



# Our ancient bur Our greatest op

**For generations, we treated the state's natural and cultural diversity as if it were a liability, or something only to exploit. In reality, it's always been our greatest asset. And if we finally take the time to appreciate it, Alabama's diversity could become the cornerstone of our livelihood — and the foundation of eastern North America's future.**

By Bill Finch  
Photos by Beth Maynor Finch

We are still strangers to Alabama.

This land of ours is home to more plant and animal species than any state east of the Mississippi. But how many Alabamians are aware of that?

What kindly elementary teacher taught us that the nation's center of native tree diversity is Alabama? That the national center of oak and magnolia diversity is Alabama? That the global center of hickory diversity is in Alabama?

Surely your parents took you fishing and said, you're in the center of fish diversity in North America. You see that river? There are more kinds of fish in a mile of that river than in the entire state of California.

They must have told you while you collected shells that there are more shellfish species in Alabama than in all of South America. When a turtle slipped off a log, maybe they mentioned that the center of turtle diversity in the Western Hemisphere isn't in the Amazon. It's here in Alabama.

Alabama's extreme diversity shows up in ways you'd never expect. Alabama is likely the global center of sunflower diversity. Alabama's pine savannas support more grass species than the Midwestern prairies. Louisiana knows how to mass-market crawfish, but Alabama is the global center of crawfish diversity, with 100 species and counting.

Maybe it's only natural that a state so packed with biodiversity is also one of the nation's centers for human and cultural diversity.

The two largest cities north of Mexico in 1250 A.D. — economic powerhouses that controlled trade over vast areas — were in Alabama, in North America's most biologically rich watersheds, on the banks of the Black Warrior and in the middle of the Mobile-Tensaw Delta.

It's no accident that the largest contingent of U.S. Colored Troops ever assembled marched through Alabama's longleaf pine grasslands, overran Confederates in the ancient oak and magnolia bluff forests overlooking the Mobile Delta, and put an end to the Civil War.

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It's no accident that Martin Luther King Jr. led the nation from Selma to Montgomery along the Alabama River, where bison once grazed in the wildflower-rich Black Belt Prairie. It's no accident that civil rights workers founded the Black Panther Party there, along the same trails where Alabama's Red Stick warriors made a last stand to revive Eastern tribal culture and communities.

Alabama and the nation suffer when we neglect the importance of that diversity.

Those two impressive pre-Columbian cities, at Moundville and Bottle Creek, collapsed suddenly, seemingly under their own weight, as they devoured the landscape much as the Cotton Kingdom did centuries later. The nation's oppressive Native American policies, still being fought in the courts, were mandated by Andrew Jackson after he beat down the Red Stick revival at Horseshoe Bend.

Alabama is haunted by a long history of human oppression that runs parallel with degradation and

disregard for the land. Alabama's great extinction crisis — we've suffered more extinctions than any other state on the continent — exploded in tandem with the rise of slavery, Jim Crow, and cries of "segregation forever." Many parts of Alabama are trapped in a cycle of impoverished people and land, though we rarely recognize the connection between the two.



E.O. Wilson and Bill Finch at Paint Rock Forest Research Center.



Splinter Hill Bog, Bay Minette.

The question for us today is this: Can we at last benefit from honoring and celebrating our diversity, rather than suffering because we ignored it, exploited it, feared it, trampled it under our feet?

Ed Wilson loved fishing in Alabama. Even after he became “E.O. Wilson” — Harvard professor, Pulitzer-winning author, Alabama’s most globally recognized scientist — he often talked about wanting to sit on the bank with a cane pole, as he did growing up here, probing the waters to see what’s there.

But Wilson became the internationally recognized “father of biodiversity” because his experience here inspired a leap in thought: It’s not the fishing that makes Alabama great; it’s the fish. It’s not the timbering that makes us rich; it’s the forests. It’s not workforce productivity that will determine our fortune, but our ability to understand the diversity that surrounds us.

Before his death, Wilson asked the world to embrace the idea that Alabama represented North America’s Amazon.

Wilson was proud to be tied to such a biologically diverse state and proud of his fellow Alabamians. But Wilson understood that Alabama’s diversity wasn’t simply a point of state pride. Wilson knew that Alabama’s diversity is valuable to Alabamians because our diversity is so valuable to North America.

We can, Wilson believed, make an asset of Alabama’s biodiversity. But it helps if we first understand how it came to be a great center of diversity.

There are many explanations, though one far outweighs the others. The forests, prairies, savannas, and stream habitats of Alabama and surrounding states are millions of years older than similar habitats in much of the rest of North America. Glaciers repeatedly wiped out most life north of Washington, D.C. Carolina mountaintops were tundra.

But through multiple changes in climate, the center of eastern forest diversity remained where it has persisted for millions of years, in the deep South. Alabama sat in the heart of it, warmed and moistened by the Gulf of Mexico, with its unusual variety of streams and landforms, mountains to flatwoods, making a home for most of eastern North America’s biodiversity. It is the nation’s ancient storehouse of diversity, and portions of it were repeatedly shared with the rest of the country as glaciers retreated and climate changed.

Climate, you may have heard, is changing again. As that happens, our recognition of the importance of Alabama’s diversity will determine the future of all of eastern North America’s ecosystems.

Just as E.O. Wilson’s vision of biodiversity was one of Alabama’s greatest exports, our diversity has always been, and always will be, our most valuable commodity. These are the reserves America will need to survive and prosper in the future. These are the Alabama goods the nation will increasingly clamor for.

How do we at last make the best use of diversity? It starts with rediscovering our natural diversity and learning to live well by it.

There are already innovative models. Stream species that remain only in Alabama are being propagated at the Alabama Aquatic Biodiversity Center and shipped to states where these species have been lost. American elm trees, which have died out over much of North America, are still healthy and abundant in Alabama: The genetic keys for resurrecting American elm across the eastern U.S are being discovered here.

But we won’t succeed unless we also learn to see this diversity through the eyes of diversity. For too long, careers in natural history and scientific discovery were open only to a fraction of Americans. Alabama produced a handful of the world’s most recognized biologists, like E.O. Wilson, Patty Gowaty, and George Washington Carver. The doors were shut for many more.

One of the reasons we have a hard time appreciating our own diversity is that we have done such a poor job of ensuring that a diverse group of Alabamians has the chance to see and study it.

That's why Wilson joined with grassroots partners, the National Parks Conservation Association, the University of West Alabama, and others to create the Alabama River Diversity Network. Last fall, after more than a decade of work, that coalition helped land a National Park Service designation, the Black Belt National Heritage Area. The Heritage Area fosters a new landscape-based identity for the nation to rally around and offers federal assistance to 19 Alabama counties in central and south Alabama. Recognition of both natural and cultural diversity of the Black Belt won that national attention.

Fully appreciating and making use of our natural and human diversity in Alabama is going to require a new model of research, education, and restoration. A group of scientists, institutions, and conservationists — including Wilson, UCLA's Stephen Hubbell, the Smithsonian Institution, The Nature Conservancy, Alabama A&M, and other Alabama universities — are helping develop that model at the Paint Rock Forest Research Center here in northeast Alabama.

Paint Rock is another one of those surprisingly rich Alabama ecosystems, the center of North America's deciduous forest and cave diversity, and one of Alabama's two national centers of aquatic diversity. The research center and campus are designed to attract international scientists to explore Alabama's biodiversity and its significance to the nation and the world, even as we train a new generation of Alabamians to see and appreciate it.

The forest dynamics plot being developed here is already the most diverse in the nation. We've identified, measured, tagged, and mapped some 100 species of trees, and we'll be following the fate of some 100,000 trees over the next 50 years. This kind of analysis has already proved itself in the tropics, helping us

*Tensaw Delta Morning, Mobile-Tensaw River Delta.*



Sakora Smeby, an Alabama A&M student, identifying and tagging a tree for Paint Rock's 100,000-tree forest census.



understand, for example, the role of diversity in forest survival and the impacts of forests on climate change. But nowhere else in North America is this work being done at such a scale or in such an extraordinarily diverse forest.

We're attracting scientists from across the nation to make use of this massive research infrastructure. They're building their own research on top of it, and they're interacting with our research interns, a diverse group of young scientists mostly from Alabama who have a world of new opportunities opened to them.

What we're finding is already changing the way the world sees Alabama. We're bringing recognition to Alabama species no one has ever described before — a new oak, new maples, new violets. We're uncovering the hidden genetic diversity within Alabama species, genetics that may be crucial to ensuring the future of iconic species like American elm, ash, butternut, shortleaf pine, and many others. We're collecting and propagating the basic ingredients of major forest types that are now almost lost, but which will likely be critical as climate continues to change.

If we were operating in most any state but Alabama, this work might seem less urgent. But the diversity of Alabama is so unusual and so significant to the future of all North American ecosystems, we feel we must lead the charge.

It's our ancient burden. It's our greatest opportunity.

