

FOREST DEFENSE IS CLIMATE DEFENSE

CONNECTING FORESTS, CARBON, AND CLIMATE CHANGE





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INTRODUCTION

Global climate change presents perhaps the most profound and complex challenge the human species has ever faced. Climate change is already having a measurable impact on Oregon's forests, watersheds, and treasured wild places, and as the planet continues to warm at an unprecedented pace, we will continue to see significant impacts to Oregon's economy, communities, ecosystems, and our way of life.

In recent years, Oregonians have been talking more about ways to reduce the carbon emissions from our energy and transportation sectors; however, notably absent from these conversations is Oregon's largest source of carbon emissions: logging. Recent research, including a groundbreaking study from Oregon State University, shows that Oregon's logging industry emits more carbon into our atmosphere than any other sector.



The single biggest step Oregon can take to combat climate change is to modernize our forest management laws. If we do this, and protect our public lands, the sprawling forestlands that blanket half of our state could become an invaluable asset in mitigating and adapting to climate change. This report highlights two main ways that our state can reduce carbon emissions from logging and increase our forests' natural capacity to capture and store carbon:

1. Modernize Oregon's outdated logging laws to reduce clearcutting and encourage climate-smart practices
2. Permanently protect our remaining old-growth forests and encourage forest restoration on our public lands.

By taking these steps, Oregon can dramatically reduce its carbon emissions, create a stronger and more sustainable economy, and serve as a leader to other forested parts of the world.

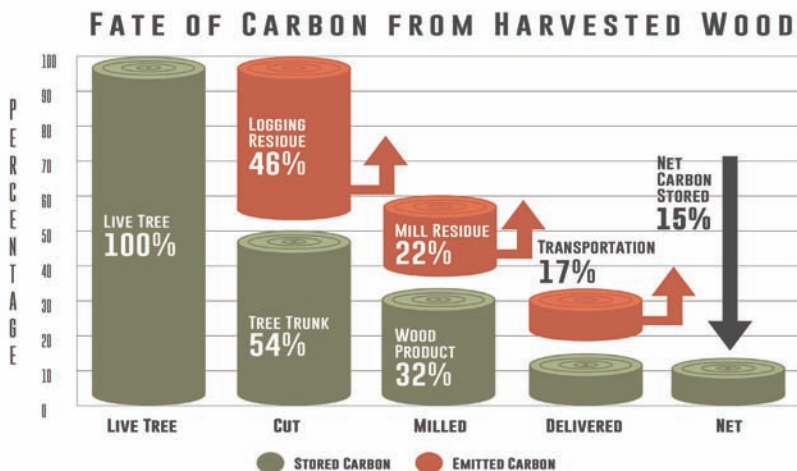
FOREST-CARBON 101

Forests are among the largest stores of living carbon on the planet, and it turns out that the forests of western Oregon have a higher carbon density than almost any other forest type in the world. Unfortunately, the destruction and mismanagement of these forests over the past century has transferred massive amounts of stored carbon to the atmosphere, which has contributed significantly to the warming of the planet. We can't change the past, but the policy choices we make today will either continue to make forests a part of the climate problem, or ensure that they are part of the solution.

HOW DO TREES STORE CARBON?

Carbon is one of the building blocks of life. As forests grow, trees intake carbon from the atmosphere to build living structures and store it in their trunks, bark, branches, and extensive root networks. This natural process, known as “carbon sequestration,” converts carbon dioxide from its gaseous state into a solid that remains safely stored for long periods of time.

Oregon's oldest forests are particularly good at capturing and storing carbon, and they continue to absorb carbon even after tree growth appears to have slowed. The logging industry has falsely claimed that fast-growing young forests are better at absorbing carbon; however, research shows that old forests store far more carbon. Logging older trees and replacing them with younger ones emits tremendous amounts of CO₂ and creates a “carbon debt” that takes many decades or centuries to repay.



LOGGING: OREGON'S BIGGEST CLIMATE POLLUTER

Unfortunately, a century of industrial logging practices has eliminated most of Oregon's original old-growth forests and disrupted this natural carbon cycle. Logging kills trees, stops them from growing, and accelerates the transfer of carbon from the forest to the atmosphere. Our carbon-intensive logging practices make the timber industry Oregon's largest source of global warming emissions.

To understand where all this carbon comes from, you need to look at the entire lifecycle of wood products. When a forest is clearcut, the branches, tree tops, and other logging residue left behind is usually burned or left to decompose. This process quickly releases large amounts of carbon that would have otherwise remained stored in the forest for many more years. There are also significant carbon emissions from the fossil fuels burned by logging equipment and log trucks. Once logs reach a mill, even more carbon is lost as the wood is processed and cut into two by fours and lumber. By the time wood products reach their end destination, only a fraction of the original carbon from the forest remains.

On top of all these emissions, logging destroys the living machinery that removes carbon from the atmosphere. The forest eventually regrows, but there is a significant pause in the forest's natural capacity to capture and store carbon, which further exacerbates climate change.

HOW SIGNIFICANT ARE EMISSIONS FROM WILDFIRE?

Despite their impressive smoke plumes, Oregon's wildfires are not major sources of carbon emissions. Researchers with Oregon State University have estimated that between 2011–2015, forest fires only accounted for 4% of Oregon's total carbon emissions each year (see graph page 5), whereas logging accounted for roughly 35%. In fact, forests hold on to the majority of their stored carbon even after severe wildfires, as long as the standing dead trees (snags) are not targeted by so-called "salvage" logging.

The reality is that wildfire has always been an essential and unavoidable element in our forest ecosystems, so eliminating emissions from these fires is both unattainable and ecologically harmful. Instead, we must focus our efforts on anthropogenic carbon emissions such as clearcut logging and rampant fossil fuel use, which are the actual causes of climate change.

SOLUTION #1

MODERNIZE OREGON'S LOGGING LAWS

In Oregon, about 40% of forestland is owned by logging corporations, family foresters, the State of Oregon, counties, and tribes. Those lands are governed by the Oregon Forest Practices Act, or OFPA, first passed in 1972. Although Oregon was one of the earliest states to adopt a Forest Practices Act, researchers have learned a lot about how logging impacts wildlife, water quality, stream-flow, carbon storage, and forest health in recent decades. While the OFPA has had minor updates over the years, it has been slow to adapt forest practices to adequately conform to science.

Today, Oregon has the weakest logging rules in the region. The neighboring states of Washington, California, and Idaho all do more to protect streams and communities from the impacts of logging practices like clearcutting and the aerial spraying of herbicides. In fact, logging corporations seem to be headed in the opposite direction of the best available science and what is needed for Oregon to have resilient forests that store carbon.

OREGON HAS
THE WEAKEST
LOGGING RULES
IN THE REGION.

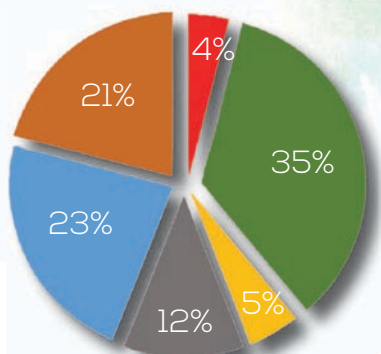
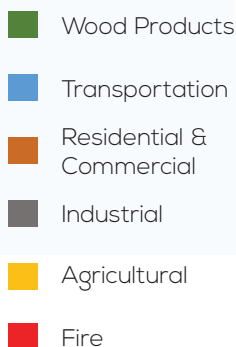


PROTECTING FORESTS PROTECTS OUR CLIMATE

Oregon's logging laws present an enormous opportunity for the state to not only prioritize resilient forests over corporate profits, but also become a leader in applying the best available science to combat climate change. Researchers and forward-thinking foresters have already laid the groundwork. Recommendations to modernize Oregon's logging laws include:

- **LET FORESTS GROW LONGER BETWEEN HARVESTS.** Growing forests for 80-100 years instead of 30-40 years before harvest will allow them to accumulate and store more carbon on the landscape and reduce the many other adverse effects of clearcutting.
- **LEAVE MORE LIVE AND DEAD TREES IN THE FOREST AFTER LOGGING.** Green trees, snags and down wood will help store carbon and mitigate the effects of logging (and climate change) on wildlife.
- **PROTECT STREAMS AND RIVERS.** Larger buffers of intact forests on the sides of streams and on steep slopes will help forests store carbon and protect waterways from the effects of climate change, safeguarding both salmon and clean water.
- **ENCOURAGE BIODIVERSITY.** Currently, clearcut logging relies heavily on toxic chemicals to kill competing vegetation in tree plantations, killing native plants, harming wildlife, and endangering human health. Practices such as selective harvest, more restrictive herbicide use, and encouragement of diverse plant life can not only enhance biodiversity, but also lead to a forest more capable of storing carbon and more resilient to climate change.

OREGON'S ANNUAL CARBON EMISSIONS (2011-2015)



SOLUTION #2

PROTECT OUR PUBLIC LANDS

OLD-GROWTH FORESTS, OUR CLIMATE DEFENDERS

If we want to avoid the worst effects of climate change we need to both reduce carbon emissions as well as capture and store more carbon pollution from our atmosphere. It's becoming increasingly clear that the single biggest step Oregon can take to do this is by better protecting our forests, especially our public lands.

Oregon's old-growth forests are powerful carbon sinks that can help stabilize the climate through the uptake and storage of carbon for long periods of time. These forests also provide clean, cold water, support healthy soil, and provide essential habitat for wildlife. Unfortunately, after a century of aggressive industrial logging only a small fraction of original old-growth forests remain today.

OREGON NEEDS MORE PROTECTED FORESTS!

Oregon's remaining mature and old-growth forests are almost entirely found in our National Forests and Bureau of Land Management (BLM) public lands. These lands, which belong to all Americans, include some of the state's most treasured landscapes, such as Mount Hood and the Cascade-Siskiyou National Monument. Oregon's protected forests play a huge role in storing carbon and provide a natural refuge for plants and animals as the climate changes.



Here are some important ways we can ensure our public forests are part of the solution to climate change:

- **CUT LOGGING ON PUBLIC LANDS IN HALF.** In recent years, there have been numerous attempts to dramatically increase logging in our National Forests and other public lands; however, if we are to curb emissions from Oregon's most polluting sector we need to log our public forests less aggressively. A recent study by Oregon State University found that halving the amount of logging in our public forests would take a huge bite from Oregon's carbon emissions.
- **DESIGNATE MORE WILDERNESS.** Wilderness designation permanently protects public lands from logging and development, while preserving the public's ability to use the land for hiking, camping, hunting, fishing, and other activities. Oregon lags far behind its neighbor in protecting public lands. For example, only 4% of the state has been designated as protected Wilderness, compared to 10% in Washington and 15% in California. Congress should act to safeguard the additional four million acres of eligible wilderness in Oregon that remains unprotected.
- **DEFEND THE LANDS WE'VE ALREADY PROTECTED.** Logging corporations and their political allies frequently launch attacks on our National Parks and Monuments, Wilderness and roadless areas, and on the environmental laws that help protect our public lands. Defending the protected areas we already have, and laws like the Endangered Species Act, is vital to combating climate change.
- **RESTORE OUR FORESTS THROUGH ECOLOGICAL FOREST MANAGEMENT.** By utilizing the best available science and traditional ecological knowledge, we can restore the complexity and diversity of Oregon's forest ecosystems that have been severely damaged by past logging and fire suppression. Oregon's forests thrived for thousands of years while still providing valuable resources to the humans who lived in them. Restoring these forests will not only lead to greater carbon storage, but also make these stands more resilient to the impacts of climate change.

THE SINGLE
BIGGEST STEP
OREGON CAN
TAKE ON
CLIMATE
IS TO BETTER
PROTECT OUR
FORESTS.



ADAPTING TO CLIMATE CHANGE

Climate change is already having a measurable impact on our forests. Expanding protections for our public lands and reforming our outdated forest management practices would not only help us reduce excess carbon emissions, but would also help make Oregon's forest ecosystems more resilient to the impacts of a changing climate.

WATER

By protecting and restoring our forests, we can bolster the *resilience of our watersheds*. As the climate warms, Oregon will continue to see more precipitation falling as rain instead of snow, more floods and landslides, and more frequent and prolonged droughts. Healthy watersheds with low road density, mature trees, and intact stream buffers provide a natural system for slowing run-off, storing and filtering water, and reducing the risk of landslides. Mature and intact forests also provide shade that keeps streams cool and oxygenated for salmon and trout.

PLANTS AND ANIMALS

One of the best ways we can *help plants and animals adapt to climate change* is by expanding protections for public lands and creating habitat connectivity corridors. Large, intact wild areas, such as Wilderness, Monuments, and roadless areas, facilitate the migration of species to higher latitudes and elevations where they can find cooler areas or more suitable habitat. For example, the Cascade-Siskiyou National Monument in Southern Oregon links together several ecoregions and mountain ranges, and spans a wide elevation range, all vital in a changing climate.

FOREST FIRES

Fires are a natural part of Oregon's forests, but as the planet warms we are seeing hotter, drier summers and longer fire seasons. Studies show that old-growth forests are much *more resilient to forest fires* compared to young, dense tree plantations. Protecting these older forests, and using controlled burns to reduce the risk of unnaturally severe fires can help restore more natural forest structure and enhance their resilience to a changing climate.



TAKE ACTION

Oregon's forests offer a tremendous opportunity for storing carbon and mitigating climate change, but only if we modernize our logging laws and protect more of our public forests. Your elected officials need to hear from you about how we need to act on climate by improving the management of our forests!

1. CALL OREGON'S GOVERNOR TO HELP REFORM OREGON'S OUTDATED LOGGING LAWS

Oregon's timber industry adds more carbon pollution into the atmosphere every year than any other sector. Oregon's state and private forest lands can only reach their potential to combat climate change if state logging laws are reformed and incentives are created to encourage climate-friendly practices.

Call the Governor today! 503-378-4582

Find out about other ways to take action at www.clearcutoregon.com

2. URGE YOUR REPS IN CONGRESS TO PROTECT PUBLIC LANDS

Over the past few years, there have been numerous efforts to sell off our public lands and increase the scope and scale of logging in our public forests. One of the best ways to ensure that our forests continue to capture and store carbon is to reduce the rate of logging and permanently protect our forests as Wilderness.

Call your Senators and Congressional Representative today!

OREGON SENATORS

Sen. Wyden: **(202) 224-5244**

Sen. Merkley: **(202) 224-3753**

OREGON REPRESENTATIVES

Rep. Blumenauer: **(202) 225-4811**

Rep. Schrader: **(202) 225-5711**

Rep. Bonamici: **(202) 225-0855**

Rep. Defazio: **(202) 225-6416**

Rep. Walden: **(202) 225-6730**



Oregon Wild works to protect and restore Oregon's wildlands, wildlife, and waters as an enduring legacy for future generations.