

WHY WE BURN

The art and the science behind the intentions of prescribed burning.

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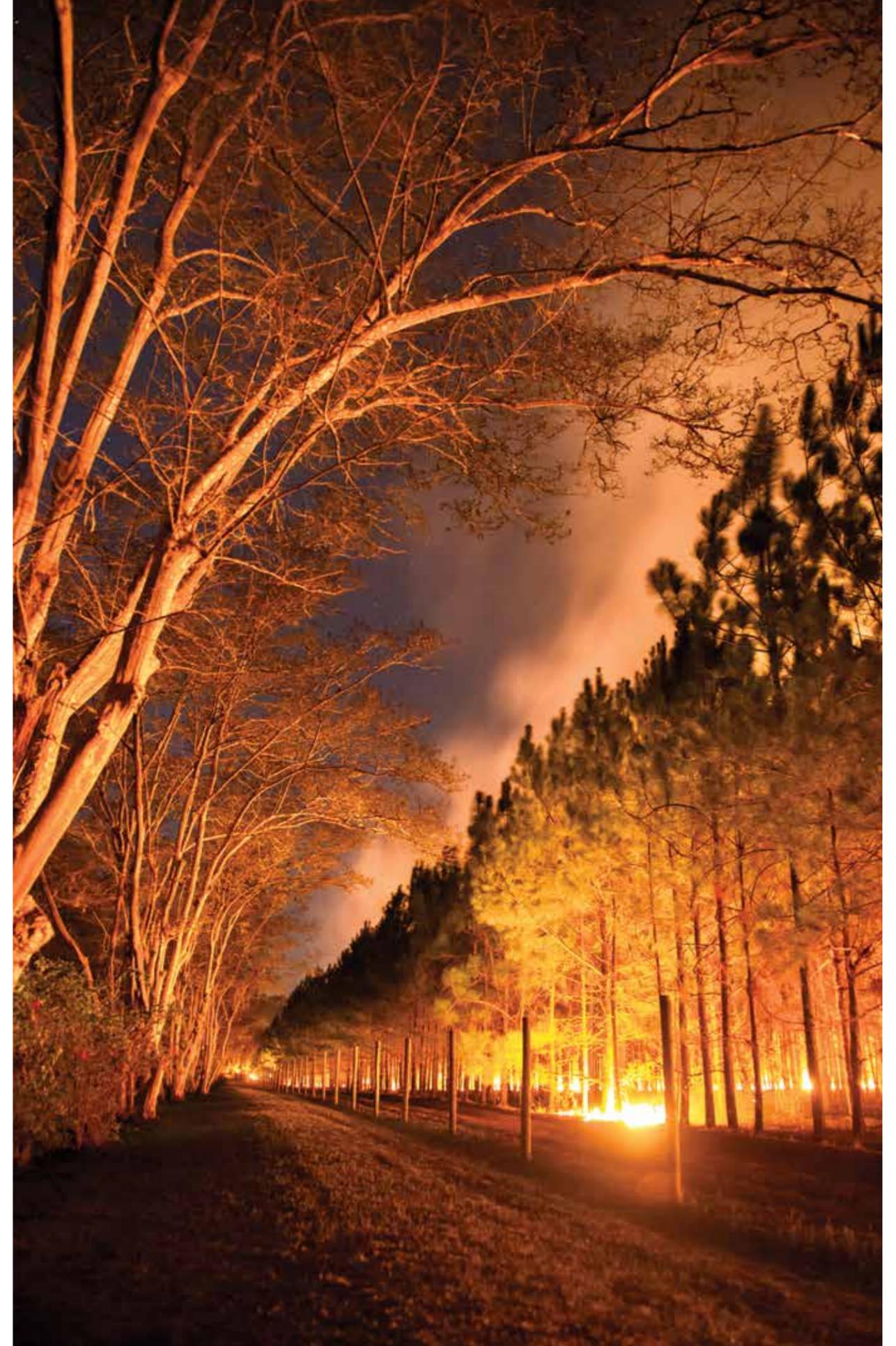
Walking a freshly turned firebreak, I was dripping a diesel-and-gasoline cocktail along the edge of planted pines when an Eastern hognose snake bumped the tip of my torch with an inquisitive glance, its body extending from the brush like a gleaming staff of carbon fiber. Snake is not a second language for me, but he seemed to be asking why I was setting fire to his woods on such a crisp winter's day and would I mind moving along so that he could scare up a little lunch. Happy to oblige, I cast my fire to the end of the lane, set down my torch and, in a strange, existential twist, considered these questions: Why do we set the woods on fire and why does it ignite in us a fascination as primitive as the snake itself?

Simply put, prescribed burning replicates one of nature's most essential grooming tools, spreading fire across a forest floor, eliminating the competition for target species, and renewing soil with essential nutrients to encourage native growth. Humans have replaced nature's random lightning strike with the more predictable drip torch, but the awe and ferocity of fire is the same. We manage the enterprise as best we can, cutting in firebreaks and choosing days or nights when the wind, relative humidity, and dispersion indexes are most favorable. We burn in rotations that allow fuel to reach a combustible but manageable level, sufficient to knock back the undergrowth without dam-

aging the desired trees such as pines, which have evolved with thick, protective bark and thrive in fiery conditions.

Trees, however, aren't the only beneficiaries. Scratchers like quail and wild turkeys will often begin the quest for bugs even before the smoke clears, while predatory hawks and coyotes quickly follow a fire to enjoy a brief window of better hunting as the food chain resets and balances. Within days, new native growth emerges, resulting in fresh greenery for the deer and other grazers. Also bouncing back quickly are the hedgerows and broom straw that shelter quail and other species as the forest floor shifts from the grays and blacks of smoke and ash to the brilliant greens and golds that draw us afield with dogs and friends and stories new and old.

The stories of prescribed burning, though, have not always fallen on friendly ears, often discounting the fact that humans tend to profit the most from controlled management of forest resources. In the media, Santa Ana is well known for the winds that whip through the canyons of Southern California looking to convert the slightest spark into the next conflagration. Residential development has encroached into many wild spaces and, for many years, prescribed burning has been out of vogue, leaving ground fuel and substory growth unchecked—and catastrophe waiting in the wings. Given mounting insur-





ance losses on the economic side and research findings from groups such as Tall Timbers Research Station on the scientific side, many areas are now returning to controlled burns as a cost-effective and proactive management tool.

Across the piney woods of the rural South, prescribed burning remains at least as fashionable as seersucker suits and white bucks because it adds discernible value to forest stakeholders. A managed stand of trees offers an unrivaled aesthetic beauty, particularly to the folks active in forest cultivation, from planting to harvesting to promoting natural regeneration. And burning is an important part of the science of that endeavor, a vital step in the natural life cycle of the forest. But the science is only part of the story—the part that tries to answer the question first posed by the hognose snake.

The second question, perhaps inferred by the snake, is the better question—it lights the clearer path to man's connection with nature. Just as we might ask how it is that we find ourselves chest deep in ice water surrounded by wet dogs and the perfect decoy spread, or following the nose and tail of a bird dog through briars and broom straw to witness the wonder of a point and flush, we need also to ask how we came to walk through freshly turned dirt carrying what is essentially a bomb with a plumbing loop, leaving a trail of accelerant-laden fuel that grows immediately beyond our control to include the

sound and the fury of nature's best and worst self. I suggest it is the art, not the science, that takes us there.

Like the rake lines in the sand of a Zen garden, a firebreak is a palpable reminder of the razor-thin line between peace and chaos. We climb on the tractor and pull the disc harrow along established breaks, digging deep to turn wet dirt, in search of some mastery over nature, straight lines encircling dotted rows. Fresh earth mingles with the pungent smell of fuel, a blend of diesel and gasoline, to intoxicate the spirit and fortify the resolve. Soon there will be fire. The oily traces rinse the soot and residue of past burns from the bright red tanks of the torches. The wind gauge swings from a nearby branch, as a light breeze whispers through the pine needles and across the raised hairs on the backs of our necks. And we haven't even lit a match.

Our fascination with open flame is primeval. Among the many explanations is the ancient Greek assertion that Prometheus stole fire from Zeus for the benefit and progress of humanity. Prometheus was punished summarily, as one might expect, but humankind did, in fact, move forward with the new technology. For all that forward motion, though, consider the epic draw of a campfire or a glowing hearth after a great hunt. These are the proving grounds of the myths and legends we create afield—day after day, season after season. We are grateful for the fire, the fellowship, and probably the Scotch.

Now take the torch from the hand of Prometheus and set the woods on fire, and you're talking about a very different slice of watermelon. From the first drip of the torch there are wonders to behold and demons to wrestle. Our relationship with fire is unpredictable, often tempestuous, and sometimes even deadly, which leads me to a story.

The wind was good, a burning wind you might say, blowing steadily out of the west, and we needed the headwind to make the most of moderate fuel, mostly duff. The objective was to light the western edge of the stand of trees and then strip every third row, or lay a line of fire between every third row of trees to let the fire feed on itself to generate more heat. All went according to plan . . . until it didn't.

I was about halfway down the break, a line of fire to my right and a barbed wire fence to my left, when I felt a shift in the wind and heard the little voice in my head let out a string of expletives. More than a shift, the wind completely reversed course and instead of working for me it was now trying to ruin my whole day. With the wind came the heat, with the heat the fire, and next thing I knew I was belly-up to the barbed wire fence—uncharacteristically solid as my fencing goes—with flames licking the back of my jacket and singeing the raised hairs on the back of my neck. I can't be sure, but I think the hognose snake was grinning at the irony.

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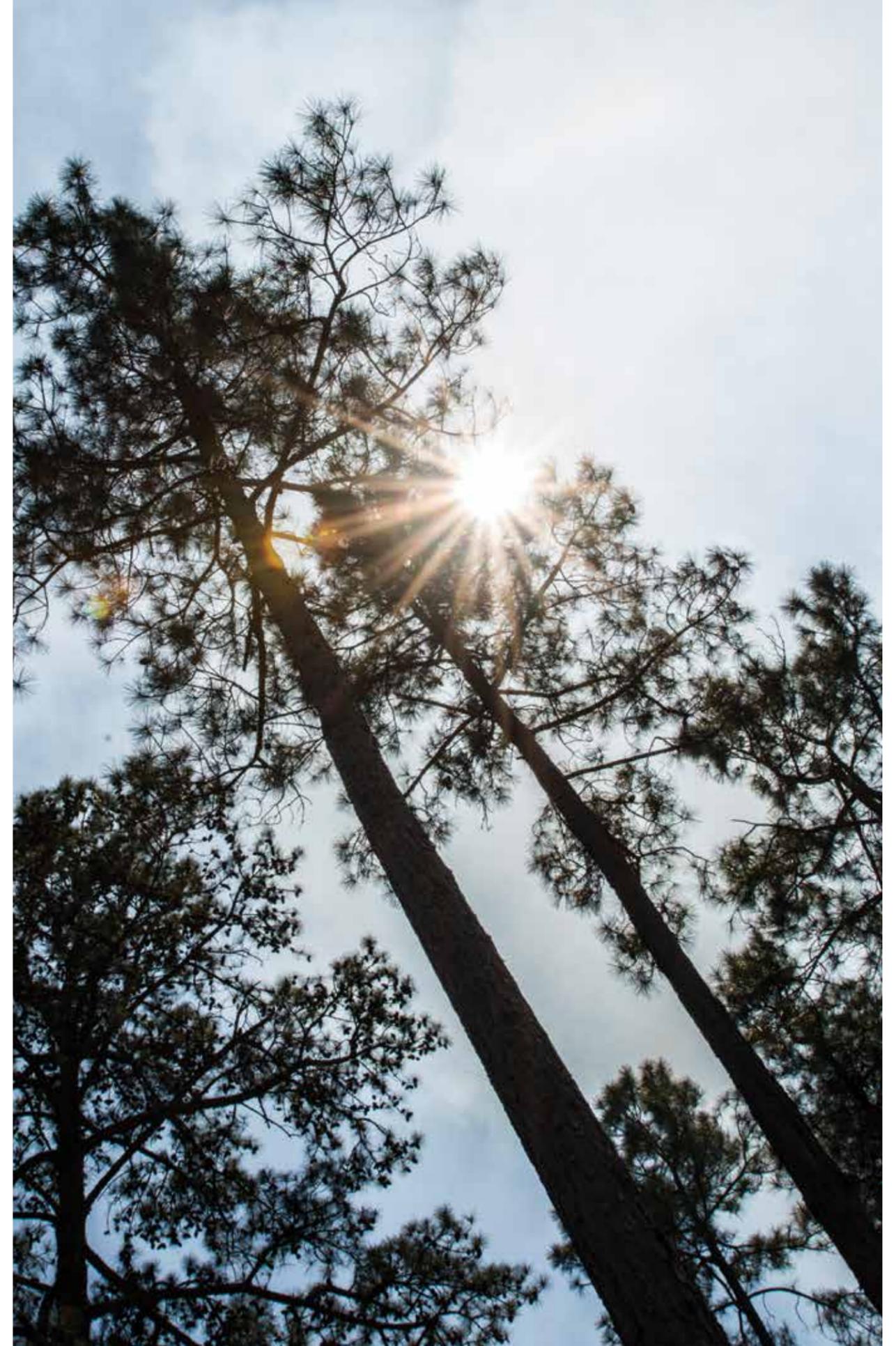
I considered the scenarios, trying to determine the best direction to navigate the barbed wire, up or down, while the flames reiterated that either path was going to be fraught with, well, barbs. Then, as luck would have it, the smoke began to settle in. The good news is that the smoke made the direction choice for me. The bad news is that bellying up to barbed wire is a lot like wearing a Velcro suit, except that it tends to draw blood when you try to slide down it. My sympathy for the hides of cattle was palpable.

In addition to the visual wonder of fire, there is a distinct sound, a siren song that lures a man to come hither. And just as the fire was whispering sweet nothings in my soon-to-be crispy ears, the smoke receded, the flames sucked back into the trees, and the breeze brushed the heat from my furrowed brow and

smoking collar. As barbed wire fencing goes, this was a catch-and-release success story.

The trial by fire, though, reminded me of the small part we play in the grand scheme of things. Perhaps that's what makes fire so fascinating to us. We can cut firebreaks, use physics to keep a drip torch from exploding in our hands, and even stand back and wonder at the wall of fire we've wrought—but we can't control it completely. Life makes us the same deal, offering unlimited possibilities punctuated by ecstasy and tragedy, death and renewal. And just as the green shoots emerge from the ashen floor almost immediately after a burn, I stepped back from the fence a charred man—I mean a *changed* man.

As stewards of both the natural and built worlds, we should develop best practices from science and experience. Both show





that prescribed burning is a management tool that simultaneously promotes healthy ecosystems and reduces the risk of wildfires. Native Americans used controlled burns to open up dense forests for grazing and agriculture, and the wildlife they hunted prospered as well. The clearing of underbrush and mid-story hardwood saplings has, more recently, enabled foresters to manage timber resources for maximum return and unmatched aesthetic beauty, all while enhancing habitat for wildlife and promoting responsible sportsmanship.

The experience of landowners has also been positive, as evidenced by the increased use of prescribed burning. Not only is fire effective; fire is also efficient. A single drip from the torch is a gift to nature that keeps on giving. Areas thought to be unreachable by dozer or rotary cutter are opened to sunlight and new ideas, and native plants and wildlife stretch their legs and flourish. I walk the break ahead of the burn, navigating fresh dirt below, while watching treetops above for any hint of breeze. To my left, a barbed wire fence bids me keep my distance. To my right, the darkened trunks of longleaf pines attest to our commitment to prescribed burning.

As humans in pursuit of more fulfilling connections to each other and the environment, we might emulate the heat and passion of fire in our daily lives and rise from the ashes, living every moment renewed and purposeful, to grow another day. 🌲

