horseshoe Plantation as late as 1930.\footnote{125} As we will see in later chapters, tenant populations dwindled through the twentieth century—as they did in all of the South’s plantation regions—but until the 1920s, and longer in

\footnote{121} On the legal distinction between tenant and sharecropper, see Range, \textit{A Century of Georgia Agriculture}, 85.  
\footnote{122} Beadel Diaries, January 26 and January 30, 1914, TTRS.  
\footnote{124} Hopkins Collection, Rent List, Box “Real Estate,” Folder “Mason/Archbold,” TCHS.  
\footnote{125} Paisley, \textit{From Cotton to Quail}, 104-105.
many cases, tenants and their families continued to use the preserve environments as a type of private commons on which they scratched out a living.

For many northerners, the decision to keep tenants on the land was as much about aesthetic meaning and power as it was economics. Rents could supplement the cost of running a preserve—and sometimes provide a profit for landowners—and tenants sometimes fulfilled the role of sentries on the lookout for poachers; but equally important to landowners was maintaining the social relations found embedded in what appeared to be a picturesque non-industrial landscape. One of the early selling points by health trade boosters was the “quaintness” of the Red Hills’ laboring class. Photographs of lounging African-American children with captions like “Who Cares?” appeared in numerous tourist pamphlets, as did scenes of adult tenants and their oxcarts captioned with “Country Come to Town.” One northerner observed that some “natives can move wonderfully slow, if the eye of the boss is not turned their way,” and another considered “the negroes…a source of infinite amusement.” After spending six years in the region, and coming to know the preserve owners well, Herbert Stoddard noted in 1931 that many preserve owners had “a well-founded affection for these people, with their quaint speech and many sterling qualities.” To the urbanite fleeing the hustle of the city, such scenes conveyed the social dynamics and hierarchies that were long part of the Old South myth—“natural” images of docile black laborers and genteel white landlords. These northern captains of industry adopted a sense of themselves as paternal caretakers not unlike the Southern planters of old, and seeing African-Americans as picturesque—suspending them into the desired

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126 See pamphlet “Among the Pines: An Ideal Winter Resort, Piney Woods Hotel,” in Moore Collection, TCHS.
128 Stoddard, The Bobwhite Quail, 366.
aesthetic—successfully obscured the South’s oppressive labor system. Moreover, in naturalizing black laborers as part of the landscape, in buying up the countryside and growing their estates to previously unseen proportions, and in having little preoccupation with balancing the plantation books, northerners in the Red Hills actually accomplished more toward reaching an Old South ideal than southerners ever had. They were after an aesthetic of pre-industrial production, and this one had a distinctly southern cast.

Many new owners went about constructing picturesque spaces quite intentionally, which in some cases meant refining the very environments they found so attractive in the first place. Upon purchasing an estate, most owners constructed lavish homes—or renovated older plantation houses—and installed elaborate ornamental gardens. They also gave a great deal of design attention to their land beyond the house grounds. Jeptha Wade, for example, hired the renowned landscape architect Warren H. Manning—a protégé of Frederick Law Olmsted—to design the house grounds at Mill Pond Plantation. Beyond the grounds, Manning and his team were especially impressed with how Wade’s longleaf-grassland forests meshed so well with their own aesthetic ideas. Manning’s landscape architecture stressed the “wild garden,” wherein “the Landscaper recognizes, first, the beauty of existing conditions and develops this beauty to the minutest detail…instead of by destroying all natural ground cover vegetation or modifying the contour, character, and water context of existing soil.”

129 For more on the northern tendency to “view African Americans as simply another feature of the landscape,” see Silber, The Romance of Reunion, 78-82. There is a large scholarship on the picturesque and its tendency to obscure social and economic inequalities through “naturalization.” For starters, see Raymond Williams, The Country and the City (New York: Oxford University Press, 1973); Ann Bermingham, Landscape and Ideology: The English Rustic Tradition, 1740-1860 (Berkeley: University of California Press, 1986).

130 For more on the adoption of the Old South myth by northerners, see Cobb, Away Down South: A History of Southern Identity (New York: Oxford University Press, 2005), 67-78.

design as invisible as possible in his landscapes, and on Wade’s property he was especially pleased with “the richness of the native flora…in which the number of evergreen species that will count most effectively in [the] winter landscape is large.” Such richness helped him to achieve “the coveted evergreen effect in winter without artificial planting.” The forest itself already reflected Manning’s desired aesthetic. Open, with plenty of sunlight and interesting views, it was park-like, the perfect “wild garden.” Manning advised that the longleaf forest was “to be let alone at present.”132

But Manning and the preserve owners did not realize that to “let alone” the longleaf pine-grassland forest was to change its very nature. Its complex ecology, as well as its aesthetic, developed in concert with human work. This natural landscape and its most appreciated inhabitant, the bobwhite quail, could not sustain their desired conditions without many of the cultural traditions of southern rural life, or at least a conscious impersonation of them. As the Red Hills quail preserves matured into a more stable entity in the early 1920s, the aesthetic remained on most estates, but the bobwhite quail had already reached its peak population. Preserve owners began noticing a decline in quail numbers in the late 1910s and early 1920s, and had little idea of the cause. The most frequently cited cause by those with the virtue of hindsight has been the exclusion of fire in compliance with federal and state campaigns that preached its evils, but only on a few preserves like Jeptha Wade’s did landowners and tenants actually stop burning.133 On the contrary, there is abundant documentation that fire continued to be common in the Red Hills even during the most intense anti-fire campaigns. The cause of the quail decline

133 I will detail the political economy of southern burning in chapter 3. Even Herbert Stoddard, whose field notes provide the most compelling evidence that fire was still common in the early 1920s, would write late in life that fire exclusion was the cause of the quail decline. See Stoddard, Memoirs of a Naturalist (Norman: University of Oklahoma Press, 1969), 194.; also see E.V. Komarek, A Quest for Ecological Understanding (Tallahassee: Tall Timbers Research Station, 1977), 18.
was more likely a combination of altered agricultural practices, hunting pressure, and natural fluctuations in quail breeding cycles and predator-prey ratios. But again, there is little evidence to suggest agricultural practices changed that much until the 1930s, and an attempt to gauge cycles and ratios would be fruitless in this study. So on the basis of historical evidence it is difficult to say for certain why the quail population declined—nor is it really necessary to the larger story. The preserve owners’ reaction to the decline, however, is significant. They turned toward the U.S. Bureau of Biological Survey, who would send Herbert Stoddard, a field agent who had an immeasurable impact on conservation and ecological understanding, not only in the Red Hills but also in the region and nation. Herbert Stoddard’s move to the Red Hills would make the quail preserves much more than a landscape on which to create an aesthetic. They would become an experimental laboratory, a breeding ground for the new profession of wildlife management, and a central source of dissent to the growing influence of modern agricultural and forestry interests in the South.

By the 1920s the Red Hills was set to develop and profit from a new identity. No longer was it a place of the failed southern plantation, trying to hang on to the Old South. It was now known as the domain of the most wealthy, refined class in America. What began with Gilded Age and Progressive-era concerns over health resulted in American nobility taking over this particular corner of the southern countryside. But beneath the veneer of the tasteful, northern-owned quail preserve lay the same structures of power that propped up southern-owned plantations. Sharecropping and tenantry continued relatively unchanged, but there were some very important differences in perspective between the old southern guard and the new northern owner. The latter came to the woods to escape the processes of production. The factory was
easily left behind, but the production of the countryside was something else. Their travels by rail exposed them to the ravages of the timber industry, and in purchasing as much land as they could, the northerners successfully distanced themselves from its advance (for the time being). The farm, on the other hand, was ever present, but in the longleaf-grassland region, its non-industrial aesthetic made it seem to northerners like a natural part of the landscape. Farm patches scattered throughout large blocks of woodland created a mosaic effect that not only seemed natural, but also created the desired aesthetic and environmental conditions northerners wanted in the countryside. In naturalizing tenant agriculture as part of the landscape, the new landowners also naturalized the black tenants themselves, thus successfully obscuring the oppressive inequalities of tenantry. Raymond Williams has shown the landscape of the English manor to be built on the backs of the laboring classes, and that what became picturesque borrowed many details from their working landscape. The quail preserves of the Red Hills were created in much the same way, but whereas Williams’ English countryside was by most accounts a constructed landscape with little resemblance to that environment’s historical range of variability, the aesthetic of this working landscape in the Red Hills integrated well with the disturbance dependent longleaf-grassland environment.¹³⁴

This integration of nature and culture was happenstance, an unconscious result of production, ideology, and ecology—what some scholars have called second nature.¹³⁵ As the region’s political economy continued to change throughout the first half of the twentieth century, however, and the norms of production strayed further from those of ecology, it would take a shift

in ideology to maintain the longleaf pine-grassland environment. This new ideology would be
based in biological science and would result in an intentional effort of land management and
conservation. Herbert Stoddard’s arrival in the Red Hills began the process.
CHAPTER 2
THE DEVELOPMENT OF AN EXPERT

Herbert Stoddard’s journey south in early February, 1924 must have been a little nostalgic. He had spent eight childhood years in the longleaf pine forests of central Florida, trapping a variety of mammals and reptiles, running with cattle herders, amassing a collection of wild pets, and generally running roughshod over the forest. This was his first visit to the Southeast in twenty-four years, and this time he came in a far different capacity. He was now a professional ornithologist and government agent, and the work he carried out would not only change land management in the Red Hills, it would have a profound effect on conservation in the Southeast and the entire nation.

As an exposition on how Herbert Stoddard, a high school drop-out from a working-class family, negotiated the highly stratified, expert-driven, newly-professional world of the natural resource sciences and came to fill the role of scientific expert, this chapter attempts to penetrate below the administrative surface of the making of modern conservation. Stoddard’s biography not only helps us to understand the development of the modern conservation movement, and how that movement played out both regionally and locally, but it also reveals the still inchoate organization of government conservation and its tenuous relationship with the biological sciences at the end of the Progressive era. When Stoddard came to the Red Hills in 1924, there was still not much of a formalized route to conservation or scientific work, nor was there a codified method for carrying out fieldwork, especially with the study of wildlife and its habitat.
Such organizational flexibility, along with his lack of formal training, led Stoddard to devise an approach that blended scientific and local knowledge and had an immense influence over the emerging field of wildlife management. How he arrived at such an influential blend can be found in his early years. Stoddard’s circuitous route to south Georgia—his background as a curious kid, his informal training as an apprentice taxidermist, and his coming of age as a professional ornithologist and field worker in natural history museums—is a crucial part of the Red Hills story. He was, after all, thirty-five years-old when he became an agent of the Biological Survey. To gloss over his early years would not only slight over a third of his life; it would also obscure how his early career suggested, even embodied, important developments in Progressive-era science and conservation.

An examination of Stoddard’s background demonstrates that the line between amateur and professional scientists remained fuzzy until well into the twentieth-century. The road to becoming a scientific specialist included many detours into local communities, commercial enterprise, corporate institutes, and public and private natural history museums, all of which helped to shape the type of science and conservation experts in the field would develop. Field scientists like Stoddard also had a great deal of contact with working landscapes and local knowledge, and his training came in these local contexts, not at a university. Specialized training in the biological sciences began to require higher education during this time, but people like Stoddard continued to be viable actors well into the twentieth-century.\(^1\) He struggled to

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complete primary training, and never made it to secondary school. His professional training came through what most closely resembled a series of apprenticeships, instead of the specialized rigor of the university. But he became fluent in the science of systematic biology, or taxonomy, the bread and butter of the biological field sciences around the turn of the twentieth-century.

Though he never received a formal education, Stoddard’s early professional training was very much in line with that of his peers. Taxonomy was still the baseline of the biological sciences, and natural history workers like Stoddard took to the field to catalogue and collect as many species as possible around the turn of the twentieth-century. According to historian Robert Kohler, this was the “age of survey,” a time when “scientists became fully aware of the world’s biodiversity.” Previously inaccessible places opened up, allowing for government bureaus and natural history museums to conduct surveys both intensive and extensive of a bioregion’s flora and fauna. The timing of Stoddard’s professional ascendancy was critical. Not only was he one of the last to reach the status of scientific professional with no formal training; his also spent his early years near places that Kohler calls America’s “inner frontiers.” If the Gilded Age and Progressive era embodied “a search for order,” as historian Robert Wiebe has argued, when “a nation of island communities” were breaking down under a web of transportation, business, and professional networks, there remained wild spaces in between. These were places where natural communities remained intact for a professional class of scientific workers like Stoddard to explore and catalogue. In the process, they constructed a taxonomic order through which to understand nature.

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Kohler, All Creatures, 1-46, quote on pg. 8.

The special nature of ornithology was particularly important to Stoddard’s development. His expertise in ornithology was, after all, what brought him to the Red Hills, and the result of his quail study was the birth of yet another specialty, wildlife management. But ornithology was a weird bird, one of the few remaining biological disciplines in the early twentieth-century that retained an egalitarian spirit and resisted academic professionalization. Even while Cornell, the University of California at Berkeley, and the University of Michigan established graduate programs in ornithology in the 1910s, scientific ornithologists continued to rely on “self-education and apprenticeships to familiarize themselves with the set of practices and the body of knowledge associated with their field,” according to historian Mark Barrow.⁴ The broader traditions of natural history held their ground in ornithology, allowing professionals and amateurs alike to venture into nature making bird lists, chronicling bird behavior and habitat, and comparing notes. Not only that, bird species were among the best documented animals in the taxonomic array by the 1920s, which led ornithologists to look for new avenues of discovery. The new field of ecology—fitting the taxonomic parts together into a functional whole—began to show a great deal of promise during these years, and its perspective would be vital when Stoddard began to work on the life history of the bobwhite quail. Rather than studying bird groups in isolation, he and other ornithologists began to see birds as they related to each other, other animals, and their habitat. Stoddard’s career path represents a bridge between taxonomy and ecology, and an understanding of his background as a museum taxidermist, biological field worker, and ornithologist is an essential first step in understanding the brand of conservation science he created upon arrival in the Red Hills.⁵

Herbert Stoddard’s appointment to the Bureau of Biological Survey in 1924 marked the culmination of an informal training in natural history that began as a youngster in the piney woods of central Florida. Stoddard was born and lived the first few years of his life in Rockford, Illinois, a town to which he would return as an adolescent, but it was during the seven years that he spent in Florida that he came of age. When the Stoddard family arrived in the town of Chuluota in 1893, they must have thought the train line from Chicago doubled as a time portal. At the train station in Chicago, crowds flooded in to view the World’s Columbian Exposition and the progress and promise of modern America. For the Stoddards, Chicago was simply the main point of embarkation. They came from their home in Rockford, Illinois and had little time for the Columbian Exposition. They did not see the White City or the Midway Plaisance; nor did they hear Frederick Jackson Turner announce the closing of the American frontier. They were on their way out, joining a transformative wave of immigration to Florida, where land was still cheap and plenty. If they had heard Turner’s proclamation at the Columbian Exposition, they would not have believed him upon arriving in Florida. Unlike the health-seekers that flooded the lavish coastal resorts, Stoddard’s family looked inland to capitalize on the bourgeoning citrus industry, and while there witnessed a peninsular frontier that seemed anything but closed.6

Most of what we know about Stoddard’s early years in Florida comes from his autobiographical recollections fifty years removed from the time and place, which read not unlike the post-Civil War travel writers who promoted the state. His years of experience as a wildlife biologist, forester, and ornithologist lend the narrative considerable credibility, though it

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6 Florida was one of the most substantial “inner frontiers” remaining in the East. See Kohler, All Creatures, 33.
is sometimes peppered with a healthy dose of nostalgia. He witnessed much industrial logging after his return South in 1924 and lamented deeply the loss of the region’s longleaf forests. During Stoddard’s youth in the 1890s much of Florida’s interior remained untouched by industrial timber companies. For a kid with a penchant for the outdoors, the region’s pine and cypress forests were a dreamland: “No one seeing the cut-over, devastated forests of Florida today can possibly imagine the beauty and grandeur of those woodlands. One could ride through them for a week on horseback, and still they stretched on and on, broken only occasionally by a settler’s tiny clearing.”

Images of nature undisturbed are everywhere in Stoddard’s memoirs, but so, too, are those of working landscapes. Despite its frontier status, Florida was on the upward arc of an unprecedented land boom.

Throughout the post-Reconstruction period, as rail spurs fingered across the landscape, the state unloaded over 10,000,000 acres of the public domain to real estate or timber interests, and immigrants flooded into the peninsula to reap the fruits of Florida’s subtropical climate. The Stoddards most likely discovered Chuluota and surroundings through one of Henry Flagler’s many local land companies, and like many other unsuspecting northerners, their attempt at establishing orange groves bore little fruit. Their years in Florida were lean times for Stoddard’s family. His father had died back in Rockford, and though his new stepfather “was a fine man, he never found his place in life…[and] had no talent for business matters or the earning

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7 Herbert L. Stoddard, *Memoirs of a Naturalist* (Norman: University of Oklahoma Press, 1969), 36. Again, Robert Kohler’s analysis of naturalist autobiography offers insight into Stoddard’s remembrance of childhood. He calls autobiographical descriptions of the boy naturalist as “a literary trope: a foretelling of the future scientist in the curious youth. But they also bear witness to experiences of actual places and of a particular time in the environmental history of North America. They are stylized recollections of what it felt like to inhabit the twilight zone, where wild (or wildish) nature was experienced through the ideals of town culture. So it is no surprise that the trope of the boy-naturalist especially appealed to the naturalists whose career happened to intersect with the inner frontiers. It was an element out of which scientific identities were constructed.” Kohler, *All God’s Creatures*, 40.

8 Though it’s uncertain which company acted as the Stoddards’ agent, at least two Flagler-owned land companies were in the area: the Chuluota Land Company and the Model Land Company. See Jim Robison and Mark Andrews, *Flashbacks: The Story of Central Florida’s Past* (Orlando: Orange County Historical Society, 1995).
of a dollar.”

The family mostly subsisted on the life insurance settlement from his father’s death, though that was little help in Florida’s land boom climate. Stoddard wrote that the “‘land sharks’ took our family for the same kind of ride given thousands of others in the ‘gay nineties.’ By the time most of our land was cleared and ready for orange groves nothing remained of their savings.”

Adding insult to injury, Florida’s freeze of 1895 wiped out the young orange groves of the entire region, and the Stoddards found themselves among other northerners “marooned penniless in a country of which they knew all too little.”

Regardless of his family’s economic failures, the venture allowed Stoddard to explore the surrounding forests and develop a love for wildlife and wildlands. He collected snakes, alligators, and tortoises as pets, and contributed to the family’s sustenance with countless hours spent in the woods hunting, trapping, and tracking an assortment of game. He even supplied a growing commercial trade in natural history by selling skinned animal hides to family connections in the Midwest. In Stoddard’s mind, though, his most enduring lessons came from his interaction with local cattle ranchers, who taught him the value of what he came to call “woodsmanship.” He clung to these local woodsmen, absorbing all they knew about the surrounding pine forests. The many hours Stoddard spent learning the woods in Florida would prove formative in his later work.

Chuluota was situated on the eastern edge of Florida’s central highlands in Orange County, which was the primary location of the state’s burgeoning orange industry. But

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9 Stoddard, Memoirs of a Naturalist, 5.
10 Stoddard, “Memories and Reflections,” 13 (In author’s possession). This is the unedited manuscript of Memoirs of a Naturalist, in which Stoddard was more candid with many of his views. Where the texts match, I quote from the published version; otherwise, I draw from the manuscript.
11 Ibid., 23.
surrounding the highlands was the vast domain of open-range cattle herding. And cattlemen dominated the state’s flatwoods interior. During Stoddard’s stay in central Florida, most of the industrial timber companies remained occupied with Georgia’s pine forests, and much of the former public domain, though under title, was still controlled by cattle raisers who retained free range over the area’s sandy pine flats.\(^{13}\) Usually called “cattle hunters” because they spent most of their days rounding up wild cattle from the open-range forests and palmetto prairies, they were of particular import to Stoddard’s development. Early on, he befriended a local cattle family, Gaston and Polly Ann Jacobs, and “spent more time with [them]… than I did at home, for the cattle work fascinated me.”\(^{14}\) Like most other cattle families, the Jacobs would have owned 80 to 160 acres of land, where they built a home, outbuildings, and a split-rail cowpen, and maintained garden and corn plots. Their cattle roamed up to 100 square miles of the surrounding open range alongside the herds of other families, differentiated only by the mark of registered brands.\(^{15}\) As a youngster, Stoddard’s horse-work was limited, but since “a boy on foot was a great help with the cattle,” he spent weeks at a time on the range tending to new calves and mature cows ready for market.\(^{16}\)

Stoddard recalled the Florida cattlemen with an admiration bordering on reverence: “I do not believe any part of America produced better natural woodsmen than were the cattlemen of this part of Florida. With none of the distractions of modern life, they were true ‘children of


\(^{14}\) Stoddard, “Memories and Reflections,” 52.


\(^{16}\) Stoddard, “Memories and Reflections, 107.
“nature,’ with a large and much-used store of woods lore.”\textsuperscript{17} Such a sepia-toned remembrance may be a little over the top—anyone involved in a market-driven business like cattle ranching was very much in tune with “modern life” at the turn of the twentieth-century. But in their engagement with modern life, their labor required intimate knowledge of nature’s doings; this particular form of market-driven labor acclimated workers to their natural surroundings, rather than alienating them from it. The above passage begins to flesh out what Stoddard came to value as a wildlife biologist: his training was rooted in local knowledge and predicated on spending a great deal of time in the woods with the locals who knew them best. He came to believe that the first point of order in any unfamiliar environment was to get to know it, and the quickest way to do so was to spend time with locals who already did. These experiences in the Florida woods, then, were not merely what animated Stoddard’s interest in nature and the longleaf-grassland ecosystem in particular; they formed a core part of his managerial philosophy, one that insisted there was no scholarly substitute for an intimate working knowledge of one’s surrounding environment. Indeed, these “cattle hunters” were Stoddard’s first model for the informed land manager he would become.

Easily the most important product of Stoddard’s exposure to the Florida cattlemen with whom he worked was his nascent recognition of fire’s place in southern longleaf forests. It was common practice for southern ranchers to “burn over and manage this vast domain as [they] saw fit,” knowing as they did that the grasses, forbs, and legumes of a fire maintained groundcover made for better grazing than the “rough” of hardwood brush found where fire was excluded.\textsuperscript{18} The highly flammable undergrowth of wiregrass, saw palmetto, and other herbaceous groundcover was the only feed available to cattle; it was only after World War II that Florida

\textsuperscript{17} Ibid., 53.

\textsuperscript{18} Ibid., 108.
ranchers commonly supplied their cattle with supplementary fodder. The native grasses, while not ideal nutritionally, were sufficient to maintain a market-viable stock, as long as cattlemen renewed them with annual fire. After a year’s growth wiregrass became hard and dry in the winter, prompting cattle herders to burn the range to release spring growth. One cattleman remembered, “The grass—after it gets old and tough—it’s not much good. There’s a lot of wiregrass, and when it’s fresh burned, it’s real good grazing.” Shortly after a burn in February or March, a fresh mat of tender wiregrass—as well as young saw palmetto—came back to supply graze. The cattle herders’ motivations for burning may have been self-interested, but their self-interest helped them to appreciate the historical role of fire in the region.

Like many who look back to their childhoods, Stoddard tended to wax nostalgic on occasion, but he was insistent about what those early years in the piney woods taught him. “Looking back on my early life in Florida,” he wrote in his memoir, “I am convinced that no schooling or advantages could have been more valuable to me. I firmly believe that all experiences become a part of a man. Certainly my years in the southern pinelands—conditioned as they were by the forces of climate, hurricane, and fire, rooted in soils laid down under the gulf such a short time before, geologically speaking—those years were invaluable to me in my later years as ornithologist, ecologist, and wildlife researcher and manager.” These experiences with nature, along with the transparent manipulations of nature by the human community, were instrumental to young Stoddard’s learning, and they carried over throughout his adult life. Indeed, they contributed to an informal and intimate training that would serve Stoddard well when he returned to the Southeast in the 1920s. But such local training would remain just that—local—without institutional connections that covered broader terrain. A boy with Stoddard’s

21 Stoddard, Memoirs of a Naturalist, 58
background required a series of fortuitous moves to locales more *au courant* for the opportunity to join a growing movement in science and conservation.

As the Stoddard family’s financial situation grew worse in Florida, they decided to move back to the upper Midwest, one of the cradles of the modern conservation movement. They landed in Stoddard’s birthplace, Rockford, Illinois, in 1900, where young Herb continued to cultivate an interest in natural history, a career choice with few outlets for a boy with little hope of higher education. There was, however, taxidermy, which at age eleven, Stoddard “decided upon for my lifework.”

In the America of 1900 a boy like Stoddard had few other options in the field of natural history. There was no family money to put him on the road to become the classic amateur naturalist; and in an age of increasing specialization in the biological sciences, he had no prospect of securing a place in the academy. But this was also the age of nature study, a somewhat more egalitarian pursuit, and taxidermic display was one way for an increasingly urban population to indulge in nature. As modern science rationalized nature to the point of abstraction, the nature study movement attempted to reconnect urban people to the natural world. In the urban core, taxidermy came to be one of the natural world’s primary forms of representation, and demand for quality displays increased dramatically. Taxidermy was not only Stoddard’s way into natural history; it also contributed to his family’s financial well-being. He found and read William Temple Hornaday’s *Taxidermy and Zoological Collecting* and John Rowley’s *Art of Taxidermy*, then entered a correspondence school and immersed himself in the craft. By early 1901, Herb already had a display of his first taxidermy efforts in a local drug store window in Rockford. These early displays, though not yet of museum quality, included

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skins from both his Florida collecting and anything in Rockford and surroundings he ran across. Since “everybody seemed to want to be horrified at the Alligator, Diamond-back and Wildcat hides, there was ‘standing room only’ around those windows for weeks.”

Stoddard never had much patience for formal education and chose to leave school in 1905 at age fifteen, moving to his Uncle’s farm in Sauk County, Wisconsin to work as a farm hand. He was still enamored with his previous life in the wilds of Florida, though, and “the settled farming life was of little interest to me.” In Prairie du Sac, Stoddard met Ed Ochsner, a local taxidermist, beekeeper, and naturalist who came to be an important influence. Over the next several years, Stoddard worked on the farm during the growing season and with Ochsner during the winter, honing his taxidermy skills as well as his trapping and collecting methods. Like the cattlemen with whom he ran in Florida, Ochsner was a prototype for the knowledgeable woodsman that Stoddard would strive to become, “a person as unusual as any of his specimens.” While most future scientists and naturalists spent their teenage years prepping for the academy, Stoddard was earning a living in the field, trapping, hunting, skinning, and discussing birds, mammals, and general natural history subjects with Ochsner.

There were few places better than Prairie du Sac and surroundings to immerse oneself in natural history. Today, the terrain of Sauk County is immortalized in Aldo Leopold’s *A Sand County Almanac*, which was, among many other things, a paean to the particulars of place. Formed from the wreckage of glacial drift, the dominating geological feature was the Baraboo Bluffs, an oval shaped “inner frontier” of hills and quartzite outcroppings that circled through the center of Sauk County. Devil’s Lake and its 500 feet tall cliffs were the gems of the Bluffs, and just to the east ran the Wisconsin River, easing its way down toward the Mississippi. And, as

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25 Ibid., 68.
26 Stoddard, Unedited Manuscript, “Memories and Reflections, 147.
many local place names attest, there were also vast stretches of prairie land, where the fathers of important thinkers like John Muir and Frederick Jackson Turner first set plow to dirt in the early nineteenth-century. Here in this thoroughly settled country, Stoddard found nature aplenty, and through locals like Ochsner, absorbed the environmental knowledge of previous generations.  

Discussions with Ochsner about natural history were critical to Stoddard’s field education, but perhaps just as important were Ochsner’s professional connections. He had loose ties to the Milwaukee Public Museum [MPM] and the Field Museum in Chicago, and was a hunting companion of the Ringling brothers, who housed and trained their circus in nearby Baraboo, Wisconsin during the winter. Stoddard’s professional break came in 1910 on a trip with Ochsner to visit the Ringlings. They traveled to Baraboo often, and on this trip they found Alf Ringling with a dead hippopotamus on his hands. Ochsner, who was always on the lookout for potential museum specimens, decided it should go to the MPM, if they could skin and pack it for travel. The head taxidermist for the museum, George Shrosbree, came to Baraboo immediately, and Stoddard stayed on to assist in preparing the skin.  

That Stoddard found his way into the museum profession through the circus is significant. Historian Janet Davis has shown that the circus, especially as exemplified by the Ringling Brothers, was a “powerful cultural icon of a new, modern nation-state,” and as such was at a center of American ambivalence toward modernism at the turn of the twentieth-century. In its efficient use of technology, its integrated business structure, its large industrialized workforce, and its domination of exotic wild animals, the Ringling Brothers Circus represented to spectators the most modern, and powerful, components of American civilization.

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At the same time, though, it revealed what modernism was on the verge of destroying. As Davis argues, “showmen publicly mourned urban encroachment, massive immigration, and the imminent loss of the frontier; as such, they marketed the railroad circus as a place where audiences might catch a ‘last glimpse’ at the world’s vanishing animals and preindustrial people.”

As it was for so many Americans who encountered the Ringling Brothers’ circus animals, this was Stoddard’s first contact with exotic nature and he was thrilled to be so close to it. While working inside the hippo he found the 8 gauge slug that apparently aided in the animal’s capture years before, and his imagination took over. Stalking and bringing down the creature in the wilds of Africa, with tribal Africans in tow—it was the stuff of dreams for the turn-of-the-century white American male. There was nothing in the Americas that compared with an animal such as a hippopotamus, and thanks to institutions like the circus and natural history museums, Americans interested in nature considered Africa to be the wildest of wild nature. Such hand to hand contact with exotic nature set Stoddard’s mind to working, as well, on the possibilities of exotic exploration.

Watching Stoddard pick his way through the flesh, bones, and entrails of the hippo, George Shrosbree recognized the skills of an enthusiastic young apprentice and offered Stoddard the job of assistant taxidermist at the MPM a few weeks later. In a professional world that was still taking shape, the informality of such an offer was not all that unusual. But it did give a budding amateur naturalist entrée into the newly developed, insular world of expert-driven natural sciences. Ringling’s hippo and its transformation from commercial spectacle to scientific specimen in many ways resembles Stoddard’s leap into the museum world. With Ochsner, he

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29 Ibid., 148.
was an apprentice in the world of commerce, learning how to make a living on his knowledge of
the natural world; with the Museum, his duties would be similar, but there was a presumed
elevation above commercialism. Museums had risen in lock step with consumer society, but
practitioners understood themselves to be above the fray, hovering in the realm of pure science—
knowledge for knowledge’s sake. Throughout the first half of the nineteenth century, many
museums were for profit and sensational, Phineus T. Barnum’s American Museum being the best
known. But as the century progressed, institutions like Louis Agassiz’s Museum of Comparative
Zoology at Harvard and the Museum of the Boston Society of Natural History became important
centers of public education in the natural sciences.31 By the turn of the twentieth century, a
mosaic of publicly and privately-funded museums, filled with elaborate mounted displays of
both exotic and native animals, populated urban centers across the nation.

Such a fluorescence reflects the growing interest in natural history among the general
populace, but it was also an important step toward the development of the biological sciences as
a research-based profession. The traditional developmental narrative of biology and zoology
maintains a sharp linear shift from amateur pastime to academic profession, but historian Keith
R. Benson has characterized it as a “gradual transformation…from its primary location in
museum-oriented natural history,” populated by both amateurs and professionals, “to its eventual
setting within academic and research institutions.”32 When Stoddard began work at the MPM in
1910, universities such as Johns Hopkins, Harvard, and the University of Chicago had developed
highly specialized fields of biological research, and emerged as the leading producers of

31 Sally Gregory Kohlstedt, “The Nineteenth-Century Amateur Tradition: The Case of the Boston Society of Natural
History,” in Gerald Holton and W.A. Blanpied, eds., Science and Its Public (Dordrecht: D. Reidel Publishing
32 Keith R. Benson, “From Museum Research to Laboratory Research: The Transformation of Natural History into
Academic Biology,” in Ronald Rainger, Keith R. Benson, Jane Maienschein, eds., The American Development of
scientific experts.\textsuperscript{33} Museums, on the other hand, continued on in the broader tradition of natural history, interpreting and disseminating gains in scientific knowledge for the public. Stoddard, by all accounts an amateur naturalist under Ochsner’s tutelage, was now a part of the scientific fraternity, learning to become a professional. For the next fourteen years he performed his duties in the museum field, first for the Milwaukee Public Museum (1910-1913), then the Field Museum of Natural History in Chicago (1913-1920), and then again for the MPM (1920-1924) as taxidermist, field collector, and, finally, ornithologist.

Figure 2.1: Herbert Stoddard with grey fox in 1910, just after joining the staff of the Milwaukee Public Museum. Private papers of Leon Neel.

When Stoddard joined the staff of the MPM, it was among the nation’s elite institutions in the study of natural history. It secured its public charter in 1882, and was already a major interpreter of nature not only in the Midwest, but in the nation. It was the nation’s first publicly-chartered museum, but its ties to commercial enterprise were strong. The museum’s base

\textsuperscript{33} See Veysey, \textit{The Emergence of the American University}; Geiger, \textit{To Advance Knowledge}; and Kohler, “The Ph.D. Machine”.
collection came from the Natural History Society of Wisconsin, and, like most museums during these years, it did not have the field collectors or taxidermists on staff to build display groups. Henry A. Ward’s Natural Science Establishment in Rochester, New York filled the void by mounting and installing all varieties of animal displays. Ward’s was the nation’s largest taxidermy and museum supply house throughout the 1870s and early 1880s, and it employed the most artistically and technically advanced taxidermists in the United States. By the end of the latter decade, however, museums took on more responsibility for collecting and preparing their own displays, and Ward’s influence quickly declined. By 1886, two of his finest taxidermists, William Morton Wheeler and Carl Akeley, were on staff at the MPM, setting it on the path toward developing its own style of animal display. Akeley was a particularly important figure in the museum world. First for the MPM, then for the Field Museum, and later at the American Museum of Natural History in New York, Akeley helped to elevate taxidermy from a craft that simply “stuffed” animal skins, to a blend of art and science. In addition to his technical contributions, Akeley, along with William T. Hornaday, argued that mounts of individual animal specimens were not enough; they should appear in groups as they did in the wild, in their reconstructed natural surroundings. Most authorities consider Akeley’s “Muskrat Group,” completed for the MPM in 1889, to be the first fully realized habitat diorama. Taxidermy, then, which began as a commercial trade to fulfill an urban public’s desire to see nature, became a scientific pursuit.

Perhaps it is a mere coincidence that Akeley’s break came via a deceased animal of P.T. Barnum, and Stoddard’s one of the Ringling Brothers, but it was no accident that Stoddard “early

hitched my wagon to the Akeley star.”

When Stoddard entered the field of museum taxidermy, Akeley was already nothing short of a legend. He had not only revolutionized taxidermy and museum display—culminating with the African Hall at the American Museum of Natural History in New York—but he had also become a prototype for the great field collector and African explorer, i.e. “the great white hunter.” Tellingly, this image appealed to Stoddard. George Shrosbree worked with Akeley at both Ward’s and the MPM, and told Stoddard the stories that were so well-chronicled in later years. These tales of Akeley’s adventures “fired my imagination as have those of no other man, and I early decided to pattern my life after his as closely as possible.”

Much like the Ringling Brothers’ circus, Akeley’s globetrotting, and the taxidermic representations of what he encountered, crafted an imagery that inspired mystery and wonder about an unknown natural world. The African Hall, as historian Donna Haraway points out, “was meant to be a time machine” that transported the individual “to be received into a saved community.” This was the intersection of taxidermy and conservation, a place where knowledge of the most threatened natural community might be preserved and disseminated.

As fascinated as Stoddard was with the exotic nature of Akeley’s displays, he was even more compelled to represent to the public a local nature that was quickly being altered by industrial America. Despite this alteration, though, there remained many “inner frontiers” close at hand in the upper Midwest, and they were critical to taxidermy display in the museums. It was through a studied realism that taxidermy would showcase disappearing nature. Stoddard put in long hours at the museum, and hard study of natural history at night, and he quickly became

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36 Stoddard, “Memories and Reflections,” 170.
38 Haraway, Primate Visions, 29. Haraway’s trenchant cultural analysis also reveals the deeply engrained race and gender hierarchies that Akeley’s displays represented, and taxidermy’s role in preserving a white male authority that was under threat from a decadent, effeminizing urban industrial order. My own analysis of taxidermy is less ambitious. As should become clear, I’m more interested in taxidermy’s ability to uncover hidden local nature, as well as the web of social interactions necessary to build a display, particularly in the field.
known for his meticulous work in both the shop and field. Like Akeley, he developed innovative
taxidermy methods, especially in his bird work. He was likely the first to use electroplating—the
coating of an object with a layer of metal—to best resemble a group of naked bird nestlings, and
he was first to use cork and balsa wood for anatomical re-creation. And technique was crucial.
A detail out of place would mislead the viewer and do an injustice to both science and nature.39
It is important to note that Stoddard was one of the last to practice museum taxidermy before the
rise of modern science devalued it to the status of hobby. Until the 1920s, its practitioners still
had designs on becoming a branch of the biological sciences. The Society of American
Taxidermists (1881-1883) was short-lived and long dead by the time Stoddard entered the fray,
but they had laid the professional groundwork for the field, which sought realism in both theory
and practice.40 As William T. Hornaday argued, “The task of the taxidermist, if properly
appreciated, is a grave and serious one. It is not to depict the mere outline of an animal on paper
or canvas…It is to impart to a shapeless skin the exact size, the form, the attitude, the look of
life.”41

The “look of life” for Stoddard reflected his growing interest in ornithology, and he
sought to represent those scenes that were close at hand, yet hidden to most Americans. As
much as he admired the work of older taxidermists such as Akeley—who he met in 1918 in New
York—Stoddard felt grand displays like those at the American Museum of Natural History
obscured the smaller details of nature. During his visit with Akeley in 1918—while he awaited
active duty in World War I—he became “a firmer believer than ever in the small detail groups

after seeing the most elaborate and spectacular of the large groups in the country,” and thought
“they will all come around to it sooner or later.”42 The beauty and art of taxidermy, he thought,
was its ability to expose what one may easily overlook in the nooks and crannies of a grand
panorama.

On its surface, taxidermy as practiced in the early twentieth century was both a
thoroughly urban and thoroughly artificial vision of nature. One seeking authenticity might
simply see “stuffed” animals hanging on a wall or propped in a museum display case, completely
detached from their natural context. This was mere representation and decontextualization, re-
creating for urbanites what they were never likely to experience. But for museum taxidermists
like Stoddard, the subject matter, and the process of creating the finished product, was more than
detached nature. A completed habitat group represented a constellation of interactions with the
natural world, a re-creation of what they knew intimately in the field. Many specimens came to
the Milwaukee and Field Museums through donation, but taxidermists themselves collected the
vast majority, venturing afield to not only collect, but to study. Stoddard took meticulous field
notes so to make his habitat groups as authentic as possible. His specialty was bird groups, and
when in the field he was careful to note bird behavior, relationships, and habitat.43

In his first few years in Milwaukee, Stoddard took several field trips throughout
Wisconsin with Shrosbee, but quickly lost patience with museum administration and left after
only three years to take a job with the Field Museum in Chicago. The MPM, under the
directorship of Henry L. Ward—the son of Henry A. Ward—had undertaken several steps
toward modern efficiency that Stoddard felt had no place in museum work. Time cards, detailed

42 Stoddard to S. C. Simms, September 22, 1918. Box 12, Folder 1, Conover Correspondence, Archives of the Field
Museum of Natural History.
43 For general thoughts on the processes behind museum display see “Focus: Museums and the History of Science”
reports of every minute spent on specimen preparation, and a disregard for accepted cataloguing practices of scientific ornithology, made “the place seem like a factory.” Ward, according to Stoddard, “had been influenced…by his background in Ward’s Natural Science Establishment, from whence he came. This was a commercial institution, and operated as one.”

Even museums, it seemed, could not avoid the efficiency studies of Frederick Taylor, who had published his highly influential *The Principles of Scientific Management* only two years prior. The constraints of modern industrial life had intruded upon Stoddard’s antimodern sensibilities once again. The Field Museum, on the other hand, maintained a loose work structure, allowing Stoddard to “make my own field studies and collect the material myself…I carried on most of my field collecting in Illinois, Indiana, and Wisconsin; going, coming, and remaining in the field as long as I saw fit, and with no regimentation nor red tape.”

Never one sympathetic to the human structures that limited his contact with nature, and rather more impressed with the designs found in nature, Stoddard flourished under such a system. Judging from his field notes, he spent as much time scouring the Lake Michigan shoreline as he did in the taxidermy shop. By the time he left the Field Museum to return to Milwaukee in 1920 (Ward had been relieved of duty), he had taken charge of all field expeditions for the bird groups. According to co-worker Owen Gromme, “[Stoddard’s] expedition work was strictly business with no time limits, and in his opinion anything that distracted a field collector beyond reasonable necessity was taboo.”

His taxidermy work was first-rate, but it was in the field that Stoddard excelled. While a superficial viewing of “stuffed birds” in a museum hall might reflect a deadened or detached form of nature for many, to Stoddard it represented an intimate knowledge of the world of living birds as he found them in

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44 Stoddard, “Memories and Reflections,” 209-211.
45 Ibid., 213.
nature. His knowledge of how birds interacted in nature, and his experience of interacting with them in the field, made the act of building a museum display a representational process that reflected nature as he found it in the field.\footnote{On creating representations of nature, see Paul S. Sutter, “Representing the Resource,” \textit{Environmental History} 10 (January 2005): 98-100.}

This kind of relationship with the environment in the early twentieth century was unique. Stoddard was not a farmer or fur trapper, making a direct living off of the land. Though his work reflected the growing urban middle-class desire for interaction with nature, he was not a prototypical middle-class urbanite seeking respite and recuperation in nature. He was part of the burgeoning scientific class, a science worker, but not yet of the professional ilk attempting to set a natural resource agenda, or a university man devoted to research or constructing curricula. His employment with the museums provided an institutional home and scientific legitimacy, but museums, unlike government conservation departments, did not involve much bureaucratic infighting or constituency placating. In many ways, he co-opted the museums’ institutional support to pursue his own ornithological agenda. Most of Stoddard’s fieldwork for both the MPM and the Field Museum involved collecting flora and fauna to be used in small bird groups. At the Field Museum, for instance, he worked in the Harris Public School Extension, where he built portable habitat groups that the Museum loaned to the Chicago public school system. At a time when nature study and general science were just securing a place in the public school curriculum, the Extension’s goal was to aid in scientific education through representation.\footnote{On nature study and public education in Chicago, see Sally Gregory Kohlstedt, “Nature, Not Books: Scientists and the Origins of the Nature-Study Movement in the 1890s,” \textit{Isis} 96 (2005): 324-352; John L. Rudolph, “Turning Science to Account: Chicago and the General Science Movement in Secondary Education, 1905-1920,” \textit{Isis} 96 (2005): 353-389.} On the institutional level, this was not pure science; it was education. But while in the field Stoddard used his job as a taxidermist to rise in the ranks of the ornithological community, and
his successes in both taxidermy and ornithology hinged on maintaining local connections in the field.

Throughout Stoddard’s time with both the Milwaukee and Field Museums, Ed Ochsner continued to act as field contact. Two other Sauk County woodsmen—Alfred Gastrow and Bert Laws—also gave Stoddard invaluable assistance in the field. None of these men had much education between them, but to Stoddard they were among the most talented field men he ever knew. Through Stoddard’s association with Laws, in particular, he “first began to draw a distinction between ‘schooling’ and ‘education;’ terms too often confused in American usage.” Laws was a farmer who “actually cared little about farming,” and was never known to read or write, but he “was the type who would investigate the construction of his crib as an infant, and display equal interest in the construction of his coffin at the end of the race…I believe he learned something necessary or desirable every day of his life.”

Writing in 1954, perhaps Stoddard was reflecting on his own life during a time when university-trained biologists had taken over his fields of expertise, but his reflections on Bert Laws help to explain his life-long and stern emphasis on knowledge through experience in the field. Ostensibly writing on Laws, Stoddard thought “‘schooling’ may be an important part of ‘education’ in many or most cases. But I cannot swallow the general idea that a man cannot be ‘educated’ who has never attended ‘school.’ In some cases long-drawn-out school attendance may do more harm than good.” Absent the advanced schooling that Stoddard would never receive, his education came about instead through observation, notation, and trial and error application.

As important as field work was to Stoddard’s education as an ornithologist and biologist, it also offered important lessons about nature study in a political world. State conservation

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50 Ibid., 201.
commissioners, ornery landowners, and poaching fur trappers intermittently conflicted with goals in the field—particularly those aimed at collecting game animals. After one trip to the newly created Lake Wisconsin in 1922, chairman of the Wisconsin Conservation Commission, W.E. Barber, dressed down Stoddard, Gromme, and Ochsner for misusing their scientific collecting permits. Barber notified Ochsner that the “sportsmen in the vicinity…are up in arms and we have received a gazing reprimand from that vicinity for the issuing of permits to be used as [they] were by you men.” Locals witnessed the field party taking geese, canvasbacks, and other protected waterfowl out of season and were apparently unimpressed with their museum credentials. Barber threatened to “specify in each permit that no game bird is to be taken under said permit except in the open season for said bird.” 51 MPM director S.A. Barrett took up the case, responding that it would be “entirely useless for us to endeavor to collect these birds during the open season, when all of the sportsmen are out and when the majority of the birds are in moult or in new plumage and quite unfit…for group building purposes or for scientific study.” 52 After a meeting with the Conservation Commission and their state game wardens, Barrett was able to clear up the controversy, and Barber even “strongly requested that all game wardens throughout the State understand that the permits issued to the Museum’s representatives were issued only after careful investigation and the positive assurance on the part of the Commission that such representatives were fully accredited, careful collectors who would never in any way abuse the privilege granted.” 53

Barber came around with some prodding, but the lesson that science was not practiced in a vacuum was clear. State commissions answered to a host of constituencies, many of which did

51 S.A. Barrett to R.S. Scheibel, April 12, 1922, Taxidermy Correspondence, 1921-1925, Manuscripts, Milwaukee Public Museum.
52 Ibid.
53 S.A. Barrett to George Shrosbree, July 13, 1922, Taxidermy Correspondence, Manuscripts, MPM.
not take kindly to an extra-local presence that seemed to operate outside of state and federal regulations. Locals themselves were just growing accustomed to the Migratory Bird Treaty Act of 1918, a treaty negotiated with Canada to set hunting regulations on game like ducks and geese. Implementing such seasonal restrictions on waterfowl hunting, in particular, had been a hard won victory state and federal conservation organizations, and surely a bitter pill for many locals accustomed to hunting with few restrictions. If locals could not hunt game animals out of season, they would certainly raise their voices against those who could. Field scientists simply could not go about their work as if disinterested in the thoughts and actions of locals. Through incidents such as this Stoddard gradually learned the importance of diplomacy in the field, apparently taking Barrett’s advice to “take particular pains to avoid any action which can subject you…to the slightest criticism” regarding local affairs. Such advice would be of primary importance a few years later when Stoddard arrived in the Red Hills.

Though Stoddard dreamed of circling the globe on collecting trips, the furthest he got— as a museum representative anyway—was Bonaventure Island, the famous gannett breeding ground in the Gulf of St. Lawrence off the coast of Quebec. Bonaventure became a protected bird sanctuary in 1919 as a part of the 1916 Migratory Bird Convention between the UK and US to protect migratory birds in Canada and the US, and the MPM sought to build a display “depicting the home life of the Gannets and other birds associated with them at their nesting colony there.” By the time Stoddard arrived at Bonaventure in July 1922, he had taken a conceptual leap in his interpretation and understanding of nature. Compared to the field notes of ten years earlier, those from the Bonaventure trip show a markedly more mature naturalist and

54 Dunlap, Saving America’s Wildlife, 37-38.
55 S.A. Barrett to Herbert L. Stoddard, April 11, 1922, Taxidermy Correspondence, Manuscripts, MPM.
ornithologist. The early notes are little more than listings of birds and mammals, a necessary first step in the world of taxonomic detail. In his later notes, the lists are still present, but they are embedded within passages of vivid detail about the process of collection, the mundane details of to and fro, an intuitive sense of the animals’ relationships with their environment, and—most strikingly—a sense of awe and appreciation for scenery that is lacking in his earlier writings. As he approached the island with his local guide, Willie Duval, he saw

a never-to-be forgotten sight…The north and east sides come down to the water a sheer drop of 300 ft. and over, and in some places deeply undercut. Starting out to the northward and keeping as close as the sea allowed, we skirted the whole shore, first passing great cliffs and huge masses of fallen rock where the herring gulls nest by the thousands, and in half a mile or so coming to the gannet ledges. Ledge above ledge where every inch of available space is crowded with the magnificent birds,—row after row of soldier-like murres, with a few razor-billed Auks, puffins, Black Gullimot and Kittiwake gulls…Late in the P.M. [Duval] and I circled the island, and enjoyed the amazing sight from above—a scene better recorded by camera than pencil.57

Indeed, the camera became Stoddard’s favorite, if most unwieldy, tool to record bird life during these years, and despite his wish to use it to depict a panoramic view of Bonaventure, he more often used it to capture individual animal associations in the field. With both still and motion pictures, Stoddard could not only transport the dead birds and detritus of the field back to the shop, but he could also bring representations of how they were arranged in nature. As historian Gregg Mitman has shown, the camera became a powerful instrument for urban populations seeking more contact with nature.58 Images from Bonaventure Island, and their replication by Stoddard’s taxidermy work, would match perfectly with the aesthetic of wild nature sought by the MPM. Stoddard went about his duty on the month-long trip, scouring

57 Stoddard Field Notes, p. 188, found in “Field Notes of Owen Gromme, April 1914 to July 1927,” Manuscripts, MPM.
beaches, repelling cliff ledges, noting bird behavior and habitat, taking still photos and motion pictures, all to gather material for the museum exhibit and place it in its natural context. But he also began to reveal a budding realization about nature’s decline in the face of a rapidly changing world.

Figure 2.2: Stoddard collecting specimens for an MPM exhibit, Sauk County, Wisconsin. Private papers of Leon Neel.

Perhaps Stoddard’s sense of awe at Bonaventure is brought into greater relief in surroundings closer to home. The western and southern shores of Lake Michigan were among his favorite bird collecting and banding grounds, and by the early 1920s he feared for their inevitable transformation in the face of industrial and suburban growth. One section where the “prairies are entirely uncultivated and the original prairie flora still persists” was of particular concern. In 1923 he advised that “all data on the shore birds frequenting this strip of original
prairie should be gathered next spring before it is too late. The growing industrial towns of
Waukegan and Kenosha have already changed the character of much of this flat strip of lake
shore. A recent real-estate development known as ‘Chiwaukee’ on the south border of that part
of the prairie favored by the shore birds, points to further changes.” ⁵⁹ These areas that ecologist
Frederic Clements called the “twilight zone between town and country” were quickly fading
away, and Stoddard expressed little hope for the dunes and prairies of Lake Michigan writ large:
“The whole western shore of Lake Michigan, from Green Bay on the north to the Indiana Dunes
on the south seems to have been suddenly ‘discovered.’ Cottages and sub-divisions are
springing up everywhere, and competing with the factories for the last remaining strip of shore line.” ⁶⁰

Stoddard was not the only one concerned with the Lake Michigan shoreline. The Indiana
Dunes was a place where ecological study came into its own, especially on the dynamics of
vegetative succession, and by the early 1900s there were increasing calls for their preservation.
A small group of scientists and reformers from Chicago organized advocacy groups and started
leading tours to showcase the Dunes’ natural complexity. But in Stoddard’s estimation, the
Dunes’ renown as an ecological and scenic site was also its undoing. He was critical of the
industrial and residential development that encroached on the dunes, but what seemed to bother
him most was the increase in pedestrian traffic that followed, particularly those who viewed the
Dunes simply as a curiosity. Following a day in the field in 1919, he “was disgusted with my old

(1923): 128-129.
22 (1934): 39-68; on “twilight zones,” also see Kohler, All Creatures, 30-37.
favorite stamping grounds—all one could see for miles was…boys killing frogs and inadvertently breaking up every nest they ran across.”

Stoddard’s contempt was not reserved for roaming boys. He also came down heavy on Henry Cowles, the University of Chicago Botanist whose fieldwork in the dunes made him a pioneer in successional ecology. Cowles’ 1899 paper, “Ecological relations of vegetation on the sand dunes of Lake Michigan,” published in *Botanical Gazette*, brought international recognition for the dunes as an exemplar case study of early succession. Cowles, like Stoddard, pushed hard in the early 1900s for preserving the Dunes from commercial development, but Stoddard also believed such public awareness caught the attention of people who had little knowledge or appreciation of the area’s ecological diversity. He wrote that in the 1910s, the Indiana Dunes “was a little-frequented and very diversified country, a paradise for the naturalist, though forgotten by everyone else. But that was before Dr. H.C. Cowles…wrote a glowing article for the National Geographic Magazine, telling of the wonders of the dune region. This was the beginning of the end as far as its wildness and splendid isolation were concerned.”

Stoddard probably meant to cite an article by another dune advocate, Orpheus Schantz, which declared the dunes “a national park opportunity,” but he knew Cowles’s was one of the most visible proponents of making the dunes a park. Given that they all wanted to see the dunes saved from development, Cowles seems like an odd choice on which to levy blame.

Stoddard’s concern reveals a common line of thought among ornithologists about keeping the best birding ground a well-kept secret, but it also reveals a deeper apprehension.
about the nation’s burgeoning conservation movement. Coupled with increased infrastructural and commercial development, preserving the Dunes as a park would open the shoreline to the recreational use of Chicago’s expanding consumer classes. It was fast becoming clear to him that a conservation intervention, when combined with the increased public exposure and the accompanying crowds of people, could be damaging to wild nature, or at least to the sensibilities of those like himself who appreciated wild nature. As one of his correspondents would later write, reflecting Stoddard’s own views, “while the Dunes Highway is a great convenience for motorists, I would gladly forego it in favor of the former seclusion of a region which, I fear, is more and more to become the despoiled and littered playground of thousands for whom its beauty and charm is without meaning.”

Stoddard’s experience with the Lake Michigan shoreline in general, and the Indiana Dunes in particular, demonstrates a scientific elitism that would continue to color his view of conservation. Wild places like the Dunes were not only wild; they were laboratories in which to study the wild. Science workers like Stoddard discovered and nurtured these representations of wildness, but had little interest in putting them on display for casual observers.

Stoddard’s experience as a museum field man and taxidermist led to a deepening involvement in the ornithological community, where he made connections critical to his later return to the southeast. He joined the American Ornithologist’s Union in 1912, and within a few years was member of the Wilson Club, Cooper Club, and National Audubon Society, all national organizations the welcomed both amateur and professional ornithologists. Within a short time after returning to Milwaukee in 1920, his reputation in ornithological circles was such that his

65 Ford to Herbert Stoddard, December 30, 1923. HLS Papers, Quail Investigation Correspondence, TTRS.
co-worker Owen Gromme thought “he was unquestionably [Wisconsin’s] foremost ornithologist.”

Stoddard first heard of a possible southern quail investigation at the 1922 meeting of the AOU, where he helped to found the Inland Bird Banding Association along with legendary bird-bander, S. Prentiss Baldwin. Bird banding had been used as a research technique since the turn of the century to assemble data on migratory patterns. But not until Baldwin’s innovative trapping methods—which used government sparrow traps to band and track adult birds instead of banding nestlings in the hope that the band would be returned upon death—did it become a truly effective research tool. Between 1914 and 1920, Baldwin—a Cleveland businessman and one of the most influential amateur ornithologists of the era—banded thousands of birds at his summer home outside of Cleveland and at his winter get-away in, of all places, Thomasville, Georgia. With the advent of banding, ornithology historian Mark Barrow explains, “individual birds could now be recaptured multiple times at various locations, thereby tracing their movements over time.” With a feasible way of trapping adult birds, the U.S. Bureau of Biological Survey took over sponsorship of the program and promoted and trained individuals across the nation to band birds.

Stoddard was among the first to follow Baldwin’s lead into banding. In 1923, he wrote in the Yearbook of the Public Museum of the City of Milwaukee that bird banding “bids fair to revolutionize bird study.” He banded birds throughout his travels for the MPM and began publishing accounts of his field experience in journals such as The Auk and The Wilson Bulletin.

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67 Mark V. Barrow, Jr., A Passion for Birds: American Ornithology After Audubon. (Princeton: Princeton University Press, 1998), 172. Baldwin was married to Lillian Converse Hanna, sister of Mark and Howard Hanna, and was well-connected to the quail preserve set.
drawing the attention of a wider audience. Baldwin, along with W.L. McAtee of the Biological Survey, soon took note of Stoddard’s field work for the Museum and the Inland Bird Banding Association, and kept him in mind for any possible job openings in the Survey.

Stoddard came to ornithology as it became a trend-setting field in conservation and science. As has already been noted, it was accessible, resisting academic professionalization far longer than other fields in the biological sciences. Even as graduate programs surfaced throughout the early twentieth-century, it retained strong popular appeal. In large part, such popular interest came in reaction to the earlier exploits of market hunters, who ranged far and wide with little concern for the depletion, and in some cases extinction, of bird species.

One result of this assault was governmental action. Congress overwhelmingly passed the Lacey Act in 1900, which prohibited the transportation of illegally-taken wildlife across state lines. The Biological Survey set up an informal network of wardens to help enforce the Lacey Act, and took on greater responsibility for tracking migratory patterns and studying breeding and food habits. The Biological Survey, originally formed at the instigation of the American Ornithological Union as the Division of Economic Ornithology and Mammalogy in 1886, was a bureau crucial to the nascent conservation movement of the Progressive era. From the beginning, the Survey had to balance the wishes of Congress for it to aid farmers, and the desire of many of its employees to conduct biological research. As it grew throughout the early 1920s to become a broad-based government division focused on general wildlife study, the Survey was part of a coarsely woven network of academic departments, natural history museums and societies, and the expressly practical sciences of the U.S. Department of Agriculture and Forest Service. By the 1920s, its administrative and research capacities were stretched thinly across a

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broad range of wildlife-related issues. Its core constituency was ornithologists, but it was increasingly called upon for administrative and research support by mammalogists, state game agencies and law enforcement, and recreating sportsmen.\(^70\)

When approached by a group of Red Hills sportsmen, Bureau chief E.W. Nelson gladly granted them a hearing. On April 25\(^{th}\), 1923, a small group of landowners from the Red Hills met with a representative of the Bureau of Biological Survey at the exclusive Links Club in New York City. There, they discussed the possibility of an investigation into the life history of the bobwhite quail in the Southeast. It was not unusual for sportsmen to call on the Biological Survey for help with game problems, but this particular request was curious. The preoccupations of most sportsmen groups up to this point typically revolved around hunting seasons, predator control, or wildlife ownership. But here was a group of sportsmen calling for a life history study. The life history concept arose from ornithologists frustrated with simply collecting specimens or tracking movements, and not actually recording the habits of birds in the wild. Several researchers in the egg-collecting branch of ornithology (oology) attempted life history studies around the turn of the century, but not until the 1910s did they gain wider acceptance.\(^71\)

The Red Hills sportsmen were most likely acting on the advice of Prentiss Baldwin. With a foot in the world of both sportsmen and ornithologists, he recognized the two interests could converge to push the concept beyond its limited role as a descriptive addition to ornithological taxonomy. Instead, the life history could be a prescriptive conservation tool designed to produce applicable results. The data compiled would not simply sit on a shelf to be referenced by professional ornithologists; it would be applied to the development of practical solutions for land managers in the field. The major thrust of the proposed quail study was to

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\(^71\) See Barrow, *A Passion for Birds*, 172-175.
explain the recent decline in quail, to discover what natural conditions best suited quail, and then to make management recommendations based on such discoveries. Ultimately, the preserve owners and the Biological Survey would create the framework for the most thorough and innovative life history of a game species up to that point.

Within a year of the Links Club meeting, an agreement was signed between the preserve owners and the Biological Survey. Baldwin and McAtee quickly agreed that Stoddard had “the qualities we think are desirable for the position combined in one man.”\textsuperscript{72} Those qualities apparently did not include a high school diploma, or any real experience conducting what promised to be a thorough scientific study. One problem for the Survey was a dearth of qualified leaders for the investigation. There were a handful of candidates at various state game farms, and a few university researchers already engaged in less practical animal research, but very few who had Stoddard’s field experience.\textsuperscript{73} More than a trained and educated scientist, the Cooperative Quail Investigation needed a self-starter who would be able to improvise in the field and work efficiently under a mere skeleton of centralized directives, qualities that S.A. Barrett, Director of the MPM, had already instilled in Stoddard: “The conditions which you encounter in the field must govern your actions and your own judgment is about the only thing that can count for much when it comes to field work…when we send a man out into the field we depend upon him to use his judgment and to secure the best possible results and do not wish to dictate from the office just what you shall do.”\textsuperscript{74} It was just such ability to handle the intangibles that

\textsuperscript{72} W.L. McAtee to Herbert L. Stoddard, January 2, 1924. W.L. McAtee Papers, Box 10, Stoddard Correspondence, Manuscripts Division, Library of Congress.

\textsuperscript{73} The backgrounds of the candidates for the job make clear that the Survey had little idea of the methods and goals of the quail study. Stoddard’s strongest competition came from Alden H. Hadley, a game propagator at a private game farm in Indiana who had little field experience, though he would go on to become an important voice in the National Audubon Society. See Alden H. Hadley to Herbert Stoddard, March 11, 1924. HLS Papers, Quail Investigation Correspondence, TTRS.

\textsuperscript{74} S.A. Barrett to Herbert Stoddard, March 23, 1922. Taxidermy Correspondence, 1921-1925, Milwaukee Public Museum Manuscripts.
ultimately recommended Stoddard to the Biological Survey. Like so many early federal projects in the field, no one really knew what this one would look like; as Biological Survey chief, E.W. Nelson, put it to Stoddard in the job offer, “the success or failure of the investigation will rest in your hands, and the initiative will rest largely with you as to how the work is carried on and the results obtained.” Again, this was to be a new type of study regarding wildlife. Forestry and the agricultural sciences had long been engaged in conducting practical research to aid in production, but there had been no real effort to regulate natural processes in the hope of aiding wildlife. There was simply no methodological formula to follow.

Stoddard immediately accepted the challenge. His boss at the MPM, S.A. Barrett, conceded that “the offer made Mr. Stoddard by the Biological Survey is so much in advance of anything that we could offer him here…[T]here is nothing left for him in justice to himself and his future but to accept this proposal.” When he joined Chapin and the other sponsors of the quail study in Thomasville in February, 1924, he had left many friends and professional colleagues in the Upper Midwest with whom he remained close for many years. Ironically, he left the Upper Midwest just as another son of that region, Aldo Leopold, returned to it. Leopold would, over the next couple of decades, become intimate with some of the very ground where Stoddard had honed his skills as a naturalist. As will become clear in the following chapters, he and Stoddard would also greatly influence each other, and become close friends and colleagues.

Stoddard came to the Biological Survey through a series of fortuitous circumstances and events. His time in the old-growth longleaf forests of central Florida with cattle ranchers fostered a deep interest in natural history; his family’s financial status back in the Midwest required that that he make a living, thus leading to an apprenticeship with Ed Ochsner; Ochsner’s

75 E.W. Nelson to Herbert L. Stoddard, February 5, 1924. Herbert L. Stoddard Papers, Quail Investigation Correspondence, ATTRS.
friendship, in turn, gave Stoddard entrée into the profession of taxidermy and a web of personal relationships cultivated in the museum world; and finally, these relationships led to notoriety in the ornithology community and the appointment as head of the Biological Survey’s quail investigation. Not only were the circumstances of his professional growth important, but the places in which he learned were as well. By 1920, these places contained both wild and working landscapes within close proximity, as well as the threat of industrial, commercial, and infrastructural growth. Within this matrix of disturbance, science workers like Stoddard found places to learn about the natural world. As he moved on to study the life history of the bobwhite quail, he was following an important trend in the biological sciences away from descriptive taxonomy toward explanatory ecology. But Stoddard’s practical background in field biology required that he interact with nature; he would never approach the study of ecology in abstract theoretical terms. Instead, his explanatory device would become the land itself.
CHAPTER 3
PUTTING FIRE IN ITS PLACE

As he did most every day while visiting the Red Hills region of south Georgia and north Florida, Henry Beadel—the son of a northern industrialist—was out quail hunting with his brother, Gerald, and their African-American driver, Charley. It was a chilly afternoon in February, late 1890s. Upon reaching their shooting grounds, Beadel witnessed the unthinkable: “we saw the whole country on fire, which within a few minutes left the ground black and bare except for scattered clumps of bushes.” An area that only the day before stood as an idyllic scene of grand pine woodlands interspersed with small, almost meadow-like agricultural fields, now appeared before them as a fire-blackened hell-on-earth. Unbeknownst to Beadel, the local African-American sharecroppers had “put the fire out” that afternoon, ridding field and forest of a year’s worth of accumulated growth. Beadel was not amused. “The country looked to us irretrievably ruined, and the quail doomed.”¹

Charley soon set Beadel’s mind at ease. He “informed us that this burning took place regularly every spring as far back as his great-grandpapa could remember.” Relieved, yet still a bit incredulous, Beadel took “a few calmer squints through the smoke [to see] all the trees still standing, and we even found that we could walk behind the flames without scorching our boots.” After a little sleuthing, he discovered that locals “took the practice as much for granted that it had

not occurred to them to mention it to us.” Setting fires was one of the many local land management practices that mimicked historical ecological disturbance in the South’s longleaf-grassland environment—practices that would soon be repeatedly attacked and defended by a bevy of scientific experts.

Almost three decades later, it did not take quite such a revelatory experience for Herbert Stoddard to realize fire had an essential place in the South’s coastal plain ecology. Despite the anti-fire dogma that infused the region in the 1920s, he had a strong inclination before arriving in the Red Hills that the stability of the region’s longleaf pine-grassland system depended on routine fire. Stoddard arrived in Thomasville on February 7, 1924, and immediately began his immersion in the Red Hills environment. His exploration started on the sprawling Thomas County properties of Charles Chapin, Howard Hanna, and Jeptha Wade. Riding with Chapin on February 9, he recorded in his field diary that he saw a “world of beautiful quail country. As a rough guess I should say that about 75% of the country is covered with timber (and much of this so scattered and open that it is ideal quail country).” There were many patches of corn planted throughout the forests and a “considerable acreage [of] cotton land,” but it was the forest that got his attention. He marveled that “the majority of the pine land is primeval woods which has never been cut over or turpentined;” and like so many travelers before him, Stoddard noted that “this section is all rolling and very beautiful country, in marked contrast to the flat, desolate turpentined to death country to the east.” The health-seeking landowners had gotten to these lands before the timber industry could do its work, and the forested grasslands remained largely intact. He seemed unfazed that “the majority is burned over on an average of every two years.” He remembered well the annual ritual of burning off the cattle range in central Florida, and like his childhood home, here in Thomas County “most of the wooded country is almost a perfect

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2 Ibid.
stand of yellow or ‘long leaf’ pine.” The presence of fire, then, seemed to make sense, or at least it did not raise any immediate concerns.³

Many people had likely taken a route similar to Stoddard’s that day, but few recorded what they saw in such detail. The existence of Stoddard’s field diaries signal a new administrative presence on the quail preserves. Unlike so many previous travelers to the Red Hills who were escaping work, Stoddard was in the midst it, conducting his initial survey of the properties as an agent of the federal government’s Bureau of Biological Survey. Before Stoddard’s arrival, the owners and residents of the quail preserves had gone about their business largely outside the province of the government. Hunting seasons and bag limits were in place, but beyond these regulations there was little government direction or interest with how the preserves carried on their affairs. Stoddard’s arrival signified something new. He was there in a governmental, and a scientific, capacity to help the preserve owners to create a system of land management to enhance their quail shooting, but it is striking how little the land-use patterns actually changed. Instead, Stoddard adapted many practices of southern coastal plain agriculture to help create a hybrid form of land management based in both the biological sciences and the practical experience of production. Rather than forcing a cultural landscape to fit an abstract set of scientific principles, he set out to mold a system of management from the region’s cultural and environmental past. In addition to being a land of both respite and work, the circumscribed environment of the quail preserves was now an open-ended scientific laboratory as well.

The remaining chapters will examine the process through which Stoddard gained scientific knowledge about the longleaf-grassland forests of the Red Hills environment, and how that knowledge was, in turn, applied and disseminated as a conservation alternative in the longleaf-grassland region. This was not theoretical field science for its own sake; the goal was

³ Stoddard Field Diaries, February 9, 1924. HLS Papers, TTRS.
always practical application. As historian Robert E. Kohler has argued, field biologists “do not just work in a place, as laboratory biologists do, but on it. Places are as much the object of their work as the creatures that live in them.” Stoddard came to study the life history of the bobwhite quail, and to do it required study of its place, its dynamic environmental surroundings. Furthermore, Stoddard came to realize that the Red Hills environment maintained a delicate tension with the complex cultural world of humans. The accumulation and application of scientific knowledge in the field, then, was not a simple endeavor. It was contingent on the natural and cultural circumstances of place, neither of which were readily controlled by scientific experimentation. Stoddard faced a host of natural and cultural disturbances in the field, and quite a few combinations of the two. Hurricanes, drought, cotton agriculture, domestic pets, and exotic plant and animal pests were only a few difficulties he dealt with locally in pursuit of quail production. And in a more broadly construed field, there were the intangible interests of private industry, state and federal government, and the detached warp and woof of commercial markets in goods produced from the same land that acted as a laboratory. In other words, there were a host of uncontrollable variables that affected scientific fieldwork. Dealing with so many variables required a predilection toward improvisation, as well as some measure of common sense.


5 Clifford Geertz argues that common sense is a cultural system, and is possessed by “someone who is able to apprehend the sheer actualities of experience...[and] who is able to come to sensible conclusions on the basis of them.” This is not to say Stoddard was exceptional; on the contrary, his common sense told him that the common sense of locals who lived and worked in the Red Hills would be an invaluable resource in the process of scientific discovery. See Clifford Geertz, “Common Sense as a Cultural System,” in Local Knowledge: Further Essays in Interpretive Anthropology (New York: Basic Books, 1983), 73-93, p. 76.
For the science of game management, the Cooperative Quail Investigation (CQI) was a landmark study. It helped to propagate and define the field of game management—intermittently called wildlife management throughout the 1920s and 1930s until the formation of The Wildlife Society in 1936 secured the place of non-game species in the profession—and helped make it one of the most important among a growing number of natural resource professions. The book that resulted from Stoddard’s investigations, *The Bobwhite Quail: Its Habits, Preservation and Increase* (1931), is often overlooked by environmental historians today, but conservation advocates of the day regarded it as the premier document on wildlife management of any species in any region. And while Aldo Leopold is often considered the founder of wildlife management as a field, Leopold himself considered that honor to be Stoddard’s. The two friends worked closely together to outline the field of wildlife management, both in the field and through correspondence, but it was Stoddard who designed and implemented the first model study from which to proceed. Leopold’s biographer, Curt Meine, notes that Stoddard was “the first to examine a game species in detail and to utilize that information in a restoration effort. While Leopold was evolving an abstract framework for the science, Stoddard was providing its first concrete example.” Leopold himself was even more generous, giving Stoddard credit for blending the abstract with the concrete. While Stoddard put the finishing touches on *The Bobwhite Quail’s* galleys, Leopold predicted it would “set an entirely new standard which will appeal, I think, to both the fundamental biologist and the agricultural administrator when they become acquainted with it…

Stoddard’s Georgia Quail Investigation has set the pattern for the new method. His report, just coming off the press, will illustrate my meaning better than I can explain it. His technique consists of an alternation of field observation to get

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6 On the semantic progression from game to wild life to wildlife management, see Meine, *Aldo Leopold*, 259; Julianne Lutz Newton, *Aldo Leopold’s Odyssey*, 51; and Chapter 4 of this dissertation.

7 Curt Meine, *Aldo Leopold*, 264
'leads,' and controlled experiments to test their validity. As far as I know, his was the first attempt to weigh all the factors which determine the abundance of an American game species. He ends with almost an equation for the abundance of quail. This, as nearly as I know, is fundamental ecology. On the other hand, he also ends up with a distinct system of practice for the landowner. This, as nearly as I know, is applied ecology or agriculture.\textsuperscript{8}

Despite Stoddard's narrow title, then, this was not simply a study with a singular focus on one animal species. In his treatment of the bobwhite quail, he examined patterns, connections, and associations within all of nature, and argued that in the face of rapid industrial transformation, the intentional management of landed resources for the purposes of ecological diversity was not only feasible, but essential to the survival of a variety of plant and animal life. \textit{The Bobwhite Quail} was thus a seminal text, and Stoddard a pioneering figure, in the early study of wildlife ecology and management.

Whereas previous efforts at wildlife management meant little more than setting state hunting regulations, eradicating predators, or artificially propagating game birds, the CQI was one of the first attempts to understand and regulate natural processes. Stoddard's primary concern was the creation and maintenance of wildlife habitat, a proposition that would bridge several professional fields. \textit{The Bobwhite Quail} addressed countless details of quail life history and management, but its findings on three subjects in particular would deeply influence land management policy on public and private land in the longleaf pine region and beyond. First, Stoddard concluded that fire had a natural role in longleaf-grassland forests, and that the intentional application of fire would maintain natural conditions best suited for quail and other wildlife, as well as perpetuate the stability of the forests. Second, he found that most quail predators had a negligible effect on quail populations, and that environmental control of predators was more effective than attempts at eradication. Third, he argued that the growth of

\textsuperscript{8} Aldo Leopold, "The Role of Universities in Game Conservation," \textit{The DuPont Magazine} (June 1931), in AL Papers, 9/25/10-1, Box 4, Folder 3—Ralph King Correspondence.
intensive, mechanized agriculture constituted the greatest threat to wildlife resources across the South and nation. These three findings ran counter to many commonly held assumptions of scientists and practitioners in several fields of study, and Stoddard arrived at them just as a handful of others across the South and nation began to ask similar questions. After briefly describing Stoddard’s preliminary observations of the Red Hills’ people and landscape, the remainder of this chapter explores the one ecological phenomenon that consumed more of Stoddard’s time and energy than any other: fire.

After Herbert Stoddard’s week-long survey of the Red Hills in early February, 1924, he returned in March to begin the quail work in earnest. He and his wife, Ada, and son, Sonny, set up residence at Lewis Thompson’s 1000-acre satellite plantation in Grady County, Georgia. Known as “The Hall,” and later called Sherwood Plantation, this piece of land served as the investigation’s research base, along with Thompson’s 15,000 acre Sunny Hill Plantation. Sherwood’s provenance was typical of the quail properties. It was an antebellum cotton plantation, and then, after the war and Reconstruction, it passed to J.J. Healy, a priest from New England who purchased it as a winter retreat. When Healy’s failing health no longer allowed him to travel south, H.W. Hopkins bought Sherwood in 1906 and used it for hunting and raising Shetland ponies, sheep, and hogs. Hopkins, though, rarely held a piece of land for long, and Sherwood was no different. Lewis Thompson purchased it a few years later and used it as a sort of retreat within a retreat. When he tired of hunting the countryside of Sunny Hill, he packed up and spent a few days at the more heavily-wooded Sherwood. When Stoddard moved in, he described its landscape as “largely covered with open pine woods. About 60 to 100 acres has been cleared in three or four small patches. This has been planted mainly to corn, some cotton.
There is a beautiful clear ‘branch’ running across the place, bordered by many very large pines, some beautiful magnolias and deciduous trees.”

Though smaller in size, both Sherwood’s lineage and its environmental components were consistent with the surrounding preserves.

The Investigation was a cooperative project between the preserve owners and Biological Survey. The preserve owners organized a group of about seventy-five contributors, mostly from the Red Hills, who funded the entire study and offered their land base for observation and experimentation. The Survey provided Stoddard with institutional and laboratory support, especially in the identification of avian diseases. They sent Charles O. Handley, a field agent in the food habits division, to aid Stoddard in the field, and the two of them immediately set out to begin examining the Red Hills environment, trapping and banding quail; observing breeding behavior, nest sites, and daily behavior; examining the anatomy of quail and their predators; and observing predator-prey relations. By this time, the quail preserves encompassed well over 200,000 acres—much of it contiguous—and Stoddard had access to practically all of it.

In these early stages of the study, Stoddard was exceedingly careful not to offend the considerable egos of the preserve owners. He did well in this regard, but not without some coaching from S. Prentiss Baldwin, who spent many winters in Thomasville as an ornithologist and had some experience with the sportsmen. First, Stoddard had to establish his identity as a scientist. His status as a field agent of the Biological Survey provided him a certain amount of

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9 Stoddard Field Diaries, February 12, 1924. HLS Papers, TTRS; also see H.W. Hopkins, “Historical Sketch of Sherwood Plantation, From the Red Man 1814 to 1934,” File 177, Elizabeth Hopkins Collection, Thomasville Genealogical, History, and Fine Arts Library.

10 Handley’s relationship with Stoddard was an interesting one. Handley and his wife lived for a time in one of several small houses on Sherwood, but never quite adjusted to country life and eventually moved to Thomasville. Handley stayed in the region until 1928 and completed important work on quail food habits, but he never adjusted to Stoddard’s work habits. Stoddard, in turn, was little impressed with Handley’s work and refused to write a recommendation at the conclusion of the study. Stoddard explained, bluntly, that Handley “failed to appreciate the opportunity presented and [was] inclined to regard your work as a ‘Government job.’” Handley did secure a job in 1929, however, with W.B. Coleman at the Virginia State Game Farm and wrote up his food studies chapter from there. Stoddard to Chas. O. Handley, September 14, 1928. HLS Papers, Early Correspondence A-Z, TTRS.
scientific legitimacy, but both Baldwin and E.W. Nelson were concerned about how the preserve owners might interpret his lack of formal training. By this time, taxidermy was losing favor as a reputable field within the sciences, and Baldwin thought the preserve owners needed reassurance “that you come to them as a scientist.” To do so, they advised Stoddard not to overtly collect bird skins or practice taxidermy, as “it would not do to let the quail men think of you as just a taxidermist.”\(^\text{11}\) Baldwin himself had long been trying to convince his neighbors in the Red Hills to “appreciate that I am known in science,” but he admitted that “the all important thing is not what they think of me, anyway, but that Thompson and the others have absolute confidence in you and the Survey.”\(^\text{12}\)

Indeed, Lewis Thompson was the most active preserve owner among the investigation contributors, and his cooperation and confidence would be crucial. The son of William Payne Thompson, a West Virginia oil producer who became a director of Standard Oil, Thompson made his home in Red Bank, New Jersey, but spent his winters at Sunny Hill and the rest of the year traveling from the Florida Keys to the Northwest chasing game and fish of various stripe. Unofficially known as “the finest shot of any man in the country,” he participated in shooting matches across the country, was active in New Jersey’s Republican Party, and one year followed the duck migration from Nova Scotia to Mexico, extending his own personal duck season to four months.\(^\text{13}\) He was accustomed to getting what he wanted—according to Baldwin, he “at times takes more drink than is wise and is sometimes more forcible than correct in his thinking.”\(^\text{14}\) Despite his brusque manner, or his penchant for control, Thompson immediately took a liking to Stoddard. He appreciated, according to Baldwin, that Stoddard was “modest, and sincere, and

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\(^\text{11}\) S. Prentiss Baldwin to Herbert Stoddard, March 11, 1924. HLS Papers, Baldwin Correspondence, TTRS.

\(^\text{12}\) S. Prentiss Baldwin to Herbert Stoddard, March 15, 1924. Ibid.

\(^\text{13}\) On Thompson’s background, see *New York Times*, pg. 16, March 26, 1936.

\(^\text{14}\) Baldwin to Stoddard, March 15, 1924. HLS Papers, Baldwin Correspondence, TTRS.
willing to learn (not claiming to know it all)... You should have heard Thompson telling me just how [the study] ought to be done; and all of it just what I knew he got from you."\textsuperscript{15}

Thompson’s presence kept Stoddard on his toes, but alongside the local land managers and tenants with whom he worked every day, he could be a bit more casual. Unlike many agents of the nascent conservation state, Stoddard was not seen as an outsider by locals. Stoddard’s rearing more closely approximated that of the local preserve managers and laborers, and his experience with people like Ed Ochsner and Bert Laws in Wisconsin gave him an appreciation for those who spent their lives in a particular environment. Stoddard’s most trusted companions and informants during the study were local preserve managers. Among those who befriended him early on were Louis Campbell, then the dog handler and later manager of Harry Payne Whitney’s Forshala Plantation, Robert Stringer, manager of Thompson’s Sunny Hill, and Stringer’s sons, Sidney, Albert, and Robert, Jr. Thompson’s employees were particularly helpful to Stoddard. Though he ceded all authority to Stoddard for running the study, from day one Thompson instructed his managers and tenants “to aid and assist [the study] in every possible way and manner, and later told me to never hesitate to ask for anything I might want or need to further the work.”\textsuperscript{16} This largess provided important support for Stoddard’s work, but the giving of both human and land resources also meant Lewis Thompson retained considerable control over the activity and progress of the quail investigation.

This reliance on locals made it impossible, even undesirable, to conduct the quail investigation in the vacuum of scientific study. Stoddard engaged most everyone he met in town and country with discussions on quail, and was quick to capitalize on the help offered by Thompson and others. Much of his received advice came from the preserve owners, but

\textsuperscript{15} Ibid.
\textsuperscript{16} Stoddard Field Diaries, February 10, 1924. HLS Papers, TTRS.
Stoddard was more interested in what natives had to say because “local people were familiar with the birds in summer,” rather than only during the hunting season. Stoddard wrote that “the whole terrain is daily crisscrossed by the trails of people going about their work afield,” and it was not long before the area’s small farmers, managers, tenants, and wage hands fielded requests from Stoddard of all types. As those who worked the fields and forests on a daily basis, locals provided important information on what they considered normative and anomalous environmental conditions.

Figure 3.1: 1925 CQI Map. One of Stoddard’s early tasks was to map the preserves. Notice the Thomasville grid upper off-center right, and Tallahassee lower left. Archives of Tall Timbers Research Station.

17 Ibid., September 26, 1924. HLS Papers, TTRS.
18 Stoddard, The Bobwhite Quail, 195.
When it came to the doings of quail, and reasons for their decline in particular, Stoddard soon learned that everyone had an opinion. He lauded an eight-five year-old H.W. Hopkins as “an inexhaustible fount of local information, and an immense amount of practical information about the quail.” Over the course of several early visits they “talked over quail, quail-shooting, [and] trapping methods” and Hopkins confided that “he has studied them for over fifty years and has come to the conclusion that he really knows very little about them!—which proves he is a very wise man.”

Other opinions varied widely about what caused the decline in quail, and Stoddard noted most all of them in his field diaries. One Leon County native thought an increase in rattlesnakes spelled quail doom; another considered overshooting to be the culprit. During one trip south of Tallahassee while taking shelter from rain, Stoddard was sitting with locals when “the conversation turned to quail and the dozen or more all gave their news. House cats were considered as the worst enemies by all present…One motherly old lady said that her own cat had already ‘cleaned out two coveys of young quail’ that frequented the immediate vicinity of her home!”

This surely rang true with Stoddard’s inner ornithologist.

Many others, however, did not regard quail numbers to be on the decline. One contact thought “they find almost as many coveys now” as in years past, but because of increased hunting pressure “quail are gradually changing their habits and becoming harder to shoot, being found less in the broom fields and open ground than formerly.” Stoddard himself thought the “scarcity to be more apparent that real,” but he also knew that a host of uncontrollable climatic factors had a hand in determining seasonal fluctuations. Stoddard took these sometimes conflicting opinions seriously, and used many of them as the basis for his experimentation and

19 Stoddard Field Diaries, February 9, April 19, 1924. HLS Papers, TTRS.
20 On rattlesnakes and overshooting, see Stoddard Field Diaries, April 13, 1924; on house cats, September 26, 1924. HLS Papers, TTRS.
21 Stoddard Field Diaries, January 4, 1925. HLS Papers, TTRS.
22 Stoddard to E.W. Nelson, June 10, 1926. HLS Papers, Investigation Correspondence, TTRS.
observation. He also believed in the efficacy of the scientific method, and through it sought to confirm the truths and debunk the myths. In this way, the quail study became a very public activity. Everyone, resident and non-resident alike, had an interest in quail, and though some locals “appeared a trifle skeptical as to what we would learn,” most were welcoming to the study’s aims and considered it a public good.²³

Figure 3.2: Herbert Stoddard banding quail, 1924. Private papers of Leon Neel.

The more Stoddard saw and heard, the more he realized the need for a guiding hypothesis to drive his research agenda. What he devised was simple—as well as flawed in its earliest incarnation—but it led to basic questions in wildlife management that directed the field for decades to come, and eventually turned some basic assumptions of forestry and agriculture on their heads. His most important step was to connect quail to their vegetative surroundings. He

²³ Stoddard Field Diaries, May 14, 1924. HLS Papers, TTRS.
proposed that if targeted environments contained enough food and cover, i.e. habitat, then quail would “breed up” to reach a maximum capacity. There were a host of complications that might arise toward reaching capacity, but this maxim generated the core questions of the study: 1) what were the preferred foods of bobwhite quail? 2) how can we make more of them grow? 3) what were the most prevalent quail predators? 4) how can we see that they do not harm quail populations before reaching maximum capacity?

In essence, Stoddard wanted to determine the “carrying capacity” of the quail range, and develop methods to maintain it on an annual basis. The concept of carrying capacity had been used to navigate range management issues in the West, and had only recently cropped up in Western big game management issues, but any practical measures to strike a balance between food supply and animal populations in the West would have little bearing on management in the longleaf-grassland system.\cite{24} When Biological Survey chief, E.W. Nelson, first visited the Red Hills in April, 1924, Stoddard presented some initial thoughts on “the stimulating effect of an abundant food supply on animal life in general.” He was pleased Nelson agreed that “there is no doubt that the tendency of animals was to attempt to ‘breed up to the food supply’ and that an abundant and nourishing food supply undoubtedly would serve to increase quail as it did other creatures.”\cite{25} The difficulty, and promise, of such an assumption lay in rooting out the mind-numbing ecological complexity of how interdependent animal populations related to one another, as well as to the vegetative associations of the longleaf-grassland landscape.

The first problem to work out was that of habitat—that mix of food and cover vital to quail survival. In determining what food plants quail preferred, Stoddard observed feeding habits

\footnote{\textsuperscript{25} Stoddard Field Diaries, April 3, 1924, TTRS.}
in the field, examined countless quail crops and gizzards, and built a quail propagating plant on Sherwood to manipulate the feeding habits of captive birds. He also experimented endlessly with various quail food plants to determine the best seed collecting, planting, and cultivation techniques. The results enabled him to advise landowners on what to plant to increase their quail supply. More importantly, he concluded that many traditional land management techniques were already in place to ensure abundant food and cover. In the expansive longleaf forests, the use of fire ensured the annual renewal of wild seed bearing plants crucial to quail, and the small-scale patch farming of tenantry created edge-effects for both food and cover.

Within the first two years of the study, Stoddard’s observations of plant growth in the field led him to what would become a revolutionary conclusion in southern resource management circles: The best way to increase the food supply, and thus increase quail populations, in the longleaf-grassland system was to regularly burn the forests. In such a fire-adapted system, native grasses and legumes like Florida beggarweed, partridge pea, and many lespedezas would quickly reseed after a burn, thus providing quail and other wildlife a constant food supply. Without fire, these vegetative associations would be quickly shaded out by hardwood growth. Years later, when his land management system was thoroughly developed, he advised one landowner who wondered how to plant more partridge pea that “for the price of a box of matches all of your properties in both Florida and Georgia are kept full of this fine feed by the controlled burning carried on by your men.”

Why rely solely on planting, he thought, when you could simply burn the woods and create ideal conditions for natural feed plants to grow? In the longleaf-grassland environment, then, fire would form the cornerstone of Stoddard’s practice of science and land management.

26 Stoddard to R.L. Ireland, May 20, 1957, Stoddard Papers, R.L. Ireland Correspondence, TTRS.
It did not take long for Stoddard to realize that the study of fire’s effects on flora and fauna would be a major part of the investigation. He had little choice: it was a cultural and material reality that residents of the quail preserves burned most of the farm and forest land every year or so in late winter and early spring. The coastal plain was among the more thunder and lightning prone places in North America, and lightning-ignited fires had long been a part of the region’s environment. Though they only occasionally caught fire, in a time before a profusion of well-maintained and other firebreaks, a fire started from one strike might have burned over millions of acres.\(^{27}\) As important as lightning fire was to the coastal plain, though, anthropogenic fire did even more to maintain the longleaf pine-grassland forest. In some ways, the burning habits that Stoddard encountered were simply part of a southern mimetic tradition, passed down by word and deed through the generations. The material reasons for using fire, however, where part of the physical reality of living in the longleaf forests. As fire historian Stephen Pyne has pointed out, “The fire history of the South is in good part a history of its fuels.”\(^{28}\) In the longleaf-grassland region, fuels constitute the mass of understory grasses and woody debris—often called the “rough” in southern parlance—that accumulate particularly fast when not checked by fire. After only a few years without a fire, such unchecked growth made the southern woods virtually uninhabitable to humans and many species of wildlife, and greatly increased the chances of a large conflagration during periods of drought. The earliest inhabitants of the region were quick to pick up on the necessity of fire. Early settlers in the South borrowed


\(^{28}\) Indeed, this chapter owes a great deal to the path-breaking scholarship on fire by Stephen J. Pyne, as well as the earlier work of Ashley Schiff. When the Forest Service was still debating the role of fire, Schiff had already detailed the early struggles over fire within its ranks, and gave much attention to the fire debates that originated in the longleaf forests. See his *Fire and Water: Scientific Heresy in the Forest Service* (Cambridge: University of Harvard Press, 1962). Pyne’s work is crucial to anyone wanting to understand the political, cultural, and physical aspects of fire. A good place to start is *Fire in America*, quote on pg. 145.
the burning habit from Native Americans, who used fire to clear agricultural land, lure game animals, and to keep forests open for their own comfort and security. As settlers spread across the region in the eighteen- and nineteenth-centuries, burning became the dominant land management tradition region-wide. Farmers used it to open new land and to maintain older fields by removing post-harvest debris. Cattle herders burned the open range yearly to encourage nutritious new growth in the unimproved coastal plain uplands. Naval stores operators burned their woods to facilitate the movement of labor from tree to tree in gathering turpentine, as well as to control ticks and chiggers, and make rattlesnakes more visible.29 Until the early twentieth-century, virtually every land use in the piney woods South required some sort of fire application. The movement of industrial forestry into the South around the turn of the twentieth-century called many of these motivations into question, but when Stoddard came to the Red Hills, there was considerable persistence in setting the fields and forests aflame.

Stoddard’s childhood experience with fire, his discussions with local land managers like Campbell and the Stringers, and his observations of tenant burning methods convinced him that fire was a useful tool to make the forests more manageable for human use. His earliest observations noted that February “seems to be the height of the burning season and considerable stretches have been burned over,” and that it was the local policy to “burn every few years, otherwise the woods became impassable to wagons and difficult to hunt.”30 Beyond making the forests more congenial to social and economy activity, however, fire’s ecological role was initially less clear to Stoddard. Early in the study he took care not to assume that fire was a necessary natural and cultural component in the longleaf forest. Upon first glance, he thought

30 Stoddard Field Diaries, February 11, 1924, HLS Papers, TTRS.
“the quail must move out of newly burned country,” and he was concerned about the effects of one fire he observed that “was very hot in spots for it killed the leaves of scrub oaks for 40 ft up, and would have destroyed any dried [songbird] nests in these trees.”31 These early concerns were likely those of a cautious young scientist, for the longer he observed burned-over areas, the more certain he became that fire, as it was used in the Red Hills, had little detrimental effect on the forests. One afternoon he found a covey “dusting in an open situation in a huge burn, fully 400 yards from nearest cover…This is further evidence that many coveys continue to live on the burn, or in tiny patches of cover that many be left here or there.”32 A few days later when “fires [were] raging everywhere…The burned areas seem to be the place to look for quail, as burned pine woods seem to be greatly favored for feeding and little patches of vegetation that escaped the burning are used for sunning, dusting, and to some extent, for roosting.”33 Quail seemed to relish the ash left behind, but what became of the plant life that fueled the fires and contained the core nutritional content for quail? The bare mineral soil left in a fire’s wake would not sustain a quail population for long. It was here, in his study of understory plant life, that Stoddard began to develop a more complete understanding of fire’s natural role in the longleaf-grassland forest.

Though the majority of preserves burned the entirety of their forests every two years, a few curtailed the practice several years before Stoddard began the study, thus making for ideal comparative observation of ground cover. Jeptha Wade, for instance, on the advice of landscape architect Warren Manning, had only burned sporadically on his Mill Pond Plantation since around 1906. The results were less than satisfactory to Wade. He told Stoddard that “they have burned very little for years, but the place was getting so brush choked that they burned it off last year for the first time.” Throughout his policy of fire exclusion, Wade noticed “a marked falling
off in their quail supply.” The rough became a dense mix of hardwood reproduction, vines, and tangles often referred to as “jungle-like,” which made the forest not only difficult for humans to traverse, but also choked out important food plants for quail and most any other wildlife commonly found in the southern coastal plain. Comparing Wade’s unburned rough with the lush forest understory found on other preserves gave Stoddard some obvious contrasts to work with. On Lewis Thompson’s Sunny Hill, for example, tenants continued a heavy burning rotation. Stoddard inspected one section known as the “Perkins woods” in May, 1924 that “had been burned over early in the season, and the new vegetation had acquired a good growth” within just a few months. The Perkins woods was “so open that there is a dense ground growth of a wide variety of plants” and residents there “tell me that it is shot hard 7-8 times a season, but that they always find birds.” Over the first two years of the study, as he watched a diverse assortment of plant life return on burned land and disappear on unburned land, Stoddard came to understand that the park-like forested landscape he first encountered in the Red Hills—that aesthetic so attractive to quail hunters—was actually the result of frequent fire. This likely came as no great surprise to locals in the region, nor did it to Stoddard, but local common sense did not easily translate into verifiable science.

Nevertheless, when it came time to draw up the first substantive report on the quail investigation, Stoddard made some bold connections between fire and the ideal quail habitat found in the Red Hills. His 1925-1926 report argued there was a strong correlation in the longleaf forest between the presence of fire and the preferred habitat of bobwhite quail. The “open woodlands of some types,” wrote Stoddard, “produce great quantities of favorite quail foods in the form of small legumes, such as butterfly and milk peas, tick-trefoils, bush clovers

34 Ibid., March 1, 1925.
35 Ibid., May 6, 1924.
(Lespedeza), partridge pea, dwarf sumac and others.”36 His early work in the laboratory verified that quail favored the lespedezas and legumes, and in the wild he found them most commonly in burned over forests, not on lands kept in the rough. It was evident, then, that fire was not only a cultural necessity, but also an ecological one, at least if a significant quail population was the goal. His report continued, “Some types of woodland in this region…have a tendency to grow up to jungle-like undergrowth, and unless controlled by late-winter burning the only alternative seems to be expensive brushing out by hand at intervals. Such mixed woodlands of pine and hardwoods…are too dense for quail…”37 If raising quail in the wild was the primary management goal on coastal plain lands, then the use of fire to maintain habitat was not only preferable, but a practical necessity. When the rough became too thick due to a policy of fire exclusion, or simple oversight, Stoddard recommended opening the forest up with a mixture of low-level fire and manual hand labor, and reported that “after such areas are opened up so that the sunlight reaches the soil, a luxuriant ground growth springs up, and this usually includes many plants furnishing valuable quail foods.”38

Stoddard’s interests in natural history extended further than a narrow focus on increasing quail numbers, however. Though he did not use contemporary ecological jargon like “vegetative succession” or “climax state,” he did make some preliminary suggestions about the development of longleaf forests as opposed to other forest types:

While the exact effect of fire on the many kinds of vegetation that contribute to the quail’s food supply and cover can be determined only by observations over a long series of years, it has been possible to study the subject from the comparative standpoint on preserves in quail country of various types where the fire policy of each is known. Fire is unquestionably a controlling factor in determining the

37 Ibid., 53.
38 Ibid., 54.
types of woodland in any given area in this region, as well as in the regulation of the ground vegetation.\textsuperscript{39}

The natural ignition or cultural application of fire had been so frequent for so long that most plant species in the region had adapted to it and even become dependent on it, Stoddard suggested. This conclusion, more than mere theory, entered the public record as a policy recommendation, a result that landed him in the middle of a rhetorical firestorm. His recommendation to use fire as a strategy to restore quail numbers was perhaps the most significant, and certainly the most controversial, result of the quail study. But more than that, Stoddard quickly came to understand that the entire longleaf pine-grassland system required fire.

Trumpeting the use of fire ultimately helped to define Stoddard’s legacy in the southeastern forests, but when his report filtered out of the South in 1925, arguing that fire benefited forest health in the longleaf region, the nation’s foresters grew uneasy. This was not a good time to advertise the benefits of fire in southern pine forests. As government and industrial forestry organizations attempted to secure administrative control over local resources, practices like woodburning became anathema to good management. And the assumption that fire destroyed southern pine forests was not without some merit. After the massive industrial logging effort from 1880 to 1920 foresters had, in fact, witnessed large swaths of young forest swept over by fire. This large-scale logging was a key turning point that brought national attention to the problem of cut-over lands and fire protection in the South. Large timber companies turned their focus from the Great Lakes states to the South in the 1880s, where they found a substantial amount of timber in the public domain. With the help of redeemed southern legislators, Congress had recently retreated from the lofty goals of Reconstruction and repealed the Southern Homestead Act—designed to offer small plots from the public domain to both freedmen and

\textsuperscript{39} Ibid., 56.
poor whites—and public land sales were no longer limited to 80 acres.\textsuperscript{40} Timber companies and other speculators proceeded to amass huge tracts of land and construct rail lines into the coastal plain’s interior; with the help of local operators, they cut the high-grade timber out of millions of acres of longleaf forest by the 1920s and left much of the land in ruins. As forest resources dwindled, Forest Service chief, William Greeley, reported in 1925 that “the production of southern timber passed its peak in 1916 and the last great migration of American sawmills is under way across the Great Plains to the virgin forests of the Pacific Coast.”\textsuperscript{41}

In the wake of this industrial cut, lumber company officials, government planners, and local townsfolk had little idea of what to do with cutover lands. The problem was particularly acute in the coastal plain. Outside of the lowlands, and a few anomalous sections like the Red Hills, the soils in much of the coastal plain were sandy, fast-draining and acidic—not at all ideal for farming. Early travelers called the coastal plain uplands the “pine barrens” for good reason. There were, of course, farmers spread throughout the region at the turn of the twentieth-century, but they usually stuck close to the richer bottomlands that bordered rivers. Those who did venture into the sandy uplands engaged in a diversity of farming activities that utilized the region’s open range.\textsuperscript{42} Nevertheless, converting cutover land to farms was a popular idea among planners. Some suggested selling farmsteads at discounted rates to returning World War I


veterans. Others hoped to expand pasturage to make the region a national center for cattle production.\textsuperscript{43} In the end, however, the various resettlement plans never took off. The most practical answer to the problem of cutover lands was reforestation. Many large tracts reverted to the public domain after deforestation, only to be sold again to a second generation of lumber companies more interested in staying in the region beyond one cut. It became clear to these lumber companies and other local woodland owners that their enterprise would not last long without an intentional effort to reestablish the pine forests. Lumber company officials, civic leaders, and local landowners thus accepted the help of scientific foresters to institute modern methods of reforestation and forest protection.

The earliest foresters to enter the southern coastal plain saw limitless possibilities for the region, but the reality on the ground was less than impressive. Scientific forestry was practically non-existent in the South, and administrative control of forest resources was piecemeal and had little influence over local activity. Much land lay barren, and the only people making any real effort towards reforestation were lumber company executives like Henry T. Hardtner of Urania, Louisiana and William H. Sullivan of Bogalusa, Louisiana, two rare industry men who remained in the region long enough to watch their pine lands regenerate naturally after the initial cut. Despite these almost accidental efforts at reforestation, social geographer Rupert Vance observed in 1932 that “the shift in timber from a mining to a cropping system of utilization has hardly made a start.”\textsuperscript{44} Vance felt reforestation in the South depended on “the development of a national attitude toward forestry,” but more than attitude, foresters needed knowledge about the mechanics of southern pine growth.\textsuperscript{45}

\textsuperscript{43} On the various schemes involving cut over lands, see\textit{Lumber Trade Journal}, vol. 74, no. 9 (November 1, 1918).
\textsuperscript{44} Rupert B. Vance, \textit{Human Geography of the South: A Study in Regional Resources and Human Adequacy} (Chapel Hill: University of North Carolina Press, 1932), 136.
\textsuperscript{45} Ibid.
There were few places to gain that knowledge. Following up on Gifford Pinchot’s work as the forester on George Vanderbilt’s Biltmore Estate in North Carolina, German forester Carl Schenck established the South’s first forestry school near there in 1898, but its focus was more national than regional. The University of Georgia cobbled together the first forestry school with a southern focus in 1906, and Louisiana State University would not start the region’s next forestry program until 1925. Within the state governments, Texas and Louisiana organized state forestry departments in 1915 and 1917, respectively, and between 1924 and 1928, Alabama, Georgia, and Mississippi followed suit. These state departments formed at the behest of the many various forest industry associations who hoped a state organizational structure might provide a means for fire protection, but they did little to advance scientific knowledge about the South’s pine forests. The Forest Service made a major investment in southern forestry in 1921 with the establishment of a series of experiment stations, beginning with the Southern Forest Experiment Station in New Orleans. The department line on fire, however, remained the same for many years. One experienced Forest Service official, Inman Eldredge, admitted in 1935 to a dogmatic ideology on fire within the Forest Service. He wrote, the Service “rallied behind the premise that the only way to manage any forest anywhere in the United States, from Alaska to Florida, is to cast out fire, root, stem, and branch, now and forever. We have, with closed ranks, fiercely defended this sacred principle against all comers and under circumstances and any forester who questioned its universal application was suspected of treason or at least was

considered a dangerous eccentric." Even when foresters suspected fire to be useful—and some did—forestry’s professional culture prevented open discussion.

The longleaf-dominated coastal plain represented a special problem that no one really understood. Because of its dependence on fire, and the political baggage fire carried, this environment did not easily lend itself to scientific consensus. The result was a fundamental disjuncture between ecological reality, scientific inclination, and administrative aspiration. One problem lay in a relative lack of experience among Forest Service personnel with fire-adapted forest ecosystems. Most Forest Service officials trained under a European model of forestry, a model in which forest fire was not even a variable; and most of their experience was in the Northeast and Great Lakes forests, where, due to large fuel loads after heavy logging, fires were more often raging conflagrations than low-level creepers. And northern fires were less frequent anyway. For a state agency with influence over so many different forest types, a broadcast solution to the problem of fire was simple and would hopefully instill local populations with anti-fire doctrine. In the longleaf pine belt, though, routine fire was necessary not only to reduce fuel loads, but to facilitate longleaf regeneration, a fact that nobody quite understood at the time.

On this issue, the natural regeneration of what once stood, foresters were most flummoxed. Though it is impossible to generalize region-wide about a process as complex and localized as vegetative succession in the southern coastal plain, there are a few clues as to how foresters misinterpreted what they witnessed after the cutover. After an industrial cut on the upland coastal plain, less fire tolerant pine species such as loblolly and slash—along with a host of hardwoods and shrubs—replaced the cutover longleaf. When trained foresters saw debris-

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fueled fires sweep through the region, killing these early successional pines, they assumed fire made all pine propagation impossible. As it turned out, they were wrong, at least if their goal was to regenerate longleaf forests. Many timber companies operated a high-grade cut; that is, they sought the oldest, straightest trees and left many smaller trees behind, effectively providing a seed stock for the next longleaf forest. In these disturbed longleaf landscapes, fire was necessary to expose the bare mineral soil needed for seeds to germinate, and to suppress the early successional pines and hardwoods, so the longleaf seed stock could establish its dominance. But without fire these seeds rarely had a chance. At the time, however, the mechanics of longleaf regeneration were largely a mystery.49

On many large tracts, longleaf pine virtually disappeared, but where burning practices persisted under the system of free-range grazing, the second-growth longleaf forest made a comeback. Indeed, some government foresters noticed this phenomenon upon reflection. E.L. Demmon, of the Southern Forest Experiment Station, noted in 1935 “many examples are to be found throughout the belt of excellent second-growth longleaf stands, which are known to have been burned over at frequent intervals over a long period of years.”50 Inman Eldredge also harbored suspicions about fire exclusion. He did not think a forester with five years experience in the South could “accept without reservation the premise that fire everywhere and under circumstances is an unmitigated evil. Many of them are convinced that in the reproduction of longleaf pine, fire is a valuable silvicultural tool.”51 The administrative momentum of the Forest Service’s fire policy, however, stifled any constructive criticism from within. Another forester who came to the South around 1920, Austin Cary, revealed fifteen years later that “in the years

49 See chapter 6 for a deeper discussion of longleaf regeneration.
51 Eldredge, “Administrative Problems in Fire Control…,” 344.
during which I have been South, I have said as little as I could [about fire] in a public way…For one thing, there was an official policy which one would not care to counter unnecessarily.”

Foresters on the ground had little recourse but to remain silent on their suspicion that fire could actually aid tree growth.

It was a silence that carried tremendous environmental consequences. Through its destructive cutting, the timber industry deeply wounded the original longleaf forest, but the growing influence of scientific forestry—and the fire suppression it promoted—was the most powerful agent of ecological transformation in the southern coastal plain. Within a matter of years large swaths of the longleaf range became a dense tangle of slash pines, loblolly pines and hardwoods fighting for dominance and shading out the former ecological diversity of the longleaf-grassland region. Within this context of ecological change, fire suddenly became a very real problem. No longer would it creep along the forest floor, relatively easy to control while consuming native grasses and securing the longleaf’s preeminence; in this new ecological complex, fire would rush toward the forest canopy, consuming everything in its path and leaving destruction in its wake. Under these conditions, fire became impossible to manage. In their exclusion of fire, the new forestry establishment created an environment all the more vulnerable to a holocaust, which would only reinforce the misapprehension that fire was the problem.

In the Red Hills, the landholding patterns of the quail preserves largely sheltered the region from the machinations of the timber industry and subsequent fire suppression. As a result, it was one of the few remaining pockets of fire-maintained longleaf-grassland forest in the South, which made it an ideal outdoor laboratory to study natural processes. This was an

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52 Austin Cary, Discussion of Henry E. Hardtner, “A Tale of a Root—A Root of a Tale or, Root Hog or Die,” *Journal of Forestry* 33(March, 1935), 351-360, pgs. 357-358. Of the Forest Service’s resistance to criticism about fire, Pyne notes its relative youth as an agency, as well as the youth of its personnel. He wrote, “It could initiate controversy but was not responsive to criticism; it was too homogeneous by training and temperament, and too self-conscious about its newly won political and intellectual stature.” Pyne, *Fire in America*, 191.
environmental space relatively free from the ecological changes of the region at large, and the
forested preserves of the Red Hills still operated under the older land use patterns and practices.
In addition, the landowners and tenants were of like mind in regards to fire. Elsewhere in the
coastal plain, the longleaf forests were gone, local and national forces had a new vision for forest
resources, new landholder goals began to close off the open range, and an increasingly complex
system of railroads and highways began to compartmentalize the landscape in ways previously
unknown. Even when some resource managers and local people saw its efficacy, fire became
increasingly problematic. A fire that crossed property boundaries now had the potential to
offend a neighbor whose land use eschewed fire, as well as destroy their property. These and
other factors led to the desirability by local civic leaders, corporate forestry interests, and
scientific foresters for fire protection and suppression. The Red Hills quail preserves, however,
functioned as one large unit; their focus on quail production and their close proximity to one
another allowed them to continue burning as in the past. The environmental stability of Red
Hills forestland, in other words, gave Stoddard a natural laboratory to observe the effects of fire
under optimum conditions.

By the time Stoddard carried out his quail study in the 1920s, however, a stronger
organizational structure allowed scientific forestry to penetrate further into the region. The
American Forestry Association (AFA), with the cooperation of the Forest Service, state forestry
commissions, and industry-oriented associations, carried out a series of anti-fire projects that
reached deep into the southern woods. The most organized effort was the AFA’s Southern
Forestry Education campaign. Beginning in 1928, they sent scores of young foresters, known as
the “Dixie Crusaders,” into the South to preach against the sins of woodburners. The brainchild
of Ovid Butler, executive secretary of the AFA, the campaign focused on rural Georgia, Florida,
and Mississippi, where the Crusaders sought “public enlightenment…among the rural people of
the South who have followed for generations the custom of burning the woods annually,”
according the project’s final report. The custom of burning the woods, “based upon ignorance of
forest growth and forest values, was common throughout the entire South and was recognized by
foresters as the most difficult barrier to forest regeneration and permanent forest management on
over 200,000,000 acres of wild land in the South.” The general objective was to promote “a
new and different picture of forests as a land crop,” and to make southerners aware of the harm
caused by fire to the forest industries, grazing conditions, wildlife, and scenic values.

In three years of activity, the Crusaders toured the region in a fleet of trucks equipped
with generators and motion picture projectors, and showed over 4,600 films, delivered over
7,300 lectures, distributed 930,000 pieces of literature, and reached an estimated 2,679,000
people, white and black. The message of the AFA and the Dixie Crusaders was diametrically
opposed to what Stoddard discovered about his corner of the southern piney woods, partly
because his corner was the diametrical opposite of the much of the cutover coastal plain. The
longleaf-grassland forest remained and fire posed little threat. Beyond these different
environments, each party also arrived at different conclusions because they each began with a
different set of desired environmental and economic objectives in the forest.

Stoddard did his best to ignore the AFA and the Forest Service. The cooperative nature
of Stoddard’s position gave him some autonomy in carrying out his study, but even a quasi-
government agent was sure to catch some flak for espousing the beneficial role of fire. When

*The Bobwhite Quail* hit the market in 1931, fire was by far the most common topic of

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Association), 4. In American Forestry Association Papers, Box 13, Reports—Southern Forestry Education Project,
Forest History Society Archives, Durham, NC; also see Pyne, *Fire in America*, 169-171.
54 The Southern Forestry Education Project, Final Report,” 5.
55 Ibid., 24.
conversation in land management circles, and few dared to speak of its propriety. It is a wonder
The Bobwhite Quail saw the light of day as a government-sponsored monograph. Since both the
Biological Survey and the Forest Service fell under the administration of the U.S. Department of
Agriculture, the manuscript ran through the Forest Service editorial office, and the foresters who
saw it did not like what they read. As early as June 1926, the chief of the Forest Service,
William Greeley, questioned the legitimacy of the Biological Survey in matters of forest
management, in terms both biological and sylvic. He asked E.W. Nelson to rein in his charge,
writing, “It is to be hoped that... Mr. Stoddard will be very guarded in the matter of fire and
woods burning so as to guard as fully as possible against any possibility of the public
misconstruing his statements to make it appear that the Federal Government advocates burning
the woods in order to improve conditions for quail.” On the contrary, Greeley contended that the
“common practice of yearly burning the woods is effective in large measure in the depletion of
game animals and birds. This is one of the standard reasons advanced by State and Federal
foresters for preventing woods fires.”

In other words, the Forest Service had ultimate authority in the woods, and it did not need a rogue federal agent instilling doubt in the minds of locals.
Nelson was quick to defend Stoddard, making it clear that fire suppression “renders great areas
absolutely worthless for quail.”

But he also urged Stoddard to make plain “in your letters talks, or publications” that the need for fire “is due wholly to local conditions and not for general application.”

To a certain extent, Nelson was right in his caution. The subtleties of burning depended
almost entirely on local conditions, and locals were not always subtle in their practices. A
scorching fire during the height of summer could do a great deal of damage to both wildlife and

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56 W. B. Greeley to E.W. Nelson, June 10, 1926. HLS Papers, Fire Correspondence, TTRS.
57 E.W. Nelson to W.B. Greeley, June 17, 1926. Ibid.
58 E.W. Nelson to Herbert Stoddard, June 18, 1926. Ibid.
timber resources. But the Forest Service was not one for subtleties either; it had waged a strong and indiscriminate campaign against any sort of forest fire, and Stoddard’s recommendations clearly threatened to challenge that orthodoxy. After his chapter on fire in The Bobwhite Quail went through five rounds of editing by Forest Service officials, Stoddard had to qualify his recommendations. He tempered the chapter with many remarks on the dangers of uncontrolled fire and the localized nature of his own study. He also conceded that the effects of frequent burning on flora and fauna were “a complex problem, one that would require years of careful research.” The charge of his study was to increase quail, and “they can at best be regarded only as a supplementary crop on timber and agricultural holdings. For this reason we desire to have it distinctly understood that most of our remarks and recommendations in regard to the use and control of fire refer to lands owned and held primarily for quail shooting, and should not be used to embarrass the forester in his attempts to protect forest growth over the region at large.”

Despite these concessions, Stoddard made it clear that where a landowner desired quail in the longleaf forest, fire was a necessity. Indeed, the chapter’s opening line left little room for misinterpretation: “The bobwhite of the Southeastern United States was undoubtedly evolved in an environment that was always subject to occasional burning over.”

Stoddard was sure of his findings, but this experience with the Forest Service and the bureaucratic channels of government work made a lasting impact. He thought the editorial hedging allowed some foresters to take “sentences here and there favorable to their cause on numerous occasions that completely reversed the findings of the Quail Investigation,” and that “there seems no limit to the lengths they will go to support their propaganda against fire.” Just as some practicing foresters found in the South, a policy that did not reflect environmental reality

59 Stoddard, The Bobwhite Quail, 402-403 [italics original].
60 Ibid., 401.
61 Stoddard to R.M. Harper, January 25, 1932. HLS Papers, Fire Correspondence, TTRS.
hamstrung Stoddard’s ability to make public what he observed in the field. Shortly after the book’s publication, he confided to one friend that “it is by no means as strong as I feel on the subject,” and to another that “perhaps I met the foresters a little too far on their side, for fire is the one great, outstanding shaper of southern ecology, without which we would have a very different country and a vastly different (and less numerous and diversified) animal life.”62 After letting official reaction to the book simmer for a year, he predicted to botanist Roland Harper that he would “write a good deal more on the subject before I get through, for I am pretty well warmed up about it.”63 Despite his reservations about The Bobwhite Quail, it turned heads throughout the natural resource professions, and helped to spark a thorough reconsideration of fire.

Stoddard followed up on his pledge to write more on the subject of fire, and immediately after the book’s publication, he was no longer much concerned with foresters’ embarrassment. He left the confines of the Biological Survey in 1930 and became a private consultant to hunting preserves throughout the South, where he hoped to spread the word about the beneficial role of fire. Public and private forestry interests, however, ratcheted up their calls for fire prevention, and New Deal programs like the Civilian Conservation Corps eventually provided an apparatus for state and federal governments to place men and money in the field to administer protection units and fight fires. Stoddard became especially incensed about general appeals by forestry interests to use state and federal funds for outright fire suppression. The Clarke-McNary Act, a major piece of legislation in 1924 that gave states more authority in administering forest resources, vaguely hoped to split funding for fire protection down the middle between private landowners and government agencies. Not surprisingly, by 1932 “this plan has not so far

62 Stoddard to S.W. Greene, May 8, 1931; Stoddard to Alfred O. Gross, March 11, 1931. HLS Papers, Fire Correspondence, TTRS.
63 Stoddard to R.M. Harper, January 25, 1932. HLS Papers, Fire Correspondence, TTRS.
worked out very satisfactorily,” according to Fred Morrell, the Forest Service’s representative on the CCC advisory council. In fact, “only in a few States are the private owners putting up more than a small percentage of the total amount needed.”

Raising fire suppression funds in the South was a particularly tough problem. Burning in late winter was as routine as breaking the land in the spring; why would landowners pony-up to prevent something so engrained, especially when it was still not entirely clear that timber was a worthwhile cash crop?

As chair of the Technical Committee of the National Land Use Planning Committee, Morrell suggested a more concrete solution: “that the protection of forests from fire should be regarded as a public responsibility to be financed by general taxes.”

Stoddard caught wind of the plan through Aldo Leopold, who was on Morrell’s committee, and initiated one of his many campaigns to protect local prerogatives in the maintenance of forest land. “At present,” wrote Stoddard,

there is in this region in excess of a million acres owned primarily for quail shooting, and to a lesser extent for the production of wild turkeys, deer and other game, and this acreage has been rapidly increasing…In addition the quail shooting rights are leased on a much larger acreage, while public shooting of quail is undoubtedly one of the most important forms of recreation; so important that the matter should be considered in any ‘land use’ discussion…

Thus began a treatise on fire that Stoddard repeated in various forms for many years to come. He first made it clear that in a rapidly expanding industrial world, game animals could no longer be taken for granted—the intentional management of game resources was essential to meet the public demand for them. By invoking the public’s right to game animals, he co-opted the rhetoric of other natural resource managers, thus providing an economic justification for game

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64 Memo to Technical Committee No. V, National Land Use Planning Committee, June 24, 1932. Aldo Leopold Papers, 9/25/10-2, Box 5, Folder 11, UW-M.  
65 Ibid.  
66 HLS to Fred Morrill, July 24, 1932, AL Papers, Box 5, Folder 11—National Land Use Planning Committee, UW-M.
management that was anything but self-evident. Such public demand meant that any attempts at government land-use planning had to recognize the distinctiveness of local and regional environments, and take locally-established management techniques into account. In the longleaf pine belt, those techniques included the use of fire. In his letter to Morrell, Stoddard continued with a focus on game animals, but expanded his view to make clear that fire was essential to most types of land use in the longleaf forest, while also offering a glimpse into the broader ecological role of fire that he would embrace more fully a few years later:

Controlled burning of these pinelands at intervals averaging about every alternate year is practically essential to maintaining them in condition for quail…and further studies since [our] Investigation show that the use of fire is even more essential than at first believed. Never-the-less a vast amount of pine timber can and is being produced on quail preserves, where the timber is much more apt to be held until fully mature than on surrounding lands. Taxes to be devoted largely to fire exclusion, under the mistaken impression that fire is a curse no matter when or how used, is obviously unfair to owners of such acreage, though public funds that could be used to aid them in controlling necessary burning, as it is by others in fire exclusion, would doubtless aid this very worthy land use movement.

In addition, there is no uniformity of opinion on the part of land owners as to desirability of absolute fire exclusion…over long-leaf pinelands in particular, and in other pinelands after they reach a certain age, for there are an ever increasing number of students of Southeastern ecology who consider properly used fire a valuable silvicultural agency…If public funds are to be made available for ‘protection’ of Southeastern pinelands, they should be made available to those who favor wise use of fire to prevent their holdings from growing up to deciduous jungle unsuited to quail and wild turkeys, and with a tremendous fire hazard…

Morrell’s plan for a general tax never passed, but all of this high-level government interest in local policy made Stoddard apprehensive about the legality of burning. Laws prohibiting arsonous woodsburning were long on the books (and rarely enforced), but the vehement tone of the post-cutover campaigns pointed towards outright criminalization of any type of woodsburning. The many appeals for fire protection and suppression caused Stoddard to

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67 See Chapter 5 for a fuller discussion of the public need for intentional game management.
68 HLS to Fred Morrill, July 24, 1932, AL Papers, Box 5, Folder 11—National Land Use Planning Committee, UW-M.
worry that “landowners would not be permitted to do necessary burning, even when every
precaution was taken to confine the fires to their own property, and when they had very definite
ideas as to just what they wanted to accomplish.” His long-term goal was to reestablish fire
across the coastal plain and study its behavior and effects under controlled scientific
experiments, but Stoddard’s immediate concern in the early 1930s was over the legal right to
burn. Fortunately, he was not alone.

As Stoddard became surer of his ground on fire, he began to make contact with a small
number of isolated individuals who were drawing their own conclusions about fire’s role in the
longleaf-grassland system. As he told Morrell, there were others in the region concerned with
forest ecology, and he would form with them a shaky coalition of like minds but manifold
motivations. Many of Stoddard’s preliminary conclusions about fire echoed those of the South’s
eminent botanist, Roland Harper, a surly spokesman for native southern flora who theorized
about longleaf development many years earlier. In his 1914 report to the Florida Geological
Survey, he wrote that in the longleaf forests “it is evident that fire is a part of Nature's
program.” Harper noted the longleaf pine’s resistance to fire and its comparative advantage in
such a landscape to other pine species. He also speculated that lightning-caused fires once
burned unmolested over large areas of the coastal plain, but “now they are mostly of human
origin. Although fires are more numerous at the present time than they were originally, the area
over which each one can spread is limited by roads, clearings, and other artificial barriers, so that
the frequency of fire at any one point may not have changed much.” Stoddard became well-

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69 Herbert Stoddard to H.H. Chapman, October 7, 1931. HLS Papers, Fire Correspondence, TTRS.
71 Ibid., 182-183; For more of Harper’s writings on fire, see Roland M. Harper, “The Relation of Climax Vegetation
“The Natural Resources of an area in Central Florida,” Florida Geological Survey, 7th Annual Report, (Tallahassee:
acquainted with Harper’s writings on fire and the two began a long-lasting correspondence early in the quail study. Harper had little patience for the new forestry that infiltrated his region from the North, but as an academic botanist had little real influence on forest policy. He thought Stoddard did, however, and encouraged him repeatedly to take on “the forestry crowd [that] is still preaching the same old nonsense about the damage done by fires…in a desperate effort to save their traditions.”

Another important voice in the fire controversy was S.W. Greene, a USDA Animal Industry Division field agent at the McNeill Experiment Station in Mississippi. Stoddard met Greene in Jacksonville at the 1929 meeting of the American Forestry Association, and they immediately struck up a correspondence. Greene was in the midst of cattle nutrition studies at McNeill, where preliminary results suggested burned over lands yielded more nutritious cattle feed than lands kept in the rough. Greene presented his work in Jacksonville, and despite Stoddard’s observation that “there was little in the program to assist in my work,” he thought “the paper of Greene was really very valuable.” Later that year, on an inspection trip for the Biological Survey, Stoddard visited McNeill and toured the property with Greene. He was most impressed with Greene’s work, especially his experiments testing the efficacy of controlled fire and grazing on forestry holdings. He also considered McNeill an ideal place “to carry on studies as to the possibility of increasing and maintaining quail on forestry-grazing land,” but that idea never materialized. Stoddard was primarily relieved to know someone else—from within a...

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72 Roland M. Harper to Herbert Stoddard, January 21, 1932, HLS Papers, Roland Harper Correspondence, TTRS.

73 Stoddard Field Diaries, February 27, February 28, 1929, HLS Papers, TTRS.

74 “Report on Trip to Vinita, Oklahoma and Points in Mississippi, Georgia, and Florida during November 1929,” Research Reports, 1912-1951, Box 20, part 2, RG 22, NARA-II.
government department no less—who exposed the practical benefits of fire. Greene became an important ally of Stoddard’s as they sought to challenge the rhetoric of the fire suppressionists.

Other allies came from within the ranks of forestry itself. In fact, despite a vociferous defense of fire suppression among most foresters, experience in the woods led some forest managers to at least privately question the motives of agencies like the Forest Service. One of those managers was Henry Hardtner. Though not a trained forester, as head of the Urania Lumber Company in Urania, Louisiana, Hardtner was one of the most forward-looking lumbermen in the South. As early as 1918 he suggested “‘controlled burnings’ should be practiced in every forest as an aid to successful forestry.”75 The year before, Hardtner offered the use of his holdings at Urania to H. H. Chapman, an influential forester at Yale. As one of the first scientific foresters conducting research in the region, Chapman carried out a host of experiments on the relation of longleaf reproduction and growth to fire. His publications from these studies, especially the 1926 “Factors Determining Natural Reproduction of Longleaf Pine on Cut-Over Lands,” and “Is The Longleaf Type a Climax?” in 1932, were landmark articles.76 In them, Chapman addressed the various methods of reforestation found in the southern coastal plain, and argued that using fire to encourage the natural regeneration of longleaf pine was most desirable. Other restocking plans, like planting nursery seedlings of loblolly and slash pine, would “work against indications so clearly shown that in the struggle between these species the Longleaf pine is the natural survivor;” such a plan would expose the “lesser” species to “conditions abnormal to them,” namely fire.77 His studies at Urania revealed the most effective

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method of longleaf regeneration was to burn the range shortly before seed fall, and again every few years after germination. This was controversial fodder for the forestry profession, but, as his tenuous relationship with Stoddard and Greene reveals, Chapman was anything but an apologist for traditional southern woodsburning.

The master link between these scientific fire starters was the environment itself—the fire-dependent longleaf-grassland forest. They each found value in the forest, whether it be in forage, wildlife, or the woody fibers of longleaf pines; and they each found fire to be useful in exploiting that value. But as these early renegades began to form their fire coalition, their differing expectations about what this environment was supposed to produce led to little consensus about how to proceed on the ground level. Their internal spats reveal the developmental nature of a new field of science that bridges many biological disciplines. Fire ecology did not respect the disciplinary boundaries of wildlife management, forestry, range management, or agriculture, and those practitioners inclined to harness fire hoped it would work expressly for their interests, which created a certain amount of volatility even among such an agreeable group.

S.W. Greene was the most vocal of the bunch. He fired off a volley of letters to the AFA’s publication, *American Forests*, in 1931, lambasting the “travesties in truth published in AMERICAN FORESTS for a number of years.”78 His caustic tone got the attention of Ovid Butler, executive secretary of the AFA and editor of *American Forests*, who, to his credit, allowed Greene a voice in the October, 1931 issue of the magazine. Greene’s article, “The Forests that Fire Made,” was probably the first article for popular publication that redressed the South’s anti-fire propaganda. In it he drew on his research to not only make the case for tightly “controlled” burning, as had Stoddard, but to also defend the traditional types of burning that foresters had come to call “uncontrolled” and destructive. He wrote, “Thoughtful men of the

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78 S.W. Greene to Ovid Butler, September 14, 1931. Stoddard Papers, Fire Correspondence, TTRS.
southern piney woods have stood calmly by and made…a study for generations without knowledge that the study of the relation between trees and their environment had such a scientific classification as ecology. Their conclusions were not set down as scientific treatises but were passed along under the more common name of woodcraft and the lore of the woods told them when, why and how to use fire.”

This was just the type of burning the AFA was out to stop, and Greene went on to accuse the fire suppressionists with transforming the coastal plain’s forested landscape. He explained that longleaf pines established their historical dominance in the upland coastal plain because their resistance to fire gave them an advantage over other pine species, and “that other species crowded out longleaf only in the absence of annual grass fires…”

Stoddard was enthusiastic in his support of Greene’s efforts, but Hardtner and Chapman had reservations. They agreed that longleaf forests developed in concert with fire, but were in no hurry to broadcast them to the public. Before publication of the article, Chapman wrote Greene, saying, “Unless we can properly control and hedge the propaganda regarding fire so that an average southern white farmer can understand what we are talking about…I would prefer to have very little said about the use of fire…Personally I have no intention of bursting into print until the conclusion of certain experiments.”

As previously noted, Chapman’s longleaf research did reach print, and it was indeed groundbreaking. His academic outlets, however, were not likely to reach many southerners. In Chapman’s mind, Greene was engaging in a dangerous campaign. Discussions on burning among the experts were all well and good, but Greene wanted to broadcast generalizations about fire that would reinforce generations of “miscreant” behavior in the South. Chapman told Hardtner that he would be “exceedingly sorry if Mr. Greene or any

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80 Ibid., 584.
81 H.H Chapman to S.W. Greene, September 10, 1931. HLS Papers, Fire Correspondence, TTRS.
other agency became responsible through their statements for the publication of misleading, false, and mischievous statements regarding the promiscuous use of fire.”

Greene’s *American Forests* piece did, in fact, lack the usual cautionary statements about uncontrolled fire, and even implied that local woodsburners were the true experts in the field, a proposition that made Chapman recoil. As a scientist firmly rooted in both the academic and industrial forestry establishment, Chapman did not want local populations to suspect they were right all along. The coming of industrial forestry to the South meant a tightening control of traditional local activity in the woods. Chapman felt “much sympathy with the state foresters and the American Forestry Association in their warfare against the habit of indiscriminate and uncontrolled burning,” and a public airing of any counter claims threatened to “cause confusion and loss in their effort to create a fire consciousness in the minds of the southern people.”

There’s little doubt that southerners had a fire consciousness, just not in the way Chapman wanted. He preferred a scientifically considered rationale for burning, and strict supervision and application of fire by trained experts, not a seemingly random ignition based on the whims of a local rural dweller. Indeed, Stoddard and Greene were interested in the more orderly application of fire as well, only from a different perspective.

The forest understory was foremost in their minds, regardless of the forest type it harbored, and their approach to burning more closely resembled that of traditional woodsburners. Stoddard attempted to ease Chapman’s mind about burning in different forest types, writing in a friendly but pointed letter that “we do a great deal of burning both of loblolly and long-leaf lands…We have found that if the burning is carried on carefully at night when the dew is falling we can run fires through loblolly after it is a few years of age with little damage to the trees…We

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82 H.H. Chapman to Henry Hardtner, September 10, 1931. Ibid.
83 H.H. Chapman to Henry Hardtner, September 10, 1931. Ibid.
have found that there are all kinds of fire and that a person can use any kind he desires, from extremely light to very severe."\(^{84}\) This raises an important distinction in Stoddard’s experience with fire. First, he recognized that fire suppression would not only transform the longleaf ecosystem; it would transform a way of life as well. As he told Ovid Butler, “The open pine forests of the Southeast have persisted for ages and are a most pleasant environment for man and many forms of wild life. There is absolutely no doubt in my mind that fire was a major factor in molding this environment…So why go off half cocked, assuming that the inhabitants of the region are a bunch of ignoramuses, and try to force a complete reversal of custom before the facts in the case are known.”\(^ {85}\) Second, as a wildlife manager, he was concerned with more than trees. He understood that fire could take on certain characteristics depending on environmental conditions, and a low-level fire in a loblolly, shortleaf, or mixed forest could create an understory habitat beneficial to a variety of wildlife, and still not harm the trees. He, too, was interested in creating a science of fire, but it was one based in what we would call today applied ecology, not forestry.

The 1935 meeting of the Society of American Foresters was the real coming-out party for controlled fire. Stoddard, Hardtner, Chapman, and Greene, along with long-time southern foresters Austin Cary, Inman Eldridge, and Elwood Demmon, as well as Ovid Butler, all put aside their differences to hold a panel on the beneficial role of fire that the audience largely greeted with acceptance. As happened in other conservation circles, long-time assumptions were being turned on their head in the forestry profession as well. The panel’s content largely echoed what southern foresters had already said in more hushed tones, but this was the first public discussion among southern resource managers addressing the use, rather than the abuse, of fire.

\(^{84}\) Ibid.
\(^{85}\) Herbert Stoddard to Ovid Butler, September 26, 1931, Ibid.
Some participants like Henry Hardtner maintained a latent concern “of the public not understanding our methods or plans,” but he conceded that “the people who live in the forest…are forest minded and are actually acquainted with the very problems” of controlled fire. Some attendees, however, were less optimistic. Forest Service official Roy Headley, though he had “much in common with many of the papers,” offered a “good natured protest over the one-sided nature of the program. If any one is looking for evidence of censorship…he need look no further than the make up of the afternoon’s program.” In response to Headley, Stoddard’s scrappy young assistant, Ed Komarek—whom we will get to know well in coming chapters—replied, “The whole program up to this time has been one-sided. This is the first time that censorship on the subject has been removed and we have been told the facts.” The panel was indeed groundbreaking for those who felt villanized by the fire suppressionists. When Stoddard returned from the conference, he wrote to Aldo Leopold, expressing a deep sense of relief: “If you are interested in the Southeastern fire question, you will find the papers and discussions of the last afternoon well worth careful perusal, as much of a revolutionary nature was brought out. For the first time in ten years I had a feeling that perhaps I was not a ‘public enemy’ after all.”

Despite this reprieve, Stoddard continued to debate government and private foresters over the use of fire for many years to come. Only a year after the panel, in fact, the Forest Service released a pamphlet entitled “Woods Burning in the South,” which made Stoddard feel somewhat betrayed. He felt it was an “unqualified condemnation of fire use,” in which some readers “might think [fire proponents] were compared to the boll weevil, malarial germ, and the

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86 Henry Hardtner, “A Tale of a Root—A Root of a Tale or, Root Hog or Die,” *Journal of Forestry* 33 (March 1935): 357; for the entire panel presentation see the same issue, 320-360.
87 Ibid., 360.
88 Herbert Stoddard to Aldo Leopold, February 18, 1935. Aldo Leopold Papers, Series 9/25/10-1, Box 3—Stoddard Correspondence, University of Wisconsin, Madison Archives.
cattle tick,” three biological agents of destruction the government was desperately trying to eradicate.\(^{89}\) There was obviously much work to be done. Federal, state, and private foresters continued to debate the use of fire for years (and still do today), but despite their doubts, at least the Forest Service and its constituency began to recognize controlled fire as worthy of debate.

How to apply fire in the southern woodlands, however, was another matter altogether. In fact, one of Stoddard’s most important contributions to the fire debate was to develop a methodology for application. That a method needed to be developed at all reveals the knowledge gap between foresters practicing in the South and the local farmers and woodspeople who lived in the region for generations. Stoddard wrote in 1935 that “In recommending liberal use of fire in maintaining quail ground, we are not suggesting anything new, for burning has long been customary in the Southeast.”\(^{90}\) Despite being an accepted practice by locals in the region, Stoddard’s effort to legitimate his stance in the wider professional world required that he distance himself from older forms of woodsburning. When he set out to educate land managers on how to apply fire in the southern coastal plain, then, he hoped to negotiate a middle ground between the anti-fire forester and the fire-loving local.

On its surface, Stoddard’s system was practical, as well as simple, but industrial foresters did not come around easily. Even after organizations like the Forest Service came to agree that fire helped control the rough and aid longleaf regeneration, there remained a deep apprehension about lighting up. For example, Stoddard told Roland Harper of one Forest Service official who admitted at a forestry meeting in Thomasville that “controlled burning had to be carried on for upland game…but nobody knows how to do it but Stoddard.” At this suggestion, Stoddard

\(^{89}\) HLS to W.L. McAtee, October 30, 1936. HLS Papers, Wildlife Society Correspondence, TTRS.

\(^{90}\) Herbert L. Stoddard, “Use of Fire on Southeastern Game Lands,” (1935) in Herbert L. Stoddard, Henry L. Beadel, E.V. Komarek, The Cooperative Quail Study Association, July 1, 1934 to April 15, 1943 (Tallahassee: Tall Timbers Research Station, 1961), 47 [italics original].
silently quipped, “most countrymen know more about controlled burning than he does about forestry.”\(^9^1\) Again, though, Stoddard practiced land management within the context of a new political and environmental landscape, and the pressure from government agencies and state legislatures to make the use of fire coherent to a bureaucratic world led him to help codify the once free-wheeling practice of burning into a more rigorously applied science. In *The Bobwhite Quail*, and later in a series of more-detailed pamphlets, he encouraged land managers to subdivide the range into units, using where feasible roads and natural buffers, and where necessary plowed strips as fire breaks, “to be safely burned out as often as proves necessary without endangering neighboring units.”\(^9^2\) Whereas natives once set fire to a block of woods and let it burn until it simply went out, Stoddard helped to create a grid of well-defined fire units, making clear the distinction between controlled and uncontrolled fire. With the units in place, landowners or managers could implement a two-year rotation wherein they burned every other block yearly, thus leaving plenty of wildlife cover on the unburned blocks.

With their circumspect acceptance of burning as a legitimate management tool, the Forest Service also began conducting research on fire at the Southern Forest Experiment Station in New Orleans, but theirs was a relatively narrow focus on fire’s affect on pine tree growth.\(^9^3\) Stoddard, on the other hand, turned his energies to study what would become the consuming interest of forest and fire ecologists later in the twentieth-century: how the frequency and seasonal timing of fire affected particular vegetative associations in the longleaf-grassland understory. This highly academic enterprise began as practical observation narrowly focused on quail food plants.

\(^{91}\) Stoddard to Roland Harper, June 27, 1943. HLS Papers, Roland Harper Correspondence, TTRS.
\(^{92}\) Stoddard, *The Bobwhite Quail*, 411.
The dissemination of partridge pea, for example, required close observation before randomly applying fire. An early fire might cause premature germination, making any new growth susceptible to late freezes. On the other hand, burning later in the spring could kill any young plants that already germinated in the rough. Stoddard advised that “good management calls for the burning of lands known to be seeded to [partridge pea] after the danger from late frosts is largely past, and before growth has started.” Most native legumes and lespedezas, however, were well-adapted to fire throughout the late winter and spring months. Stoddard came to recognize the forest understory’s relation to fire as a highly complex set of reactions that changed yearly depending on temperature and moisture levels, and he continued to argue that only close observation of seasonal growth could determine when to apply fire.

Again, such complexity proved frustrating to government officials. The closest Stoddard came to a general burning formula was this pithy declaration: “the burning should be conducted when judgment and experience indicate that the greatest good and the least harm will be done.” He continued to publicly advocate for controlled burning and further fire research for many years, but when given a choice “between late winter burning of the kind long carried on by the natives of the region (who know more about fire use than usually given credit for) and the total fire exclusion policy so strongly advocated by some,” he would choose the former every time. He could not predict all of the environmental reactions to fire, but he knew it had to be applied. As he told one Forest Service official, tongue in cheek, “the animals know what is good for them, and as they flock to burns when available, we give them burns to go to.” In other words, the exigencies of the longleaf-grassland forest required practical application before full

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94 Stoddard, “Use of Fire on Southeastern Game Lands,” 51 [italics original].
95 Ibid.
96 Ibid., 49.
97 HLS to E.A. Schilling, November 21, 1935. HLS Papers, Game Possibility Reports, TTRS.
ecological discovery. The only way to figure out how this environment worked was to work with it.

The 1935 meeting of the Society of American Foresters was by no means the end of the fire debate. Indeed, it was just getting started. Stoddard and others continued to work hard to accumulate facts and verify hypotheses, but the story of southern fire was about more than testable scientific knowledge. It was about a long tradition of setting fire to the coastal plain piney woods, and a sudden environmental transformation that made that tradition difficult under the best of circumstances. The traditional practice of burning the woods made an invaluable contribution to what eventually became accepted scientific knowledge about the longleaf-grassland environment. But in such a modern, fragmented landscape, fire had to be contained and controlled. The wave of scientific and industrial foresters who followed the industrial cut saw to that; not only had they attempted to suppress the use of fire, they helped to create an environment that prevented its use. In this context, the quail preserves of the Red Hills were all the more important. They were one of the few spaces untouched by the transformation.

Stoddard set to work in 1924 in an ecological bubble, insulated from both the world of professional forestry and the southern forester’s ragged environments. After his publications reached a wider audience, thus becoming one of the catalysts for a larger fire debate, he began to merge tradition with science. Proper application of fire, to Stoddard, was more than simply lighting a match in the old way, or developing a rigid set of rules and regulations in the new way. It was what he came to understand as an artful process, a hybrid system with predictable outcomes based on close observation of environmental conditions and experience. With his background in practical woodsmanship and his understanding of modern science, Stoddard...
translated for government and scientific professionals the fire-related activities of local people.

It would not be his last time in the role of moderator.

Figure 3.3: Herbert Stoddard night burning on Sherwood. Grady County, Georgia, 1941. Private Papers of Leon Neel.
Herbert Stoddard’s struggle with foresters over the use of fire demanded much of his attention before and after publishing *The Bobwhite Quail*, but his principal interest during these years was to carve out a niche for wildlife management as a professional field. He was much more interested in working on questions about the complex web of wildlife, plant life, and human land-use than getting caught up in the convoluted world of forestry policy. And no area in wildlife management needed more work than predator-prey relations. In contrast to fire, however, Stoddard did not consider the local perspective on predators a good place to start. He thought of local—and even regional and national—attitudes toward predator control as a mixed bag of uninformed myth and indiscriminant killing that had little to do with ecological reality.

Stoddard was far from the first to enter the fray on the issue of predator and prey. As historian Thomas Dunlap has shown, national debates between predator eradicationists and protectionists raged in the decades leading up to the quail study. Sportsman groups and livestock interests multiplied rapidly in the early twentieth-century and put a hard press on the federal government to protect their interests from the threat of predators large and small. As early as 1905, the Biological Survey participated with the Forest Service to trap wolves on public land throughout the West, and within a few years developed and distributed effective poison formulas to cattle ranchers. Congress ponied up more funds in the early 1900s, but the demand for help quickly outpaced funding, leading the Survey to enter into cooperative agreements with the cattle
industry. From these agreements came a steady stream of funding and the establishment of the Division of Predatory Animal and Rodent Control in the mid-1920s. According to Dunlap, “Scientific studies and the conservation of wildlife became less important [to predator specialists] than return on money spent and a high kill of ‘varmints.’”

On the other side of the debate was a growing group of scientists and naturalists who were concerned about the ecological and moral implications of predator eradication. The American Society of Mammalogists openly criticized the Survey in 1924 for exterminating local wolf and coyote populations in the West before conducting any substantial scientific research. Within the Biological Survey, a handful of scientists, such as Waldo McAtee and Albert K. Fisher, busily studied the food habits of birds of prey in an effort to stem their slaughter by farmers and sportsmen. In the same decade, biologists viewed the decimation of large predators in Arizona’s Kaibab National Forest and the subsequent irruption and destruction of the local deer herd as a particularly stark example of misguided eradication efforts, making it clear to many just how little was known about predator-prey relations.

The happenings in the Kaibab had a particularly strong influence on the development of predator science, as well as the telling of its history. Aldo Leopold’s recollection of the Kaibab, and of the revelation it produced, is perhaps the most recognizable. In his 1944 essay of moral awakening, “Thinking Like a Mountain,” Leopold famously told of taking youthful potshots at a


2 Dunlap, Saving America’s Wildlife, 48-61[American Society of Mammalogists], 65-70[Kaibab National Forest]; on the Kaibab, also see Thomas Dunlap, “That Kaibab Myth...”; Young, In the Absence of Predators.
pack of wolves, and watching “a fierce green fire dying” in the eyes of a downed mother wolf.\(^3\)
That dying fire foretold of what was ahead for the mountainside: the misery of overpopulation, overgrazing, and death. His imperative to the reader—to think like a mountain—was a plea to understand the world from the mountain’s perspective: the individual components of nature were intimately connected and the elimination of one meant the sometimes fatal alteration of all others. This was a biocentric view of the world, one that hinged squarely on life and death, and the relationship between predator and prey.

The Kaibab episode, and the rhetorical power of Leopold’s telling of it, has long served as a story of both ecological ignorance and awakening. It represents a powerfully normative moral transition, and more broadly speaking, predator-prey relations and their reconsideration in the 1920s and 1930s was a fundamental part of the development of what we have come to know as an ecological worldview. A growing body of literature commonly holds that the research of wildlife biologists like Stoddard, Aldo Leopold, Paul Errington, Charles Elton, and Waldo McAtee demonstrated predators to be an integral and necessary part of ecological processes, and thus collectively represented an ethical paradigm shift towards a biocentric view of the world.\(^4\)
But this shift was rooted in an historical moment, and not as seamless as it appears on first blush. Their research and others’ did, indeed, become the scientific foundation for popular opposition to predator eradication, and Leopold, in particular, was central to the construction of an ecological worldview. But the science itself was not always clear about how predators fit into an abstract

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ecological model, nor did increasingly complex ecological thinking always lead to a biocentric respect for all predators and their ecological roles. In regards to predator control, wildlife managers and researchers just as often made judgment calls based on the peculiarities of local environments and the practicalities of local desired environmental conditions. Even as Leopold and others rethought predator control, there was little scientific consensus on the ecological role of predators in the 1920s and 1930s, especially on how to implement ecological ideas into practical, goal-driven systems of land management like agriculture and forestry. As wildlife biologists came into contact with specific environments and environmental problems, they increasingly found that there was no normative American environment, only a series of choices.

Much as they did for Stoddard’s study of fire ecology, the Red Hills quail preserves offered him a vast land base on which to study the interactions of predators and prey, and space to implement management strategies to manipulate those interactions. A close look at this landscape offers a new perspective on the development of predator-prey science, and on the ecological ideas that science helped to shape. This chapter engages Stoddard’s work on predator-prey relations in association with a core group of early wildlife scientists, and considers how their contrasting approaches to the question spilled over into the organization of wildlife management’s first professional group, the Wildlife Society. I am particularly interested in comparing and contrasting the work of Stoddard with Paul Errington. They both focused their research on bobwhite quail, but the scientific approaches of each grew from particular places and had different goals, which led to friendly, but strong, disagreements on the specifics of predator-prey relations. Errington’s Midwest landscape was on the northern edge of quail range, leading to seasonal variation that Stoddard’s southern quail did not experience. But an even deeper difference appeared in their research goals. Put simply, Errington was theoretically minded and
Stoddard was not. The latter felt that theoretical models threatened the ability of wildlife managers to make decisions in the field; the former sought universal answers to the common problems of wildlife managers regardless of place. Both considered their work to be “applied ecology,” but Errington leaned more toward abstract modeling and Stoddard toward concrete, place-specific application. This difference seems, on the surface, one of little consequence, but it led to differing scientific results, and influenced the very definition of wildlife management as a science. Stoddard’s disagreements with Errington also highlight some of the early growing pains of wildlife management. Largely because of its success in applying an ecological approach to conservation, wildlife management attracted a large following of academics from the more theoretical biological sciences during these years. Errington—and Leopold, too, for that matter—maintained this expansion would garner more scientific legitimacy for the field, but Stoddard worried such connections to the academic sciences might hamper the ability to practice wildlife management in complex cultural landscapes. No facet of wildlife management better illustrates these debates than the problems of predator and prey.

When Stoddard came to the Red Hills there were hardly any limits on what quail enthusiasts considered as predators. Diamondback rattlesnakes, red and gray foxes, opossums, raccoons, skunks, cotton rats, hawks of all species, and a wide range of other “vermin” were fair game. Some traditional activities, like the night hunting of raccoons and possums, Stoddard

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thought legitimate and effective predator control, even if that was not always their purpose; others, like the indiscriminate killing of snakes and hawks long encouraged by preserve owners, he did not.

One example in keeping with the general attitudes toward predators was a landowner-sponsored contest for tenants that predated the rattlesnake roundups that commonly occurred later in the twentieth-century South. Long-standing apprehension over rattlesnakes, among both landowners and tenants, partly fueled the contest, but the sponsors also thought a recent increase in rattler populations responsible for diminishing quail numbers.\(^6\) Beginning in the summer of 1922, at least five preserve owners signed a contract pledging to pay tenants one dollar for each diamondback rattlesnake killed within their property boundaries, as well as end-of-the-year cash prizes of fifty, thirty, and twenty dollars to tenants who killed the most. In the first year, tenants turned in a total of 631 rattlers.\(^7\) When shown the tally from the next year’s contest on his first day in the Red Hills, Stoddard was alarmed that “the grand total for the year’s campaign amounted to over one thousand!” He was clearly annoyed about the myopic approach of the contest, but he was also disappointed about a lost opportunity to learn something of rattlesnake relations with quail: “Unfortunately no food study or statistical work of any kind was done.”\(^8\)

Though preserve owners discontinued the contest in 1924, they continued to pay for individual snakes, so Stoddard set up a study of his own; it was “agreed that the managers of the various estates would bring me all snakes killed during the summer…for postmortem examination to find if they were feeding on quail or quail eggs.”\(^9\)

\(^6\) Stoddard Field Diary, February 7, 1924. HLS Papers, TTRS.
\(^7\) Typescript, “Our Vanishing Wildlife, With Notes on the Past and Present,” by H.W. Hopkins, File 235, Elizabeth Hopkins Collection, TGH&FAL.
\(^8\) Stoddard Field Diary, February 7, 1924. HLS Papers, TTRS.
\(^9\) Ibid., February 10, 1924. HLS Papers, TTRS.
Stoddard proceeded similarly with other predatory species, compiling a core data set to determine not only which predators actually preyed on quail and which ones did not, but also to place quail in the broader ecological context of predator-prey relations, and thus to establish effective environmental control measures that discouraged the indiscriminate killing of predator species. *The Bobwhite Quail*, then, was one of the first studies to make recommendations on predators based on thorough scientific research. Though it focused on the bobwhite quail and was not a full study of animal ecology, the study began to reveal the intricate relationships between animal populations and their environments.

Stoddard began the study just as national interest surfaced in game management, and disasters like the Kaibab made apparent the need for scientific research to serve as a guide to control. His research had four primary audiences: large preserve owners, government policy makers, academic biologists, and farmers—a grouping of interest generally bound only by bull-headedness. A fundamental problem for these interested parties was a general lack of consensus on what was predator and what was prey. Attendees at the 1925 American Game Conference attempted to rectify the problem, enlisting Albert K. Fisher, a veteran investigator in the Biological Survey, to head a committee to identify those birds and mammals classed as “vermin.” Fisher’s specialty was birds of prey, and his bulletin, *The Hawks and Owls of the United States in Their Relation to Agriculture*, was among the first to suggest that farmers and hunters had little to fear from most raptor species.10 Fisher’s mandate from the Game Conference was to “make a list of vermin that will be a menace to game in all places at all

times,” but he quickly understood the futility of that charge.\textsuperscript{11} Game animals to some were pests to others, and vermin in one region provided valuable agricultural pest control in another. Simply listing predators as “good” or “bad” would miss the complexity of local attitudes and environmental conditions.

Fisher consulted Stoddard, hoping to gauge the feasibility of his assignment, and to get a sense of predator control measures on the southeastern quail preserves. How did Stoddard deal, for instance, with species that preyed on a targeted game animal, but were also “of great service in removing more potent enemies?”\textsuperscript{12} Stoddard almost pitied Fisher his task, and cautioned that a simple list was no way to approach the problem. Populations of so-called vermin species were interconnected with each other, as well as with game animals and habitat. He advised Fisher that “the question of course is such a complicated one that the listing of principal enemies of the quail in this region in the order of destructiveness can at best be but a rough approximation.” He could list most quail enemies by this time, but the complexity of population dynamics made applicable control a difficult matter. Exterminate the gray fox and cotton rat populations might explode. Control cotton rats and their predators might turn to quail. This was a difficult business, and Stoddard himself was only in the beginning stages of discovery. He could, however, express his regret about the nature of the problem: “Personally, it is very distasteful to me to have any of our native wild creatures killed as vermin…I sincerely hope that education will develop a more tolerant spirit among hunters and farmers towards predatory creatures which careful study shows are doing them no material damage.”\textsuperscript{13} On this point, Stoddard’s study made its mark, demonstrating that predatory activity played an essential role in ecological processes. But he

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\textsuperscript{11} A.K. Fisher to HLS, July 26, 1926. HLS Papers, Investigation Correspondence, TTRS.  \\
\textsuperscript{12} Ibid.  \\
\textsuperscript{13} HLS to A.K. Fisher, August 7, 1926, HLS Papers, Investigation Correspondence.
\end{flushright}
was also taking a moral stand on the issue. Like others in his wildlife management cohort, Stoddard was more than just a scientist. He also brought core values to the table.

Despite his wish that predator and prey be left to their own devices, however, Stoddard never dismissed the reality of human participation in ecological processes. He hoped, instead, to use an ecological approach that incorporated humans as active participants in predator-prey-habitat relations. As his study progressed and Stoddard sharpened his thoughts on predators, game management began to blossom as a professional field. A defining moment came in October 1928 when Stoddard joined with Aldo Leopold to guide the game fellowship program of the Sporting Arms and Ammunition Manufacturers Institute (SAAMI). A group with a vested interest in the nation’s supply of game animals, SAAMI hoped to verify anecdotal evidence about diminishing game populations and reverse the trend through scientific study and restoration. Leopold began work in early 1928, and was in the midst of a landmark game survey in several Midwestern states when the Institute brought in the Biological Survey to help construct a fellowship program for graduate students interested in game research. Stoddard was the logical choice to represent the Biological Survey. The CQI was winding down and his experience in the field made him one of the only scientists in the nation experienced in the design and implementation of wildlife research from an ecological perspective. Leopold and Stoddard’s charge was to make cooperative agreements with several universities throughout the United States, and identify suitable graduate candidates to carry out game-specific research based on the CQI model. Their collaboration gave birth to modern game management.

Leopold and Stoddard met in Cincinnati, Ohio, and were immediately struck by each other. As Stoddard remembered their first meeting, and the subsequent three-week trip through Ohio, Michigan, Illinois, Iowa, Wisconsin, and Arizona,

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I could see at once that we were kindred spirits. We shared almost identical interests, from ornithology and game-bird life-history studies to hunting and outdoor life. I was impressed by his mental capacity, his tremendous enthusiasms, and his high ethics and ideals. He had a stimulating personality, and in conversation he was able to draw out the thoughts of others, as well as freely sharing the depths of his own brilliant mind. He would think deeply and quietly a few moments, marshaling his thoughts in logical sequence, and then express them clearly, forcefully, and eloquently. Later I was to find him an ideal chairman for any sort of conservation meeting because of his extraordinary ability to grasp the basic aspects of a situation, discarding unimportant side issues and argumentative froth and presenting the fundamental points in a few choice phrases.\(^\text{15}\)

Their initial time together not only sparked what Stoddard termed “one of the finest and most stimulating friendships and associations of my lifetime,” but it also marked the ascendancy of wildlife management into a field of its own.\(^\text{16}\) Scientists in other sub-disciplines like ornithology and zoology certainly studied wildlife, but as a conservation-oriented science, wildlife management was fundamentally different.\(^\text{17}\) As Stoddard and Leopold devised it, the science of wildlife management carried with it an ecological perspective. That is, it would not study a wildlife species in isolation from its environment, and it would focus explicitly on maintaining and restoring habitat. Wildlife management, in other words, required land management.

On that first trip, Leopold and Stoddard made important contacts with university biologists across the Midwest and Southwest, and they eventually identified graduate fellows at four universities: Ralph King at the University of Minnesota, Dave Gorsuch at the University of Arizona, Ralph Yeatter at the University of Michigan, and Paul Errington at the University of Wisconsin. King, Gorsuch and Yeatter completed competent work and went on to count themselves among the nation’s first professional wildlife managers. But it was Errington who ran with Stoddard’s work on predator-prey relations to further challenge the mainstream understandings of both scientists and laypersons about predation. Born in Bruce, South Dakota

\(^{15}\) Stoddard, \textit{Memoirs of a Naturalist}, 218.  
\(^{16}\) Stoddard, “Memories and Reflections,” 453.  
\(^{17}\) Meine, \textit{Aldo Leopold}, 259.
in 1902, Errington had a background not unlike Stoddard’s. He spent his childhood in the outdoors and began a trapping business as a young man. Of Errington, Stoddard later reflected, “All too often scientists are conspicuously lacking in woodsmanship and are likely to consider it unimportant. Errington, who was an expert in the woods, was a striking exception to this generality.”

Stoddard’s judgment of potential wildlife students was rooted in his own experience as a museum field surveyor, when he might be out in the field for weeks at a time. The graduate fellowships constituted a new sort of research, but knowing one’s way around the woods was still indispensable.

Stoddard and Leopold helped Errington devise a PhD study that was much more narrowly defined than Stoddard’s. Errington’s purpose was to measure winter quail mortality and to determine the influence of predators on quail populations on several well-defined plots of land. From the beginning, Errington pursued predation with a singular focus, sometimes to the consternation of his advisors in Madison. He had an independent streak that almost brought him reprimand. Stoddard noted on one inspection that “he does not seem particularly open to suggestion in his present stage of development however, a fact noted by all his advisers. As he gives promise of developing into a very valuable man this trait of character is being overlooked as much as possible.”

This was actually a “trait of character” Stoddard could appreciate; he was in the middle of his scrap over fire, which required ignoring one suggestion after another. Errington knew where he wanted to take the study, and neither Stoddard nor Leopold could get too upset about that kind of involvement.

While Errington got settled into his Wisconsin study, Stoddard was finishing off his quail manuscript. As will become clear, Errington was never quite satisfied with Stoddard’s findings on predator-prey relations in *The Bobwhite Quail*, but it still served as a foundational text from which future work proceeded. In it, Stoddard channeled the collective ideas of this new group of wildlife scientists through his Red Hills research to craft a complex, yet elegant, argument that placed predators within their ecological context. In making the case for wildlife management, one of his most important steps was to place humans within a story typically reserved for animal interactions. Indeed, Stoddard was explicit about substituting the “services” of hunters for those of the more rapacious predators of quail. Under natural conditions where “cover and food supply are adequate,” he wrote, “great reproductive powers usually enable the bobwhites to maintain themselves against their natural enemies. When man enters into the equation, however, and harvests from 5 to 25 per cent or more of the bobwhites’ total increase it soon becomes evident that control of enemies is required to offset this unnatural drain.”

As shooting increased and agricultural conditions became less favorable for the birds, a quail enthusiast could “no longer put up his gun at the end of the shooting season and forget about the game until another season rolls around.” The close management of the environment was essential, and part of that management was the targeted, knowledgeable control of predators.

Stoddard’s take on predator control, however, was far from that of most sportsmen. It was firmly rooted in his background as a naturalist and ornithologist, yet his personal charge was to help reconcile the opposing groups through science:

> When man is compelled to regulate other forms of life to his own advantage, he should do so in a reasonable, humane way, after first weighing all the available evidence, and when there is doubt, it is well to give the living creature the benefit of it. False propaganda, disregard of the results of scientific research, and over-

21 Ibid.
zeal, coupled with a lack of humanity in controlling wild life, may be expected to ‘backfire’ and do more harm than good to the cause of field sports.\textsuperscript{22}

This blend of science and morality was a driving force in the development of wildlife management, and the value of predator-prey study was not just more measured predator control. By following the connections between predator and prey, wildlife scientists could expose the interconnections found in nature and demonstrate that human action toward one species could have unintended consequences for others. Such interconnection had moral implications for human interaction with the environment, and the first step toward making them explicit was to build a base of knowledge.

A repudiation of predator control, however, was not the aim of wildlife scientists like Stoddard and Leopold. Stoddard, for instance, believed that all animals had intrinsic worth, but he also realized that humans had to engage nature and be a part of the equation. The first step toward that goal was to discover the workings of nature. In the quail study, for example, his two primary tasks in regards to predators was to identify which animals preyed most intensively on quail, and to develop methods for their control. Throughout the course of the quail investigation, Stoddard examined and tallied the stomach contents of mammalian and avian species brought in by tenants from across the Red Hills; he observed predatory activity on captive birds; and, perhaps most importantly, he located a tremendous sampling of quail nests and made daily rounds to note any predatory activity.

After four years of intensive study, he came to several landmark conclusions that dispelled many myths about predators, and simultaneously raised as many questions. First, he discovered that only two birds of prey presented any real threat to quail, the Cooper’s and Sharp-shinned hawks. Beyond that, he was reluctant to offer many theoretical generalizations. He

\textsuperscript{22} Ibid., 416.
recognized a “saturation point” which quail populations could reach; that is, the maximum number of quail for any given area depending on habitat availability, seasonal weather conditions, and predatory activity. But he did not formulate an explanatory apparatus to show how these natural mechanisms functioned. He also argued that hunters themselves should be included as predators, and that they should be controlled as such, thus making the regulation of both human and animal predators a necessary component of wildlife management. It was here, in the control of predators, that Stoddard made one of his most important marks. Just as he did with using fire to sustain the food supply, he preferred making the environment advantageous to quail survival instead of waging unscrupulous warfare on predatory species. He sought to produce more quail, not to reduce predator populations. It was a distinctly ecological approach. But even under the best environmental conditions, he did not rule out the possibility of quail decimation due to certain predatory species.

The Bobwhite Quail systematically addressed each alleged quail predator. He first noted what most admirers of quail already knew—they were crafty in evading pursuers. They were “extremely alert birds, speedy of wing, and able to take advantage of every bit of cover the country affords,” and their very capacity to evade predators was what made hunting quail such good sport.23 Despite this common knowledge, most hunters still thought quail no match for the more aggressive predators. As an ornithologist, Stoddard had a special interest in setting the record straight on winged predators. Of red-tailed hawks, which “have been so greatly reduced in numbers by farmers and hunters that only enough are left to add variety to the bird life of rural districts,” he did “not recommend their destruction anywhere to aid in quail preservation, for the good they do more than offsets the harm.” Likewise, the time given to killing red-shouldered hawks was “worse than merely wasted, for no instance of quail destruction on their part came to

23 Stoddard, The Bobwhite Quail, 206.
light."\(^{24}\) Nor did owls present a threat: “One of the most discouraging sights seen by us…was a beautiful barn owl, hanging by one foot from a steel trap on a quail preserve where cotton rats were abundant. The services of this bird would have been highly valuable to the owner, but its life had been sacrificed by the indiscriminate pole trap, which has no place on the well-managed quail preserve.”\(^{25}\) The pole trap, an import from English hunting estates, was simply a steel jaw trap mounted on top of a bare pole, the type of perch favored by many birds of prey. In Stoddard’s view, such a control technique had no place in game management. Other birds of prey, including the Sparrow hawk, Broad-winged hawk, and Marsh hawk did not warrant any control, Stoddard insisted, their presence also being more often beneficial to quail than not.

There were, however, two problematic hawks for which Stoddard saw no way to avoid control. The Cooper’s and the Sharp-shinned, locally called the “blue-darters” because of their bluish plumage and a tendency to quickly navigate the tight quarters of the forest rather than soar in open spaces, were a thorn in Stoddard’s bird-loving side. The Cooper’s hawk, in particular, was a “true bird-killing hawk” and was “largely responsible for the ill repute of the whole family.”\(^{26}\) Even with abundant cover, the most effective measure of environmental control for other winged predators, the blue-darters rarely missed their mark. Stoddard’s tone turned unusually hard when discussing these predators. He likened them to “the picturesque pirates of old…too violent and bloodthirsty to be willingly tolerated.”\(^{27}\) There was good reason for concern if a landowner’s goal was to increase their quail populations: “these destructive hawks probably harvest a crop of quail in the aggregate during the course of their 365-day open season

\(^{24}\) Ibid., 207-208.
\(^{25}\) Ibid., 217.
\(^{26}\) Ibid., 211.
\(^{27}\) Ibid., 212.
comparable with that taken by sportsmen in their much shorter time afield.” The problem, in other words, was not the blue-darters per se; it was that quail populations could not withstand the voracious appetites of both hunters and blue-darters. Under “natural” conditions the blue-darters performed their duty admirably as a check on quail populations, but Stoddard’s unavoidable reality was that hunters had priority on the Red Hills preserves. Such reality made Stoddard unwilling to embrace categorically biocentric imperatives in The Bobwhite Quail. But he was still reluctant to advise killing blue-darters—he saw little inclination in the sporting public to distinguish them from other hawk species. Nor did he think a targeted campaign would do much good—blue-darters were simply too elusive. Instead, he hoped to present a more expansive view of predator control in terms of the aggregate environment, rather than specific predator-prey relationships. Stoddard was confident that a clear understanding of ecological complexity would yield answers to particular problems.

When observed in isolation from other predatory species, winged predators presented a fairly straightforward picture, but when mammalian and reptilian predators entered the mix, all sorts of complexities arose. Cotton rats, skunks, opossums, foxes, bobcats, housecats, black snakes, coachwhip snakes, diamondback rattlesnakes, and more, all fed on bobwhite quail at some point or another. After conducting hundreds of nest studies, he wondered how a young quail “could ever run the often bewildering gauntlet of dangers and reach maturity.” Over half of all nesting attempts were unsuccessful because of natural enemies or heavy rains, and once young quail began feeding on their own, they had to evade the blue-darters. It was a tight spot, but quail had some important adaptive strategies that helped them carry on. After they abandoned a nest for whatever reason, the seasonally monogamous pair continued to nest again

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28 Ibid., 212.
29 Ibid., 224.
and again, and Stoddard estimated that the great majority of pairs eventually hatched a brood. He also estimated that twelve chicks hatched in the average brood, making for a substantial increase from the initial pair. In a well-populated territory like the Red Hills, only one pair had to survive the year to reoccupy the breeding range. Predators, in other words, performed the important service of preventing overpopulation.

The dilemma for wildlife management, however, was how to add hunters to the predatory mix. Stoddard feared that “conditions in some areas are undoubtedly so evenly balanced between reproduction and average natural mortality that the shooting of any bobwhites throws the balance against the species and causes a decline.” Predator control was a necessity, but by control he did not mean the killing of individual species. Instead, he meant environmental control. Part of the equation was to create environmental conditions favorable to quail, as was done with fire-maintained open forests and tenant agriculture. With plenty of food and plenty of places to hide, quail had a fighting chance against species that preyed on juveniles and adults. Those species that preyed on quail eggs, though, presented a greater challenge. Cotton rats were a particular problem. Contemporary zoologists commonly thought of them as a “buffer” species, or one that diverted the attention of promiscuous predators away from quail. As he spent more time observing the Red Hills preserves, however, Stoddard increasingly had “no question in my mind that on southeastern quail lands the ‘buffer’ theory is a delusion and a snare.” Besides feeding on quail eggs themselves, their presence in large numbers attracted even more predators that fed on quail incidentally. The cotton rat, then, was an important link in the predator-prey web; diminish its population and that of other predatory species would fall concurrently. Though Stoddard experimented with poisons, “the best means of preventing them from becoming

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30 Ibid., 224-225.
31 Ibid., 226.
32 HLS to Paul Errington, August 27, 1935. HLS Papers, Errington Correspondence, TTRS.
numerous on quail preserves is to burn carefully.”33 They thrived in heavy rough, but in frequently-burned woodlands. Again, the controlled use of fire was the most important step towards land management in the southern coastal plain. If he could make the environment as inhospitable as possible for some predatory species, like the cotton rat, then he could leave other species alone that were more difficult to control, like the blue-darter hawks. Still, the primary goal was to make the environment hospitable for quail, which was bound to attract their enemies.

One way to hedge the bet in favor of quail was the trapping and night hunting of small mammals, a generations-old activity that Stoddard considered in perfect keeping with his idea of environmental control. The fur trade in raccoons, skunks, and foxes maintained an economic foothold in the early twentieth-century, and many small mammals, like opossums, were an important food source for tenant families. Indeed, Stoddard thought the widespread hunting of these animals an important reason the South became such a desirable location for quail hunters in the first place, and it was another important cultural dimension to stable quail populations. He worried that “posting and patrolling the property usually involved prevention of commercial trapping of fur-bearers,” as well as curtailed the “old southern sport of ‘possum hunting,’ which had held the opossums, skunks, and raccoons in check since pioneer days.” Without these activities, “many of these quail preserves were in effect ‘vermin sanctuaries.’”34 Though it is unlikely that many preserves stopped local tenants from “possum hunting,” it is clear that the lines drawn by posted property boundaries complicated such activity. The night hunting of small mammals, as practiced with dogs, required a great deal of territory and pursuers frequently criss-crossed property lines with little compunction. The Red Hills preserves, however, were in a unique position to continue this open-range tradition regardless of posted property. As discussed

34 Ibid., 420.
in Chapter 1, they comprised one whole unit that encompassed a great deal of land, and since “many of the fur-bearing enemies of bobwhites are animals that wander extensively, cooperation from surrounding landowners is essential to their effective control. For this and many other reasons, groups of quail preserves have a great advantage over those that are isolated.”

Preserve owners could easily coordinate such control measures, thus allowing for clear passage across property lines. Perhaps just as important, and more than a mere incidental benefit of small mammal hunting, Stoddard thought that “the pursuit and utilization of fur-bearing enemies of quail may be made to furnish both pleasure and profit to preserve employees.” The economic and recreational activities of tenants, in other words, were crucial to maintaining the preferred recreational conditions of the preserve owners. Quail hunting, then, did not always dispossess marginal hunters; just as often it profited from their activities.

The public greeted Stoddard’s findings with a considerable amount of interest. The New York Times ran several stories on Stoddard’s study, and gave particular attention to his findings on predators. One story quoted the curator of birds at the American Museum of Natural History, Waldron De Witt Miller, saying that Stoddard’s study “should satisfy the most exacting that the food habits of hawks and owls as a class are such as to make them of the greatest benefit to man.” In another piece, the Times “Rod and Gun” columnist, Lincoln Werden, noted that Stoddard “Pointed out that much harm is done unintentionally by those who unknowingly destroy birds which are not actually destructive,” and went on to quote Stoddard at length. The Times review of The Bobwhite Quail even went so far as to call it “the last word on the bob-

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35 Ibid., 424.
36 Ibid., 424. I discuss the important role of tenantry on the Red Hills preserves, and the power relations found in this type of conservation, more thoroughly in Chapter 5.
white quail.” Hyperbolic, perhaps, but Stoddard’s work was clearly of interest not only to scientists, but the sporting public as well.

By the time Stoddard finished the quail study, he had an overwhelming body of evidence on the habits of predatory species, and had worked out complex methods for environmental control. But a reluctance to generalize prevented him from offering a more sweeping theory of predator-prey relations. Appearing two years after The Bobwhite Quail’s publication, Aldo Leopold’s Game Management was even more far-reaching, but he, too, fell short of a general theory on predator and prey. Leopold’s synthetic work did, however, make a stronger and more concise argument for more rigorous management of wildlife habitat. As game habitat dwindled and public demand for gun sports increased, he built on Stoddard’s study to stress the need to understand game management as one of the “land-cropping arts,” much like forestry and agriculture. His approach to predator control was as practical as Stoddard’s. In attempting to mediate the conflicting interests of four groups—agriculturalists, game managers and sportsmen, students of natural history, and the fur industry—Leopold pointed to Stoddard’s work as proof that the “actual measurement of losses from predators is thoroughly feasible.” He encouraged sportsmen, in particular, to use science as their guide in identifying and culling predators, and echoed Stoddard in his contention that “cover and food is a better protective measure against some types than the killing of the predator.” Stoddard thought Game Management went further to expand the field than any work before it, and upon reading the manuscript, wrote: “It should do a great deal to aid those working with game to think straight and I particularly hope that every hunter in America reads it, for you point out in a singularly understandable way that there is

40 Aldo Leopold, Game Management (New York: Charles Scribner’s Sons, 1933), 3.
41 Ibid., 230.
42 Ibid., 252.
something more to increasing and maintaining game than exterminating ‘vermin’ and closing shooting seasons.” Leopold’s text, coupled with The Bobwhite Quail, alerted the public not only to the nation’s diminishing wildlife habitat, but also to the notion that the restoration of habitat was a more felicitous method of game protection.

While the scientific community and sporting public reacted to Stoddard’s and Leopold’s texts, Paul Errington began publishing a series of articles on his quail predator studies that pushed the field even further towards an ecological perspective of conservation. Building on Waldo McAtee’s assertion that “predation tends to be in proportion to population,” Errington argued that when prey populations exceeded the carrying capacity of favorable habitat, predatory activity surged proportionally to prevent overcrowding; when the prey dipped below carrying capacity, predation slowed down as well, thus allowing populations to regain numbers. “In other words,” he wrote, “if a quail population fits well into an environment it suffers light or negligible loss from predation.” The key to maintaining a game species like quail, then, was the control of habitat, not the control of predators. Under favorable environmental conditions, predation was simply an incidental occurrence rather than the determinant of quail numbers. These results had serious implications for the conservation community. Errington’s message was to leave predators alone and concentrate on habitat. To those who continued to target predatory species, he urged: “The obvious trend of modern ecological data is toward the conclusion that predation

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43 HLS to Aldo Leopold, September 19, 1931. AL Papers, 9/25/10-6, Box 6, Folder 2, UWM Archives.
does not play nearly the part in determining population levels of wild species as was thought a comparatively few years ago.”

Stoddard was wholly in sympathy with Errington’s sentiment, but felt his interpretations outpaced the actual data. In a long and detailed correspondence they shared with McAtee and Leopold, Stoddard and Errington hashed out their disagreements over Errington’s dissertation and related publications, eventually reaching a compromise with a co-authored article in 1938.

One of Errington’s primary revisions to *The Bobwhite Quail* was to abolish the remnant value judgments that Stoddard used in assessing predators. No longer were Cooper’s hawks bad, Red-tailed hawks good, and coachwhip snakes a middling species somewhere in between; the standards of human moral judgment, in Errington’s estimation, did not apply to the world of predators. He insisted that if one predator didn’t reduce the quail surplus, another would. There was no point, in other words, to the targeted control of any one species. As he explained it to McAtee, “Conspicuous mortality of many kinds may not be of any actual significance except to inflame the resentment of our own jealous species…It seems to make scant measurable difference what native predators are in the environment nor how abundant they are as long as the environment from the standpoint of the quail is strong otherwise.”

This was a contention that Stoddard “utterly fail[ed] to grasp or agree with.” His primary job in the Red Hills was to ensure shootable numbers of quail year after year, and his experience told him that an influx of predators like the Cooper’s hawk could diminish quail populations with much greater efficiency than those furred or scaled. When drought damages

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46 Paul Errington to W.L. McAtee, May 18, 1933. W.L. McAtee Papers, Box 21, Errington Correspondence, 1932-1935, Library of Congress Manuscripts Division.
47 HLS to Paul Errington, October 4, 1933. HLS Papers, Paul Errington Correspondence, TTRS.
the ground cover over a heavily stocked territory, Stoddard noted as an example, “Coopers Hawks drifting through on their migrations discover the extreme availability of the birds, harry them through the Winter and severely reduce the populations. In this case one predator, rather than the whole environment seems to be mainly responsible.” Once again, Stoddard’s work was closely aligned with the practicalities of wildlife management. His management program began with a general approach and adapted throughout the seasons to particular environmental changes. In comparing Errington’s science with his own management, Stoddard continued:

In managing quail preserves in this part of the world we depend first on balancing food supply and cover, and increasing one or the other or both where practicable, and only control predators where, when and if necessary. But to ignore the predator factor would be very unwise in many cases. One constantly has to endeavor to maintain a balance most favorable to the quail, without doing anything that might be against the welfare of the country as a whole. For this reason I contend that constant study of detail is necessary to the game manager, as well as a general grasp of the principals [sic] involved…general principals [sic] only become evident with the study of vast quantities of data. I have insufficient data to prove anything though they may indicate trends.

Upon receiving Stoddard’s criticism, Errington found himself “sunk by a consciousness of the utter futility of trying to discuss complex things by correspondence.” Nonetheless, he did his best to explain his interpretation of the data. He first wanted to dispel any notion that he overlooked some evidence in an attempt to stop predator control outright. He claimed no special reverence for predatory species, and he hesitated to overturn common biological principles that held predators to be a major factor in determining prey populations. At the same time, his data was so insistent “that I don’t see how they can be disregarded unless the data themselves are all wet—which I surely don’t think to be the case, as they were gathered and published year by year without the remotest idea on my part as to what they would ultimately signify when considered

48 HLS to Paul Errington, September 25, 1933. Ibid.
49 Ibid.
50 Paul Errington to HLS, September 29, 1933. Ibid.
His research was thorough and meticulous, and the evidence clearly demonstrated quail predators to be little more than a nuisance. This was in Wisconsin, however, on the northern edge of the bobwhite quail’s range where there was very little hunting pressure. Stoddard simply could not fathom the utility in postulating a general theory of predator-prey relations without including human predation, especially of a game species. The purpose of wildlife management, he thought, was to develop a means for wildlife to cope with human pressures. He replied to Errington that “the man with the gun can reduce quail in a favorable environment more quickly and efficiently than any other predator, but to permit him to reduce them to the greatest degree without curtailing future privileges in this line is the aim of nine tenths of the research and management to date. It is about all I am doing with quail, much as I love them.”

Theoretical conclusions may provide insight into ecological function, but Stoddard did not think they would perpetuate environmental stability in the modern world. His approach to land management was practical because natural processes were themselves practical, always shifting and contingent on particular circumstances.

Stoddard and Errington let the dust settle for a few years until they could sit down together and attempt to reconcile their differences. They did so during the summer of 1937, the results of which they published under the title “Modifications in Predation Theory Suggested by Ecological Studies of the Bobwhite Quail.” After a long day of discussion, they recognized their disparate findings to be a matter of place, climate, and management goals, rather than of differing purported principles. Errington, in particular, thought a joint statement on predator-prey relations might “show certain people who read more than is written into my writings that we are in some sort of accord in matters of consequence,” as well as “possibly clear up a vast

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51 Ibid.
52 HLS to Paul Errington, September 25, 1933. Ibid.
amount of misunderstanding already in existence.”53 In the paper, they acknowledged the apparent differences in their previously published work, and proposed some ideas about why predators influenced quail populations in the South more than in the Midwest. They speculated that a higher density and variety of common prey species like mice, ground squirrels, rabbits, and large insects in Wisconsin caused less predation on quail since predators had so many food sources. The buffer theory, in other words, held its own in the upper Midwest. They both freely admitted that “the causes of these regional differences in predation and population phenomena are still too obscured by unknowns to permit full explanation,” but the point to the article was to verify regional differences, and to present a unified front against indiscriminant predator control.54

Oddly, though, they did not speak much of the human predator. Nor did they recognize the fundamental differences between their respective studies—Stoddard’s work was essentially in the service of land management while Errington’s served ecological science. This difference in scientific intent went far beyond Stoddard and Errington, and was largely responsible for a minor identity crisis within the profession of wildlife management. In the decade or so after Leopold and Stoddard laid the foundation for the field, no one struggled much with defining it or with structuring its professional parameters. The creation of a professional organization devoted to the subject in the late 1930s, then, was a crucial moment for wildlife management. As more universities adopted the model set up by the SAAMI fellowships, and New Deal programs like the Soil Conservation Service and the Resettlement Administration created a multitude of outlets through which to practice wildlife management, it began to take its modern form as a feasible

53 Paul Errington to HLS, November 23, 1937. HLS Papers, Paul Errington Correspondence, TTRS.
profession. But there was still little consensus on the driving purpose of the field. Most everyone recognized its practical origins and agreed that it should serve as a guide to wildlife policy, both public and private; but as it became further entangled with the various sub-disciplines of academic biology, there developed a schism between the managers and the scientists that closely mirrored Stoddard and Errington’s disagreements on predators.

Creating a new professional group meant the creation of a new professional identity, and the consolidation of its core membership was the first step. As a hybrid field, wildlife management pulled scientists from a number of biological specialties, as well as attracted the attention of laypersons from the many policy-oriented wildlife groups that proliferated in the early to mid twentieth-century. In an effort to distance themselves from the laity, as well as to gain much-needed academic respectability, a group of thirty-four met at the 1936 North American Wildlife Conference in Washington, D.C. to discuss building an organization for specialists working explicitly in wildlife science and management. According to McAtee, “This action was prompted by the conviction that there is need in this rapidly growing profession for an agency to define and maintain standards for the work and workers, to affiliate for the common good all subscribing to those standards, and to consider the feasibility of establishing a periodical devoted to wildlife management.”\textsuperscript{55} The response was enthusiastic, and the recognized leaders of the field immediately started a flurry of correspondence to work out a structural organization.

The first task was to name the group—not as mundane as it may seem. The name would communicate the constituency of the organization as well as the purpose and agenda of the discipline. Most agreed that the temporary name, the Society of Wildlife Specialists, was uninspired. Nor would the Society of Wildlife Managers be sufficient—the organization included specialists in pathology, botany, zoology, forestry, and more. As the core organizers

\textsuperscript{55} “Society of Wildlife Specialists,” February 20, 1936. AL Papers, 9/25/10-2, Box 9, Folder 6, UW-M Archives.
considered an apt moniker, one of Leopold’s students at the University of Wisconsin, Leonard Wing, thought up a professional title for wildlife experts that caught McAtee’s eye. In an essay in the American Forestry Association’s *American Forests*, in which Wing urged the forestry profession to “naturalize the forest for wildlife,” he passively observed that “the conservation biologist is a new entry into the field of conservation.”56 This, thought McAtee, was what they were—conservation biologists! He quickly wrote Leopold and Stoddard, saying “Has not Wing given us just the term we need, and which it is surprising no one thought of before, namely, Conservation Biologists?”57 They agreed completely. It best reflected their use of scientific research in service of conservation, and their identity as professionals addressing questions about wildlife conservation through the methods of sound science. It also created some distance from hunters, thus widening their perspective to become a group not simply concerned with wildlife for an anthropocentric purpose. For McAtee, the name “seemed to me to complete the picture,” and covered “everything we have in mind in connection with our Society, is dignified, and places the emphasis as it should be, upon conservation.”58 While this discussion of “conservation biologists” reveals how this core group began to define themselves, the name, for reasons lost in the available record, fell by the wayside.59 At the first official meeting of the new organization in 1937, they adopted instead the rather ordinary “Wildlife Society.”

The overlap of wildlife management with a variety of other disciplines was bound to create some tension. Some questioned, in particular, whether wildlife management needed its

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57 W.L. McAtee to Aldo Leopold, August 5, 1936. HLS Papers, Wildlife Society Correspondence, TTRS.
58 W.L. McAtee to Paul Errington, November 30, 1936. McAtee Papers, Box 21, Errington Correspondence, 1936-1937, LOC [first quote]; W.L. McAtee to Aldo Leopold, August 5, 1936. HLS Papers, Wildlife Society Correspondence [second quote].
59 The slightly altered name, Society for Conservation Biology, resurfaced in 1985 as an international organization devoted “to advance the science and practice of conserving the Earth's biological diversity.” Despite the anachronistic terminology, this goal is not so divergent from the original intent of the Wildlife Society. See Curt Meine, Michael Soulé, and Reed F. Noss, “A Mission-Driven Discipline: The Growth of Conservation Biology,” *Conservation Biology* 20, no. 3 (June 2006): 631-651.
own journal. One proposal worth discussion came from Wallace Grange, a former Biological Survey employee who worked closely with Stoddard and Leopold on the SAAMI project, and later established a commercial game propagation farm in Wisconsin. Grange recommended the Wildlife Society publish a technical section in *Game Breeder and Sportsman*, a magazine, just as its name suggests, devoted to those who raised game animals to release for sport. In making his proposal, Grange exposed a scale of artificiality within wildlife management he thought should be abolished. What were wildlife managers, he suggested, but animal breeders? He pushed Leopold on the subject, writing, “in my opinion game breeders are game managers, and game breeding is management…As a matter of fact, game breeders are technically the only game managers. Others are land managers, man managers, gun managers, but not actually game managers.”

Grange had a point—wildlife managers created environments for animals to breed much like a propagation plant. The argument, however, challenged the very foundations of wildlife management, and neither Leopold, Stoddard, nor McAtee gave it much of a hearing. Leopold’s views on the subject were well-known by this time—not only did wild game make for better sport, he had argued, it was an inherently more democratic approach to management. McAtee dismissed the proposal outright, chiding Grange that this was an organization for “those genuinely interested in wildlife management and wildlife research with conservation, not exploitation, of wildlife as a background.” Stoddard was a bit more reflective, writing that game breeders had their place in the scheme of American wildlife management, but that the Wildlife Society had a more expansive view of animals and their environments; it was to be a home to “a rather large group who are in the business of trying to increase or maintain wildlife

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60 Wallace Grange to Aldo Leopold, May 24, 1936. AL Papers, 9/25/10-2, Box 9, Folder 6, UW-M Archives.
62 W.L. McAtee to Wallace Grange, June 3, 1936. AL Papers, 9/25/10-2, Box 9, Folder 6. UW-M Archives.
by manipulation of environment, as distinct from attaining the same objectives by means of artificial production.” A further contrast was that “the artificial breeder of game is primarily interested in game. The organization we are building would include the agencies who are managing wildlife, as distinct from game only.” The key term here is “wild.” Breeders, according to wildlife managers like Stoddard, were propagators who had little interest in maintaining and restoring wild habitats. They raised game animals in “plants” and released them for sport—the antithesis of wildlife management.

On the other end of the spectrum was a proposal to affiliate with the Ecological Society of America [ESA], the only proposition to gain legs among the founding members. Established in 1915 as an organization “for the purpose of giving increased unity to the study of organisms in relation to environment,” wildlife specialists could easily identify with the ESA. Indeed, a marriage of the two groups seemed like a logical move. Like ecology, wildlife management was a field that viewed environments as a series of interdependent parts, rather than simply a group of individual plant and animal species. Wildlife specialists paid close attention to vegetative succession and the interrelations of animal populations, the very marrow of ecology. Walter Taylor, a Biological Survey employee and member of the ESA executive committee, first drafted the idea, and it received strong support from ESA’s president, W.S. Cooper. Leopold, Errington, and Ralph King, the first president of the Wildlife Society, met with Cooper in November 1936, to discuss the details of the merger. Going into the meeting, Errington was “on the fence, and I think that Leopold’s views were dubious. After an afternoon’s joint session, we were all very much in favor of affiliation.” Errington felt certain that “if such affiliation came to pass I don’t

63 HLS to Aldo Leopold, W.L. McAtee, and Wallace Grange, May 30, 1936. AL Papers, 9/25/10-2, Box 9, Folder 6, UW-M Archives.
see how the [Wildlife Society] would be dominated by anybody, that it would lose its identity or
that it would suffer any apparent disadvantages…I think greater scientific standing would be
gained for our group. I am also convinced that affiliation would further the attainment of what
are in actuality our joint objectives—conservation and science.”65 In fact, the conservation goals
of the ESA were not at all clear. They were in the middle of long controversy of their own that
pitted science against environmental advocacy, which caused the animal ecologist and founding
president of the ESA Victor Shelford to eventually depart and form his own conservation
organization, the highly influential Nature Conservancy.66

It was just such a division that worried Stoddard and McAtee about the proposed merger,
though they considered the issue in somewhat different terms. McAtee worried that the open
nature of the ESA allowed the infiltration of political appointees, something he thought would
forever ruin conservation-based science. Stoddard also favored a separate organization with its
own journal, though he understood both sides of the issue. On the one hand, he recognized an
inherent connection between the two disciplines: “we all fully appreciate that our work may be
‘applied ecology.’”67 On the other hand, he thought the research of ecologists had “little real
application to wildlife management.” He hoped, instead, to see research “having an important
bearing on management” occupy its own organizational and journalistic space.68 He feared,
most of all, that too much attention given to ecological theory would draw wildlife managers
away from the environmental contingencies they dealt with on a daily basis. He was not so

65 Paul Errington to W.L. McAtee, November 23, 1936. McAtee Papers, Box 21, Errington Correspondence, 1936-
1937, LOC.
66 Shelford helped to found the Ecological Union in 1946, which became The Nature Conservancy in 1950. See
67 HLS to W.L. McAtee, January 12, 1937. HLS Papers, Wildlife Society Correspondence, TTRS.
68 HLS to Walter P. Taylor, January 7, 1936. Ibid.
concerned with losing the rights of advocacy, per se; rather, he was anxious about the continued ability to shape environments according to desired goals.

As the merger proposal made its rounds through correspondence, Stoddard’s rhetoric grew more forceful, and he related the plan to a trend he already sensed in wildlife management:

I have a very real fear that having long gone to one extreme in so-called ‘vermin control,’ we are now headed for the opposite extreme, following the general American tendency of never following a moderate or middle ground. My whole field experience indicates that certain theories now being followed relating to predation are unsound, and that time will prove them unsound from any practical standpoint. If the wildlife management movement does not recognize this and have a care, our organization will soon be regarded by a much more powerful group as a bunch of long haired theorists, and the result will be a wider rift than ever in the conservation field.  

These are interesting words from a man whose work would later be embraced by “a bunch of long haired theorists,” but his sentiment is revealing of the moderate stance he hoped all wildlife managers would take when navigating theory and practice. More to the point, he thought theory was too ethereal and static to guide a manager in the field. Stoddard felt strongly “that the ecological picture can never be completed by man, and that it is changing all the time;” reliance on a theory developed under one set of conditions, then, might hamstring someone managing land under a different set of conditions.  

He kept close tabs on the scientific literature, but still preferred learning by practice.

Despite their disapproval of potentially joining up with the ESA, Stoddard and McAtee receded to the background in this particular debate. They did not attend the 1937 meeting of the Wildlife Society in St. Louis, where the membership voted on affiliation. Stoddard, by now approaching fifty years old, wanted the Wildlife Society to be “a youngster outfit,” and would support whatever the majority decided, while McAtee simply wanted to maintain good relations

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69 HLS to W.L. McAtee, May 5, 1937. AL Papers, 9/25/10-2, Box 9, Folder 6, UW-M Archives
70 HLS to Paul Errington, September 25, 1933. Paul L. Errington Papers, Box 5, RS 13/25/51, Parks Library Special Collections, Iowa State University.
with Paul Errington. They did, however, have representation at the meeting. Perhaps one of the most vocal “youngsters” in opposition to affiliation was one Stoddard helped to train, Edward V. Komarek. An earlier student of W.C. Allee at the University of Chicago, Komarek first visited Stoddard in 1933 while on a small mammal collecting trip for the Chicago Academy of Sciences. Komarek’s skill and enthusiasm were impressive and Stoddard soon hired him as an assistant. By the time of the St. Louis meeting, Komarek had fully embraced Stoddard’s approach to wildlife management, and became Stoddard’s proxy on the question of affiliation with the ESA. Komarek, forever loyal to his early mentor, Allee, realized “that the basis of wildlife management is ecology,” but wondered rhetorically to Walter Taylor “why the wildlife field has grown outside of the Ecological Society. Perhaps the answer is that ecologists did not want to see the practical application of ecology.” An overly general claim, to be sure, but Komarek’s point was to avoid alienating the constituency of wildlife management. He continued, writing “that the basic principal for the existence of wildlife research is better farming, or management, of wildlife not a quandary of theories and scientific terms. I dare say that few sportsmen, and that’s the group we are all working for, know even the word ecology. Let’s not get them scared of us like farmers are of agricultural scientists.”71 It was important for both Komarek and Stoddard that wildlife research be easily translated for the public, and while personally and professionally interested in ecology, they rejected what they saw as the insularity of academia. Heading into the St. Louis meeting, this argument gained some momentum, and the decision did not create the schism that Stoddard and McAtee expected. Some participants publicly accused the ESA of “intellectual snobbery,” and the Wildlife Society membership voted against

71 E.V. Komarek to Walter Taylor, December 18, 1936. HLS Papers, Wildlife Society Correspondence, TTRS.
affiliation with only two dissenting votes.\textsuperscript{72} They also created the Journal of Wildlife Management, and nominated McAtee as its editor.

With this meeting behind them, the Wildlife Society set out to create an intellectually rigorous, well-defined process for becoming a professional wildlife manager—i.e., they became an institutional agent of professionalization. The committee to do so consisted of Stoddard, Errington, Walter Taylor, and fisheries biologist Carl Hubbs, but it was Aldo Leopold, who “for years has been thoroughly fed up with the red tape” of other professional societies, who took this task as his own.\textsuperscript{73} Leopold worked on the proposal throughout 1938, outlining the basic training needed for wildlife work. Wildlife education, according to Leopold, had two ambitious goals: “1) to teach a few men to make a living by managing wildlife; 2) to teach the whole body of citizens to appreciate and understand wildlife.” In developing the steps to fulfill those goals, Leopold chose to focus on general characteristics of a wildlife professional—“what the student is, what he knows, what he can do, and how he thinks”—rather than the specifics of university training.\textsuperscript{74} As various drafts of the proposal made their rounds, this general approach rubbed some the wrong way. According to one critic, it gave neither the university professor nor the prospective student proper guidance in constructing a curriculum for wildlife management.

In response to such criticism Leopold leaned heavily on Stoddard, whose views on professional training were well-known by the Wildlife Society membership. Using his own background as a touchstone, Stoddard had already argued vehemently that practicing wildlife managers be awarded active membership in the Society, regardless of educational qualifications.

\textsuperscript{72} McAtee reported the vote count, 72-2, in W.L. McAtee to HLS, March 4, 1937. HLS Papers, Wildlife Society Correspondence, TTRS. Ed Komarek recalled the snobbery accusation in E.V. Komarek to Gardiner Bump, February 6, 1939. AL Papers, 9/25/10-2, Box 9, Folder 9, UW-M Archives.

\textsuperscript{73} Errington recalled Leopold’s displeasure with red tape in Paul L. Errington to W.L. McAtee, March 16, 1937. W.L. McAtee Papers, Box 21, Errington Correspondence, 1936-1937, LOC.

\textsuperscript{74} “Professional Training in Wildlife Work,” November 30, 1938, pp. 1, 3. AL Papers, 9/25/10-2, Box 9, Folder 9, UW-M Archives.
He carried this further in assessing proper educational guidelines in the academic sphere, telling Leopold that “I am a firm believer that the function of an institution of higher learning (a detached viewpoint, as I have never personally attended such an institution as you well know) is to teach the student to **think**, and to help him find out how to use the world’s accumulated knowledge to the best advantage.”\(^{75}\) The problem with university training, for Stoddard, was not the coursework per se; it was that courses fell under the umbrella of the *institution*. He analogized the university to the church, writing,

> A man may be **aided** in becoming a good Christian by listening to the preacher, but after all he has the same sources of information (no more, no less) as the preacher, and can get the information himself if he has the proper mental powers and enthusiasm, without ever seeing the inside of a church…In a profession where a student and his teachers must learn together (is there any other established profession with only one text book?) courses in my opinion should come second to field studies in the open.”\(^{76}\)

It was in the field, according to Stoddard, where the wildlife student learned. Both Leopold and Stoddard knew burdensome institutional obligations could threaten to overwhelm the original purpose of study. They also knew professional momentum might carry wildlife management far from its roots in the field. Leopold took Stoddard’s words to heart. In answering the critics of the professional standards report, Leopold quoted “for the edification of the committee a sentence from Stoddard’s letter: ‘Are we not making an undue showing of our immaturity as a profession by all this talk of courses, universities and so forth, as though they were the aim of wildlife management, rather than a desirable transitory period in the life of a wildlife manager?’”\(^{77}\)

As it turned out, Leopold’s finished statement on professional standards was not a detailed guide to constructing a wildlife curriculum, but it did make clear that the path to

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75 HLS to AL, August 23, 1938. AL Papers, 9/25/10-2, Box 9, Folder 9, UW-M Archives.  
76 Ibid.  
77 AL to Rudolph Bennitt, September 8, 1938. AL Papers, 9/25/10-2, Box 9, Folder 9, UW-M Archives.
becoming a wildlife manager passed directly through the university.\textsuperscript{78} A professional wildlife manager now needed four years of undergraduate study and at least one year of graduate training. No longer could an apprentice taxidermist and self-taught ornithologist like Stoddard rise through the professional ranks. In fact, the great irony of Stoddard’s career is found in his very success. Despite preaching the importance of practical training and “woodsmanship” his entire life, he was partly responsible for the establishment of wildlife management as a formal discipline and profession, thus making his sort of informal training obsolete as a path into the profession. By helping to create the profession, he also helped make it more difficult for people such as himself to enter the field.

The nature of the subject, however, ensured that wildlife management remained a field-based science, just as the complexities of the nature-culture interface ensured questions like those of predators, prey, and animal population dynamics remained difficult to answer. Stoddard, Errington, Leopold, and McAtee helped to construct a scientific framework through which the conservation-minded public could view predators ecologically, thus lending support to anti-eradication efforts, and eventually to the campaign for threatened and endangered species. They were helping to create a biologically-centered view of the world, but such a view did not necessarily advocate for wilderness in the absence of people. By the early 1930s, most wildlife biologists were focused on protecting wild nature within human systems of production. They did not, however, always see eye to eye on the how and why of doing so. The environmental conditions of particular places, coupled with land management goals, sometimes dictated a measured response to predatory activity, for instance. In Stoddard’s view, nature itself was dynamic, and his management decisions came in response to climatic and land cover fluctuations (of both the human and non-human variety) more often than scientific paradigm shifts. He

\textsuperscript{78} For more discussion on Leopold’s final statement, see Newton, \textit{Aldo Leopold’s Odyssey}, 275-278.
thought Paul Errington’s model of predator-prey relations, developed under different environmental and scientific circumstances, simply would not work without considerations of place. The organizational schism in the creation of the Wildlife Society, in turn, largely mimicked these disagreements over theory and practice. When theory threatened to limit practice, as well as define the profession, Stoddard drew on his own background in an attempt to scale back a professional agenda he considered overly ambitious. One way to do that was to engage the types of land-use patterns that dominated the southern and American countryside—those of agriculture. If wildlife management was going to have any broad success in application, it would have to be in agricultural landscapes.
As Herbert Stoddard put the final touches on *The Bobwhite Quail* from his temporary home in Washington, D.C. in early 1930, several of his closest acquaintances busily concocted plans for his future. He already acted as the Biological Survey’s representative for the Sporting Arms and Ammunition Manufacturing Institute’s game fellowship program, the first real attempt to insert wildlife research and management into the nation’s universities. That program’s leader, Aldo Leopold, considered Stoddard as the nation’s premiere mind in wildlife research, and he had plans for Stoddard that included increased research activity from within the Biological Survey, a PhD degree, and eventually a university appointment as one of the nation’s first professors of wildlife management. Waldo McAtee had also charted a course for Stoddard’s immediate future. Stoddard would remain with the Biological Survey, replicating the Quail Investigation in other locations, testing many of its findings and tailoring management practices to suit the environmental and human peculiarities of place. With the help of Leopold and McAtee, Stoddard would become fully engaged with public-minded conservation, no longer limited by the scrutiny and control of the Quail Investigation’s backers.¹

His primary backer, however, had very different plans for Stoddard. Lewis Thompson felt the work in the Red Hills had just begun and that land management on the local preserves would suffer tremendously in Stoddard’s absence. Stoddard had expressed an interest in

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¹ On Leopold and McAtee’s plans for Stoddard, see AL to HLS, January 18, 1930; AL to HLS, February 11, 1930, AL Papers, 9/25/10-1—Stoddard Correspondence, UW-M.
maintaining ties to the region, but he had given little thought to staying on full time. The Biological Survey was committed to devoting more resources to wildlife management, and Stoddard wanted in. But that was before Thompson presented him with a rather remarkable offer: the outright gift of Sherwood Plantation if only Stoddard and his family would live there, an offer “very difficult for a poor man of my inclinations to ignore.”

In two short years, Stoddard and Leopold had developed a deep affection for one another, and upon receipt of Thompson’s offer, Stoddard quickly wrote Leopold seeking his counsel. Leopold’s response was supportive, if tempered by a concern for the insular nature of the Red Hills quail preserve set. As for Stoddard’s continued role in SAAMI, he hoped that “if Colonel Thompson will now bear in mind your value to the country, as well as to him, I am sure some mutually workable plan can be set up.” Stoddard would maintain a title of collaborator with the Biological Survey, training his successor, inspecting the SAAMI research projects, and supervising the Survey’s duplication of the Quail Investigation in other locations. Such a setup would bring “to a head the need of training recruits in the U.S.B.S., and the need of appropriations to do it on.” Leopold also suggested that Stoddard “‘hang out your shingle’ as a consulting game manager,” thus “demonstrating by actual example that a game manager is a practicable profession.” Despite his optimism, though, Leopold’s tone hardened about the possible outcome of Stoddard’s move into private consultation. Stoddard’s knowledge and ability, he thought, could be more fully utilized in the public sphere. Stoddard’s ability to navigate between public and private conservation was “all premised on the assumption that Col. Thompson does not need all of your time. To claim all of your time would, in my opinion, be a mistake on his part, and to give it, a mistake on yours. I make bold to say that his accomplishment in fathering the Georgia Investigation (as a public move) will be remembered

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2 HLS to AL, February 5, 1930. AL Papers, 9/25/10-1, Box 3—Stoddard Correspondence.
long after his success in business will be forgotten. To now let it relapse into a mere private
enterprise would be too bad. It has only started. His cue is to continue it, and make you
available to spread it to 48 states.”

Stoddard shared Leopold’s concern for the nation’s landed resources, especially on
agricultural landscapes. Indeed, wildlife managers like Stoddard and Leopold were as interested
in enhancing the environmental conditions of agricultural landscapes as they were in preserving
wilderness. This chapter examines this concern for agricultural lands among Stoddard, Leopold,
and other wildlife professionals, beginning with a broad look at the growth of wildlife
management within the context of agricultural landscapes, and gradually narrowing the focus to
Stoddard’s treatment of agriculture in the Red Hills.

It was no historical coincidence that their attention turned to the cultivated environment
when it did. During and after the years of the quail study, American agriculture experienced
dramatic changes. Across the country, new technologies and expertise coupled with new
legislation and credit arrangements to create what historian Deborah Fitzgerald calls the new
“industrial ideal in American agriculture.” Small farms began to consolidate on an industrial
business model, mechanization allowed for a more efficient use of manpower, and experts
adopted a scientific rationale for efficient, modern, and clean systems of agriculture, all of which
resembled the efficiency of the industrial factory. The environmental consequences of this
transformation were manifold. Government technicians and individual farmers set out to drain
swamps, divert streams, and clear forests; fields grew to unprecedented sizes; new chemical
fertilizers and insecticides found their way into soils, water supplies, and human bodies; and a
mass of people moved on to other pursuits. After World War I, American agriculture entered the

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3 AL to HLS, February 11, 1930. Ibid.
4 Deborah Fitzgerald, Every Farm a Factory: The Industrial Ideal in American Agriculture (New Haven: Yale
University Press).
modern age with little time for the mule-driven plow or free-ranging sow. As Stoddard wrote in *The Bobwhite Quail*, “this ‘clean-up’ policy has in many cases been fostered by some agricultural leaders in their zeal to assist the production of maximum crops, the potential game production value of the land being completely overlooked.”

The South adopted these changes at a slower pace than the rest of the nation. Credit arrangements between planters, merchants, tenants, and sharecroppers provided little incentive for the capital investiture for mechanization, and the South did not fully embrace agricultural industrialization until after World War II. But the process was well underway in the 1920s and 1930s, and if Stoddard was privy to its early entreaties, he also recognized that he was in a position to mount a challenge. Throughout the region, the best capitalized planters purchased tractors and began to consolidate small farms into larger tracts, allowing them to do a more thorough job of clearing and cultivating fields with less labor, as well as push tenants and other small farmers off the land. The threat of the boll weevil kept farmers in a constant state of anxiety, and encouraged a cleaner, more manicured farmscape. Boll weevils over-wintered in the protective brush at field edges, and many agricultural experts argued that the elimination of such habitat was crucial to boll weevil control. Further still, the Depression and subsequent New Deal accelerated change in the South. Small landowners defaulted on bank loans and lost their farms while locally-directed New Deal subsidies filtered to the largest planters, providing them a base for expansion and further depriving a tenant population that was nearing complete dispossession. Indeed, sharecropping and tenancy were on the wane, soon to be replaced by mechanization, with the landowner becoming more directly involved in daily farm operations through the direction of a handful of wage laborers. Farmers abandoned many of their less productive fields, allowing them to move through successional stages from broomsedge to old

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field pine and eventually to a dense tangle of hardwood and pine. Meanwhile, the region’s best
soils were farmed with increasing intensity, leaving few of the edge habitats upon which quail
and other wildlife relied.  

New Deal activity did, however, provide an historical moment for a debate over
agricultural practice, a debate that consumed the nation’s community of natural resource
professionals. The Dust Bowl in the Midwest, rampant soil erosion in the South, and, ironically,
overproduction of commodity staples like cotton, wheat, and rice, all led to a national
reconsideration of agricultural practice. New Deal farm programs like the Agricultural
Adjustment Administration and the Soil Erosion Service (later renamed the Soil Conservation
Service) became involved—and in most cases were welcomed—in farmers’ lives in ways
previously unknown. The AAA paid farmers to participate in plow-ups and instituted allotment
programs to reduce the supply of critical commodities, while the experts in the Soil Conservation
Service scattered across the countryside to demonstrate soil enhancing plowing and terracing
techniques, cover cropping, woodland management, and more. At the same time, the federal
government’s increasingly complex administrative structure, especially as realized through its
Land Utilization Program, expanded its control of land to include large swaths of former
agricultural landscapes, and provided a critical organizational framework through which to
practice wildlife management.  

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Wildlife management, however, was a science very much in its youth. By the early 1930s, it was still only practiced locally, with few concrete plans for regional or national application. Stoddard’s work in the South, Leopold’s in the Midwest, and the fledging work of the SAAMI fellows were only just beginning to inform one another. Local environmental conditions were proving a difficult gap to bridge in the creation of a national wildlife conservation policy. Administratively, the Biological Survey remained the national clearinghouse for information on wildlife, but recommendations on how to manage land with a view for wildlife were local and spotty. As the recognized authority on southern wildlife and its habitat, Stoddard found himself in a unique position to influence policy. During the Quail Investigation he traveled widely in the South, advising landowners from North Carolina to Mississippi, and most states in between. His knowledge of southern landscapes and their ecological processes was unrivaled at the time, but his frustration with what he considered the stifling labyrinth of government bureaucracy was equally incomparable. He continued to influence the implementation of wildlife management on both federal and state projects, but he was more interested in cultivating a private network of landowners and experts he felt was even more effective in restoring and maintaining wildlife habitats.

After returning to the Red Hills in early 1931, Stoddard helped to organize the Cooperative Quail Study Association [CQSA], a group of dues-paying private landowners spread throughout the Southeast. As the CQSA’s only employee early on, Stoddard continued research on fire, volunteer and planted food sources, refuge cover, and fire ants; he consulted on

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membership landholdings; and he published annual and special reports based on research and field observation. The group had three classes of membership: 1) resident members owned land within 100 miles of Sherwood and could call on Stoddard for on-site help at any time; 2) non-resident members, spread throughout the Southeast, received all publications and were entitled to a visit from Stoddard at least twice per year; 3) the corresponding member classification was open to all who wished to acquire the association’s publications. The CQSA began with twenty-one resident members in 1931, and by 1935 had added thirty-four non-resident and corresponding members. These are relatively small numbers, but the spatial breadth and temporal depth of the work made it one of the most substantial and influential wildlife organizations of its time. Stoddard estimated in 1935 that “Now some sort of management is practiced on nearly a half million acres belonging to members of our Cooperative Quail Study Association. While admittedly much of it is crude, we have been working hard at it for over eleven years. As far as my observations go, this is the only portion of the country where quail management has been practiced long enough, through good seasons and bad, to get much of a line on results.”

It should be self-evident at this point that a concern for wildlife habitat meant dabbling in many pools of expertise. A quail covey’s range, for instance, was not cordoned off at the forest’s edge. They went where their habitat took them, which included the many fields and edge environments that covered the South. With that in mind, Stoddard had to look beyond the questions of forest, fire, predator, and prey to examine the history and management of the South’s peculiar system of agriculture. The Bobwhite Quail, along with Stoddard’s subsequent work, not only helps us understand the national reconsideration of fire and predators, then, but it

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9 Herbert Stoddard to Paul Errington, August 27, 1935, Errington Papers, RS 13/25/51, Box 5.
also provides indispensable documentation of the South’s early twentieth-century eco-cultural landscapes. Some of his most important findings were based on the assumption that the environment could not be treated outside of its social, cultural, and economic context. Of quail and their living conditions, Stoddard wrote, “it is becoming a difficult matter in the Eastern United States to find areas where quail are living under natural conditions, unaffected by man and his works.”

Quail and their habitat were contingent on the qualitative actions of humans on the land, and Stoddard’s work sought to direct those actions as much as possible.

In fact, conservation on the Red Hills preserves was as much about managing people as it was the environment. Tenants and their families not only remained on the quail preserves, they continued working the land in much the same fashion as they had since the end of Reconstruction. Stoddard’s quail study altered some of those older activities in favor of wildlife, but tenantry formed the basis for many of his management techniques. Stoddard, in other words, was not simply advocating the conservation of a natural environment; he was among the first to call for the preservation and maintenance of the biological diversity found in this particular cultural landscape.

In adopting many of the land management techniques of tenant agriculture, Stoddard’s form of conservation mounted a vigorous challenge to the national move toward mechanized, clean agriculture. He reached out to preserve owners, farmers, and government resource managers, hoping to reverse what many observers and participants considered as progressive steps toward modern agricultural efficiency. Aloof to the social dimensions of these trends, he was mainly wary of their ecological effects:

As the ‘red hills’ are mostly good agricultural ground, cultivation in some sections here, as elsewhere, has become too intensive for quail. If more cover were left between the fields, even the most intensively farmed sections could

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continue to produce surplus quail. The tendency, however, to clean up all
sheltering thicket cover with a view to destroying possible hibernating places of
the cotton boll weevil and creating an appearance of neatness is proving
disastrous to quail. Thousands of acres are classed as ‘shot out’ by the
misinformed, where bobwhites could not exist under any system of protection or
restocking, simply because the environment no longer suits their requirements.¹¹

For Stoddard, agriculture did not necessarily mean ecological barrenness; in fact, if farms were
managed in certain ways, he believed they could actually increase plant and animal diversity.

Stoddard was not alone in his critique of the changing farmscape. Aldo Leopold was
coming to similar conclusions, and Stoddard found it thrilling to find such a like, and receptive,
mind when they met in 1928. Though much is written of Leopold’s views on wilderness, and his
role as an intellectual founder of modern environmentalism, much of his thinking was more
contextually grounded in agricultural landscapes.¹² His appointment to the SAAMI survey
forced him to look beyond the condition of wilderness lands and think seriously about the
practice of agriculture on settled land. Stoddard’s experience in the South, then, was a crucial
source of information for Leopold about game on agricultural landscapes. Indeed, Stoddard and
Leopold reinforced each other’s views on agriculture and its place in the natural world. They
joined together to point out that some of the gravest threats to wildlife and its habitat during the
1930s were occurring on the nation’s agricultural lands, this at a moment when most
conservation attention was either focused on the nation’s public domain and its various
management regimes, or on how to generate greater and more efficient production from
agriculture.

¹¹ Stoddard, The Bobwhite Quail, 6.
¹² On the development of Leopold’s views on agricultural lands, see Newton, Aldo Leopold’s Odyssey; Paul S.
Sutter, Driven Wild: How the Fight Against Automobiles Launched the Modern Wilderness Movement. (Seattle:
University of Washington Press, 2002), 89-98; Curt Meine, “The Farmer as Conservationist: Leopold on
Agriculture,” in Thomas Tanner, ed., Aldo Leopold: The Man and His Legacy; Curt Meine, Correction Lines:
For the Health of the Land: Previously Unpublished Essays and Other Writings, J. Baird Callicott and Eric T.
Both Leopold and Stoddard thought about agricultural land as the key to maintaining the nation’s natural resources, and farmers as its crucial caretakers. Their correspondence with each other reveals much of their thought on the subject, as well as their frustration with farmers and experts alike who did not understand the urgency—and simplicity—of what they proposed. Their concerns, though rooted in ideas about the inherent value of nature, were also premised on several political, economic, and environmental realities that threatened the public’s access to game animals. The basis of one problem was the apparent legal contradiction of the American “open” system of shooting: wildlife belonged to the state, but land—i.e. wildlife habitat—was in possession of private individuals. The state could regulate hunting seasons and bag limits, but it had little authority, or the political will, to address the core problem of diminishing habitat. The solution, if there was one, was to convince state game commissions and private landowners that disappearing game was directly related to disappearing habitat, not overshooting or predator activity. Both Stoddard and Leopold thought a general dissemination of simple habitat restoration techniques would help. In discussing Leopold’s Midwest, Stoddard related his experience in the agricultural South:

In fine quail country everywhere we see many farms that are entirely unproductive of game due to agricultural practices that are adverse. In such cases they would, without doubt come up to the surrounding high level if food and cover were restored….It should cost very little to let cover restore itself over a period of years on the average northern farm, and any quail increase secured by such means is surely worthwhile and economical. If only the grazing of woodlots, grubbing out of hedges and cleaning up of roadsides could be stopped and cover conditions allowed to correct themselves the increase in farm game would surely be striking.\(^\text{13}\)

He was not asking small farmers to go to elaborate lengths to increase the game supply—he fully recognized their need to make a living off the land. Like Leopold, though, he thought the

\(^{13}\) HLS to AL, April 3, 1930. AL Papers, 9/25/10-1, Box 3—Stoddard Correspondence.
increase of game on private land to be in the public interest, and there were very simple, cheap measures landowners could take toward that end.

Nonetheless, the production of game did not operate within the normal parameters of supply and demand economics. As Leopold wrote in his landmark “Report to the American Game Conference on an American Game Policy” in 1930, “game is not a primary crop, but a secondary by-product of farm and forest lands, obtainable only when farming and forestry cropping methods are suitably modified in favor of the game. Economic forces must act through these primary land uses, rather than directly.”14 The other applied sciences like agriculture and forestry had a clear economic motive, and thus plenty of institutional support. The economic motive for game management was more nebulous, and the trick was to tweak the methods of resource production in favor of game, while also creating an economic justification for the tweaking. The task fell to a diverse coalition of interested parties, including biologists, nature-lovers, sportsmen, and arms and ammunition manufacturers.

By the late 1920s, most of these interests converged at the annual American Game Conference, a meeting begun in 1911 by a consortium of gun companies, which quickly became an assemblage of the leading voices in American conservation. By 1928, the attendees recognized the work of Stoddard and Leopold, among others, as heralding a new approach to wildlife conservation, and chose Leopold to lead a committee to outline a national game policy. Two years later, he delivered a report his biographer calls “the most far-reaching document yet put forth by conservationists concerned with the fate of American wildlife.”15 Leopold addressed several facets of wildlife conservation, including the need to rely on sound research

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14 Aldo Leopold, “Report to the American Game Conference on an American Game Policy” [1930], in Baird and Callicott, eds., The River of the Mother of God, 150.
15 Meine, Aldo Leopold, 278. Information in this and the following paragraph comes from Meine, pgs. 259-290; and Sutter, Driven Wild, 91-92.
and experimentation rather than entrenched assumptions. Perhaps one of his most important points was that it mattered little what conference participants said about conservation until they included farmers and other landowners in on the conversation. Without private landowners on board, everyone would lose out—the public; those invested professionally, economically, and recreationally in wildlife; and the wildlife itself.

In drafting the report, Leopold beat back and coopted several potential policy approaches. The most threatening, in his mind, was based on a European system of game ownership and artificial propagation, which was backed most vocally by the sportsmen’s group More Game Birds in America. Such a system, wherein the landowner also owned the game animals found within property borders, might increase the market value of game, but it would also make the regulation of game-related activities difficult, and the state protection of the game itself near impossible. A further complication was animal behavior—animals simply did not respect property boundaries. Though he dismissed the European system, Leopold did, along with several others, recognize the need to alter the American free system of shooting. As he explained in the report, “even if the system still prevalent in most states were effective in producing a game crop, it is increasingly ineffective in maintaining free public hunting on farms, because as hunters increase, trespass becomes a nuisance, and posting follows. Closed seasons, posting, or both, are the inevitable result on farm lands.”

Why would a landowner want to increase game populations on his land, Leopold seemed to ask, only to encourage trespassing and necessitate posting? Stoddard asked similar questions, and thought that “in some quarters an abundance of farm game has come to be regarded as a

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liability rather than an asset, an unhealthy state of affairs from all standpoints.” W.L. McAtee was even more blunt in his assessment: “I think public shooting even now is dead in this country and the greatest trouble is that the sporting fraternity doesn’t know enough to decently bury the corpse.” The landowner’s right to close off game habitat already superseded the public’s right to access game, and as sparsely settled territory diminished and trespassing became a growing problem, both wildlife and its public felt the squeeze. Leopold, Stoddard, and many other observers favored, as Leopold put it, “commercializing the shooting privilege but not the game, thus getting the advantage of private production incentive, without losing the advantage of state ownership and supervision.” Farmers could lease their land to hunters for a set fee, thus providing the motivation to diversify farm environments.

Even with such motivation, though, farmers had little information about building and sustaining wildlife populations. Stoddard’s work was known in relatively circumscribed circles of wildlife experts and professional land managers like those in the Red Hills, as were the SAAMI fellowship projects. But ordinary farmers were far out of the loop. Coming on the heels of Leopold’s charge to conduct research and disseminate results throughout the country, the Biological Survey actively sought a remedy through the familiar public-private administrative model established by the Cooperative Quail Investigation and SAAMI projects. The most ambitious venture, spearheaded by the DuPont De Nemours & Company, was to establish a series of game management demonstration projects throughout the Southeast. The original plan, outlined by DuPont researchers A.C. Heyward and Henry Davis in the fall of 1931, designated twelve research and demonstration areas in eight Southeastern states to be administered

17 Stoddard, “Game Production By Farmers,” 1930. HLS Papers, Miscellaneous Manuscripts, TTRS.  
18 W.L. McAtee to HLS, December 1, 1934. W.L McAtee Papers, Stoddard Correspondence—1932-1934, Box 6, LOC.  
19 Aldo Leopold to Joseph P. Knapp, September 18, 1930. AL Papers, R.T. King Correspondence, 9/25/10-1, Box 4, Folder 1.
cooperatively by the Biological Survey, the American Game Association, and local or state sponsors. They were to last three years. The research areas, known as “type I” projects, would duplicate Stoddard’s Red Hills work, and investigate any modifications “made necessary by changing terrain and climatic conditions,” according to the original proposal. Demonstration areas, or “type II” projects, were to be applied manifestations of type I projects, “so that these findings may prove of the greatest practical value to the general public.”

In his capacity as independent consultant to the Survey, Stoddard gave instruction to researchers and land managers, and he visited each site at least twice per year.

The program was beset with problems from the beginning. Funding relied on local sponsors, often a mix of politically-connected sportsmen and state game commissions; and each project’s fate depended largely on their interests and goals, which often did not correspond with the program’s original purpose. The disintegration of the Georgia project in LaGrange was fairly typical. When the American Game Association alerted state contacts of the budding program in late 1931, Georgia’s Commissioner of Game and Fish, Peter Twitty, expressed immediate interest. Twitty already knew the local American Legion in LaGrange had an interest in increasing west Georgia quail populations, and they had access to about 1000 acres Twitty thought ideal for either type project. The Biological Survey sent Stoddard to scout the land, meet with Twitty and the local sponsors, and generally size up what looked to be a solid prospect in January, 1932. The land itself looked like a good representative of the area’s environmental conditions—part operational farm, part eroded old fields, and part cutover timber.

Stoddard considered it a good spot to demonstrate wildlife restoration techniques in a heavily agricultural region, but he did not get a good vibe from the initial meeting with local sponsors.

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20 “Proposed Cooperative Quail Investigations and Demonstrations for the Bobwhite Quail Belt of the Southeast,” HLS Papers, Southern Quail Demonstrations, TTRS.
sponsors. Locals seemed to think the demonstration area would act as nothing more than a quail propagating plant. As he wrote in his report to the Survey, which was shared with all interested parties, “I understand from remarks passed during our meetings that local financial aid was being secured because of the likelihood that a sufficient number of birds could be produced for restocking other areas to justify it. This is not my understanding of the purpose of these Demonstrations.” He reminded Twitty that “the actual benefit to the sponsors should consist of the information secured as to how to get birds economically over the vast areas of similar type in their region; not from the birds actually produced from the test areas.”

Twitty soon pulled his support, and the project fizzled. Similar sponsorship problems plagued the other sites. As Biological Survey agents Wallace Grange and Ross Stevens reported later that year on the program in general, “the difficulties arising are with the human rather than the environmental elements.” Some sponsors could not abide letting hawks fly overhead without a shot; others would not allow the experimental use of fire; and still others simply wanted to propagate birds and restock depleted lands. Even the sponsors of the Oklahoma project, one of the few to complete the full three year contract, considered “the project only as a production farm” to supply a surrounding hunting club, according to lead technician Verne Davison. The new approach to wildlife management—restoring habitat rather than restocking populations and exterminating predators—was clearly not gaining much ground in popular circles, even if they were interested in the subject.

There was much work ahead to ensure that public policy and local wildlife projects reflected current research. Stoddard, for his part, continued important research and experimented

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23 Verne E. Davison to HLS, July 22, 1935. HLS Papers, Southern Quail Demonstrations, TTRS.
endlessly with management techniques on land over which he had some control, but he gradually decided to withdraw from the public fold. Of the early wildlife professionals, Leopold became the point man on pushing the public towards a more biocentric view of nature. Throughout the 1930s, he worked hard to build his now famous ethical argument for land conservation, one that extended ethics beyond human relationships to include their relationship with the environment. In two essays in particular, “The Conservation Ethic” (1933) and “Conservation Economics” (1934), Leopold argued that both the government and individual landowners alike had an ethical duty to conserve land using all the scientific means at their disposal, whether in the soil, forest, ecological, or wildlife sciences.24

Stoddard read both manuscripts, and of the latter wrote that it “strikes me as a very keen paper and very much the meat of the cocoanut. I only wish that a copy could be sent to every conservationist, farmer, and citizen of the country; it should help to raise the citizenship standard.”25 Stoddard recognized Leopold’s skills with the pen, as well as his gift for synthesizing complex social and environmental problems. Stoddard also accepted his own limitations as a critic. When Leopold encouraged him to join the policy debate more vigorously, noting that “you are better entitled to criticize the [wildlife conservation] field than anybody else in the country,”26 Stoddard demurred: “I am so constituted that I am apt to assume that the other fellow is doing the best he can under the circumstances, and could not write a critical review of a section of the conservation field to save my life.”27 Considering his many critiques of contemporary land management regimes, one might suspect a sly authorial chuckle in

24 In Flader and Callicott, eds, *The River of the Mother of God*, 181-202; Also see Meine, *Aldo Leopold*, 320-323; and Sutter *Driven Wild*, 93-95.
25 HLS to Aldo Leopold, July 26, 1934. AL Papers, 9/25/10-1, Box 3, Stoddard Correspondence; for Stoddard’s comments on “The Conservation Ethic,” see HLS to Aldo Leopold, November 8, 1932.
26 AL to HLS, November 5, 1932, AL Papers, 9/25/10-1, Box 3, Stoddard Correspondence.
27 HLS to AL, November 8, 1932, Ibid.
constructing such a response, but in many ways Stoddard was content to let his work speak for itself. His strength was in employing his management techniques on lands with receptive guardians, not fighting policy battles. He was more than willing to let Leopold and others assume the public face of wildlife management. Stoddard shared with Leopold the hope that, with a bit more attention to the details of wildlife habitat and a bit less enthusiasm for modernization at all costs, the nation’s farmers might continue to protect vital biotic reservoirs from becoming monocultural barrens. But he played his part by turning inward, to his quail preserves and their region, the American South.\(^\text{28}\)

In Leopold’s Midwestern context, it was relatively uncomplicated to celebrate traditional non-intensive agriculture as protective of biological diversity. In Herbert Stoddard’s region of interest, however, the farm and forest habitats of the coastal plain came packaged within a socioeconomic system that made such claims of ecological beneficence far more problematic. Not unlike the birth of many other conservation regimes, the history of southern quail management was rife with social inequality.\(^\text{29}\) An examination of Thomas County, where Stoddard did the majority of his consulting work, well represents the prevailing agricultural and social conditions found in other coastal plain plantation districts. In 1930, Thomas County was

\(^{28}\) Leopold eventually understood Stoddard’s strengths and weaknesses, largely because Stoddard told him what he would and would not participate in professionally. When Jay “Ding” Darling approached Leopold about taking over as Chief of the Biological Survey in 1934, he declined, but briefly wondered what Stoddard might bring to the job. He wrote Darling, “It boils down, in my mind, to a choice between policy-making and research. Washington is obviously the place to write policy, and there is certainly a chance in Washington to (as you say) ‘get 48 states in motion, instead of one.’ But getting them in motion and keeping them in motion are two different things. I have not yet found the man who could organize and also direct such work. Stoddard was perfect in the latter respect, but not the former. In short, there is at least a doubt in my mind whether bringing research to actual fruition in one state is not, at this moment, just as important as starting it in many states.” AL to Jay N. Darling, May 29, 1934. AL Papers, 9/25/10-8, Box 1, Folder 2.

very much rooted in the rural institution of tenant agriculture. Its total population stood at 32,612, about 49 percent of whom were black. The black population previously held a majority, but their number fell by 1,407 in the 1920s due to migration north. With an urban population of 11,733, town life in Thomasville, Metcalf, and Boston, among other smaller crossroad communities, was bustling, but a wide majority of 20,879 still worked and resided in the countryside.  

Land use trends in Thomas County also mirrored those in other plantation districts, though it was more heavily forested than most. Of the county’s total 339,000 acres in 1930, 112,142 were in cropland and 13,142 acres lay idle or fallow. The average size farm, including those of non-landowning tenants, grew in the previous decade from 89 to 112 acres, reflecting the slow march toward consolidation. Pastured land was common, though it was not in the improved variety of grasses that spread across the southern landscape in later years. Of the 74,074 acres that were in pasture, over two-thirds was woodland pasture. In addition, another 73,863 acres were non-pastured woodland, most of which was found within quail preserve boundaries.  

Despite so much land being locked up by northern-based preserve owners, Thomas County ranked across the board as one Georgia’s top producers of agricultural goods in 1930. It had the largest population of pigs—36,400—of any county in Georgia, and only five counties had more head of cattle. It ranked eighth in corn acreage with 48,935, and second in sweet potatoes with 2,169. Its cotton acreage was unremarkable in a cotton-dominated state, but 19,079 acres was substantial nonetheless. Thomasville’s location on several active rail lines made it a regional market and transportation hub, leading to a substantial increase in truck crops

throughout the county. Between 1920 and 1930, the total acreage for commercial vegetables increased from 1,936 to 7,995, and it became the second ranked county in both vegetable acreage and dollar value.\textsuperscript{32}

Thomas County had a relatively diversified farmscape, but its tenure arrangements closely mirrored those of other southern regions. Tenantry and sharecropping pervaded Red Hills farming during Stoddard’s initial quail investigation. The 1930 census counted well over half of total farms in Thomas County as tenant-operated, with the 20 to 40 acre lease being the most common arrangement by far.\textsuperscript{33} Even when part of a large unit of ownership, these farms were small and scattered. Credit arrangements on the quail preserves continued to emulate those on locally-owned lands throughout the 1930s, as did the tenant farmer’s reliance on cotton for cash. As one Leon County extension agent observed of the quail preserves in 1937, “These plantations operate on a fixed commodity tenant basis. The rent is ordinarily a 500 pound bale of cotton for each 40 acres of land rented. Incidentally, cotton is about the only cash crop grown by tenants and often does not produce sufficiently to give the tenant any profit above his rent.”\textsuperscript{34} As was typical in southern tenantry, to make it through the next year a tenant had to borrow on the next year’s crop from the landowner or a merchant, thus making it near impossible to escape the crop-lien cycle.

Stoddard was not particularly interested in critically assessing the region’s attachment to tenantry, but he was interested in directing the actions of those tenants who remained on quail lands. There was no shortage of potentially good quail land in the Depression-era South, and virtually all of it purchased for quail management had tenants spread throughout. On land with

\textsuperscript{32} Ibid., 574-575, 586-587, 598-599.
\textsuperscript{33} Ibid., 522.
tenants, Stoddard wrote, “it is undoubtedly best to keep all who respond to fair treatment and cooperate with the owner in special matters.” Tenants continued most of their traditional patterns of land use, like cultivating small fields and gardens, and hunting small mammals, but the “special matters” to which Stoddard referred were not inconsequential. He made it clear that managing this environment would also involve managing the tenants remaining on its lands.

The most significant management changes recommended by the quail report were to eliminate free-ranging cattle, poultry, cats, and dogs. Cattle competed for quail food plants, and trampled much of the nesting range, while free-ranging chickens may have transferred diseases to quail. Stoddard recognized that controlling tenant activity was a ticklish matter, and he provided special counsel on dealing with roaming cats and dogs: “As the greater portion of these animals belong to the tenants living on the land, tact and diplomacy rather than force have to be relied upon in handling the delicate problem of the restriction in number, control or disposal of these pests.” It would be many years before preserve owners ridded the range of tenant-owned cattle, but four years into the study preserve owners developed a standard agreement with most tenants concerning domestic pets and small mammal hunting. Stoddard held a series of meetings with tenants in 1928 to outline the preliminary results of the study, and “to get maximum cooperation from the tenants in efforts to build up the quail supply.” He encouraged them to continue hunting possums, raccoons, and skunks as they had for generations, and “the tenants all agreed to give up all of their cats and all but one dog, and that to be tied up except during the time it was being used in handling stock, etc.” Clearly, not all tenant practice was beneficial from an ecological standpoint. Stoddard celebrated the unruliness of the tenant landscape, but he also sought to manage many of the actions that had helped produce it.

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35 *The Bobwhite Quail*, 367.
36 Ibid., 421.
37 Stoddard Field Diaries, January 2, 1928, HLS Papers, TTRS.
The landscape of tenantry was fraught with environmental paradoxes. It contained considerable ecological diversity, but it also created a very real potential for ecological destructiveness. Tenantry, especially on hilly land, has long been associated with soil erosion and infertility. Much like the Piedmont sections to the north, the soil of the Red Hills gave way on countless hillsides, and was leached out on others. One of many consequences was a detrimental effect on wildlife habitat. Indeed, Stoddard used part of the quail study to rail against cotton monoculture and its effects on the soil. “The methods used in cotton raising are highly detrimental to quail,” he argued. “Not only are cotton fields an unfavorable quail environment, but the planting of the crop year after year in the same fields, without rotation, has put hundreds of thousands of acres into an unproductive condition.”

He cautioned those interested in developing lands for quail to closely consider past land use, for worn out lands would take time to replenish. Land where “the fertility of the soil has been exhausted to a point where it can not produce a vigorous growth of weeds and leguminous plants will not support quail in abundance.” On land prone to erosion problems, Stoddard enthusiastically encouraged terracing. Not only could terraces “preserve hillsides from destructive erosion,” they could also “be made to furnish ideal areas for quail cover. Their importance is so great both from the viewpoints of soil retention and as havens for quail and other bird life, that it is urged that they

39 *The Bobwhite Quail*, 350-351.
40 Ibid., 351.
be put in all agricultural quail preserves in rolling country.”  These were the types of alterations any farmer could implement, and this attention to habitat in an eco-cultural landscape gave Stoddard’s monograph tremendous ecological breadth. Quail were undoubtedly its main concern, but this life history of a single species led Stoddard to a broader interrogation of coastal plain ecology in all of its diversity.

Terracing made headway on preserve land in the early 1930s, and many landowners and tenants even began to curtail their reliance on cotton. It remained the most important cash crop on most quail preserves until World War II, but some owners were on the lookout for alternatives, an effort as rooted in a concern for quail as it was in a concern for tenant well-being. As Stoddard worked out the administrative details of the CQSA in 1931, preserve owner Arthur Lapsley proposed the organization take on a dual role as quail research clearinghouse and farm cooperative. Reflecting on quail and tenant farming, he reminded Stoddard, “You know our ‘renters’ depend on cotton for their cash crop. Cotton is no good for quail, and worse for the land. If something could be found that was both good for quail and land—and could be sold for cash, it would be a very great help.” Moving away from cotton would help all interested parties, and Lapsley considered a recent fallout in the cotton market an opportunity to diversify: “The low price of cotton, and the possibility that thru our ‘Quail Club,’ small quantities of a crop could be pooled, and thus sold to advantage encourages me a little. Let’s try our best.”

Stoddard suggested intercropping velvet beans with corn as a possible alternative. Velvet beans were good nitrogen fixers and used widely in the South for erosion control, forage, and household use; and corn, of course, was already a staple of both the home and market. Stoddard was unsure, however, “whether a good price can be secured on the market year after year…to

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41 Ibid., 364.
42 Arthur B. Lapsley to HLS, May 3, 1931. HLS Papers, Arthur B. Lapsley Correspondence, TTRS.
keep the renters going.” Indeed, corn prices fluctuated like most staple commodities, and it was not much of a cash crop in the South like it was in other regions. Nevertheless, it was becoming the foremost field crop on many preserves. Dan Lilly, a tenant on Ichauway plantation in the Albany, Georgia area, remembered working “about more corn as anybody around…So much corn everywhere. These little bird patches in the woods…We planted them in corn to take care of the birds.” For Lilly and many other tenants, corn would increasingly need to take care of their families as well.

Beyond his hope for tact and diplomacy, Stoddard left little record of what he personally thought of the region’s economic and racial disparities, but it is apparent that neither he nor the preserve owners sought to overturn deeply entrenched patterns of power in the South. Racial patronage and concerns over a dwindling labor supply were as common for the preserve owning industrialists as they were for the southern planter classes. One preserve owner, for example, thought one of her servants “was so at one with nature that we could easily imagine him speaking the language of the little woods-creatures, and sharing their secrets.” This language of condescension and naturalization pervades most documentation when the conversation shifted to black labor. It is significant, though, that conservation on the quail preserves did not mean general expulsion from the land like it did in so many other contexts. Indeed, the partition and control of the quail preserves actually created a local, or more precisely a private, commons for the residents of the properties. The lands were posted to outsiders, to be sure; but, outside of the “special matters,” those who lived and worked on the preserves had free range over the preserve.

43 HLS to Arthur B. Lapsley, May 17, 1931. HLS Papers, Arthur B. Lapsley Correspondence, TTRS.
45 Dan Lilly Interview, July 22, 1992, 3-4. Ichauway Documentary Project, interview by Wiley Prewitt, Joseph W. Jones Ecological Research Center at Ichauway Archives.
Nevertheless, the revolutionary ecological and wildlife management developments on these quail lands were not accompanied by a revolution in social or racial values.

The tenant experience on a quail preserve varied from property to property, and it is difficult to gauge thoroughly with extant evidence. Sometimes problematical oral histories reveal a fluid cultural landscape shaped by the shifting contours of memory. Most tenants remember a comfortable existence. Lucille Glenn Morris, of Susina Plantation, recalled life as “enriching, nurturing, and enjoyable. Love, brotherhood, industry, responsibility, and goal-setting were some of the values instilled in a lovable, family-like setting.” In a time of scarce farm income, and even scarcer employment, many African-Americans in the Red Hills coveted the security the preserves provided. Morris thought that “many of the surrounding plantations were blessings for rural blacks that had limited outlets for gainful employment in South Georgia during the early 20s.” Frank Delaney of Pebble Hill plantation thought that the poor living and working conditions of non-preserve land created a great demand for access to farm land on the quail preserves. Because “you had people living on the plantation that was having it a whole lot better…there were people trying to move on the plantation. We had to have a system to screen people on the plantation…” Such demand likely had as much to do with land shortages and poor conditions elsewhere as benevolence on the part of preserve owners, but there did develop a deeply felt pride in being affiliated with such a prestigious landscape.

Even still, tenants worked and lived with strict regulations, a private governance of privileges, not rights. Job responsibilities on the preserves varied widely. Some families simply

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48 Ibid., 34.
49 Ibid., 34, 39.
50 Ibid, 34.
rented land on shares and farmed according to their own inclinations. Others farmed during the growing season and worked wage jobs for the landowners during the winter, ranging from cutting lumber to working dogs and driving wagons on quail hunts. Another group of residents worked full-time for landowners. Full-time women laborers typically cooked and cleaned, and men worked the grounds, the dog kennels, or as chauffeurs. On Pebble Hill, perhaps the most progressive preserve in terms of tenant treatment by the 1930s, tenant families paid no board, had free access to a full-time nurse, and could even tap into a college scholarship fund established by long-time owner, Kate Hanna Ireland, and her daughter, Elizabeth “Pansy” Poe.51 Frank Delaney recalled ample resources to draw on for all Pebble Hill residents: “there was enough land allotted to each family, each household. If you wanted to plant a garden that was an acre, no problem…from corn to carrots, beets, strawberries, anything you wanted to plant…Every household had a garden, a chicken house, a smokehouse, and a garage. My dad used to plant a few acres of corn; we kept a big garden. We…had hogs, and the neighbors had hogs…Whatever you had, you just shared it, you know.”52

Memories of life on other preserves echo those of Delaney. Irene Hudson, a life-long resident of Ichauway Plantation south of Albany, Georgia, called up the 1930s as a time of relative subsistence and little cash, though with more nostalgia than bitterness: “people then didn’t hardly buy, they didn’t have to buy that much stuff. See, they were farming, and they raised the cows, they raised their own hogs, so they had to buy tobacco, sugar, flour. They raised corn, they take their corn and shell it, put it in a sack, carry it to the grist mill, have it ground,

51 Both of these women probably deserve more treatment than I can provide here. Still spoken of in reverent tones, they represent the quintessence of paternal, or maternal, benevolence. Kate was the daughter of Howard Melville Hanna, and took over possession of Pebble Hill in 1901. “Miss Pansy” was born in 1897, and inherited the place in 1936. See William Warren Rogers, Pebble Hill: The Story of a Plantation (Tallahassee: Sentry Press, 1979).
you didn’t have to buy no meal, you didn’t have to buy nothing but flour and sugar…we didn’t eat nothing but cornbread, peas, and all different kinds of vegetables, sweet potatoes…”

Such recollections put one in an idyllic frame of mind, and those from Pebble Hill even allude to a burgeoning black agrarian middle class. But tenant conditions were less than consistent region-wide. Leon County’s extension agent expressed repeated frustration throughout the 1930s that the quail preserves did not allow tenants to modernize their farming techniques. His 1938 report noted,

Most of the 914 Negro tenants, accounting for fifty-five per cent of the farms of the county, are tenants on plantations. None of the plantations allow fences, so livestock raising is impossible. Farming equipment is limited and inadequate. Workstock is usually one mule or horse, or two oxen. The average value of equipment per farm in the county is only $125, and the Negro tenants will not average more than $50.

Similar conditions prevailed elsewhere. West of the Red Hills, where newer quail preserves began to flourish on the Dougherty Plain region near Albany, Georgia, tenants remembered a life of hard work and little economic mobility. Dan Lilly farmed on shares before World War II and remembered many tenants harvesting corn, peanuts, or cotton only to end the year indebted to the plantation store. After reconciling the books for seed, fertilizer, and household goods “you’d have to start next year with that debt on you and another one coming. That’s why you wrapped up in debt…they’d never get out.” Some amenities of the quail preserves offered a slight buffer against market realities, but even so, debt was debt.

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55 Dan Lilly Interview, 28.
Tenants were clearly caught in a debilitating system, but they did possess a great deal of knowledge about the environments in which they worked and lived. And they used it to their advantage time and again. Resident quail preserve tenants had a particularly important, though largely anonymous, role in Stoddard’s wildlife work. In the spring and summer they located and helped monitor nesting sites, and they often acted as guides in unfamiliar territory throughout the year. When preserve owners agreed to pay tenants for locating quail nests and handing over targeted predators, they quickly seized the opportunity to add to their meager cash flow. During the summer months Stoddard spent day after day “visiting quail nests previously located and going here and there with negroes to see new ones.”

Though he noted that “many tenants and field hands normally find many quail nests in the course of a season,” Stoddard also assured preserve owners that a fee of fifty cents per nest “stimulated a lot of special search.” In addition to locating nests, tenants also played a crucial role in Stoddard’s study of quail predators. As discussed in Chapter 4, they turned in small mammals and reptiles for stomach analysis, and they reported any predation activity on quail nests. Tenants, in effect, became ad hoc scientific workers while carrying out their many other tasks.

Despite the many social and economic inequities, Stoddard advocated strongly for the landscape of tenantry as it developed on the quail preserves, and thought it offered an ideal biotic reservoir. That landscape was quickly changing region-wide, though, and not in favor of wildlife resources. When Georgia’s state game commissioner, Peter Twitty, asked Stoddard in 1932 to distill *The Bobwhite Quail* into a pamphlet more readily available to farmers, he outlined a landscape already familiar to any southern farmer of long experience. He wrote of successional seed plants—more likely known as weeds to progressive farmers—that grew vigorously in the

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56 Stoddard Field Diaries, June 29, 1925. HLS Papers, TTRS.
57 “General Impressions of the 1927 Quail Nesting Season,” HLS Papers, TTRS.
highly disturbed agricultural landscape. Ragweed, beggarweed, pigweed, rough button-weed, Mexican clover, and bull grass, among many others sprouted after a field was “laid by,” and occupied field edges and open woodlands throughout the growing season. A variety of tree and shrub masts also contributed to make the landscape a quail haven. Stoddard advised farmers that “quail are fond of, and more or less dependent upon a wide variety of small wild fruits, and the ‘mast’ from trees for their living,” especially wild black cherry, dewberries, sassafras, blackberries, wild plum, huckleberries, and mulberries, “which are often abundant on not too intensively cultivated farm lands.” It was also “well to remember their value to quail, wild turkeys and other birds when considering the cutting of wild cherry for fence posts, and brushing out around fields and along fence lines, roadsides and so forth, for the destruction of such food and shelter producing vegetation may be the means of reducing the number of quail on the farm.”

The other key to the functional quail landscape was cover. Many of the same plants that provided food also gave quick cover from predators; “thickets and vine tangles around field borders, on fence lines and roadsides, and here and there in open woodlands” were essential requirements for quail. Coverts not only aided quail, but as discussed previously, they substituted for predator eradication. Again, the landscape of tenantry had most of these measures built-in, but “where farmers cut out such refuge cover to give their farms an air of ‘neatness,’…a decline in the numbers of quail and other thicket-loving birds is inevitable.” Such neatness threatened the traditional wildness of southern farms, and on lands outside of his control, there was little Stoddard could do about the trend beyond recommending otherwise. On the quail

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preserves, however, his word carried a great deal of weight and much of his advice was carried out to the letter.

In the nomenclature of the time, Stoddard called tenantry a “primitive” or “crude” system of agriculture, but he was unequivocal about its ecological superiority to modern systems. In his chapter in *The Bobwhite Quail* titled “Preserve Development and Management,” he advised that the best “situations in which to establish new preserves, consist of ground of medium or low price, land that is, or has recently been, under a system of crude agriculture.” “Where fields are small and well distributed,” he continued, “with small open woodlands between, and thicket cover is plentiful, the all-important matter of environment is favorable to start with and the food supply in most cases can be built up quickly.”60 His preference for small scale agriculture was practical; it had little to do with a romantic primitivism in the face of modernization. Nor did it have much to do with the preservation of untouched nature. Stoddard’s advocacy was for the active management of cultural landscapes to produce abundant and diverse wildlife populations.

It was here, in the suggestion that species diversity in the longleaf-grassland environment was contingent on landscape diversity, that the influence of tenant agriculture made its biggest mark on Stoddard’s ideas about ecological land management. The greater the number of landscape types spread throughout the countryside, he proposed, the better chance there was of promoting a wide variety of plants and animals. In regard to quail, he explained, “The necessity for providing feeding grounds in close proximity to thicket cover explains why very diversified areas ‘carry’ more quail than do either great fields or large solid blocks of woodland.”61 In Stoddard’s mind, there was a certain advantage on lands as heavily worked as the Red Hills—or indeed, the whole of the eastern United States. The key was to spread this patchwork landscape

60 Stoddard, *The Bobwhite Quail*, 362, italics original.
61 Ibid., 363.
evenly across the countryside. Stoddard believed the goal of any landowner hoping to realize wildlife conservation “should be to create maximum diversification, and have small woodlands, small fields in crop and fallow, and roosting and nesting grounds evenly distributed over the terrain.”\textsuperscript{62} It was not that Stoddard did not appreciate vast stretches of undisturbed wilderness—he did. But in these agricultural landscapes of the longleaf pine forest, wilderness was not the issue. Indeed, if left to the untended devices of nature, wildlife diversity would almost certainly decline.

The issue, for Stoddard, was to find ways to spare wildness and wildlife in the face of an increasingly mechanistic approach to growing crops. The key to wildlife management in this region, he concluded, “consists in diversifying the vegetation as much as possible and providing a balance of open woodlands, weedy fields, cultivated and fallow ground, thickets, and scattered grass or broomsedge areas of proper density and small extent.”\textsuperscript{63} Instead of attempting to impose non-human nature on a very human landscape, Stoddard took this southern environment on its own terms—and its terms hinged squarely on ecological disturbance. It was a plowed, chopped, grazed, ditched, and burned environment of dynamic human and non-human activity, and Stoddard was looking for ways to best manage, or order, such disturbance. Wildlife abundance literally depended on it.

The landscape effect of all this agricultural activity formed a complex tapestry of variegated environmental space that is perhaps best explored in a picture. Figure 5:1 is a striking

\textsuperscript{62} Ibid.\textsuperscript{63} Ibid., 374.
1930 aerial view of a portion of Melrose Plantation in Thomas County, one of several Hanna family properties in the Red Hills. It is perhaps the best visual example of Stoddard’s ideal forested landscape. Melrose was approximately 4,000 acres (a small slice of the Hannas’s total acreage), with “a large aggregate acreage in corn, often well-distributed in small fields,”
according to a 1933 report on the property.\textsuperscript{64} The photo shows what today’s conservation biologists might call landscape corridors on a small scale. Small fields break up large blocks of woodland, which narrow to form bottlenecks from one block to another. Woodland animals, then, had large areas in which to roam, as did species favoring edge habitats. Down on the surface, beneath the forested overstory, fire created a diverse vegetative understory with plenty of food for seed eating animals. If we could continue to zoom out to cover the entire quail preserve region, we would see a similar, though certainly not identical landscape diversity. The point is that the region was far from an ecological monolith; it was neither wholly covered by fields nor forests. It encompassed a diverse patchwork of environments created from human land use. This, in other words, was a landscape of intense human activity, but it is clearly not a landscape of industrial activity.

Such landscapes as that of Melrose, however, were quickly being replaced by the homogeneity of industrial agriculture and forestry. Decreasing landscape diversity, in fact, was Stoddard’s principal critique of southern land use trends region-wide. While the expansion and mechanization of agriculture was the culprit on land with good soils, a companion development, the total abandonment of agriculture and its management techniques, was equally alarming on poorer lands. This became particularly evident on newly-purchased government lands, which provide an instructive contrast to management on the Red Hills preserves. Beginning in 1934, the New Deal’s Land Utilization Program began purchasing marginal and sub-marginal throughout the nation, and marked the cotton growing and cutover lands of the South as one important problem spot. Administered at various times by the Federal Emergency Relief Administration, the Agricultural Adjustment Administration, the Resettlement Administration,

\textsuperscript{64} Herbert L. Stoddard, “Notes on a Visit to Melrose and Pebble Hill Plantations,” September 21, 1933. HLS Papers, Georgia Plantations—Melrose, TTRS.
the Bureau of Agricultural Economics, and the Soil Conservation Service, the Land Utilization Program had as its goal to take poor land out of production in an effort to correct the widespread reality of farm poverty. In a few short years the Land Utilization Program purchased 11 million acres of mostly worn out agricultural lands, relocated thousands of people, and transferred management of the land to various federal bureaus or to state governments.65 In the Southeast, much of the land eventually became National Forests, managed by the Forest Service, or Wildlife Refuges, managed by the Biological Survey and later the Fish and Wildlife Service. Most observers interested in wildlife protection considered this new public ownership of resources a boon to the movement, but there were limitations to the effectiveness of such an approach. As previously noted, the government could take only so much land out of private ownership. In Stoddard’s estimation, though, the most severe limitation rested in the ability to properly manage what they had.

In these newly-created National Forests and Wildlife Refuges, the vernacular landscapes of local agricultural practice gave way under the more centralized approach of the federal government. Individual decisions once based on living from the land, and perhaps more importantly, living with the land, now came by way of administrative decree. In a series of inspection reports he made during the mid-to-late 1930s for both the Forest Service and the Biological Survey, Stoddard cautioned those who thought good conservation on “sub-marginal” agricultural land would come about by simply dispensing with people and allowing a “reversal to nature.”66 His greatest concern was not the loss of agriculture, per se—much of this land was, indeed, worn out and could do without the plow for a time. Rather, the greatest absence on the

66 Stoddard, The Bobwhite Quail, 405.
new federal lands was the landscape effect that older agricultural practices created. Active wildlife management, he argued, could mimic these agricultural practices, yet avoid their debilitating effects on the soil.

Stoddard’s reports to the Forest Service and Biological Survey contained a consistent theme: do not expect to produce desirable wildlife habitat—and by extension, recreational and aesthetic landscapes—by simply planting trees. As discussed in Chapter 3, the rhetoric of southern reforestation took off around the turn of the twentieth century, and by the 1930s had reached the level of dogma. Most forested environments of the southern coastal plain were in deplorable condition, so there were legitimate economic, as well as ecological, reasons for talk of reforestation. But, again, the desired environmental conditions of New Deal planners and foresters were not those of wildlife managers like Stoddard.

On what would become the Chickasawhay National Forest in southern Mississippi, Stoddard advised “the provision of well distributed and adequate openings in otherwise solid forest is of the greatest importance to all the game species,” and “open park like areas of pineland, kept so by the periodic use of controlled fire, are very desirable supplement to the open fields.”

Small fields interspersed among open pine forests was the very core of the agricultural landscape of his home in the Red Hills, but Stoddard knew very well that his management goals came into conflict with those of foresters. In his report on the future Wambaw, Pisgah, Cherokee, Nantahala, and Chattahoochee National Forests, he warned Forest Service officials that “many of the questions discussed so frankly are highly controversial in nature. While I have considerable confidence that the opinions and suggestions advanced are sound from a game management standpoint, I realize fully that they may conflict with forestry or grazing

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The restoration ideal of government foresters was driven by market economics, which meant fast-growing, densely populated stands of merchantable trees.

What most rankled Stoddard about management on these government lands was the replacement of an ecological tapestry he had worked so hard to decipher with a previously unknown ecological community that had few ties to the historical environment. On these southern coastal plain lands, in particular, where the longleaf-grassland forest was greatly denuded but resilient, and agriculture had been relatively low-level and scattered, Stoddard thought federal agencies were too hasty to act before they knew much of anything about the coastal plain environment. His report on the Chickasawhay continued rather strikingly:

A policy decidedly open to criticism from a wildlife standpoint in my opinion, is the planting of large solid blocks of pine all over the uplands, without leaving from 10% to 15% of well dispersed openings so essential to the welfare of wildlife. The planting of Slash Pine particularly would seem to the writer questionable from more than the wildlife standpoint.

It would seem that the pine plantings could be made to fit into the picture better from a wildlife and recreation standpoint were the slash planted adjoining and parallel to the creek valleys, draws, and lowland areas where the hardwoods hold forth…This would leave the uplands for the long-leaf, where this tree naturally grows, and this type could be periodically control burned for both silvicultural and game management purposes…Such a development would have a high scenic and wildlife value, and probably grow very nearly as much timber as any other.”

Stoddard concluded his summation on the Mississippi lands, writing, “thousands of acres of solid slash pine, without a proper balance of open lands, will ultimately be barren of desirable wildlife.” Stoddard’s desired landscape for the southern national forests derived from the agricultural lands he studied in the Red Hills, but anyone familiar with today’s restoration efforts on longleaf lands recognizes a definite ecological bent to these recommendations. Stoddard

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69 Ibid., 9.
70 Ibid., 6.
maintained that fire-intolerant slash pine had no business on these coastal plain uplands, where both natural and human-set fire had shaped the longleaf pine-grassland habitat for millennia. By removing people from the landscape, the federal government effectively removed a type of landscape diversity endemic to small-scale agriculture on the southern coastal plain. Most importantly, the common-sense use of fire disappeared, and along with it went the landscape tapestry of small fields and open forest. Without small-scale agriculture and its practitioners spread throughout these vast tracts of land, or at least a deliberate mimicry of it, dense forest cover replaced diversity.

And so Stoddard created a hybrid form of conservation that stood in opposition to the clean-slate mentality of modern agriculture and the wholesale agricultural abandonment of the federal government. What we see through Stoddard’s applied science is a growing realization that some environments should be managed not only for resource use, but for ecological diversity as well. Beyond the lands of the nation’s most wealthy recreationalists, the best opportunity to do so was on government-owned lands; they lay outside the trappings of the market, and were taken out of production for the stated goal of rehabilitation and restoration. The ecological knowledge to encourage diversity existed, and Stoddard considered the management steps he took in the Red Hills to be a perfect fit for government lands. But he and others also knew the Forest Service was not the best agency through which to angle for diversity; their purpose was reforestation and timber production, a plan that did not fully square with wildlife management.

The Biological Survey and their Wildlife Refuges, though, had few such hurdles. The Wildlife Refuges were just that, places devoted “to the use for which they were primarily
intended by Nature.” Here was an opportunity, thought many in the wildlife community, to publicly showcase the recent strides in wildlife management. When Waldo McAtee informed Stoddard of a 1934 purchase to be managed by the Biological Survey, Stoddard encouraged him by relating his own experience managing large tracts of land:

Am glad to hear that you have a tract of land to develop, and you will have lots of fun doing it. Now I take just as much pleasure developing lands primarily for quail and turkey, regardless of the shooting, and for this reason: Everything we do to improve conditions for game improves conditions for all wild life of similar requirements, as well as the game. The net result is that we have vastly more game than when we started, as well as dozens of other forms of wildlife. The millionaire game preserve owners are doing more to increase seed eating wild creatures than any other element, though few seem to realize the fact...I would suggest that you try all of the stunts we are trying here for food and cover improvement, as well as what you can think up yourself.

In developing land for game animals, then, Stoddard surreptitiously carried out a program for biological diversity. His persistent problem in expanding that program to more land, however, was in the suspicion by some officials that the preserve owners had unlimited coffers from which to draw, thus making such management unfeasible on most landscapes.

Indeed, the preserve owners spent a great deal of money on their exclusive landscapes of retreat. But despite the extravagance, Stoddard felt the land management measures could be easily and cheaply replicated on government lands. McAtee, however, expressed skepticism in drafting an internal document outlining the Survey’s role in administering public land. After identifying the Red Hills quail investigation as the foundational work in wildlife conservation, he touched a nerve in Stoddard by writing, “the private preserves of the wealthy are certainly not

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71 “The National Plan For Wild Life Restoration, pt. 2: Tentative Projects for Migratory Waterfowl and Upland Game.” Office Files of J.M. “Ding” Darling, 1930-1935, Box 1, RG 22, NARA-II. This report came from FDR’s Committee on Wildlife, known to many as the “Beck Committee.” Consisting of Thomas Beck, Jay “Ding” Darling, and Aldo Leopold, the committee set out to develop a national land use plan for wildlife, and in the process had severe disagreements over several proposals. See Meine, Aldo Leopold, 315-319.

72 HLS to W.L. McAtee, April 10, 1934. W.L. McAtee Papers, Stoddard Correspondence, 1932-1944, Box 36, LOC.
the place to look for guidance as to economical game management." Though he was sometimes critical of the lifestyles of the preserve owners, Stoddard was forever a defender of their landscapes. He quickly identified a contradiction in McAtee’s essay, writing that the methods developed in the Red Hills were “being lifted bodily by all the upland game development projects in the country,” so the preserves were, indeed, the place to look. He went further, though, making clear that extensive management did not necessarily equate with profligate spending:

As to making management pay for itself, we have a constantly increasing number of members who are becoming interested in this…Several are trying with best available advice to make their woodlands productive, regulate their agriculture so as to be as profitable as possible as well as ideal for quail, doves and turkeys, and otherwise make their places as nearly self-sustaining as possible. The high costs you mention per quail, duck, or other game birds does prevail on some places, but seldom is this due to extravagant field operations in game production…Usually it is due to the very high scale of living and entertainment on the preserves in question. Elaborate development of home site, beautiful landscaping and such activities should not be confused with field developments for game.

Stoddard insisted that the management steps he took in the fields and forests of his southern hunting preserves, then, were perfectly compatible with management goals on government lands. And many of them did, indeed, translate to government land. But his technique and philosophy about environmental management arose within the context of a peopled landscape. Farming, firing, timbering, hunting, fishing—just plain living—were all incorporated, even integral, in Stoddard’s land management. The landscapes with the most potential for plant and animal diversity, he thought, were those that had been used for

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73 W. L. McAtee, “The Biological Survey in Relation to Game Management.” HLS Papers, W.L. McAtee Correspondence, TTRS.
74 About staying with preserve owners on his many consulting trips, Stoddard once wrote to Wallace Grange that “I stop in little hotels wherever it is convenient (which I prefer to having some flunkey unpack your bag and lay out your night gown, and all the agony that goes with staying over as guests of some of these men).” HLS to Wallace B. Grange, February 15, 1931. HLS Papers, Early General Correspondence, TTRS.
75 HLS to W.L. McAtee, November 27, 1934. W.L. McAtee Papers, Stoddard Correspondence, 1932-1944, Box 36, LOC.
generations. The increasing industrialization of farming and forestry, and eventually even wildlife management itself, however, lacked the restraint of the type of land-use he championed. His land management operated within the context of economic production, just not industrial production.

Although his techniques remained rooted in pre-industrial land-use, Stoddard would eventually engage in newer markets to sustain the diversity he was after. The long Depression years caused many Red Hills landowners to curtail the extravagance, and seek more substantial returns from their properties via modern agriculture and forestry. Again, they looked to Stoddard to guide them through the transition. His post-World War II engagement with the timber industry, and renewed interest in professional forestry, would bring his management full circle, and force him to develop an even more thoroughly ecological philosophy of conservation.
In late 1941, two very different storms came to bear on life in the Red Hills that would transform Herbert Stoddard’s daily work and legacy. One was the worldwide upheaval of World War II, which created a strong, lucrative market for timber; the other, more circumscribed and quite literally a storm, rotated up from the Gulf of Mexico, leaving substantial wind damage in its wake as it passed through the Red Hills. The hurricane was relatively small, as such storms go. It was, however, a considerable disturbance event – to use the neutral terminology of ecologists – and it set into motion a major transformation in Stoddard’s practice of land management. Stoddard was consulting in the Albany region when the storm hit on October 7th. Once it passed, he made the normal two-hour drive home in ten hours, cutting fallen trees out of the road along the way. He finally arrived to see his house partially flattened by a yard oak, but his wife and son safe. It was only a matter of days before he considered the opportunities presented by the storm.

In his estimation, the forests of the Red Hills hunting preserves had long needed a good, strong wind. Increasing tree density was beginning to shade out valuable understory grasses, and wildlife struggled to find sources of food. On top of that, the landscape aesthetic that attracted so many to the region in the first place – open woods with a distant view – was no longer the norm. The blow-down from the hurricane would finally alert landowners to the advantages of harvesting timber. Stoddard noted to his friend Henry Beadel that, despite the hardship that
accompanies such an occurrence, “after the fallen pine is removed the stands will probably be
even better than before, as most of us were getting badly choked up with pine timber.”1 As
counter-intuitive as it may seem, the hurricane was just the sort of disturbance event that would help to restore the forests’ declining aesthetic and ecological value.

Stoddard had been recommending that preserve owners thin their forests for the previous decade or so. In The Bobwhite Quail, he wrote “as the trees mature they should be cut for lumber, so that the open, parklike nature of the woodland can be maintained.”2 In succeeding years, he repeatedly urged members of the Cooperative Quail Study Association to open up their woodlands by harvesting timber. By 1937, he warned in his annual report that the “over-density of pine stands has become one of the most serious problems confronting owners of scores of game preserves in heavily forested sections like Thomasville, Georgia and Coastal South Carolina.”3 Stoddard came to think of the conservative harvesting of timber as a necessary component of effective longleaf-grassland management, but he and his employers had seen the toll that loggers could take on the coastal plain landscape. The real problem was developing a method to select, cut, and remove individual trees from the forest without damaging its aesthetic and ecological integrity. But in a larger region moving toward an industrial model of forestry, a solution was not close at hand.

This chapter charts Stoddard’s practice of forestry within the context of southern forestry at large. Following his work on fire in the longleaf pine-grassland region, Stoddard reengaged the forestry profession in the late 1930s and 1940s in an effort to integrate forestry and wildlife

1 HLS to Henry Beadel, October 13, 1941. HLS Papers, Plantation Correspondence, TTRS.
management into a single method of land management for the region. What he came up with most resembles what foresters today call “ecosystem management,” or “ecological forestry,” a method that mimics ecological disturbance patterns in harvesting timber and establishing tree regeneration. Though he never placed such a label on his method, today’s conservation ecologists recognize it as such. In historical perspective, Stoddard’s practice of forestry presents a stark contrast to the dominant industry-oriented silviculture of the post-WWII South. Stoddard’s turn as a forester is important because it allowed him to refine his land management for biological resources, and simultaneously engage industrial production. This was, again, a pragmatic move; second and third generation landowners were simply not as wealthy as their predecessors. If Stoddard wanted to continue in his capacity as an independent consultant he had to squeeze more income from the land for landowners. But at the same time, he saw the engagement of markets as an opportunity to continue to shape his landscape, and as he engaged them, he never saw a conflict between industrialization and ecological diversity. And yet, his method of forest management came in direct conflict with the prevalent trends in southern forest management.

Several developments prior to World War II facilitated Stoddard’s control of more land management outside of his Red Hills region. The CQSA network, of course, was vital to the spread of his methods and ideas, and he continued to make inspection trips throughout the region.

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5 Interview with Jerry Franklin, January 23, 2006. Conservation scientists at the Joseph W. Jones Ecological Research Center at Ichauway have put a great deal of work into translating Stoddard’s forestry method into a working model of ecological forestry. See The Fire Forest: Longleaf Pine-Wiregrass Ecosystem (Covington: Georgia Wildlife Press, Georgia Wildlife Federation, 2001); and “Ecological Forestry,” (Joseph W. Jones Ecological Research Center at Ichauway, forthcoming.)
before and after the War. In addition, Stoddard entered into a real estate partnership in 1936 that specialized in piecing together hunting preserves. His partners, Richard Tift of Albany, Georgia, and Jack Jenkins of Charleston, South Carolina, were already very active in plantation real estate in their respective territories, and placing these three names together on one letterhead gave them a significant comparative advantage over others seeking large landholdings in the Depression-era market. For the next two decades they became a powerful force in southern real estate, and one of the primary entities through which large, contiguous tracts of land came together into hunting preserves.

Tift and Jenkins handled the business end of the operation, and Stoddard put his feet to the ground, inspecting available lands for their game potential and drawing up land management plans for new owners. According to Stoddard, he was distinctly positioned for this sort of work because his work with the CQSA “has taken me all over the Southeast, so I know the districts best adapted to upland game quite well…and land examination previous to purchase has been one of my big branches anyhow for several years.” In addition, this real estate venture would finally give him a substantial income to plow back into his research. While Stoddard was out on his inspection trips, he explained to Aldo Leopold that “Komarek takes up the slack, and I am able to keep him on at a decent salary through putting back a portion of the real estate earnings into the treasury of the Association. Should have done this years ago.” These real estate contacts, along with the CQSA, comprised a private network to facilitate the spread of his wildlife management methods, and they would soon help extend his method of forestry as well.

If the ecological disturbance of the 1941 hurricane could help enhance the aesthetic and ecological value of the forests, then the political disturbance of war could surely help to realize

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6 HLS to Aldo Leopold, October 5, 1936. Private papers of Leon Neel.
7 HLS to Aldo Leopold, May, 1937. Ibid. On Stoddard’s move into real estate, also see Stoddard, Beadel, and Komarek, eds., The Cooperative Quail Study Association, 118-122.
the forests’ economic value. World War II spurred an interest in southern forests not seen since the cutover of 1880-1920. Demand for wood products – poles, pilings, and boxing materials were particularly desirable – far outstripped on-hand supply in the early years of the war, and the War Production Board, the Forest Service, and numerous forestry organizations worked closely to ramp up production. They set out to tap both public and private forest lands, and recognized the South’s privately-owned forests as a major source of wood. Government demand was so high that fears actually circulated about the condemnation of wood fiber on private land. That never happened, but the government did guarantee prices that would attract all but the least money conscious of landowners.8

Like the hurricane of 1941, the war presented an opportunity for Stoddard to further shape coastal plain forests to his liking. Perhaps equally important, it gave preserve owners an opportunity to enter a lucrative wartime timber market, while simultaneously deflecting growing local concerns about vast tracts of land sitting “idle” during a time of national emergency. Stoddard wrote to one friend that “already, criticism is being voiced” that the preserves were not contributing to the war.9 But many owners were, indeed, sensitive to local protests. He told another colleague that “most of their [wildlife] programs have been drastically curtailed and the owners are turning their attention largely to such things as farming and timbering as an aid to the war effort, and only doing enough for the game to maintain their present stocking.”10 Owners cut back on their wildlife work so much, in fact, that Stoddard and Ed Komarek disbanded the Cooperative Quail Study Association in 1943. Komarek undertook a “Farm and Game Service” to advise preserve owners on expanding agricultural production without detriment to wildlife,

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9 HLS to Jack Jenkins, March 7, 1942. HLS Papers, Plantation Correspondence, TTRS.
10 HLS to Allen M. Pearson, October 17, 1942. HLS Papers, Alabama Cooperative Unit, TTRS.
and Stoddard entered full-time into the forestry and timber business. Neither had any qualms about leaving the CQSA behind; Komarek felt that “such large scale agricultural operations are very necessary” to the war effort, and Stoddard argued that both he and the owners “should be active with some essential work.” They were sincere about war production – and about making a living during tight times – but they also had ulterior motives for taking on the work themselves. Both Stoddard and Komarek knew what industrial agriculture and forestry might mean for the region’s biological resources, and at least they could direct production with a lighter touch. On the forestry end of things, Stoddard actually hoped to enhance the region’s woodlands, and to do so required that he gain control of every aspect of the timbering operation. From the early marking and sale of timber, to the actual on-the-ground cutting of trees and post-harvest cleanup, he was involved in every step of the process. The destructive cutting of old, he insisted, would have no part in the harvesting of hunting preserve timber.

The war was a symbolic turning point for southern forestry, and an important spark that ignited Stoddard’s interest in the profession, but it was largely a four-year anomaly in the broader management trends of the region’s forests. Since the reforestation efforts of the 1920s and 1930s, southern foresters had been working out how to best manage pine forests for wood production, and by 1940 they could only agree on one thing: despite the rapacious cutting of the previous generations, there was a lot of timber in the region. This consensus on timber volume resulted from the Forest Service’s Southern Forest Survey, a major landmark for forest management and utilization in the South. The Survey started in January 1931 as part of a national timber inventory authorized by the McNary-McSweeney Act of 1928, and the coastal plain section was headquartered at the Southern Forest Experiment Station in New Orleans.

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11 E.V. Komarek to Hendon Chubb, May 19, 1943. E.V. Komarek Papers, Hendon Chubb Correspondence, TTRS; HLS to Owen Gromme, March 29, 1943. HLS Papers, Gromme Correspondence, TTRS.
Inman “Cap” Eldredge, already a legend in southern forestry circles, came from the Superior Pine Products Company in southeast Georgia to lead the Survey team in early 1932. This was a major undertaking, to survey every corner of the region and measure wood resources. One participant recalled the grueling nature of the work, writing, “Don’t make the mistake of depreciating the work in the South on the count of ‘easy topography!’ …[some areas] were traversed literally on hands and knees.”12 The work paid off, however, from the southern boosters’ perspective. Within just a few years, the Survey began releasing figures that resonated throughout the forest products industries.

The South was blessed – or cursed, depending on one’s perspective – with the reproductive capacity and growth rate of loblolly and slash pine. Despite the efforts of many foresters during these years to regenerate longleaf pine within its former range, it was an uphill battle in a time of fire exclusion. According to H.H. Chapman, the eminent forester at Yale and longtime leader of the Urania Experiment Station, “when established in competition with longleaf pine seedlings, loblolly pine will invariably suppress [longleaf] unless it is itself killed out by fires.”13 Major seedfalls every two or three years quickly seeded in many former longleaf lands, and loblollies, in particular, invaded cutover land in droves. Most southern foresters considered such a fertile, fast-growing pine preferable to the fickle, slow-growing longleaf. Philip Wakeley, an early researcher at the Southern Forest Experiment Station in 1924, did not “think that even those of us in research working on the natural reproduction problems realized the tremendous reproductive potential of the southern pines, longleaf excepted. It’s easy

compared to most parts of the world.” In addition to encouraging the natural reproduction of loblolly and slash, state forestry commissions established coastal plain tree nurseries and promoted the planting of the fast-growing seedlings. Loblolly and slash became so prevalent so quickly that most foresters simply gave up on longleaf pine.

This made sense in the short term, but the conversion of the coastal plain uplands to loblolly and slash pine would present serious complications for long-term forest management. They were both what today’s forest ecologists call “off-site” species in the upland coastal plain. That is, their evolutionary history developed under different circumstances from those of longleaf. The historic range of loblolly was primarily the southern piedmont, or the rare hill and hammock of the coastal plain that escaped frequent fire. Slash pine, on the other hand, was a solid member of the coastal plain community, but it grew mostly in lower elevations where seasonal water usually kept fire at bay. These areas might burn during severe drought, however, and both loblolly and slash adapted by growing a protective layer of bark in their first ten to fifteen years of growth. But neither species could withstand fire before that point, so their reproductive capacity depended on the absence of fire rather than its presence. By the late 1930s, then, foresters were developing best management practices based on the behavior of two species that were reproductively unfit for the fire-prone upland coastal plain.

With the Survey results trickling in throughout the 1930s, foresters began to investigate which management practices would lead to the fastest growth and most abundant harvest of

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When the war placed a greater demand on the region’s supply, a management debate surfaced through forestry journals and bulletins, and caused a brief, but important, controversy that would help determine the dominant forest structure in the coastal plain well into the future. The core questions were how to best harvest southern pine and how to encourage its regeneration, two problems that American foresters had long thought about in other forest systems. To no one’s surprise, southern foresters imported the most prominent answers from other regions, but they took on a regional hue because of the unique ecology and land-use history of the southern coastal plain. Two management systems, in particular, came to dominate the debate, and they both had powerful proponents. H.H. Chapman supported what was known as “even-aged management,” and the Forest Service’s Southern Forest Experiment Station pushed “uneven-aged management.” A slightly altered version of Chapman’s system eventually carried the day, but that was not an inevitable outcome in the early 1940s.

Both Chapman and the Forest Service hoped to systematize sustained yield forestry in the South through natural regeneration. They just couldn’t agree on the details. For Forest Service researchers, uneven-aged management, which referred to the selection of individual trees for harvest, with the cutting spaced in ten to twenty-year intervals, seemed to make the most sense. In a typical growth cycle of about sixty years, they argued, a landowner could cut three or four times, and still have regenerative growth coming on to get a head start on a new cycle. Take, for

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instance, a piece of old-field land that seeded into a dense stand of loblolly pine over a period of five years. The oldest trees in that new stand would likely become dominant, and could be thinned after about twenty years. This first thinning would release the smaller trees, and in another ten years or so, you could take out the most marketable trees again. This second harvest would open up the stand even more, allowing sunlight to reach the forest floor, where new seedlings would regenerate and establish new growth underneath a canopy of maturing pines. When the oldest pines in the stand reached economic maturity, you could take them out and begin the cycle again with the regeneration you already captured. It all seemed to make sense, but this system was contingent on the exclusion of fire, which would create all sorts of problems for a stand of multi-aged loblolly pines.

For many reasons, H.H. Chapman considered selective cutting a “dangerous innovation” in these new loblolly pine forests. The problems hinged on the ominous-sounding “threat of hardwood invasion.” Absent periodic fire, hardwood species would almost inevitably sprout alongside loblolly, eventually shading out the pine and becoming dominant. But the use of fire in an uneven-aged stand of loblolly would kill any young reproduction. As Chapman put it, “normal, or ordinary winter fires, even at ten-year intervals, would largely defeat the system of single tree selection by wiping out the existing reproduction. But there is real danger that in the complete absence of fire the system would ultimately defeat itself” by allowing hardwoods to take over. The uneven-aged management of loblolly pine presented a catch-22 that would not simply work itself out.

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Chapman’s way out of this dilemma was to manage for even-aged stands, using fire at prescribed intervals to control the hardwoods. Even-aged management was actually a form of clearcutting, but the political baggage that accompanies that term today tends to obfuscate the nuances and logic of Chapman’s research. It went something like this: On a piece of cutover land, Chapman recommended burning over the cleared patch to prepare the seedbed for loblolly regeneration, thus knocking back any emerging hardwood competition. Loblolly was a prolific producer of seeds, and with a few standing trees would quickly reseed the cutover. Where seed trees were not available, he recommended hand planting. After about ten years of growth, the hardwood sprouts would likely return again, which required a light, winter season ground fire to take care of them. By this time, a protective layer of bark would shield the loblolly from the fire. From this point until the final cut, Chapman recommended selective cutting every ten years, to be accompanied by another round of burning. In many ways, his system did not much differ from selective cutting, with the notable exception that a fire in ten-year intervals made loblolly reproduction impossible. The periodic selective cuttings culminated when the remaining trees reached sawtimber class, which in most cases was economic maturity. This final cut was the clearcut stage, after which the process would start again. Ideally, a landowner would practice this system on a large acreage, where they would have several stands at various points in the cycle.

In comparing the two systems, Chapman boiled the choice down to a matter of desirable forest conditions: “The manager of forest land in the loblolly pine-hardwood type, wherever it is found, must make two decisions; first, whether he desires this transformation to hardwoods or wishes to prevent it, and second, what measures to take in either case to carry out his purpose.”

The former was not really a decision at all – most hardwood species of the upland coastal plain

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were worth very little on the market. In regards to the latter, he argued that the only way to outflank the advancing hardwoods was even-aged management with periodic fire. And if a sustained yield of loblolly pine was the goal, he was largely right. This was the predicament of managing for a species with no reproductive tolerance for fire in the fire-adapted southern coastal plain. The fire history of the region made it near impossible to manage for loblolly without clearcutting at some point.

Longleaf pine, on the other hand, had no such problems. But it did have trouble meeting market demand. Despite the expanding conversion of longleaf lands to “off-site” species like loblolly and slash, there remained a significant portion of the coastal plain in longleaf pine during the war years. And many foresters and industry officials had a great deal of interest in reforesting the range with its original inhabitant. Longleaf developed toward maturity at a slower pace than other southern pines, which gave it the strength and durability favored by lumber manufacturers. There would always be a market for longleaf no matter how slowly it grew, so forest researchers actually expended a great deal of effort to learn about the mechanics of reproduction, growth, and harvest.

W.G. Wahlenberg, a Forester Service scientist at the Southern Forest Experiment Station, synthesized all of the available research to produce the first major volume on the tree in 1946, entitled *Longleaf Pine: Its Use, Ecology, Regeneration, Protection, Growth, and Management*. While not quite a towering figure in southern forestry circles – like Cap Eldredge, Austin Cary, or Chapman – Wahlenberg was a meticulous researcher, writer, and field scientist. He spent years on the book, not only in the field, but also pulling together previously published research to present a full scientific and commercial portrait of the longleaf pine. The book would become the standard on all aspects of the longleaf pine for the next two decades. Stoddard reviewed
drafts of the chapter on longleaf ecology, as well as several sections regarding fire, in early 1942, and with a few minor revisions thought the finished product “should clarify the whole matter and place the use of burning in its proper position in many respects.” He told Aldo Leopold to be on the lookout for this “outstanding contribution to the knowledge of Southeastern ecology.”

Indeed, this was the synthesis that longleaf admirers had been waiting for, and its explanation of the constituent parts of a fire-adapted longleaf-grassland forest was the most ecologically sophisticated treatment available by far.

In terms of management recommendations, however – the part of the book that would make the largest impact on the land – Wahlenberg drew on market considerations as his primary guide. As Forest Service Chief Henry Graves put it in the foreword, “the primary purpose of the treatise is to aid the timber grower…to secure reproduction and maintain a high standard of volume and quality growth, and thereby obtain maximum long-run financial values for timber growers.” Worthy goals, but with a tree like the longleaf pine, such considerations could only lead to frustration in a profession becoming more and more closely aligned with industrial efficiency.

The problem with longleaf forestry was regeneration and growth. Young seedlings were not very competitive without frequent fire, and even with it, they grew exceedingly slow. The planting of longleaf led researchers nowhere; they could get some seedlings to take hold, but, according to Wahlenberg, “it has so far been almost impossible to obtain early height growth or satisfactory survival in plantations…many plantations not only fail to begin height growth in their third to tenth years, but are understocked because of losses from brown spot [disease],

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21 HLS to Aldo Leopold, July 16, 1942. Private papers of Leon Neel.
vegetative competition, and other causes in the first decade after planting.”\textsuperscript{23} Attempts at efficient natural regeneration did not fare much better: “regeneration of longleaf pine has been rarely accomplished. In fact, the reproduction of this species has been so irregular and uncertain, and its natural controls so imperfectly understood, that successes and failures have been difficult to explain.”\textsuperscript{24} The problem had little to do with their knowledge of longleaf regeneration; Wahlenberg went on to construct a highly refined discussion of how the tree reproduces and grows under natural conditions. The real problem was that longleaf pine was not suited to a market obligated to the fastest turnaround possible.

Longleaf pine is a plodder. It seeds in, takes root, and puts on growth at its own pace, and only under the right environmental conditions. The first requirement for successful regeneration is a large seed fall, which happens only every seven years or so. Longleaf seeds are a good food source for a host of forest animals, and a light seed fall would be quickly gobbled up by fox squirrels, birds, and rodents. When a seed fall does saturate the range during a heavy mast year, leaving enough to escape predation, seeds need bare mineral soil to germinate. Cones usually drop during late autumn, so ideally a fire would blow through shortly before to expose the soil and allow the seed to sprout and take root. Once in the soil, the seedling begins to extend its tap root deep into the ground to find a water source. This tap root eventually lengthens to ten feet or more, burrowing for two to ten years before the seedling begins to put on growth above ground.

In the meantime, the exposed portion of the seedling sits in wait in the “grass stage.” Looking like a coarse, green bunch grass to the untrained eye, the longleaf seedling grows its namesake needles of ten to fifteen inches within a year or so of germination, thus protecting the

\textsuperscript{23} Wahlenberg, \textit{Longleaf Pine}, 136.
\textsuperscript{24} Ibid., 100.
bud from fire. Once protected, the seedling can easily withstand fire until the taproot signals it is ready to send up new growth in the form of “candles,” white growing tips that within a few months turn to brown, scaly bark. While in the candle stage, the tree is slightly more susceptible to intense fires, but that time is short. As Wahlenberg found, “in one test, tissue paper placed around the buds of seedlings 1 to 3 feet high was not even scorched though the needles were scarred to within 3 inches of the bud.” From the candle stage, the tree puts on growth at a fast clip. But the time and difficulty required in reaching that stage did not impress most foresters interested in fast, efficient, simplified reforestation. The primary frustration with longleaf pine by the 1940s, then, was not a lack of knowledge about the tree; it was its incompatibility with the need for control and simplification of forest resources under an increasing scale of industrial production. The longleaf pine was fast becoming an anachronism in the modern coastal plain.

The complexities of longleaf regeneration and growth, along with the problem of market demand, ultimately led foresters to embrace the faster-growing species of loblolly and slash pine. Many observers recognized the potential problems with growing off-site species in the coastal plain, but market incentives overshadowed any misgivings about turning their back on the slower-growing longleaf. In fact, the expanding pulpwood industry rendered debates over the structure and management of coastal plain forests largely moot by the mid-1950s. On countless acres, the forestry methods of the pulp and paper industry replaced those geared toward the

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lumber industry. The trend was not new to the post-war period; Kraft paper mills moved into the region in the 1920s and 1930s to produce commercial grades of paper. During that time, the U.S. Forest Products Laboratory in Madison, Wisconsin, as well as Georgia’s Charles Herty, began refining chemical processes to produce newsprint and white paper from young southern pines. 27 The industry’s move south sped up when the results of the Forest Survey alerted northern paper companies to the region’s abundant wood resources. Cap Eldredge recalled the Survey’s influence on the pulp and paper industry, saying, 28

The very time when [Charles Herty’s] experiments had been done and he was broadcasting them to the world, we had completed enough of the forest inventory of the South, the first survey, to publish the results, and the results were astounding. No part of the country, not even the South—certainly not the South and perhaps not the Forest Service—had any idea of the amount of timber that we had here, how fast it was growing, and how universally it was distributed, and what state of development it had reached. When these two things came to the eyes of paper people all over the eastern part of the country…that started the movement South right away. 28

Again, loblolly and slash pine were prolific colonizers when given the opportunity. And not only had the anti-fire campaigns been successful in many areas of the South; the absence of longleaf pine across the range meant the absence of its highly resinous needles to help carry a fire. The resulting stands of loblolly and slash, in the age classes ideal for paper-making, were highly desirable to the pulp and paper industry.

27 Charles Herty of Georgia is usually referred to as the chemist most responsible for figuring out how to produce paper from southern pine, but he actually deserves more credit for his promotional activities than his work in chemistry, at least in regard to the paper-making abilities of southern pine. Most of the research on southern pine came from the U.S. Forest Products Laboratory in Madison, Wisconsin. The best study of the pulp and paper industry in the South is William Clarence Boyd, “New South, New Nature: Regional Industrialization and Environmental Change in the Post-New Deal American South,” (PhD Dissertation, University of California, Berkeley, 2002); also see Jack P. Oden, “Origins of the Southern Kraft Paper Industry, 1903-1930,” Mississippi Quarterly 30, 4 (1977): 565-584.

28 Elwood R. Maunder, ed., Voices from the South: Recollections of Four Foresters (Santa Cruz: Forest History Society, 1977), 42; on the importance of the Survey in regards to the pulp and paper industry, also see Philip C. Wakeley, Biased History of the Southern Forest Experiment Station through Fiscal Year 1933 (New Orleans: Southern Forest Experiment Station, 1979), 165-166.
Paper mills began popping up along the Gulf and Atlantic coasts in the mid-1930s – Union Bag and Paper in Savannah, International Paper in Panama City, St. Regis Paper in Pensacola, and St. Joe Paper in Port St. Joe, Florida, just to name a few. By 1955, there were 27 paper mills in Georgia, Florida, and Alabama alone, and wherever a mill rose, the company was sure to purchase as much land as possible and implement their own version of forestry to feed the mill. In 1956, for example, fourteen companies owned over 2.6 million acres of land in Georgia, most of which was located in the coastal plain. From 1935 to 1955, pulpwood production increased from 2,000,000 to 15,000,000 cords region-wide, the price rose from $3.50 to $15 per cord, and production was nowhere near potential. In just two decades, the pulp and paper industry came to dominate both the southern forest products industry and the land on which it relied.

Industry-owned land only provided a fraction of the necessary cordwood required to feed demand. In order to prosper, the pulp and paper companies had to rely on private landowners for raw materials – of the 3.5 million cords of pine pulpwood produced in Georgia in 1956, only 473,793 came from company land. The vast majority of the region’s forests still lay in the hands of small landowners, and in the years after the war, practicing foresters were motivated by one common purpose – as Florida’s chief forester put it, “To reach particularly the small landowner and persuade him to handle his timber in such a manner that he will be able to produce continuous, profitable crops.” A number of state and private organizations jumped on

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33 R.A. Bonninghausen, “Taking Forestry Services to the Southern Timber Grower and Processor by State Agencies,” *Newsletter, Southeastern Section*, Society of American Foresters (1953), pg. 15, in SAF Papers, Box 102, FHS Archive.
board, and foresters became a fixture at local events throughout the region. The Southern Pulpwood Conservation Association (SPCA), based in Atlanta, was one of the most visible organizations. Formed in 1939 to protect and promote the industry’s interests, it was soon covering the region with literature, producing and screening forestry films, sponsoring summer forestry camps, preparing fair exhibits, and hosting demonstration days on industry land. The industry became enamored with the region’s potential so quickly that they were playing catch-up to assist landowners in the newest methods of efficient forestry. Demand was such that, according to one company forester, “The problem in general is not to find a market for pine pulpwood, but to find the raw material to be marketed.” Companies held vast tracts of land, but to really reach productive potential, they would have to bring smaller landowners over to their brand of forestry.

Pulp and paper foresters subscribed to even-aged management, yet implemented some significant variations to Chapman’s methods. They were leery of fire, and in the early years only used it to prep a site before planting. When herbicides like 2,4-D became commercially available after the war, they eliminated the need for fire altogether. Pulp and paper foresters also managed on a short rotation, with few selective cuttings. That is, they planted trees, let them grow for thirty years, clearcut them, then planted again. For their purposes, it became a remarkably efficient system. As one Union Bag forester explained it at the regional meeting of the Society of American Foresters in 1954, “since Union Bag’s objective on their lands is to produce the maximum volume of chipable wood fiber per acre, and since we feel that the pine stands of the Southeast can best be perpetuated and managed in large even-aged stands, we

35 Jefords, Jr., Trends in Pine and Pulpwood...," 466.
intend to manage our timber in even-aged stands and on relatively short rotations.” The point was to erase the environmental uncertainties inherent to growing their raw material. Non-industry foresters like Chapman were after the same thing, but they were interested in doing it within the confines of natural processes.

In contrast, figuring out the dynamics of fire and natural regeneration simply did not fit within industry goals. Pulp and paper’s interest was in relocating the certainty of the factory floor to the forest. With that goal in mind, the Georgia Forestry Association in 1946 described in pamphlet form “What a Small forest should look like: Such a forest has no overripe trees, past their best growing years…The litter and lack of sunlight on the floor have weakened and killed all grass and weeds. Nothing – neither grass nor young trees – grows on the floor of a closed forest in which trees are of the same age.” This was forest farming at its best, a biological factory for spitting out wood fiber. Indeed, as agents of industry, the Union Bag representative felt that “foresters working in the pine stands of the Southeast are in a unique position. We no longer need affiliate ourselves with the conservationists in order to justify our existence. Our activities are a money making segment of the business enterprises with which we are associated.” Indeed, the purpose of industry foresters was to make money for their employers, and to do so required a singular devotion to their efficient methods of forestry.

Pulp and paper, however, was never without its critics. By the 1940s, the industry was a constant irritation for conservationists like Stoddard. While on his real estate inspections, he became increasing aware of its transformative effect on environments across the South. As early

37 “Managing the Small Forest,” pamphlet in Georgia Forestry Association Papers, Box 51, Hargrett Rare Book & Manuscript Library, UGA.
39 Ibid.
as 1937, he informed Jack Jenkins and Richard Tift that southeast Georgia was largely lost to anyone interested in wildlife, writing, “due to the activity in the paper business both at Brunswick and Fernandina, lands are rapidly being bought up in that district, so much so that…we should avoid wasting a lot of time in making detailed examination of available tracts, which might at any time be gobbled up by the paper interests.”

Indeed, the pulp and paper companies were Stoddard, Jenkins, and Tift’s major competition for large tracts of land throughout the coastal plain. Time and again, Stoddard informed prospective buyers of areas that had “gone all out for forestry,” and of “more lands becoming unsuited to quail over…the whole South.”

By 1947, even the head of the U.S. Fish and Wildlife Service could not find a suitable tract of land for his brother. In response to an inquiry from Ira Gabrielson, Stoddard wrote that he knew of a suitable place two months prior, but “this property was sold to a paper company, and I personally feel that the fine stock of wild turkeys and quail will not long survive.”

Stoddard’s exasperation with pulp and paper came partly from an inability to do business—they were removing good tracts of coastal plain land from the hunting preserve market. But more importantly, he knew these lands would quickly transition into loblolly or slash pine plantations where understory biology suffered. For Stoddard, his barometer of land health centered on wildlife and their requirements for food and shelter, and he considered the forests of the pulp and paper industry as sickly at best.

Members of the southern hunting preserve community were not the only voices that opposed pulp and paper. The forest industry sectors that utilized mature timber also felt threatened. One member of the Georgia Forestry Association worried as early as 1937 that “the

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40 Memorandum on Brunswick, Ga. Lands, etc. for Messrs. Jenkins and Tift, September 21, 1937. HLS Papers, Hadley Brown Correspondence, TTRS.
41 HLS to John Conway, June 15, 1945. HLS Papers, John Conway Correspondence, TTRS.
42 HLS to Ira Gabrielson, April 26, 1947. HLS Papers, Gabrielson Correspondence, TTRS.
newsprint and white paper mills will soon come and it is easy to understand the anxiety of the naval stores operators, sawmills, veneer and pole producers, as well as other consumers, as to their timber supply.”

There was a real fear that pulp and paper would take over the southern forests, forcing landowners to convert to thirty year rotations, and thus eliminating the supply of sawtimber. In some localities, the lumber interests actually appealed directly to landowners. In Troup County, Georgia, for instance, local sawmills ran a series of full-page advertisements in the local paper in the spring of 1944, counseling landowners that “A word to the wise is sufficient. You wouldn’t sell all your Pigs before they become Hogs. So why sell all your Pine Saplings Before They Become Timber?” A week later, they became more forceful: “Listen! We told you how we feel about letting the Pulpwood folks Clean our County of all its Sound Trees. We Have an ‘Axe to Grind.’ We want to continue to stay here…NOW! Troup County Lumber Industry.”

Without landowners growing timber on a long rotation, local sawmills had few places to turn.

Other criticism came from within the forestry profession. Pulp and paper’s simplification of the region’s forests was a real concern for those foresters who had spent their lives trying to understand how it worked, no matter how corrupted it had become. H.H. Chapman became especially disillusioned with the direction of southern forestry. Though his research was almost always in service of the forest products industries, Chapman considered pulp and paper forestry mind-numbing in its myopia. In a 1954 *American Forests* article where he asked “Do We Want a ‘Pulpwood’ Economy for our Southern National Forests?,” he upbraided the industry for thinking only of the their own interests:

44 LaGrange *Daily News*, May 15 and May 23, 1944. In Papers of the National Forest Products Association, Box 33, FHS Archives.
Many, if not the majority, of the large southern corporations, faced with the problem of supplying their huge investments in plants with adequate raw material, are tending towards the management of their own lands on short rotations up to 30 years, cutting the crop clean, and repeating the process by planting or from seed trees…But the comparative values of the crops by each method are heavily, lopsidedly weighted in favor of the method of thinning for pulpwood and producing as an end product a crop of high quality sawlogs…But when more pulpwood is the dominant urge, the drive is to produce the greatest yield of this single product from which the mills derive their profit. Carried to its logical conclusion, this policy would neglect all other economic and public interests in order to achieve this one goal.45

The general fear in forestry and timber industry circles was that landowners, both public and private, would move exclusively to producing wood fiber for pulp and paper, leaving other industries in the lurch.46

Such was the fluidity of southern forest management during the years surrounding WWII. There was a common assumption that ran through all of these management regimes, however. Foresters from academia, the Forest Service, and pulp and paper were all attempting to manipulate coastal plain ecology to produce a steady stream of raw materials. Some, like Chapman and the Forest Service, attempted to work with and learn from the region’s evolutionary ecology to meet their goals, while others, like the pulp and paper industry, simply imposed an industrial logic onto the landscape. As a result, the management systems of the former left some room for wildness as a by-product of production, while that of the latter left very little. But they all operated under a model of industrial production.

The system that Stoddard developed in the Red Hills and spread to other choice areas, on the other hand, managed specifically for wildness, which made it unique in the longleaf forests

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of the southern coastal plain. As will become clear, he borrowed many of the methods of professional foresters, and tapped into industrial markets, but he operated outside of institutional management debates and had a different set of desired outcomes for the forests he managed. The system he developed and practiced in the 1930s, 1940s, and 1950s, in essence, left room for production as a by-product of wildness, rather than the other way around.

Stoddard had two distinct advantages over most practicing foresters when he entered into forest management: He had no imperative to maximize timber production, and he did not have to start from scratch. The turn-of-the-century timber boom had largely bypassed the region, leaving many stands of pure longleaf pine with its grassland understory intact. Instead of learning about the dynamics of a replacement forest – the task of most southern foresters – Stoddard could, in many cases, work with a forest composition that had been in place for thousands of years. Some of the forestlands he worked over were multi-aged old-growth forests, the oldest longleafs being anywhere from 300 to 450 years old; other forestlands might be former turpentine lands where natural reproduction was slowly replacing worked out or dead “face trees;” still other stands were second-growth forests of either pure longleaf or a longleaf-loblolly-slash mix. Past land-use usually determined the forest structure, and the Red Hills had evidence of most all of the older southern land-uses—except that of the industrial cut and the ensuing period of extended fire suppression. This ecological continuity was critical as Stoddard began to think about how the harvest and regenerate timber. Most importantly, the maintenance and restoration of a longleaf forest was far less complicated with an uninterrupted fire history.

Though he only began to directly manage forests in the 1940s, Stoddard had long commented on forest resources in relation to wildlife management. One of his consistent mantras from the beginning was that no system of land management could expect to produce the
highest amount of more than one species, whether it was wildlife or wood. If a land owner wanted the most out of timber production, he or she would likely diminish many wildlife populations. On the other hand, those seeking the upper limits of wildlife numbers could not expect a full stocking of timber. As early as *The Bobwhite Quail*, he wrote that in regards to quail, “it is obvious that nothing like a maximum lumber crop and maximum quail crop can be produced on the same ground.”47 Though he rarely leveled public judgments on market-oriented foresters – they had a job to do and Stoddard usually respected that – he did urge resource managers to use a little restraint. As he did with agriculturalists, he hoped the region’s foresters would work to integrate wildlife and forest resources.

This concept of integration, of not emphasizing one resource to the detriment of another, became a central tenet of wildlife management in the 1930s. Many practitioners spoke of the idea, but, as with so many management concepts, Aldo Leopold thought it through with the most care. Leopold’s career, of course, began as a forester with the Forest Service, and the management of forest resources was perhaps most dear to him. His most famous treatment of what foresters would eventually call “integrated management” was a two-part article in the *Journal of Forestry* on the *Dauerwald* forest movement in Germany. *Dauerwald* literally means “permanent forest,” and was a movement to turn back centuries of single-species production in the German forestlands that had left their soils, wildlife, and timber resources in an exhausted state. Leopold’s 1935 journey to Germany to study *Dauerwald* and the relationship of game management to forestry produced his most definitive statements on the subject to date.48

Leopold was impressed with the German efforts to cultivate a mixed forest, but the continued separation of forest and wildlife management made him realize the importance of

47 Stoddard, *The Bobwhite Quail*, 370 [italics original].
48 On *Dauerwald* and the details of Leopold’s trip to Germany, see Meine, *Aldo Leopold*, 351-361; and Newton, *Aldo Leopold’s Odyssey*, 292-296.
merging the two activities. The Germans had a long-time devotion to spruce and deer – a devotion that created awful conditions for most everything else in nature. The even-aged management of spruce shaded out the understory, leaving deer to forage on every available leafy material, stripping the forest clean. As one German forester expressed it to Leopold, their “love affair” with deer led them to rectify this situation by setting up feeding stations, thus sustaining a deer population that the forests could not support. The *Dauerwald* movement attempted to fix the problems in the forest, but it also necessitated fencing deer out of the forestlands so they would not forage on new vegetation. As a result, Germans still fed the deer herds, and problems of overpopulation persisted. As Leopold’s biographer, Curt Meine, put it, “the deer found themselves caught literally between one fence that excluded them from the new ‘permanent forests’ and another that excluded them from cropland, doomed to walk to their feeding stations on soil-sick forest floors.”

Leopold, of course, had his experience with deer irruptions on the Kaibab Plateau to draw on, and the situation in Germany confirmed for him that the fields of forestry and game management needed a thorough integration. His article on *Dauerwald* opened with a revelation: “The observer is soon forced to the conclusion that better silviculture is possible only with a radical reform in game management. Later, as he learns to decipher what silviculture has done to the deer range, he also grasps the converse conclusion that better game management is possible only with a radical change in silviculture. Germany, in short, presents a plain case of mutual interference between game and forestry.” This situation, of course, was not unfamiliar in the United States. No longer could resource managers make the “uncritical assumption, dying but not yet dead in America, that the practice of forestry in and of itself, regardless of what land or

how much, promotes the welfare of wildlife.”

Leopold’s observations in Germany had a dramatic influence over his thinking about American environments and their use. As he shared with an audience after his return to Madison, “All land-uses and land-users are interdependent, and the forces which connect them follow channels still largely unknown.”

This type of interdependent management just seemed like common sense to anyone who valued wildness in an age of industrial production. And when Stoddard began cutting trees and selling them on the market, he sought, rather innocently, to uncover those unknown channels that connected various land-uses and land-users. Stoddard best summed up his land management philosophy in a pithy parenthetical comment to Leopold in 1946. Of his and Ed Komarek’s postwar work, he wrote, “We are working hard (timbering and farming more than wildlife work, but they are all woven together anyhow.)”

Indeed, as Stoddard, Leopold, and Komarek saw it, these land-uses were all of the same natural fabric, one never cut-off from the other, and with the aggregate productive landscape retaining the promise of wild nature.

As for his system of forest management, it was complex in the abstract, but in practice everything centered on two simple components: the frequent use of fire and the conservative marking of timber. In a typical multi-aged stand of longleaf, for instance, he would study each candidate for harvest, paying particular attention to the condition of the tree and the type of canopy opening that would result. The major purpose of his forestry work, besides creating income for landowners, was to bring sunlight to the grassy understory, thus providing food for wildlife and maintaining a consistent fuel load to successfully carry a fire. A canopy opening too large might not gather the necessary needle fall to carry a fire, and thus allow hardwoods to

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51 From an address titled “Deer and Forestry in Germany,” quoted in Meine, *Aldo Leopold*, 360.
52 HLS to Aldo Leopold, June 22, 1946. AL Papers, 9/25/10-1, Box 3, Stoddard Correspondence, UW-M.
sprout; an opening too small, on the other hand, might shade the grasses so important to wildlife. A key variable that helped determine the amount of timber to take from the forest was the amount of timber available in the forest, an obvious point perhaps, but important nonetheless. Stoddard began his marking system at a time when the Red Hills forests were loaded with timber, and he was able to mark a significant number of saw logs and poles for market without significantly diminishing the total volume.53

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53 Stoddard did not worry much with setting an allowable cut on any given tract until he began calculating volume with timber cruisers later in the 1950s. He had worked closely with timber cruisers in assessing real estate values, but did not use them in his forestry work until shortly after WWII. He initially worked out a harvest system that calculated an allowable cut on any given tract of land at about ninety percent of the annual growth increment. That number decreased over the years as his protégé, Leon Neel, refined the system based on the stocking of each individual tract. For a fuller discussion of what came to be known as the Stoddard-Neel method of forestry, see Albert G. Way, “The Stoddard-Neel Method: Forestry Beyond One Generation,” Forest History Today (Spring/Fall, 2006): 16-23.
After creating openings in the forest, Stoddard turned his attention to longleaf regeneration. Again, fire was central to this task. “Fortunately, the composition of a pine forest in the making,” Stoddard advised, “can often be controlled by the time and frequency with which fire is used, so it is well to use fire in a way that will give the longleaf an advantage in the seedling stage.”

Following H.H. Chapman’s findings at Urania, Stoddard advised to “burn the area in late winter, as usual, until the year of a heavy fall of seed or ‘mast,’ so that the seed will have a good chance to reach mineral soil and germinate properly. As the longleaf pine produces a maximum seed crop at average intervals of about seven years, with one or two lesser crops between, it will be necessary to observe the developing cones closely so the time of a heavy production will be known.”

Once recognizing a heavy seed fall, he advised to burn the area from September 1 through early October to expose the soil. Some foresters recommended burning earlier in the summer, but Stoddard was concerned about the fate of ground nesting birds and small mammal reproduction during a summer fire. After capturing a heavy mast, he protected the area from fire until the seedlings developed their fire resistant crowns about a year or two later. At that point, he resumed burning to protect the new growth from any encroaching rough. The result was a fire-maintained forested grassland with longleaf growth in every possible age and size class. In contrast to loblolly and slash pine, then, the fire-adapted longleaf permitted the practice of continuous uneven-aged management.

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55 Ibid.
Being in the woods every day marking trees thrilled Stoddard to no end. In wartime correspondence he reiterated again and again how pleased he was with the forestry operations. Writing to Leopold in 1942, he declared that “some of our woods look wonderfully fine after being ‘culled,’ and I am doing personally what I have preached for years.” He explained a few months later that “All of our work is on a careful selective basis, and carried on with the welfare of wildlife and the future good of the forest in mind, and much of it consists of culling operations or worked out turpented pine, crooked, suppressed and diseased material.” Rather than high-grading a stand, as most selective cut foresters advised, he took the weakest trees first. This opened up the stand, and as regeneration came in during subsequent years, he could take more of the high grade timber. Stoddard’s involvement from front end to back end was crucial in his estimation, largely because he did not trust anyone else to carry out the work with care. He continued, “I am literally up to my neck getting timber out…I personally mark and supervise the cutting of some ten million feet of pine lumber, several thousand poles and piling, crossties and perhaps five thousand units or more of pulpwood per year…On the theory that a fellow can best instruct others if he knows the game himself, I do not regret having to do all the field work myself.” Stoddard’s hovering presence did not make a logger’s job easy, but the value of his timber made it worth the hassle.

The cleanliness of the logging job, in fact, was almost as important as the marking of trees. Stoddard put together a standard logging contract that must have looked alien to most loggers in the South. Prior to presenting a contract, he advised timber buyers in memo form that “The requirements governing the cutting of timber are so different on the properties in question from ordinary commercial timbering operations” that loggers should be prepared to abide by

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57 HLS to Aldo Leopold, December 24, 1942. Private papers of Leon Neel.
58 HLS to Aldo Leopold, May 16, 1943. Private papers of Leon Neel.
strict guidelines in cutting and hauling timber from the hunting preserves.\textsuperscript{59} There were five
basic conditions required of the logger. First, “trees will be felled with due regard to minimizing
damage to trees left standing,” and all limbs and tops were to be cut off in the woods and pulled
back at least six feet from the base of living trees. This allowed the next fire to burn away refuse
without damaging living trees. The remaining conditions were largely for aesthetic reasons. The
logger had to cut the trees so that stumps were no higher than six inches, they could not use
skidders to pull logs through the woods, they could not create new roads to remove timber, and
they were not to leave any litter or waste in the woods.\textsuperscript{60} Seems reasonable enough, but this was
not the type of supervision loggers were accustomed to in the woods. The goal was to maintain a
consistent aesthetic experience before and after the harvest, so that an unsuspecting passerby
would never know trees had been cut. If the forest looked the same as before a logging
operation, Stoddard’s reasoning went, then it most likely functioned the same.

While loggers may not have been thrilled by Stoddard’s presence in the woods, others
were. Leopold was keen on Stoddard’s move into forestry, and perhaps a bit envious. He had
long known that Stoddard was in a unique position as an independent researcher and
conservation practitioner, and this new phase in Stoddard’s work was just the sort of integrated
management he advocated. Leopold wrote, “Your metamorphosis to a practicing forester pleases
and interests me…I suppose you realize how rare an animal you are, i.e. how rarely any forester
or game manager has practiced conservation without a subsidy.”\textsuperscript{61} Indeed, Stoddard was a rarity.
While his colleagues in the biological sciences and natural resource management worked in

\textsuperscript{59}“Memo of Understanding Governing the Sale and Cutting of Poles on Sinkola Land Company and other
Plantations of the Thomasville Section,” HLS Papers, Contracts, TTRS.
\textsuperscript{60} These requirements were part of Stoddard’s standard contract, of which there are numerous found throughout his
papers. For an example, see “Timber Contract, Greenwood Farms and Mitchell Brothers Lumber Company, March
15, 1951.” HLS Papers, Contracts, TTRS.
\textsuperscript{61} Aldo Leopold to HLS, September 3, 1943, Ibid.
bureaucratic lines of command, and were beholden to an often detached administrative order, he was able to carry out his work with very little oversight. This ability to practice science and conservation in relative isolation from academic, governmental, or industrial oversight largely accounted for the form his management took. The transition into forestry made Leopold all the more curious about the work of his independent friend: “I only wish I could tag along with you for a week or so, just to absorb the flavor. I’d just as soon do that as hunt turkeys with you, and that is saying a good deal.”

Leopold had already tagged along with Stoddard in the woods many times, and he thought any coastal plain landowner could learn from Stoddard’s land management regardless of their goals. From his visits to the Red Hills, Leopold suspected Stoddard was up to something of a ground-breaking nature. When Daniel Hebard, a Philadelphia lumberman who owned a hunting preserve in Southeast Georgia (as well as most of the Okefenokee Swamp), asked for an estimation of Stoddard’s methods in 1939, Leopold was emphatic in his praise:

I have just spent several days with Stoddard and came away with a conviction that he has been too modest about the conservation methods he has worked out for the Southeast. They are commonly regarded as applicable only to game preserves, but in my opinion he has developed principles which are equally applicable to lumber company holdings, national forests, and all other owners of coastal plain longleaf…I of course am biased, for he is one of my closest personal friends. I am lecturing to my students Monday on the Stoddard method of handling Southeastern pine lands.

This was an impressive endorsement, and Leopold recognized what few others did in Stoddard’s landscape; it was the result of a broad-based management regime that combined the applied sciences of wildlife management, agriculture, and forestry, and could work for any landowner interested in conservation.

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62 Aldo Leopold to HLS, November 5, 1943, Private Papers of Leon Neel.
63 Aldo Leopold to Daniel Hebard, October 20, 1939, Aldo Leopold Papers, 9/25/10-2, Box 4, File 10, UW-M.
Others did not share Leopold’s conviction. Most southern foresters were completely caught up in the throes of modern forestry. The year before Leopold’s 1939 visit, the Southeastern Section of the Society of American Foresters came to Thomasville for their annual meeting and most of them frowned on what they saw in the surrounding countryside. Stoddard and Ed Komarek were most hospitable, leading a group of sixty-nine foresters on a field trip through several of their finest longleaf forests. There was most likely audible grumbling in the woods – old-growth timber still on the stump, stands that were not fully-stocked, with little patches of regeneration here and there. This was the antithesis of good forestry in the coastal plain, they likely thought.

Frank Heyward, the forester for the Georgia Department of Natural Resources and an acquaintance of Stoddard’s, wrote after the meeting to convey the general feeling of disappointment. "There seems to be an apparent misunderstanding on the part of a number of the foresters,” wrote Heyward, “who apparently felt that they were to be shown various examples of good forest practices.” Resurrecting the conflict between forestry and game management that both Leopold and Stoddard were attempting to reconcile, Heyward continued, “Those of us familiar with the ecology of our pine lands realize clearly that the most desirable forestry practices are incompatible with the most desirable forms of game management or vice versa, as was the case on the properties which we saw.” Indeed, Stoddard could agree with that, but he did not apologize for trying to do a little bit of both. He replied, “Certainly all we have ever claimed is that a great deal of timber can be produced right along with game management…The [Red Hills] region speaks for itself as to that. I think foresters should be gratified that the two land uses dovetail as well as they do.” Though this exchange took place before Stoddard actually started marking timber, he was already forming the basis for his method – maintain a

64 Frank Heyward, Jr. to HLS, June 23, 1938. HLS Papers, Fire Correspondence, TTRS.
multi-aged forest with plenty of mature timber and a diverse understory, and never discount aesthetics. He concluded that “The best we can do is get a good stand of pine started and then handle the ground growth for the game. And in the pine stands conditions are more favorable for the game and hunting in the latter portion of the cycle than in the first part. Hence the aim of the game preserve owner should be to produce a good crop of mature high grade timber.”

This was a recognition of how different economic pressures could produce different landscapes, but it was also a clearly coded jab at the recent proliferation of the short-rotation, even-aged management of pulp and paper.

Coming out of the SAF meeting, it seemed that Stoddard was gearing up to take on the forestry establishment once again, at least in regards to the lands where his form of management was in place. He revised his standard article on fire in 1939 so that it directly addressed forestry practice, whereas before it only spoke to the use of fire on game lands. He wrote of regenerating longleaf pine through selective cutting and well-timed fire, and of maintaining or restoring “a forest of unexcelled beauty and quality, strongly influenced by the policy of human inhabitants, [that] persisted for centuries until destroyed by the lumbering and turpentine industries.” This type of rhetoric was not what the pulp and paper industry wanted to see in print. Not only did he promote a non-industrial forest structure, but he also gave rural southerners credit for creating it. In making his specific forestry recommendations, Stoddard cited Chapman and the Forest Service, but even still, industry foresters feared game management might invade a public discussion on forest resources they were working hard to direct.

Frank Heyward – by this time the director of the Southern Pulpwood Conservation Association – again let Stoddard know of his increasingly irritated constituency. Of the revised

65 HLS to Frank Heyward, Jr., June 27, 1938. Ibid.
fire article, Heyward wrote, “Several foresters whom I heard discussing this publication felt that you had somewhat overstepped the bounds of your professional field by mentioning so many points pertaining to forestry. They also felt that your recommendations of controlled burning were more liberal than they have been…and that such recommendations would tend to defeat their own efforts in organizing forest fire protection.”\textsuperscript{67} Despite a growing recognition of some beneficial uses of fire, remarks such as Stoddard’s seemed dangerous to an industry attempting to establish administrative control of the region’s private forests. Their core tenet in this effort remained fire protection, and Stoddard’s was a voice of opposition that carried with it a great deal of authority.

Heyward also felt uneasy about Stoddard’s fondness for old-growth. The concluding references to the region’s “original” forests were, in Heyward’s estimation, “dangerous in that it makes the reader forget this distinction” between controlled and uncontrolled fire. He continued, writing that “You must remember that ordinary uncontrolled fires seriously retard growth, and that although a longleaf pine forest would probably tolerate a number of ordinary fires, the age required for this forest to attain merchantable size would be greatly increased as a result of the fires. Of course no one cared how long a period was required for the development of our virgin forests.”\textsuperscript{68} Talk of maintaining and restoring stands of old longleaf was practically unknown to the southern forestry profession by this time. Heyward himself respected Stoddard’s efforts in the forest, but as the new director of the SPCA, he had an industrial regime to defend.\textsuperscript{69}

\textsuperscript{67} Frank Heyward, Jr. to HLS, May 24, 1939, HLS Papers, Fire Correspondence, TTRS.
\textsuperscript{68} Ibid.
\textsuperscript{69} I should note that Heyward’s early training was at the Southern Forest Experiment Station, and besides the implications about uncontrolled fire, he personally had “failed to find that any of [Stoddard’s] statements are contrary to my own opinions.” Ibid.
Figure 6.2: Herbert Stoddard in old-growth forest of Greenwood Plantation, 1964. Archives of Tall Timbers Research Station.
By this time, Stoddard simply did not care what foresters thought of his crossover into their profession. As was his way, he responded to Heyward with a long, detailed letter explaining his view of forestry and why he no longer felt tentative in critiquing the profession. “I have heard that several foresters feel that we have over-stepped the bounds of our field by commenting so much on forestry,” Stoddard wrote, but “this has not bothered me in the least, due to the fact that foresters for many years have written and said a great deal about the management of game. In fact, after the precedent they have established we feel no hesitancy at all in saying as much as we like about forestry management.”

It was a biting comment, really, and one slightly out of character. But Stoddard was confident in his management system, and he would not apologize that his management followed the guidelines set out by nature instead of industry. In defending his preference for mature forests, he slyly, and rather sarcastically, slipped into the rhetoric of a forester, writing of the higher prices he received for old, slowly-grown trees. “If we only knew how to get this slow growth by the use of fire,” he pondered, “I think you would make a special point of using fire in a way that would secure it.” But regrettably, “trees on burned land may grow as rapidly as those on unburned,” so he had to settle for the best quality timber he could get.

While Stoddard guided untold numbers of foresters through the Red Hills forestlands after World War II, his work load during the late 1940s and early 1950s was much larger than he would have liked. As a result, he only made a few attempts to present his comprehensive land management system to a broader audience during those years. He presented a paper on the integrated management of wildlife, forestry, and agriculture at the 1956 meeting of the Society of American Foresters, and another the next year on forestry and fire at a Louisiana State University.

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70 HLS to Frank Heyward, Jr., May 26, 1939. Ibid.
71 Ibid.
conference entitled “Special Problems in Southern Forest Management.” In both of these presentations, he turned his attention to small landowners in the South. In his thirty years in the Red Hills, he had seen his hunting preserves become biological islands in a region under the spell of industrialized forestry and agriculture. Both of these presentations struck a sad, yet undefeated tone, and they represent two rare occasions when Stoddard argued for more state support of private landowners, especially for those interested in increasing wildlife populations while maintaining productive farms and forests. He made clear that combining all land-uses was possible—he had been doing it for quite some time. But the available advice from foresters, agriculturalists, and wildlife professionals “has often been conflicting, which makes for confusion” among farmers. He lamented that “reaching owners of small land units, and actively assisting with simple and effective combined programs of forest, wildlife, and farming, has never been accomplished on a large scale in the region.”

In his thirty years in the Red Hills, the specialization of the natural resource professions had intensified to the point that landscapes that once harbored a diversity of land uses were ever more cordoned off for discrete purposes. As a result, formerly wild farms and woodlots were becoming practically barren of diverse flora and fauna.

Stoddard was particularly disappointed in the modern composition of southern forests. In a stinging indictment of the pulp and paper industry, he told his audience in Baton Rouge that,

The greatest future threat we see to forest game and wildlife is no longer wildfire. It is rather short rotation forestry, either of pines artificially planted or naturally reseeded. When such forests are of vast extent, and in full stands of even-aged pine as is usually the case of forests handled primarily for wood pulp, they are ‘biological deserts’ that can be inhabited by few creatures and no game to speak of. This is true whether they are control burned, or fire is totally excluded as is so frequently the case. Little food producing herbaceous vegetation, or even shrubs

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can grow on the heavily shaded forest floor, nor is there enough surface fertility or water in any case. There is little cover to shelter game, and very few insects. Unfortunately for wildlife the acreage in such forests is increasing at a rapid rate as more and more paper mills move into the Region.73

He was not unique in his condemnation of modern forestry, but his opinion by this time held a certain amount of moral authority. He had witnessed a major transformation of the coastal plain landscape since moving to the South, and throughout the last two decades of his life became increasingly disheartened about the prospects for a wild future. He did, however, believe in the perseverance of nature. In one of his most biocentric moments, he wrote to an old friend in 1950, saying, “You would not know Georgia; it has truly had an ‘agricultural face lifting.’ Maybe some of the changes are for the better; but for this one there is too much emphasis on the genus HOMO and too little consideration given to the other inhabitants of the Earth. But old Mother Nature will correct this when she feels that it has gone far enough. I am not going to let brooding on such take the pleasure out of life as do so many naturalists.”74 All he could do was care for what he had control over, and hope that a hint of wild nature would remain on the rest, biding its time.

Stoddard’s method of forestry would not receive much attention until long after his death, but it persisted locally in the Red Hills and Dougherty Plain regions for many years to come. Leon Neel, a Thomasville local with a forestry degree from the University of Georgia, began an apprenticeship with Stoddard in 1950, and continues to practice what has become known as the Stoddard-Neel method. The South at large, on the other hand, continued down the path of industrial forestry as devised by the pulp and paper industry. Even the long-rotation forestry of H.H. Chapman and the Forest Service became contained to only a few pockets of National Forest

73 Herbert L. Stoddard, “The Relation of Fire to the Game of the Forest,” in Special Problems in Southern Forest Management, Proceedings of the Sixth Annual Forestry Symposium (Baton Rouge: School of Forestry, Louisiana State University, April 4-5, 1957), 42.
74 HLS to Richard Parks, April 10, 1950. HLS Papers, Richard Parks Correspondence, TTRS.
land and timber company holdings. Pulp and paper had successfully organized their systems of
tree management and procurement to such wide extent that a multi-aged forest more than thirty-
years-old became a curiosity to most folks in the rural South.

But the forests that Herbert Stoddard shaped and Leon Neel maintained became so much
more than mere curiosities. They became powerful representations, much like Stoddard’s old
museum displays, of what nature had to offer. As environmental artifacts of Stoddard’s long
dialogue with nature, they also represent the artful implementation of knowledge. As an aging
Stoddard told one group interested in forestry and fire,

> Ever since I was interested in burning we had to make that decision on the basis of the land you were standing on. You can’t possibly give a formula for burning on land you haven’t seen. You have to go and visit a piece of land and see what it requires. You have got to apply it just as you would in cutting timber. You can’t say you are going to cut ten per cent or twenty per cent of a hundred thousand acres. You’ve got to go and examine that land and somebody that knows what he is doing has got to do the work. And that’s where the art comes in. Science is never going to solve that. This would be the art.

The art came from living in the environment, learning how it works, and becoming a part of the
processes that shape it, Stoddard’s lifelong project. The art of management, to be sure, bears the
value-laden mark of human design. Just as many foresters created a model of production based
on ecological simplification, Stoddard represented his values in one based on biodiversity.

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Hidden in the creases of Herbert Stoddard’s career was his role as educator. From the day he and his family arrived at Sherwood, it became a gathering spot for locals and traveling naturalists alike. During the quail investigation, his backyard was a living habitat diorama, holding an assembly of penned birds, small mammals, and reptiles from the surrounding countryside for all to view. As word spread of his activities in the Red Hills, scientists and naturalists from across the nation formed a steady stream of visitors, and Stoddard rarely performed his daily duties alone. From those earliest years, he recognized the potential to use the Red Hills as a teachable place, a biological reserve in which to learn not only about the longleaf pine-grassland environment, but to learn how to mesh human choices with natural processes.

It would take over thirty years for Stoddard to bring his vision for a proper teaching research station to life. But he finally did so in early 1958, with the establishment of Tall Timbers Research Station. The idea began to take shape at a weekly gathering of friends. Stoddard had long been at the center of a remarkable community of naturalists surrounding Sherwood. Ed Komarek, and his wife, Betty, purchased the neighboring property in 1938, and called it Birdsong. Ed’s brother, Roy, a fine wildlife biologist in his own right, joined them on Birdsong around 1945 and became a guiding voice in the area for the next three decades. Just down the road at Tall Timbers Plantation was Henry Beadel, always more of a naturalist than a hunter. In addition, Leon Neel and his wife, Julie, moved into a tenant house on Sherwood in
1950, and quickly took an active role in the rural community. This group routinely met for
Sunday morning coffee at Birdsong, where an aging and heirless Beadel began to wonder what
to do with his property in the mid-1950s.¹

In the meantime, Stoddard left his forestry work in Leon Neel’s hands in 1956, and
returned to his first passion, ornithology. An appealing research opportunity cropped up when a
local broadcaster approached Beadel about building a television tower on Tall Timbers, one of
the highest points between Tallahassee and Thomasville. Beadel initially resisted on aesthetic
grounds, but Stoddard had heard of significant bird mortality at towers across the country and he
convinced Beadel to allow construction. The tower went up in 1956, and Stoddard spent most
every morning for the next ten years combing its grounds for dead birds. He collected over
30,000 individual birds and 170 different species, making Leon County “the best-documented
migration locality in the state, if not the region,” according to one chronicler.²

This project shaped the future possibilities for Beadel’s property. Beadel initially looked
into placing the property in a trust, hoping to preserve its environmental characteristics in
perpetuity. Stoddard already knew Richard Pough, a veteran of the Audubon Society and the
recently-named president of The Nature Conservancy, who they contacted about the mechanics
of private land preservation. Pough gladly shared his experience, but they all knew the land
could become something more than a nature preserve. Three world class biologists and a
budding ecological forester lived within a five-mile radius of Tall Timbers, and its proximity to
Florida State University in Tallahassee could provide access to an institutional ally in
establishing a research program. In addition, Eugene Odum at the University of Georgia had

¹ On the importance of the Sunday morning gatherings on the founding of Tall Timbers, see Leon Neel Interview,
(Tallahassee: Tall Timbers Research Station, 2004), 40.
been participating in Stoddard’s tower study, and bringing students down to the Red Hills since the mid-1940s. These immediate contacts, not to mention the many government and academic ties that Stoddard and Komarek maintained throughout the nation, gave them a starting point for developing the research institution they had talked about for years.

On February 7, 1958, Tall Timbers Plantation officially became Tall Timbers Research Station. Beadel was its president, Stoddard its vice-president, and Ed Komarek its secretary-treasurer. The idea was to build a non-governmental research station, rooted in academic science, yet free of its institutional constraints and specialization. The earliest funding came in the form of donations from a handful of preserve owners, but most expenses were out of pocket. As Komarek later recalled about scientific funding, “purely financial limitations need not necessarily be scientific limiting. It has been said that sometimes it is an advantage to have limited funds and unlimited imagination.” Indeed, Komarek did not lack for imagination. From the beginning, Tall Timbers was his baby, and he ran with the notion of creating an ecological research institution free from the bureaucratic wrangling of the state.

Though Komarek had been an important influence in the Red Hills since his arrival in 1933, he always worked in Stoddard’s considerable shadow. Tall Timbers gave him an outlet to play a more public role as scientist and conservationist, and his soon became the primary name associated the growing study of fire ecology. Very much the idealist, it was Komarek’s hope to cut through the specialized jargon of science and present the public with science it could use. In fact, despite being rooted in such an exclusive landscape, the mission of Tall Timbers was remarkably public-minded. Its charter mandated the station’s leadership to carry out “educational work in such fields as wildlife management and the proper use of fire as a

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3 E.V. Komarek, Sr., *A Quest for Ecological Understanding: The Secretary’s Review*, Misc. Pub. no. 5 (Tallahassee: Tall Timbers Research Station, 1977), 10.
management tool...[and] to publish and distribute to the public generally any knowledge or information acquired as a result of such research, experiments and studies." Remembering their experience with setting up the Wildlife Society, Stoddard and Komarek remained concerned about the applicability of conservation science by the general public. On the state of conservation science, Komarek wrote, “there appears to be a large gap between the scientific studies now going on all over the world and the dissemination of this material to the ‘public generally’ in easily understood form...Scientific journals have not only created closed communication circles, but with increasing specialization tighten the circle in ever-tighter loops.”

Unlike the Cooperative Quail Study Association, Tall Timbers had no members or subscribers, and it was not beholden to the preserve owners. All publications were freely distributed on request, because, “if the publications were sold, even at cost, they still would not reach the ‘public generally.’ Those of the public who would purchase them would be those individuals already interested, so that the effect would be a closed communication circle again.” They printed 5000 copies of each research and conference publication, and sent them university and government libraries, state land management officials, interested landowners, and any other individual or institution who requested them. By 1975, Tall Timbers was sending materials to almost 600 libraries in 47 countries on five continents.

Stoddard’s tower study became the station’s first official project and produced its first publication, but Tall Timbers made its largest public mark in fire ecology. The use of fire, more than any other conservation measure, exposed what both Stoddard and Komarek considered one
of the shortcomings of environmental preservation, especially in regards to wild lands. They had argued for decades that any effort to protect land for its ecological value should be active in its management, an approach not so different than the applied sciences of agriculture and forestry. Komarek wrote that a guiding principle in the founding of Tall Timbers was “to place great emphasis on habitat management, so as to have better ‘nature management’ in place of the outmoded ‘nature conservation’ which has become virtually ineffective and meaningless.” By “nature conservation,” Komarek meant letting nature take its course, a hands-off form of management that in essence meant no land management at all. Their experience in the longleaf pine-grassland forests led them to believe that such an approach actually diminished biological diversity. Not only that, it denied a human influence that was fundamental to many natural processes. “The words ‘nature management,’” wrote Komarek, “are used in the context that man is a vital part of nature, not just an onlooker.” He also recognized the utility of experience-based knowledge about local environments, and “that an understanding of natural principles and processes does not necessarily require formalized scientific processes.” The problem in the longleaf pine-grassland region, as Komarek understood it, was a lost collective knowledge about these natural processes, largely because the environments in which this knowledge developed were lost. Tall Timbers, then, was as much a project of knowledge restoration as it was ecological restoration. “Whatever terminology is used,” Komarek insisted with a Thoreauvian flourish, “the underlying idea is to work toward an understanding of nature and her basic principles. Nature, to be commanded, must be obeyed; and surely in this case, understanding is the prerequisite for obedience.”

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8 Ibid., viii.
9 Ibid.
10 Ibid., 2.
To create a new understanding of nature in the longleaf pine, one based in older convention but modified for the vernacular of modern conservation, Tall Timbers instituted its first annual Fire Ecology Conference in March 1962. It only made sense that the new research station would stake its reputation on fire—it made Stoddard and Komarek’s immediate environment tick, and it was the natural process and cultural tool they knew best. They invited officials from nearby state forestry services, the U.S. Forest Service, the National Park Service, the Fish and Wildlife Service, as well as academic biologists, to assess the history, ecology, and application of fire not only in the coastal plain, but the nation. This was the first major gathering of its kind in any region, and according to Komarek, the first time the words fire and ecology were joined together in a public forum. Komarek defined fire ecology for conference participants as “the study of fire as it affects the environment and the interrelationships of plants and animals therein.”\(^\text{11}\) By this time, most all officials agreed that fire had an economic place in coastal plain land management, but now the discussion turned more explicitly toward ecology.

This was a big step. For years, Stoddard and Komarek had attempted to direct the conversation about land management away from sheer economics and toward ecology. They had successfully wedded the two management goals in their own work, and the fire conferences offered a public outlet for resource managers with broader influence to speak about the ecology of fire. For years, the Forest Service had directed the national agenda on fire, an agenda that was not much concerned with ecology, and now Tall Timbers provided “a major forum for an alternative vision of fire,” as fire historian Stephen Pyne has put it.\(^\text{12}\) Not only that, they joined the Forest Service at their own game of public relations. The Fire Ecology Conferences were to be as accessible as possible to the public. As Roy Komarek wrote in the preface of the first


conference proceedings, “the public at large, the conservation groups, and the leaders of our educational systems must be re-educated to the concept that fire has a useful place and may even be a necessity in the conservation of some of our natural resources.”

This was a breakthrough attempt to understand fire on its own terms, absent its highly-charged political context. Not only that, it was yet another effort, rooted in the Red Hills, to organize and give voice to a new branch of the biological science.

The birth of the Tall Timbers Fire Ecology Conference in 1962 coincided with and fostered a new reconsideration of fire, and for many years was practically the only nurturing place for the budding movement. Through 1974, they held fifteen conferences, drawing participants from every corner of the nation and abroad. Researchers in forestry, wildlife, agriculture, botany, geography, and more spoke without compunction about fire’s ecology, and Tall Timbers published every word. The research presented at the conferences also coincided with, and often spurred, several important shifts in government land management policy. The National Park Service issued the famed Leopold Report in 1963, which insisted the National Parks—“vignettes of Primitive America,” in the Report’s language—were in need of active management, and “of the various methods of manipulating vegetation, the controlled use of fire is the most ‘natural’ and much the cheapest and easiest to apply.”

Led by Aldo Leopold’s son, Starker, the Report cited important fire research in the Everglades, conducted by a presenter at the first Fire Ecology Conference, biologist William Robertson. Stoddard was particularly fond of the Leopold Report, and ten days after it was issued he triumphantly read passages from it to

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the participants of the second Fire Ecology Conference. The Park Service was not alone in its
about face. The Forest Service also continued to make policy changes within the context of the
conferences, and announced a shift in focus toward fire management, rather than fire control, at
the 1974 Fire Ecology Conference in Missoula, Montana.\(^\text{15}\)

The fire conferences, then, were big tent affairs. As a research station, Tall Timbers
impacted land management in the southern coastal plain most deeply, but through its conferences
became a leader in a national and global effort to reassess fire. Participants gathered at FSU in
Tallahassee until 1967, when Komarek took the conference on the road to Lake County,
California, Ponderosa pine country. From there, the conference returned to Tallahassee
intermittently, and also convened in New Brunswick, Texas, Oregon, and Montana. Komarek
also organized a special conference in 1971 devoted to fire in Africa, and consistently invited
speakers to discuss fire ecology in other regions of the world, including western Europe, the
Mediterranean Basin, the Middle East, Australia, and southeast Asia. The success of the Fire
Ecology Conferences was rooted in demand—there was no other place for those interested in fire
to congregate and publish. Further, the new scientific discipline of fire ecology rotated on Tall
Timbers’ organizational axis. The Fire Ecology Conferences were a non-governmental haven
for researchers and practitioners to present, share, and collaborate, as well as an institution to
disseminate knowledge to the public. In sum, Herbert Stoddard’s early assumptions about fire in
the longleaf pine, and his persistent dissent from orthodoxy, eventually led to a global
reconsideration of fire and its role in shaping wildlands.

\(^{15}\) On the influence of the Fire Ecology Conferences on the Park Service and Forest Service policy, see Stephen J.
Pyne, \textit{Fire in America: A Cultural history of Wildland and Rural Fire}, Reprint ed. (Seattle: University of
Herbert Stoddard died on November 15, 1970. Though almost too poetic to be true, he is said to have passed with a copy of Aldo Leopold’s *A Sand County Almanac* in his lap.16 Apocryphal or not, it is appropriate to link their legacies together. Leopold did more than anyone during the interwar years to promote a new way of thinking about the American landscape, and Stoddard did more than anyone to translate that thinking into applicable land management. Together, they realized that the prospects for nature in the modern world came down to a series of human choices. Through the idea of wildlife management, they both started with a rather simple proposal: decipher what habitat conditions benefit desirable animal species, and then maintain or recreate those conditions. This narrow recognition grew into the realization that in most American landscapes, ecological stability and biological diversity could only be restored and maintained through active manipulation of the environment. Without consciously biocentric choices about nature, they argued, land would become biologically devalued.

The purpose of this dissertation has been in part to tell the story of lost environmental knowledge within changing landscapes, and the attempts to restore both through the growth of conservation science. The conservation science that took shape in the Red Hills arose in the Progressive era from a convergence of social and environmental trends. Concerns about health, recreation, and social status, the growth of government conservation, and an increasing knowledge in the biological sciences converged in the southern longleaf pine forests to create a new way of using and thinking about land altogether. The role of fire, the intricate relationships between predator, prey, and habitat, the biological value of agricultural landscapes, and the careful harvesting of timber all formed pieces of an ecological puzzle, a puzzle that Herbert Stoddard spent a lifetime dismantling, decoding, and reconstructing. Stoddard came to the

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16 This was told to Owen Gromme by Ed Komarek. See Owen Gromme, “In Memoriam: Herbert Lee Stoddard” *The Auk* 90 (October 1973).
region in 1924 with a taxonomic background in identifying and classifying the biological parts of nature, and over the next several decades helped to fit those parts together into an ecological approach to land management.

As much as the shifting paradigmatic trends in the biological sciences, though, the particular natural processes of the longleaf pine-grassland system shaped Stoddard’s form of conservation science. It was a disturbance-prone, stochastic system, and those traits reflected themselves in Stoddard’s system of land management. His approach to conservation science was itself stochastic, always shifting in response to environmental behavior or the nuances of a particular place. Because of these nuances, he never embraced ecological theory or land management formulae. As much as he attempted to suspend landscapes in stasis, the only normative environment he ever found was one based in disturbance, uncertainty, and change.

Stoddard’s location in the longleaf pine forests was also important because it was a distinctly southern landscape. This disturbance-prone environment developed alongside, and was clearly suited to agrarian activity. The management practices of small to medium-scale agriculture and open-range livestock grazing fit rather nicely into this natural system, and they were key ingredients in Stoddard’s practice of conservation. In addition, the southern hierarchies of race and class buttressed the implementation of conservation science in the Red Hills. The management of land also required the management of people, and Stoddard’s conservation science capitalized on the severe inequalities found in the Red Hills landscape. Conservation in the Red Hills, then, had a dark side, but it was not one that entirely restructured historical relationships with the land. Instead, it maneuvered from within the social, cultural, and economic structures already in place.
On a broader level, Stoddard shaped his conservation science largely under the radar of state conservation, but only in collusion with more visible friends such as Aldo Leopold, Waldo McAtee, Paul Errington, and many others. It was no accident that an American biocentrism surfaced through wildlife management in the 1920s and 1930s. Hunting was wildly popular and game species were in decline. The perspective of wildlife management, however, was slow to gain a foothold in state conservation. Instead, the Red Hills hunting preserves stepped in as the movement’s first real field laboratory, and we can locate both the strengths and weaknesses of Stoddard’s conservation science in this private landscape. Though he came of age during the waning years of Progressive-era conservation, and worked closely with government organizations throughout his career, his major contributions came through quasi- or non-governmental activities. Indeed, I don’t think his way of thinking about the land could have come from any other place. As Leopold recognized, Stoddard was free to experiment with nature outside of bureaucratic oversight, and he had remarkable success doing it. He actually grew bitter about his occasional work for the state, once telling Eugene Odum that “I have wasted months in the aggregate preparing reports on [state lands], and most of them have been buried in the files without doing a speck of good that I could ever see. These agencies just go ahead and do as they d---m please every time due to pressure from outside sources.”

The land management goals of private hunting preserves, on the other hand, were largely in tune with his own, and they gave Stoddard an environmental space in which to animate his biotic view of land.

At the same time, Stoddard’s growing resistance to working through well-organized public agencies was also a major limitation of his conservation science. He was highly successful in circumscribed landscapes, but these were among the most exclusive landscapes in the nation. Leopold’s early concern that Stoddard’s conservation would “relapse into a mere

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17 Herbert Stoddard to Eugene Odum, January 26, 1952. HLS Papers, Eugene Odum Correspondence, TTRS.
private enterprise” did not fully come to fruition—Stoddard’s work did, indeed, filter through hunting preserve boundaries, and was critical to the practice of wildlife management on both public and private land across the nation. But the specter of wealth, privilege, and elitism has always shadowed his preserve landscape, as perhaps it should. Conservation has not always been built on democratic principles of equality.

The organizational structure of the hunting preserves themselves also presented limitations for this non-governmental conservation. Historians have largely understood the conservation and environmental movements from the perspective of liberalism; i.e. improving and preserving the environment for the public good. But there is also a strong conservative strain in the origins of environmental conservation. In this case, the original landowners of the late-nineteenth century were from the robber baron class that benefited most from the nation’s second industrial revolution, and their progeny continued to be among the nation’s conservative vanguard. As the modern American state took shape in the Progressive and New Deal eras, these landowners were concerned equally about the expanding role of government regulation and the groundswell of resistance to corporate power that challenged the social and economic status quo. Their retreat to the Red Hills and the type of conservation they supported was an important result of their conservatism. Despite Stoddard’s role as an ambassador to public-oriented science and conservation, the landscapes themselves—though among the most biologically diverse in the nation—were closed to the general public. In their search for healthy landscapes, northerners looked for places to sequester themselves from the forces of modern, industrial America, but their form of conservation was less an oppositional reaction to the growth of industrial and corporate America than a concomitant to it. Just as did industrial agriculture and forestry, they did as they pleased under the property rights structure of the post-open range New South.

18 Aldo Leopold to Herbert Stoddard, February 11, 1930. AL Papers, 9/25/10-1, Box 3—Stoddard Correspondence.
Since Stoddard’s death, the landscapes of southern hunting preserves, and the coastal plain at large, have changed in a variety of ways. Just as in other areas of the United States, real estate pressures present a challenge to any conservation efforts in the coastal plain today. In recent decades, shifting demographic trends have created new markets for land in former rural areas, namely commercial and residential development. For those who value a return on investment more than outdoor recreation or ecological stability—a common sentiment, it turns out—rural land is worth much more in houses or commercial outlets than in forestry, agriculture, and wildlife. Substantial blocks of longleaf pine forest have continued to diminish—down to about three percent of the former range at last count.¹⁹ Even in the Red Hills and other hunting preserve regions land ownership patterns and land management goals lack the consistency they once had. The modern American custom of partible inheritance, wherein multiple heirs split an estate equally, has exposed a major weakness of conservation on these private landscapes. Large ownership blocks become split between heirs, some of whom never set foot on the place before selling their portion to one of various real estate interests. With the ignition of a diesel-powered engine, centuries of natural and cultural history can be erased in a day.

Some preserve owners, on the other hand, love the sport of quail hunting too much, according to some ecologists. They emphasize managing for the bobwhite quail to such an extent that diversity suffers. Stoddard always maintained that one quail per acre was a reasonable target that would not diminish the ecological properties of the fields and forests. But today, many property owners aim for up to three wild birds per acre, a goal only attainable by liquidating forests and installing a seemingly endless series of fields and hedgerows. This trend could be the game management equivalent of forestry’s pulp pine plantations, and while I do not

¹⁹ [http://www.auburn.edu/academic/forestry_wildlife/longleafalliance/ecosystem/ecosystem.htm](http://www.auburn.edu/academic/forestry_wildlife/longleafalliance/ecosystem/ecosystem.htm)
presume to speak for Herbert Stoddard, I cannot conjure up a scenario that results in his approval of such a trend.

Despite these developments, or perhaps because of them, a serious interest in longleaf restoration has surfaced in recent years. The market for pulpwood has literally moved South, into the developing world where economic and environmental conditions are ripe for just such an extractive industry. Because of the wood’s high quality, several federal and state subsidies, and, some say, a healthy nostalgia among older landowners for the tree, longleaf is now a viable option for landowners in the coastal plain. Large pockets of longleaf forestland in the Red Hills and Dougherty Plain, along with several military bases and national forests across the South, now serve as demonstration areas and inspiration for some landowners. And Herbert Stoddard’s former student, Leon Neel, continues to be a force in the land management and scientific circles of the southern coastal plain. Public and private land managers, forest ecologists, and practicing foresters now look to the old southern hunting preserves for a template for a new kind of conservation biology in the longleaf pine.
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