COLUMBIA LAND TRUST

Fieldbook

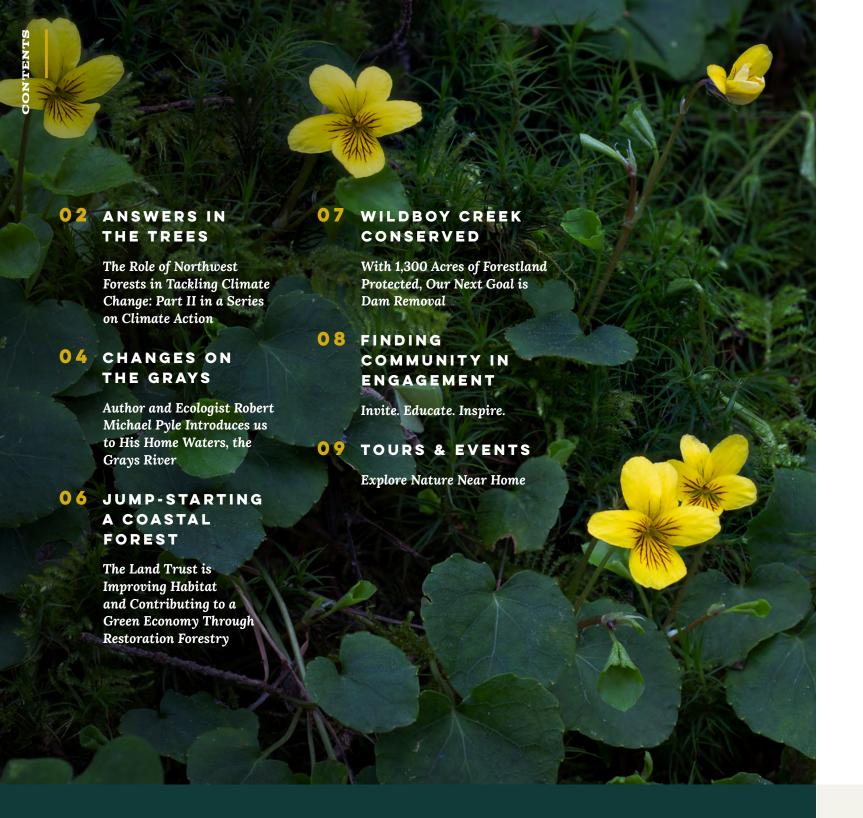
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Conserving and caring for vital lands, waters, and wildlife of the Columbia River region through sound science and strong relationships.





Columbia Land Trust conserves and cares for vital lands, waters, and wildlife of the Columbia River region through sound science and strong relationships.

Columbia Land Trust has earned accreditation from the Land Trust Alliance, which recognizes land trusts that adhere to national standards for excellence, uphold the public trust with rigorous ethical standards, and take steps to ensure that conservation efforts are permanent.



Cover photo: Black bear. Photo by David Moskowitz Inside cover: Evergreen violet. Photo by Lenkerbrook Photography Opposite: Steller's jay and lichen

In Search of Symbiosis

Just one step out my door I encounter a creature whose ancestors first appeared on Earth 400 million years ago. Chances are, you too will find it nearby, on a concrete wall or sidewalk; after all, it covers about six percent of Earth's surface.

Technically, lichen is made up of two organisms: algae and fungi. In dry conditions where they would otherwise die, algae take advantage of fungi's protection. In turn, fungi take advantage of algae's ability to create sugar to grow. The curious thing is that algae and fungi don't join together unless conditions for each are extremely adverse. Adversity is where they thrive, together.

When I step outside these days, things certainly feel adverse as a human. In a matter of weeks, this virus circled the Earth, bringing us all to a crushing stop. Unlike the attraction-during-adversity that creates lichen, current health care directives instruct us to retreat and isolate ourselves from one another. Where is the symbiosis in that?

And yet empathy creates connections that overcome physical separation. We all have vulnerable friends and family. We all understand how the marginalized in our society are even more at risk. It is amazing to consider how quickly nearly everyone on the globe changed their lives. In this capability I find hope. We will succeed in this crisis only if we mutually thrive. We know this now more clearly than ever.

How do we harness this sense of responsibility for our collective well-being in order to address issues like air and water pollution, the lack of access to local healthy food, species extinction, and a changing climate? Each of us must play a part.



"The curious thing is that algae and fungi don't join together unless conditions for each are extremely adverse. Adversity is where they thrive, together."

Columbia Land Trust has spent 30 years developing strategies and relationships to do just that. We uncover the values core to our mutual thriving. And we are continuing this work throughout this crisis.

Every day, behind the scenes, our work provides important benefits to the human as well as the non-human. And every day your support quietly makes this work possible. You are part of a great symbiosis.

Glenn Lamb, Executive Director



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(75-year-old stand) Distribution 66% Live tree 12% Standing and down dead wood **6%** Understory and forest floor



where tightly packed trees burn more intensely than they

Like most aspects of our iconic Northwest forests, the biology and accounting behind forest carbon is complex. That said, climate change is already impacting our lands and our communities, from the movement of pests that threaten our crops and forests to warmer river temperatures to more severe floods and droughts. The immediacy of this challenge demands we learn and evolve quickly, with discernment and purpose.

"Climate change is something I think about constantly. If we don't address it, we can't protect the lands and wildlife that take care of us," says Mendoza. "Conserving forests gives us a large role to play, and a tangible action we can take to make a difference in this existential crisis."

Amidst the isolation and anxiety of a pandemic, Mendoza has found solace in the forests near her home in Astoria. In an era of immense uncertainty, forests remain an invaluable source of answers. *

- a | Moss-covered conifer tree in a recently conserved forest at Wildboy Creek. Photo by Lenkerbrook Photography
- b | Logging equipment at a restoration forestry project at Pine Creek, near Mount St. Helens

Answers in the Trees

The Role of Northwest Forests in Tackling Climate Change: Part II in a Series on Climate Action

BY JAY KOSA

ore and more, we're reading about how trees can be a solution to climate change. (We wrote about it in the previous issue of Fieldbook, in fact.) The topic has generated a number of questions about what trees can do, what they can't do, and how we can best go about working with forests as a climate solution strategy. To answer these questions, let's start with the basics.

We are connected to trees—and, really, most plants—by the carbon cycle. You might remember from biology class: we breathe in oxygen and breathe out carbon dioxide. Trees and other plants photosynthesize, absorbing sunlight, water, and carbon dioxide to make sugars, some of which are stored as structural material, including wood. Carbon is stored within these structures until they decompose, burn, or are other-

"By conserving older forests and old-growth forests we protect the carbon they've stored along with wildlife species that can't survive anywhere else."

> Unfortunately, we've tipped the global scales of this cycle far out of balance over the past 170 years by burning fossil fuels and emitting carbon dioxide and other greenhouse gases in order to power our modern lives.

> There are two ways to restore some semblance of balance to the carbon cycle: reduce emissions from fossil fuel use and increase the carbon-absorbing power of forests and other plant-rich landscapes. Both methods are needed. We call the latter approach a "natural climate solution."

Forests, especially the verdant, fast-growing forests of western Oregon and Washington, already provide a number of benefits before even taking carbon storage into account, including wood products, forestry jobs, world-class recreation, wildlife habitat, and clean air and water. "People manage forests for and paper products, which will decompose rapidly. When tracking carbon tied to forestry, it's important to also consider the carbon emissions associated with machines used to cut, haul, and mill timber. Given our current understanding of forest carbon, how can Columbia Land Trust best leverage the carbon-storing power of our Northwest forests? Should we stop cutting and leave our forests alone? Should we harvest forests more rapidly

multiple purposes," says Lydia Mendoza, conservation lead

with Columbia Land Trust. "Carbon sequestration is one of many crucial values that forests can provide." Leveraging

the carbon-sequestering power of forests involves balancing

Carbon accounting, though, as Mendoza notes, is not an exact science. This is certainly the case when we examine

the carbon implications of forestry. Forest practices vary by

entity, end product, tree species, topography, and geogra-

phy. In general, trees harvested for structural lumber (wood used as building material) hold sequestered carbon for longer periods of time than trees used for other wood products.

That said, not all of the tree material in a forest will become

structural lumber. A large portion of it will remain on site in

the form of residual limbs, tops, foliage, stumps, and roots,

or the harvested material will become processed into pulp

values and evolving as we learn.

and plant new trees to sequester even more carbon? Neither extreme is practical. For us, blending knowledge about forest carbon into our long-standing conservation values is already informing which lands we prioritize conserving as well as how we manage the forests we already steward.

On the ground, this could look like thinning forests and giving the remaining trees room to grow faster, adding in more diversity of tree species and age, and extending harvest rotations from every 35 to every 70 years. This approach both supports forest-dependent jobs and puts timberlands on a trajectory toward becoming more complex, with structure and tree species that serve wildlife and carbon sequestration well. In some cases, they may become old-growth forests.

It was once argued that old-growth forests were poor at sequestering carbon because centuries-old trees don't photosynthesize or grow much compared to younger trees. In reality, old-growth forests-which have already trapped a tremendous amount of carbon not only in standing trunks and limbs but also in roots, in material on the forest floor, and in forest soil-continue to sequester carbon for many decades or even centuries. By conserving older forests and old-growth forests we protect the carbon they've stored along with wildlife species that can't survive anywhere else.

When practicing conservation forestry on younger forests, fire is also a consideration, and at times a point of contention. Mendoza reminds us that no forest should be managed solely for carbon, and that thinning trees can be an important strategy in managing fuel load, preventing conditions

Changes on the Grays

Author and Ecologist Robert Michael Pyle Introduces us to His Home Waters, the **Grays River**

BY JAY KOSA

c | West Fork Grays River d | Covered bridge spanning Grays River. Photo by Cheryl Links e | Land Steward Austin Tomlinson and coastal Conservation Lead Lydia Mendoza explore older forest stands along the Grays River

n a time of travel blogs and Instagram influencers, it can feel as if the secret places of the Pacific Northwest have all been shared. Yet, despite being just two hours from Portland and three from Seattle, the Grays River still flows in relative obscurity. The Grays drains a 90,000-acre watershed from the broad emerald valleys of the Willapa Hills to the Columbia River, just 20 miles east of the Pacific Ocean in Southwest Washington. This is timber country-home to a few thousand people and millions of trees.

Robert Michael Pyle is one man to whom the Grays River has become quite familiar. On a sunny summer day in 1978, Pyle was conducting research on Washington butterflies when he ambled down the west fork of the Grays River along a logging road. Before returning to Portland on Route 4, he ventured to the covered bridge across the Grays. Looking up, he saw one of the picturesque verdant valleys that he'd fallen in love with over the course of this fieldwork. He also spied an old house with a for sale by owner sign and decided it'd be as good a place as any to call home.

Forty-two years later, Pyle still looks out daily upon the Grays, a lepidopterist (butterfly scientist) living happily in one of the loneliest, rainiest places in the country, which also happens to host fewer butterflies than almost anywhere else he's been. We caught up with Pyle-who in addition to being an ecologist is an accomplished author and essayist-to learn a little more about the changes he's observed during his years on the Grays River.

"There are lots of reasons why I've stayed here," Pyle says. "I love it dearly. Every day I go outside and I can be surprised. I can encounter wildlife and natural history delights outside my door. The low population, very good water and air, and the sense of community, which is kind and thoughtful. I've grown deeply invested in this place."

Pyle observes that in some ways Grays River has changed little since his arrival. Wahkiakum County, where the lower river system resides, is home to an estimated 4,500 people, which is just now exceeding its 1940s peak in population. The biggest change he's observed is in the character and consistency of its iconic forests.

The watershed's geology and climate-uplifted seabed and some of the highest precipitation levels in the lower 48 stateslong ago gave rise to some of the world's grandest temperate rain forests. The region was home to ancient giants: western redcedar, Sitka spruce, hemlock, and bigleaf maple.

In the 1880s, European settlers began harvesting the forests, and both world wars drove demand for strong, lightweight spruce timber in order to build airplanes. Much of the oldgrowth in the Willapa Hills was gone by the end of the 1950s. While most of the remaining old-growth fragments have now

been conserved, the abundant and diverse second-growth forest that Pyle found here in the '70s and '80s was virtually liquidated in the 1990s. Today, more than two-thirds of the watershed is private industrial forestland.

On the Grays River itself, Pyle has seen changes for the better and for the worse just beyond his window. The river is highly productive for fish, hosting spawning grounds for primordial lamprey, eulachon, sturgeon, steelhead, and chum and coho salmon. Throughout history and to this day, these fish are culturally important to the area's indigenous communities, the Chinook Nation and the Cowlitz Indian Tribe. For chum, which seek cold, gravelly waters and can't leap up cascades as well as other salmon, the Grays is the most important river in the entire Columbia River Basin.

WASHINGTON

OREGON

• Long Beach

Because the Willapa Hills are low in elevation, the river is not reliant on snowpack and will be more resilient than most as

> "Pyle has learned to find beauty in the reality before him: resilient, if damaged, landscapes with the potential to transform into something new and different."

the climate warms. However, the soils of the steep hillsides are highly erodible, and without old forests to soak up water, heavy rain events now lead to frequent flooding and heavy siltation, which affects the community downriver.

While Pyle has noticed the sedimentation and flooding with concern, he's also observed signs of restoration over the years. Columbia Land Trust has conserved more than 1,000 acres in the Grays River watershed, much of it near the mouth of the river at Grays Bay. The Land Trust has spent the last 20 years restoring swaths of the lower river's historic tidal floodplain, returning lowlands back to Sitka spruce swamp habitat benefitting salmon, waterfowl, and other wildlife.

Today, when climate change and species loss threaten every aspect of our Northwest way of life, the Land Trust looks to the Grays River watershed. Based on conversations in Wahkiakum County communities, we see unique opportunities to promote shared values, such as sustainable forests, a thriving local forestry economy, healthy fish and wildlife

populations, and less frequent and severe floods. We see op- d | portunities to collaborate with local governments and tribal partners to protect natural, cultural, and historic resources.

Pyle finds himself in familiar surroundings during a global pandemic, a uniquely lonely time in modern history. Yet the Grays River and its covered bridge are constant neighbors. He also doesn't mind the dearth of butterfly species to observe. "You can become blunted by sheer abundance," Pyle says. "I enjoy the butterflies that are here. I take great pleasure in every individual that I see."

At a time when pristine old-growth forests are confined to scant reserves and wild, untouched rivers reside mainly in our imaginations, Pyle has learned to find beauty in the reality before him: resilient, if damaged, landscapes with the potential to transform into something new and different. Leave it to a butterfly guy to find metamorphosis in unlikely places. 3

Read more about the Grays River watershed in Robert Michael Pyle's books, including Wintergreen: Rambles in a Ravaged Land (2015 edition, Counterpoint Press) and Sky Time in Gray's River: Living for Keeps in a Forgotten Place (new edition expected in January 2021, also from Counterpoint Press), as well as in the upcoming project The Tidewater Reach: Field Guide to the Lower Columbia River in Poems and Pictures (with Judy VanderMaten, Columbia River Reader Press). Support your independent bookstores in this time of crisis; many are surviving by selling new and used books online. Lastly, keep an eye out for the feature film The Dark Divide, adapted from Pyle's book Where Bigfoot Walks-release dates are in flux.



JUMP-STARTING A COASTAL FOREST

The Land Trust is Improving Habitat and Contributing to a Green Economy Through Restoration Forestry

BY JAY KOSA

sk a Pacific Northwest timber crew to cut Douglas-fir first and leave spruce, hemlock, and alder standing, and you're bound to get some quizzical looks. That was the case last October for Austin Tomlinson, Columbia Land Trust's land steward on the coast, when he described the plan for a forest along the east edge of Willapa Bay.

Tomlinson was standing on 100 acres of forest that the Land Trust cares for along the Nemah River, prescribing a plan for thinning a stand of trees previously planted as commercial timberland. Young to middle-aged forests like this one extend all across the Oregon and Washington coasts, and thinning is typically directed to ensure Douglas-firs grow quickly for a maximum harvest. For the Land Trust, the goal is a bit different.

Working with Curtis Hill Forestry out of Chehalis, Washington, Tomlinson guided a process aimed at creating a diverse forest—one that would eventually feature hemlock, spruce, alder, maple, and Douglas-fir at various heights and ages, with some trees rotting on the forest floor, supporting other plants as well as wildlife.

"The crew was awesome and incredibly efficient at felling 60-foot trees," says Tomlinson. "It was fun to see them grow more excited as they took the opposite approach of a typical job, removing trees in a more creative way." The crew thinned a 33-acre stand that featured roughly 600 to 900 trees per acre. Forests this dense tend to become "locked up," meaning none of the trees grow fast because they can't individually garner enough resources to thrive. Almost nothing grows on the dark forest floor. Our work to thin the trees to 220 per acre let in light and helped jump-start the stand's journey toward a diverse, complex, mature forest.

Wood from the thinned trees was used to create 123 wildlife piles. At 4 to 6 feet tall and 10 feet in diameter, the piles offer valuable shelter for small mammals, such as weasels, squirrels, and voles, as well as perches and cover for songbirds. As birds perch on the piles, they deposit seeds and help bring back a lush vegetation layer to the newly sunlit forest floor.

Tomlinson hopes to learn as much as possible from this pilot effort for future coast projects. He'll be monitoring changes in plots over time, tracking the rates at which trees grow taller and their crowns grow as well as the rates at which felled trees decay across different prescriptions. "This is a great example of what we hope to do more of on the coast," says Tomlinson. "Restoration forestry creates new economic opportunities while offering better habitat for wildlife." "





"Our work to thin the trees to 220 per acre let in light and helped jumpstart the stand's journey toward a diverse, complex, mature forest."

This project was funded by a USDA Natural Resources Conservation Service's grant for forest stand improvement.

- f | The Nemah River area is home to a variety of wildlife, including bear, elk, smaller mammals, and songbirds. Photo by David Moskowitz
- g | The Curtis Hill Forestry crew at work



Lenkerbrook Photography

WILDBOY CREEK CONSERVED

With 1,300 Acres of Forestland Protected,
Our Next Goal is Dam Removal

BY KARLEY GAUTHIER

n the headwaters of the Washougal River, surrounded by a patchwork of dense forests and clear-cuts, rests a serene lake formed by Kwoneesum Dam. The 55-foot-tall, 425-foot-wide dam endures, decades since the lake last served as a recreation site for a girls' camp. Sediment builds up behind the dam, and the shallow lake acts as a hot tub, warming water before it flows over the spillway into Wildboy Creek. Today, we are one major step closer to changing all that.

In late March, Columbia Land Trust successfully conserved 1,300 acres of forestland at Wildboy Creek, including Kwoneesum Dam. We acquired the land in order to remove the dam in partnership with the Cowlitz Indian Tribe and restore the watershed for salmon and steelhead.

For the region's rivers and forests, the goal of both partners is a return to a more natural state—a place where water once again meanders as it did for millennia, a place where salmon once again reach their ancient spawning grounds, a place where wildlife thrive, a place integral to the unique identity of the Cowlitz people.

Now that the land is conserved, we anticipate beginning the dam removal process with the Cowlitz Indian Tribe in the summer of 2022, pending the necessary permits. In addition, the Land Trust will implement a conservation forestry approach that combines forest practices with watershed health, contributing to regional jobs, mills, and tax revenues. The forest has been closed to the public and will continue to be closed during the dam removal and restoration work along Wildboy Creek. Ultimately, the Land Trust plans for the land to be open for walking and quiet enjoyment as well as hunting and fishing. §

Gratitude

The conservation of Wildboy Creek was made possible through grants from the Open Rivers Fund, a program of Resources Legacy Fund supported by the William and Flora Hewlett Foundation, as well as funding from Washington State Department of Ecology's water quality program, Washington's Salmon Recovery Funding Board, the M.J. Murdock Charitable Trust, and a program-related investment loan from the David and Lucile Packard Foundation, plus through generous DONORS LIKE YOU. Your support allows for not only the conservation of irreplaceable places like Wildboy Creek but also their ongoing stewardship and restoration. THANK YOU.

FINDING COMMUNITY IN ENGAGEMENT

Invite. Educate. Inspire.

BY DEZ RAMIREZ

t's 2020, and we are in the midst of a global public health crisis. As we stay home and figure out how to do our jobs (those of us who are fortunate enough to still have one) from our living rooms, kitchen tables, or perhaps with a small child on our lap, it's an interesting time to think about our health and needs, and the health and needs of those around us—our communities.

As an organization that sees relationships as foundational to the success of its conservation work, we've spent the past few years asking ourselves a pretty big question: How *do* we engage with communities?

We're not alone in this quest for knowledge. Land trusts across the U.S. are asking this very same question, with good reason. Climate change, population growth, national political turmoil, and stress—this is a very intense time to be alive! It is also an amazing time to be a conservationist.

Relationships involve people, and people are going through a lot right now. In order to keep integrity at the heart of our relational work, it's important to get a better understanding of how to meet people where they're at. Not just those who have traditionally been a part of conservation work but also those who are affected by it and have been overlooked.

As Columbia Land Trust develops a community engagement program, we enter a new chapter of work with three desires at heart: to invite, to educate, and to inspire.

Who's at the table when we strategize land acquisition, and have we practiced a spirit of inclusion by not only extending the invitation but also asking those who attend to be a part of the decision-making process? Conservation work presents itself in different ways to different people—have we educated ourselves enough when it comes to stewardship practices and impact? Are we giving people foundational knowledge on climate change and how they can act for the

"Perhaps it is more important to be in community, vulnerable and real and whole, than to be right, or to be winning."

-Adrienne Maree Brown, Emergent Strategy



good of the planet? Are we inviting conversation and dialogue on the many layers of our work, and listening to how we can do better? We want to inspire the next generation of conservationists to conserve land "in perpetuity," but are we asking them what they need in order to succeed?

The questions can go on, but that's a good thing. It means we are evolving as our conservation work evolves.

As we look to continue conserving precious lands, waters, and wildlife, we also keep in our minds and hearts the people who exist within those landscapes. We hope to build strong partnerships and community-led programs with groups that prioritize the well-being of their people. We hope to be inclusive and to be humble as we seek to understand how to show up for our black, indigenous, and people of color communities; LGBTQ+ communities; and disabled communities.

Stay tuned as we develop and roll out conversations, gatherings, and programs that will uplift and center on our communities, and will also contribute to the greater good of both conservation and social impact. Until we meet again (in person hopefully), here's a quote from Adrienne Marie Brown, author of Emergent Strategy, a wonderful book that's sitting on the shelf of the Columbia Land Trust lending library:

"Perhaps it is more important to be in community, vulnerable and real and whole, than to be right, or to be winning." *

j | Vamos afuera: a spring 2019 wildflower hike with Comunidades, a group of emerging Latinx environmental leaders based in Portland and the Columbia Gorge







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Conservation is Forever

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A gift in your Will is a way to ensure you keep protecting the Northwest you love.

We all have a place in nature, and we all have a role we can play in taking care of the lands, waters, and wildlife that take care of us. Conserving lands important to both people and nature. Protecting wildlife at risk of being lost forever. Providing clean water for drinking, recreation, and habitat.

With a gift in your Will, we can carry on protecting these lands, and everything that depends on them, long into the future.

For more information about making a gift to Columbia Land Trust, contact us: Keith Daly, our advancement director, is available to answer any questions you might have. Keith is passionate about conservation in the Northwest, and can tell you more about how to make a gift and how it will be used. (360) 213-1203 kdaly@columbialandtrust.org

www.columbialandtrust.org/wills-trust-gifts

Bald eagle. Photo by Brian Chambers Photography

