

The Other Side of the Clearcut

By

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This would be the time to turn back. I'm two-thirds of the way up a steep clearcut, fighting for balance as the scree beneath my boots clatters down toward the gravel road. From here, where the slope grows even steeper and thick with poison oak, my rented white Dodge looks the size of a cigarette butt. The smart thing to do would be to sidestep my way back down and pick a better route. Something with shade, maybe some soil, back behind the ribs of forest that mark the straight edge of this clearcut.

Instead I pick up a bleached branch to deflect a bough of leaflets three, then lunge up the incline. Parry, lunge, clatter; parry, lunge, clatter. I'm making distance, but with each step I find the poison oak crowding closer. It loves these sun-struck slopes where little else will grow. No more sprays around the ankle, easy enough to avoid; here the bushes unfold to shoulder-height. Now I need a stick in each hand to part the crowds. I know I'll regret this.

Believe me, scrabbling up clearcuts was not what I had in mind for my residency at the H.J. Andrews Experimental Forest, here in the Oregon Cascades. I was on sabbatical leave from a small Vermont college, working on a book about the relationships people have (or forget to have) with the places they live. Since I grew up in Oregon, this residency might help me see how I'd been shaped by this landscape. That was the idea.

And what better place to rediscover the Oregon forests than the Andrews? (It's always *the* Andrews, by the way, the article as inevitable here as on the freeways of southern California.) Over the last sixty years scientists have come to these ancient forests to study how an entire ecosystem functions, from the leafy lichens catching nitrogen high in the canopy to the millions of invertebrates building the soil below. This is where the northern spotted owl became a star, destined to change the way we use these forests.

Like other Long Term Ecological Research sites, the Andrews gives scientists a chance to gather data over decades. In a novel twist, several creative writers come here each year, beginning in 2003, to compile an aesthetic record of the forest that will span two centuries. I trust that readers in 2203 will find these words as quaint and short-sighted as we might find those written back when Lewis and Clark hadn't yet left St. Louis.

Even before I arrived here, I found myself wondering what I might add to this record. I have no background in science, unlike previous Andrews writers—folks like Robert Michael Pyle, Robin Kimmerer, and Pattianne Rogers, who’ve made careers of drawing back the curtains from our astonishing world. And while I have spent much of my life in these woods, most of that time I was oblivious to the details. Even since then, my study of ecology has been clumsy, occasional, and self-directed.

What I can offer, I decided, is a personal experience of Oregon—one that may shed some light on the stories that determine how we understand this land.

I grew up here at a time when timber was king, and I felt honored to have descended from among the first settlers to clear these woods for farm and pasture. Through the lens of that story, these forests played a familiar role: a wild land waiting to be made useful. By the time I returned in the 1990s, however, after a long time away, western Oregon had changed enough that a new story was drowning out the old. It featured people who fled their cramped lives back East, wishing to live closer to nature. Forests, in this story, were worth more upright than felled, bucked, and milled.

These two stories still exist side by side, conflicting when characters cross the line between them. A hero in one story—say, the lumberjack who clears the way for towns and schools—looks more like a villain in the other. It works the same way with symbols: an object that signifies success to one person means tragedy to another. A clearcut, for example. Or a northern spotted owl.

People in Oregon may share a physical landscape, but they live in symbolic landscapes that clash, sometimes violently. Through my own changes, I’ve seen this land as it appears in both stories. That makes it easier to see the symbols for what they are. And maybe, during my time here, I can even learn to see past them.

At least since World War II, the clearcut has been a symbol of progress, jobs, and efficiency in a region ruled by the timber industry. I learned in grade school to be proud that we supplied so much of the nation’s lumber. But over the last twenty-five years, as western Oregon filled up with newcomers drawn by its natural beauty, clearcuts have come to represent all that is wrong with industrial resource extraction (if not all that is wrong with our society, unsustainable and irresponsible). Both meanings remain in play—the former mostly in rural communities, the latter in the cities.

Back in the 90s, a friend of mine, a photographer, had set up his tripod on the edge of a Coast-Range logging road, hoping to capture the way that light gathered on the ridges, when a truck rumbled to a stop behind him. Two men in work clothes climbed from the cab and stepped toward him, eyeing his pony-tail and his Japanese compact, and asked what he was doing. When he explained, one of the men told him to turn his camera to the clearcut across the road. “*That’s* what’s really beautiful,” he declared, and I believe he meant it.

The other symbol, the northern spotted owl, emerged from obscurity in 1990 when listed as threatened under the Endangered Species Act. Almost over night, this modest ball of feathers came to stand for healthy forest ecosystems. Of course, ecologists didn’t call it a symbol, or even a synecdoche. They preferred the term “indicator species,” but what they meant was that the survival of the spotted owl depended on preserving intact old-growth forests west of the Cascade peaks.

To those in timber communities who saw their jobs threatened by new regulations, the shy bird came to signify an unfathomable change in society’s priorities.

Those of us who traveled these back roads in the 90s couldn't miss the stickers on bumpers, or at the counters of rural cafes: SAVE A LOGGER; EAT AN OWL. (In fact, more timber jobs were lost to automation and policies that sent raw logs to Asia, but I guess neither threat fit as neatly on a bumper.)

The symbol of the clearcut stands for an industrial scale of human impact on the region's forests, while the symbol of the spotted owl stands for minimal human impact. I don't imagine many locals have trouble deciding how they feel about either symbol—and the way they feel about one pretty well determines how they feel about the other.

* * *

When I was a kid in the 1960s and 70s, clearcuts had no symbolic value to me. I'm not sure I even knew what a clearcut was. I just called them "logging" and took them for granted as part of the landscape. They were my favorite playground when we visited my grandparents across the Coast Range, down above the Alsea River. Head full of fantasies about those pioneer Lairds, I spent hours following elk tracks across the stripped soil and sent my hatchet spinning toward bear-sized stumps. Within a few years, that same hatchet was lopping off the live limbs I used to build overnight shelters. By nineteen I was grading lumber in a sawmill, scrawling numbers in red crayon on fresh planks of cedar. I had no problem with any kind of logging in those days.

When I returned to Oregon in my thirties, though, I saw those clearcuts as if for the first time. A lot had happened in the years between, most of which I spent drifting from town to town, coast to coast, hoping the next place would be more exciting than the last. Along the way I learned that, to feel whole, I need something wilder than the overgrown edge of a Florida golf course. When I finally stopped for college in New England, ten years older than my classmates, my interest in wildness led me from Thoreau to Gary Snyder, and on to Dave Foreman. I found work as a ranger in New Hampshire and spent my summers hiking, meditating, and scribbling poems that aimed for some mystical sense of ecology. For the first time, I began to learn the plants around me.

By the time graduate school led me back to Oregon in the 1990s, federal protection of spotted owl habitat had polarized the region. Road blockades, failing mills, shotgunned owls, monkey-wrenching: there's a reason we call those years "the Timber Wars."

Coming home, I was shocked by the clearcuts that left the ridges so mangy. How had I overlooked them before? The worst I saw was on the Smith River, where the soil sloughed off the flank of a steep clearcut like candle wax on a Chianti bottle, spilling across a channel where salmon came to spawn. A familiar poster ran Shakespeare's words over the photo of a brutal clearcut: "O, pardon me, thou bleeding piece of earth, / That I am meek and gentle with these butchers!" Nobody needed to explain to me the symbolic power of a clearcut.

So I shouted and drummed at protests, sent my poems to the *Earth First! Journal*, and tore flagging from the paths of future logging roads. I contributed supplies and labor to the road blockade at Warner Creek, where in 1995 activists stopped the logging of formerly protected spotted owl habitat. Most of us understood, I think, that it

was not the literal owl we were fighting for. It was the owl as a symbol of a world left alone.

Antagonism was so thick in the air that my time in the woods was shadowed by the possibility of violence. I suppose I invited conflict by wearing my politics on my own bumper. One afternoon, heading back from a soak in the Umpqua hot springs, I watched in my mirror as a logging crew in an overgrown pickup roared up behind me—pissed off, I imagine, by the sticker that hollered STOP CLEARCUTTING!—and began *riding* my bumper, horn blaring, then swerving around to cut me off, braking hard, forcing me to hit my brakes. At the last minute, I wheeled around them, then raced to stay ahead, blocking their chances to pass, till finally they grew tired of the chase.

After five years in Oregon, I took a job back East. I desperately missed the public lands of the West (however logged and grazed), but over time I came to appreciate the woods of Vermont. True, none of those forests seem especially wild to a Westerner, but it's inspiring to see them cover 80% of a state that was nearly cleared in the nineteenth century. I found even more promise in the middle landscape between villages and wild lands, where farming, recreation, and even forestry take place at a slower pace, a smaller scale. In Vermont logging tends to be selective and spread out, favoring more sustainable operations.

It was only while preparing for the Andrews residency that I realized how much eight years in Vermont have changed my feelings about logging. We have no clearcuts, no spotted owls, so none of the antagonism that soured my later experience of Oregon forests. Each month I receive a magazine, *Northern Woodlands*, that gives equal time to birding, woodstoves, ecology, sugaring, and forestry. The timber industry in Vermont is just one part of a healthy mix—not the bad guy at all.

Which is why I was so unsettled, at first, to read about the observation sites I would visit at the Andrews. Oh, Lookout Creek sounded wonderful, down “the trail through the old growth,” and I was intrigued by the log decomposition site. But the third description left me squeamish: “About a quarter mile from the junction the road passes through a large clear cut on the side of a hill to the left. This is the reflections site.”

It's a testament to the power of that symbol that even *imagining* being back in a clearcut awoke the old blend of emotions: anger that felt righteous and a sadness that left me hollow in the chest, tinged with anxiety just short of fear. What would it be like to return to my old playground, to the scene of the crime?

* * *

As it turns out, not so bad—except for the poison oak.

In spite of myself, I've enjoyed this morning's hike through the clearcut. It helps that the sun has made a surprise appearance. It finally feels like the end of May. I've left my rain gear and even my shirt stuffed in my pack.

It also helps that I've been thinking about the clearcut as a symbol, rather than letting it work on me unexamined. I'm able to set aside old feelings and see this place for what it is: about thirty acres on the south slope of Lookout Ridge, rising 900' in the quarter mile between the road and the ridgeline. It was logged in the 1950s, and again about seven years ago.

From the moment I stepped out of my car I could see that the young Douglas fir grew best on the apron of soil above the road, with just a few adventurous saplings heading up the slope. As I cinched my pack around my waist and crunched across the gravel, the only color apparent on the hillside was the canary yellow of scattered scotch broom. I could see the fluff of deciduous trees on the ridge and a few blackened stumps along the way. It looked pretty desolate.

And then I saw the flowers, the first of many that would lead me up the hill. Before I even left the road, I had my field guide out to identify the lavender blooms along the shoulder. From the throat of each of three flaring petals, a yellow strip ran up the center across a fan of white. I flipped through the pages till I found a picture of an Oregon iris.

That's all it took. I spent the next two hours working my way up the clearcut, trying to identify each plant I found. (I should mention that when I'm in the Northwest, making an effort to pay attention, I turn to Jim Pojar and Andy MacKinnon, whose inspired reporting makes *Plants of the Pacific Northwest Coast* a treasure. I'm delighted to learn, for instance, that the leaves of Oregon irises were braided into snares strong enough to stop an elk.)

Who else lives in a clearcut? There were purple peavines and tiny pink flowers that I thought must be collomia. Blue vetch sprawled around the trunks of the young Douglas fir, whose lower limbs were draped with trailing blackberry. One common shrub I guessed must be black huckleberry: its leaves were longer and more leathery than the red huckleberry I'm used to seeing in the forest. The tiny yellow trumpets among the pale bracken ferns, I decided, were monkey flowers. Halfway up the hill, I found starflowers clustered around a charred stump.

I had never imagined following a trail of wildflowers to the top of a clearcut—but that's exactly what has brought me up the loose slope to this swarm of poison oak.

I won't claim to have made it through unscathed, but eventually, as I near the top, the poison oak begins to thin out. The bare scree that I've been climbing gives way to pale grass, featuring the fuzzy cups of mariposa lilies. At last I toss aside my sticks and step into what seems to be a natural meadow, shaded by the Oregon white oaks that I recall from Willamette Valley buttes. A bit past the oaks, between the muscular limbs of madrones and the moss-coated boulders, I see the canopy of ancient forest that fills the drainage of Lookout Creek.

I've been so intent on the flowers at my feet, and then the poison oak, that I haven't paid much attention to the vista opening behind me. Now, as I turn and lower myself to the grass to eat my lunch, I look out to the south, across the McKenzie River valley. In the distance I count thirteen clearcuts. The largest of them, just above Cougar Reservoir, runs up a steep slope and along a ridge still fringed with snow. It is huge and absolutely fresh, scraped clean of life.

And just like that, the old feelings return.

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Ten miles upriver from the Andrews, at the McKenzie Bridge Ranger Station, I watch Teiva White spread an armload of maps and aerial photographs across a low bank

of cabinets. As always, it's shocking to see this landscape from above, to observe the unnatural lines of a geometry exercise bisecting a living forest.

White is helping verify the acreage and slope of the clearcut I've been hiking. A trim man with a thick mustache and bright eyes, Teiva administers timber sales for the McKenzie River Ranger District. Growing up in Tahiti with a forester for a stepfather, he was encouraged to attend college in the U.S. and then return to practice forestry on the islands. He took only half of his stepfather's advice, and has now been with the U.S. Forest Service for more than twenty years.

The fresh clearcut I had seen above the reservoir is on private land, he tells me, owned and logged by a company called Rosboro. Such logging no longer takes place on public lands, he assures me. Cheryl Friesen, the district's Science Liaison, agrees.

"The old days of cut and run are over," she says. Logging in the Willamette National Forest generally means thinning these days, ever since the Northwest Forest Plan was devised to protect habitat of the northern spotted owl.

This plan sets aside large reserves of forest in later stages of succession. It still permits logging in other parts of our national forests, but regulations increasingly reflect a more nuanced approach to forestry. This "New Forestry," to use Jerry Franklin's term, favors logging practices that try to emulate natural disturbances. Snags are left standing. Some logs and branches are left to rot on the ground. A portion of the canopy remains intact.

Teiva mentions that the stand just east of the clearcut I hiked will go up for bid next year. I'm startled by the news, still grateful for the shade it offered on my way back down to the road. It had been a different world in there beneath the trees: poison oak had given way to Oregon grape, huckleberry leaves seemed to float above the ferns, and the air was rich with the scent of dirt and decay. Teiva assures me that the logging will be performed with care. The trees in steeper sections will even be removed by helicopter. I nod, holding my feelings behind tight lips.

Since he needs to check some thinning units on Foley Ridge, Teiva offers to show me how far logging has come since the old days. I welcome the chance to see for myself.

The rain rattles across the roof of the mint-green Forest Service pickup as I climb into the passenger seat. Teiva wheels out of the parking lot and heads upriver, slowing in less than a mile to turn south up the ridge. Past a couple miles of climbing curves, we pull off the road at the Nugget unit.

The rain lets up as we step out of the truck and over a bulldozed berm into an arcade setting. The space between the remaining trees has the feel of a park, more like the Ponderosa forests east of the Cascades.

"We required the loggers to leave 40% of the canopy here," Teiva explains, "to preserve habitat for spotted owls." The prescriptions are site specific. He gestures toward a western hemlock marked with a slash of orange paint: here they specified that no hemlock over two feet in diameter at breast height was to be cut. Then he calls my attention to the logs on the ground.

"We ask for at least 2,400 lineal feet of downed wood per acre here," he says. "It drives some loggers crazy to leave good logs on the ground," he adds, "but if you're going to work for us, you're going to follow our rules."

The prescriptions also try to imitate natural disturbances by creating snags, whether by girdling healthy trees, topping them, or inoculating them with fungus. Sometimes units are burned after thinning in an attempt to mimic natural fires.

As we look at other thinned units along Foley Ridge, Teiva mentions how glad he is to be back in the field, where his job is to make sure that loggers comply with regulations. I ask how they feel about the new guidelines. To begin with, he says, the changes discouraged some companies from even bidding on the units. Where once a dozen operations might make a bid, now there are only a few.

“The loggers who *have* continued working with the Forest Service are, in some ways, the best loggers around,” Teiva says. It takes longer to harvest this way, requiring more care and greater precision. But once you let the loggers know what your objectives are, he adds, they’ll often figure out the best way to meet them. He recalls one crew that decided to skid all the logs to a central spot where the loader could reach them, rather than running the loader around and compacting the soil.

As we turn back toward the paved road, passing other sites that have been thinned, I look from one side to the other. Yes, it’s clear that logging took place here, but once the vine maple grows back it will be less obvious.

I imagine the loggers shaking their heads at the notion of leaving perfectly good saw logs on the ground. I can understand their reaction. The two old men I worked with at a sawmill years ago—just enough fingers between them to fill three hands—simply would not tolerate waste.

But our idea of waste is beginning to evolve, in part due to research from the Andrews’ log decomposition site. There, in a grove of 500-year old hemlock and Douglas fir, where mosses fringe the peeling yews, researchers have tracked the decomposition of four local trees since 1985. Uniform lengths of Pacific silver fir, western red cedar, Douglas fir, and western hemlock lie in rows among the Oregon grape and licorice fern. At regular intervals someone slices a random selection of these logs into thin cookies to be analyzed. From these samples, scientists have learned about the services performed by rotting logs: how many hundreds of species they host, for example, and how they retain water, slowly dripping concentrated nitrogen and carbon onto the soil.

There are living laboratories like this scattered throughout the Andrews. They monitor stream dynamics, measure the storage and release of carbon, and explore the functions of species still little understood. The information they gather adds detail to our emerging picture of an intact forest, providing a baseline to help us understand our impacts.

It would be nice to say that these findings directly shape forest policy—and the Willamette National Forest’s partnership with the Andrews *does* allow better access to emerging research—but still it takes years for the science to bring about change. First it has to influence public opinion, trickling down through news reports, scholarly articles, or the newsletters and websites of nonprofit organizations. Then come the lawsuits and political pressures that eventually force the government agencies to catch up with the science. Finally, at least in this district, the agency begins to apply the science, directing loggers through a series of experiments in the sustainable removal of biomass—trying one approach here, another there.

We can forgive the timber workers their frustration, I think, at the way their own roles keep changing. After all, the script isn't even finished yet. It's being written by people seated at computers beneath rows of fluorescent lights, who decide which trees to leave, whether to under-plant, what kinds of snags to create, how many lineal feet of timber to leave on the ground. The result is units like the Nugget, carefully planned and, for all the attempts to mimic natural disturbances, utterly artificial.

There's another bumper sticker seen around these parts, this one referencing the rows of Douglas fir planted in pesticide-soaked clearcuts: A TREE FARM IS NOT A FOREST. What about a stand of trees like the Nugget unit, I wonder, that's been so thoroughly manipulated? Does it count as a forest?

I don't know the answer to that question. What I do know is that these operations, no matter how artificial, are less damaging than clearcuts. By consolidating these units, the Forest Service has been able to set aside larger areas of intact habitat—less fragmented, fewer edges. Maybe that's not such a bad trade-off.

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The official name is Terwilliger Hot Springs, but I've always known them as Cougar, like the reservoir across the road. I haven't soaked there in twenty years—not since they became so crowded, so troubled, that the Forest Service had to step in. Today, in the company of Steve Ackers, I follow a gravel road up behind the hot springs to about 2,300 feet and a place I've never seen: Boone Creek. We're there to find a nest of northern spotted owls.

A mile or so from the nesting site, a winter's worth of downed trees forces us out of the jeep. Steve, a field biologist from the Andrews, takes a bow saw to the first few we encounter, but it soon becomes clear that we could spend all day clearing trees. He parks the jeep and we prepare to hike in.

After so many gray days, Steve is glad for the chance to clip shades onto his wire-rimmed glasses. A compact man in his mid-forties, he looks ten years younger and is surprisingly clean-cut for a guy with two days' stubble. He opens the back hatch of the jeep and removes eight mice from a cage, all but one of them white, and places four each into plastic containers half-filled with wood shavings. Sliding the containers into mesh pockets on each side of his pack, he grabs an aluminum pole and shuts the hatch.

We start up the road, climbing over fallen trees as necessary. Boone Creek is running high and white, fed by an unusually heavy snowpack in the mountains.

"Sometimes when I'm out here," Steve says, "especially when I'm alone, not flapping my gums, the owls will come right up to the road."

"No kidding!"

"They know I mean lunch."

The nest we're looking for is a new one, though in the neighborhood of an older nesting site. Over the years, Steve and his crew have flagged the routes to nesting trees. The pair that we're after has been tracked three times this spring: in early April both male and female were spotted, but there was no sign of either parent on a miserable day later that month. Then, in early May, a male was seen and a fledgling was heard from the nest.

Steve spies a strip of pink flagging and we step off the gravel road, heading down a steep and ferny slope. As we haul ourselves up and over the mossy hulks of nurse logs, I can't get over the size of ancient trees that surround us, both living and snags.

And just like that, before I'm even looking, Steve sees the owl. As he points her out, I'm fumbling for my camera, afraid I'll miss a shot of the first spotted owl I've ever seen. Not a chance. She's settled on a limb about fifteen feet away, and she's not going anywhere.

Her black eyes gaze out from shallow downy bowls that fill the space between her small yellow beak and a pronounced brow. Her face is flat and her body surprisingly wide, speckled from head to tail. I hadn't imagined her talons would be so large and thick, nearly out of proportion to her body.

Slipping off his pack, Steve begins to arrange the gear he'll need. I crouch on the steep slope and begin to snap pictures. The owl patiently watches Steve remove a white mouse from one of the containers, place it several feet up on the bark of a big Doug fir, then step back. The mouse stays so still I think he's pinned it there, but it's just clinging to the bark.

I watch the owl watch the mouse, swivel her head toward me, then back to the mouse. Her tail feathers open and suddenly she's descending, her wings a broad fan. She takes the mouse in her talons and rises to the limb above her, then "ladders up" a series of branches till she can fly directly across to her nest.

"Ah, it looks like it's right there," Steve says, pointing. "Top of the understory." He estimates the Douglas fir to be about 250 years old and explains that spotted owls look for existing cavities in the trunk. This one is well concealed—at least from where I crouch.

I ask if she'll eat the mouse and regurgitate it for the chicks, but Steve shakes his head.

"The fledglings are only a couple of weeks away from leaving the nest," he explains. "She'll probably tear up the mouse and split it between them. Or she may give it to them whole and let them take care of it." He figures there are two fledglings in the nest, which is typical of the population in these forests.

And then the owl is back, settling on a branch ten feet above Steve. He has it in mind to catch her and replace the band on her leg. He takes another mouse from the container and places it on a branch above his head. The owl waits patiently until the moment when Steve bends over to get his pole, then descends on the mouse in another fan of feathers.

"I could have caught her by hand!" he says, preparing the noose at the end of the pole, which he extends to ten feet.

Meanwhile, the owl eats this mouse for herself, waiting on a branch about six feet above. I'm watching through the viewfinder as the aluminum pole slides into the frame and lays the loop gently over her head. She shows no signs of disturbance until the moment the noose draws tight and she attempts to fly away. Her wings flail then as Steve lowers her to the ground, where he takes her in his hands and calms her.

Speaking gently to her, he checks for any sign of injury or disease, beginning with her eyes and feet. "The eyes should be wide open, clear, and free of any discharge, 'crustiness' or debris," he explains to me later. "Both feet should occasionally reach out

as if to grab me—if one foot moves, the other should do essentially the same movement.” Finally he examines her chest. “A prominent sternum is a sign of malnutrition,” he says.

He then suspends her upside-down from a lightweight scale to see if she has fallen below the 650-700 grams typical of a female spotted owl (roughly a pound and a half). Sometimes a mother owl’s weight will drop as she loses muscle mass from all the time spent brooding. This one seems healthy.

Finally, Steve removes her fledgling band—red with white stripes—and attaches one that is fluorescent pink with a black tab. Each adult is given a unique band so biologists can identify them from the ground.

The owl is remarkably calm throughout the process, only once rising up in a flurry of wings above his grip on her legs. Before releasing her, Steve promises her another mouse. She flutters up to a nearby branch as soon as he lets go, but she’s not interested in going far. The indignity of being caught, weighed, and banded must seem a small price to pay for such easy pickings. He places one last mouse on the bark beside him, which she scoops up and takes to her nest.

“I can’t believe how calm she was,” I say as Steve gathers up his equipment.

“I know,” he nods. “I’m surprised by it every time.” We start back up the hill toward the road.

Their remarkable calmness sets them apart from the larger barred owls that have begun to show up in the region. These newcomers are more aggressive and opportunistic generalists, raising concerns that they will outcompete the spotted owls. There has already been some evidence of hybridization, producing the “sparred owl.”

When we arrive back at the Andrews, Steve checks the old band against the records: the owl we met today was fledged four years earlier at Lost Creek, on the other side of the reservoir. Although that’s only twelve miles away as the crow flies, Steve explains, the distance would be much greater as the spotted owl flies, since she must maneuver through old-growth forests.

I tell Steve about my trip to the thinning sites on Foley Ridge. “Forty percent of the pre-existing canopy and a scattering of snags,” I summarize. “Do you think a spotted owl would use that as habitat?” He shakes his head.

“Not right away. Maybe in a few decades.” In the short term, he supposes, the owls may come in to feed on suddenly homeless voles and wood rats, but beyond that initial feeding the understory would need time to recover before offering new homes to the prey.

While it’s clear that thinning cause less damage than old-fashioned clearcuts, some experts question their appeal to the northern spotted owl. Tim Fox, who designed a method used to evaluate spotted owl habitat for the Oregon Cooperative Wildlife Research Unit, is afraid that the Forest Service may overestimate the amount of higher quality habitat left by thinning.

Forests can serve as habitat for the spotted owl in a variety of ways, Tim explains. The owls need the highest quality old-growth habitat for nesting, featuring a selection of old trees. He describes their ideal nest as a cavity created in an old Douglas fir by a broken top, sheltered by a stovepipe leader. Their habitat requirements for roosting are slightly less selective, though they still require multiple layers and a solid canopy to provide cover from predators like goshawks—as well as from the weather.

“For non-migratory birds, they’re not very efficient thermal regulators,” Tim says. The multiple stories of an old growth forest provide additional layers of insulation.

When foraging at night, while their predators sleep, the spotted owls are somewhat less particular about the forests they fly through. They’re generally hunting flying squirrels, which nest in side cavities and provide more calories than voles or wood rats.

Finally, the dispersal of fledglings requires a single canopy for cover and ample space between trees. Even then, the young owls face long odds. After they fledge, they remain in the nesting grove until the end of summer, when the parents finally stop feeding them. With winter coming fast, survival rates are low. If they’re in fragmented habitat, they’re more vulnerable to birds that thrive along the edges, such as Great Horned owls and, increasingly, the barred owls.

Having evaluated spotted owl habitat in the Andrews, as well as in the Late Successional Reserve at Fall Creek, Tim is concerned that the Forest Service may be blurring the distinct habitat requirements.

“Forty percent canopy may be good enough for foraging,” he says when I describe the Nugget unit, “but if there are no roosting areas nearby, what good is it?” It’s simply not worth the energy expended for an owl to travel too far from home.

While Tim is pleased to see the Forest Service building habitat protection into its land management policies, he points out that thinning operations do not perform the same ecological function as natural disturbances.

“In a natural disturbance, the biomass stays on site,” he explains, while thinning operations removed much of the downed material. I try to imagine a forest shaped by a steady withdrawal of lumber, particularly when the sites are logged every forty years. Thinning may allow sustained timber harvest at a lower ecological cost, but it’s no substitute for what happens in an intact forest.

I think back to the downed trees I saw along Lookout Creek, especially up on the Old Growth Trail. Among the ancient trees and silver columns of old snags, dozens of fallen giants were scattered like jackstraws. I had never seen so much dead wood. Maybe the steep descent to the creek was a factor, though it’s not unheard of to find old-growth stands where a quarter of the surface area is covered by fallen trees.

This is where the real work happens. Each falling tree, as it crashes through its neighbors, creates openings for new growth, and the variety of age groups maintains the conditions that inhabitants like the spotted owl have evolved in. Studies from the Andrews show that there is more life in a rotting log than in a live tree, when we consider all the organisms feeding on it. Each downed log, each snag, creates habitat—not only for mammals and birds, but for invertebrates who transform dead wood into rich soil.

For years I wore a pendant featuring Yggdrasil, the Norse tree of life. The stout trunk of the stylized tree unfolded into a fan of branches that stretched up and out, then down and around to eventually become the braided roots of the same tree. It was the Oregon silver-worker, more than any Norse bard, who deserves credit for such a precise symbol of the cycle that joins the living to the dead. The lesson is clear: healthy forests are defined as much by what the dead can offer as by those trees still swaying in the sky.

* * *

The clouds are just passing through on my last day at the Andrews, a few puffballs easing north. The sun feels so good on my face and arms that I leave my clothes on the gravel shore of Blue River Reservoir. Between my shallow dives and clumsy strokes, I wash away the calamine splotches from my chest and arms, then sun myself dry against a silver log.

It's the first Friday past Memorial Day. The boaters and campers have yet to return, so it's just me and an osprey rising from the sparkles. Despite a tidy gap along the ridge across the reservoir—an old clearcut growing back—it's a beautiful spot.

Drying from a swim in an artificial lake, watching the forest recover from an artificial disturbance, I think of those logs decomposing in orderly rows, and the snags fashioned from perfectly healthy trees. Beyond the remarkable old growth of Lookout Creek, I realize, there's an awful lot of human manipulation going on here.

Then again, since we've managed to disrupt the very climate of the planet, there's no place on earth left undisturbed, as Bill McKibben famously noted.

History seems to tell us that human societies, once beyond a certain size, can't help but disturb the landscape. We've seen the evidence from Sumer to Cahokia to melting icecaps. Some might even suggest that there's nothing unnatural about such disturbances. After all, we're just one more species fulfilling our needs.

Yet other mammals remain woven into their habitats by local calories, minerals, and water, returning to local soil the nutrients in their waste and, eventually, their bodies. We've done our best to insulate ourselves from natural systems. We rely on someone someplace else to grow our food, mine the copper in our computers, and provide the wood that keeps us dry. We've decided that the good life requires far more than meeting our basic needs and we're glad to remain oblivious to the consequences. Factory farms. Open-pit mines. Clearcuts.

I think back to another clearcut, another time. Shortly before my oral exams at the University of Oregon, I drove south past the dusty town of Wilbur, where my grandpa once ran the general store behind a pair of gas pumps, then turned east to follow the Umpqua River into the mountains. I hoped a change of scenery might allow the scores of books I'd been reading to settle into some pattern. I was also in need of context: a world big enough to remind me how insignificant those exams really were.

After a soak in the hot springs I went searching for a camping spot, grinding up the logging roads in my little truck, slowing for each herd of elk I passed. Looking for a sunny spot to burn away the chill of a Willamette Valley spring, I eventually saw that my only hope was to camp in a clearcut—not too fresh, but not yet overgrown. It wasn't what I had in mind when I left Eugene, but night was coming. Soon I had my camp set up, and I spent the last hour of daylight chewing rehydrated beans and rice from the pot, looking northwest toward where Eugene hid behind the foothills.

Once the sun disappeared, the mountains cooled quickly. Wanting to watch the full moon rise, I grabbed a wool hat and wrapped myself in a sleeping bag. The stars sizzled in the deepening sky, but after a while I grew chilly and impatient for moonrise. At last I noticed that the very edge of the next ridge had begun to shine. I turned behind me, but saw no sign of the moon.

Turning back, looking again downhill, I watched the band of light along the next ridge slowly widen as the shadow of my own ridge sunk at a nearly perceptible rate. I looked behind me: still no moon, but the sky had begun to lighten above the trees.

Soon the whole ridge ahead was shining brightly and over the course of a magical half-hour I watched the shadow of my ridge crawl out of the valley and up the hill toward me, becoming more defined the nearer it came until finally, against the exposed earth of the clearcut, I could clearly see the serrated edge of the shadow. I turned again and found the forested ridge in silhouette against a shining sky, but still no moon.

No, for that I had to wait until the ridge's shadow finally slid up and over my feet, my knees, my belly, and then I turned my face to the moonlight.

That moment, as the light washed over me, was a cleansing. Each tree below, each stump on that hillside, was likewise illuminated, and I found myself wondering: how do elk perceive such a flood of moonlight? Do they wake and glance nervously about, breath steaming in the bluish glow? What is it like for the owls, gliding above the suddenly silver boughs?

Then it struck me: as powerful as that moonrise was for me, away from the city for a few days, the creatures that live here experience every moonrise, month after month. Those elk and all their neighbors are perfectly at home in the slow sweep of moon-shadow, in the curtains of rain that rattle through, in the brightening of each dawn. *That* is the world they live in—and I understood, with moonlit clarity, that it's the world we live in as well.

We would know it is our world if we weren't so insulated by the many layers of our technology. How many of us even notice the moment the moon rises above our rooftops? Oblivious to the world as it is, we close our doors and draw the curtains, slide up the needle on the thermostat, and turn our faces to the lesser worlds of our own making.

But even if we did collectively remember the world as it is, even if we owned up to the consequences of our unexamined lives, could we hope to limit our impact enough to strike a balance with the needs of other beings? No, the best we can do, at least for now, is to interfere in less damaging ways.

Maybe someday soon we'll reduce our demand for timber, finding more pleasure in less stuff, building our homes from cob or stone or straw, our shipping pallets from milk jugs. Maybe someday we'll meet our remaining need for timber through the sort of artisanal forestry that flourishes in places like Wisconsin's Menominee Forest and the Vermont Family Forests. Maybe then the jobs in our timber communities will reclaim the craft of forestry: the judgment to know which trees to leave standing. The skill to drop and skid trees with least damage to their neighbors. The luxury to find the best use for each tree's unique form.

There are small choices we make every day—in our homes, at the store—that can help bring such visions to pass, and there are larger actions, too. People in the West, through ballot initiatives, can demand state laws that outlaw steep-slope clearcutting even on private lands. We can continue to fund the science that helps us see the forest beyond the trees. And maybe most importantly, as we struggle to remain hopeful, we can avoid taking for granted the very real progress we're making.

Twenty years ago a clearcut wasn't only a symbol; it was business as usual. Twenty years ago few people had ever heard of the northern spotted owl, and even fewer understood her importance. How much has changed in the space of a generation! Without the hindsight of our readers in 2203, there's no way to know exactly where

we're headed—but we'd be fools to ignore the signs that, for now at least, we seem to be moving in the right direction.