

# Riparian Reforestation Plantings

## Natural Solutions to Climate Change

### What are natural climate solutions (NCS)?

Natural climate solutions are actions which protect and restore ecosystems and improve land management to better avoid greenhouse gas emissions and enhance carbon storage.

Riparian reforestation – restoring trees to habitats along streams and rivers where they historically existed and have been degraded or lost – contributes to climate action by helping to remove carbon from the atmosphere and store it in the riparian plantings.

Riparian plantings are a common practice in riparian restoration in Oregon, with over 22,000 acres planted between 1995 and 2020.

Planting the right trees in the right places and ensuring those trees survive in the long-term can restore habitat, biodiversity, and ecosystem function while contributing to climate change mitigation.

The latest research from The Nature Conservancy (TNC) in Oregon shows that riparian areas store large amounts of carbon in the soil, and riparian plantings can contribute to mitigation of climate change by storing carbon in the woody trees and shrubs.

Figure adapted from O'Kelley et al.

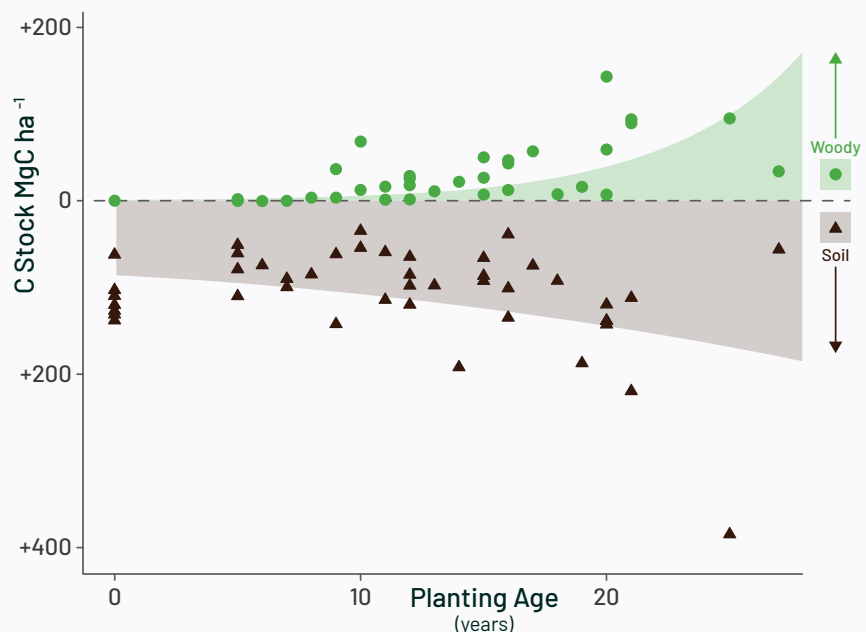




Photo © Keith Lazelle

## Highlights



Plantings stored more carbon as they aged – and most of the increased carbon stored was in the woody vegetation.



Carbon stocks were highest at sites with more trees per acre, higher shrub diversity, and higher annual precipitation.



Shrubs play an important carbon sequestration role in riparian plantings by quickly accumulating biomass and increasing carbon benefits in young plantings.

**15 to 20** years of growth



**= 28.4 metric tons  
of CO<sub>2</sub> stored**

equivalent to  
greenhouse gas emissions of

**72,322 miles**

driven by an average gas-powered car

**1 acre**



[READ MORE ABOUT CARBON  
STORED IN RIPARIAN PLANTINGS](#)

## Carbon Calculators

Field-based estimates of carbon storage in riparian plantings were not well predicted by carbon calculators.



[READ TNC'S CASE STUDY EXPLORING HOW CARBON  
CALCULATORS PERFORM IN WESTERN OREGON](#)

## U.S. Reforestation Hub

The Reforestation Hub identifies up to 477 thousand acres of total opportunity for reforestation of floodplains and streamside buffers in Oregon.



[LEARN MORE AT THE REFORESTATION HUB](#)

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*Our priority is to protect a watershed through restoration of riparian areas and fish and wildlife habitat. If these actions increase carbon sequestration, then that is a happy by-product of our work.”*

– Watershed Council Staff Member

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