

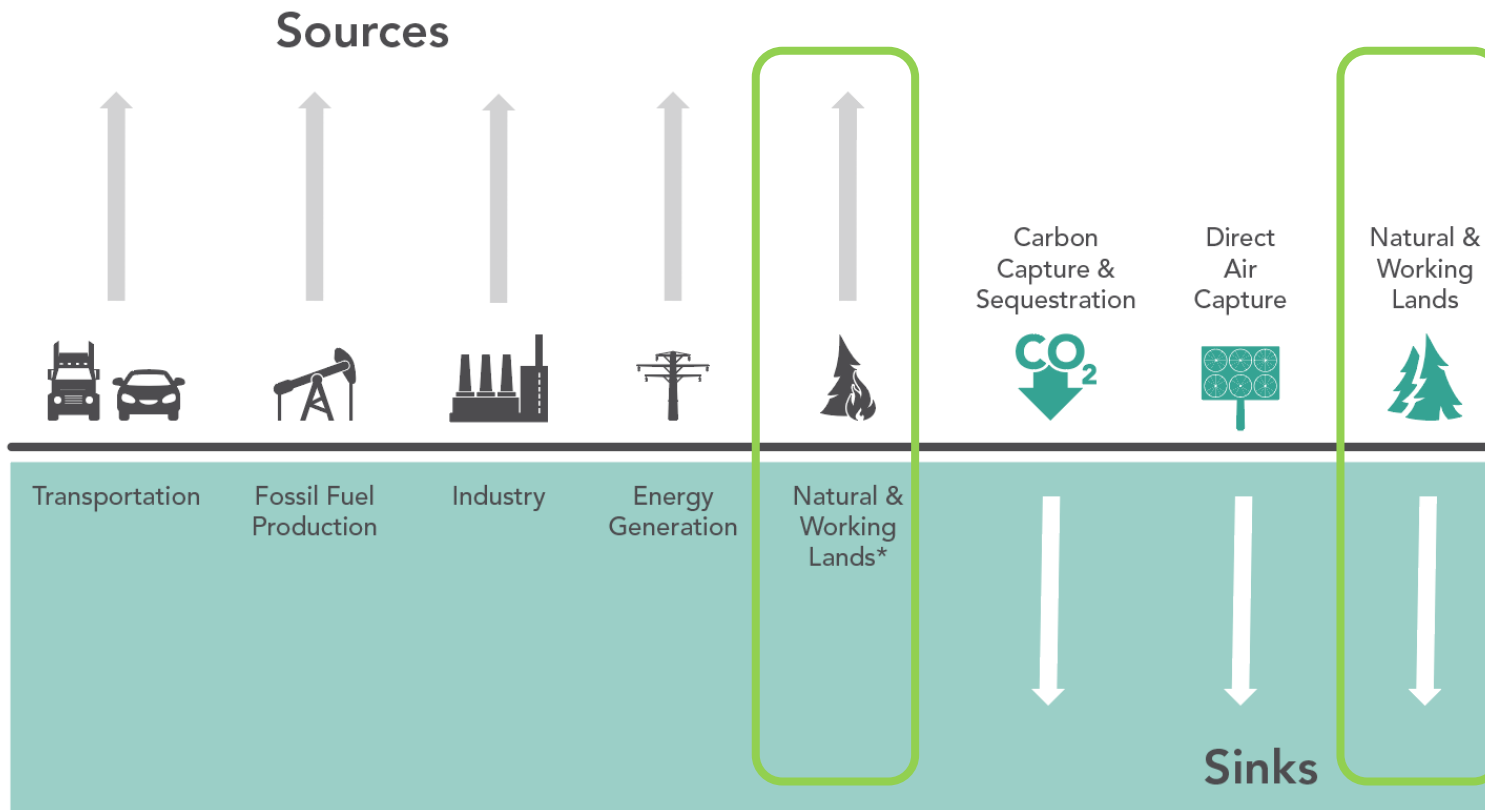
Carbon Neutrality and Natural and Working Lands

JUNE 2021



Science-based Target: Achieve Carbon Neutrality (CO₂e) Mid-Century

Sources equal Sinks



- Include NWL emission sources and sinks
- Prioritize minimizing emissions from sources
- Maximize sinks

*Natural and working land emissions come from wildfires, disease, land and ag management practices, and others

Governor's Executive Order for NWL

“As part of the next Scoping Plan process, the California Air Resources Board, in coordination with relevant state agencies, shall take into consideration the Natural and Working Lands Climate Smart Strategy and science-based data to update the target for the natural and working lands sector in achieving the State's carbon neutrality goal.”

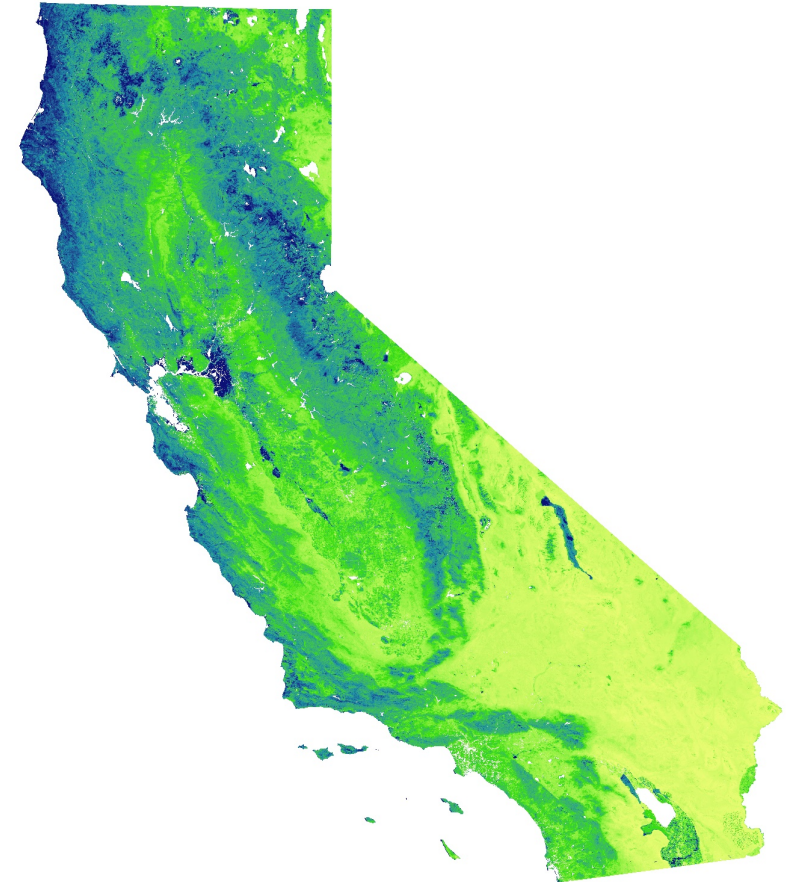
-EO N-82-20, signed October 7, 2020

Updating the Target: Principles

- Learn from, and build-off, past Scoping Plans and State plans and reports
- Include both GHG emissions and carbon sequestration across NWL timescales
- Focus on the ecosystem benefits and impacts as a whole, not just carbon
- Incorporate the latest science and data
- Reflect land management priorities/constraints for different regions of CA
- Utilize publicly accessible data, models, and other resources
- Focus on largest NWL carbon pools and emission sources first, but provide a target-setting approach that can scale-up/improve over time

History: Climate and Lands in SP

- 2008 Scoping Plan
 - Forests only
 - 5MMT sequestration by 2030
- 2013 Scoping Plan
 - Natural and Working Lands
 - Forest Carbon Plan
- 2017 Scoping Plan
 - Preliminary target
 - Reduce NWL emissions 15-20 MMT from BAU
 - NWL Implementation Plan



Securing Multiple Benefits

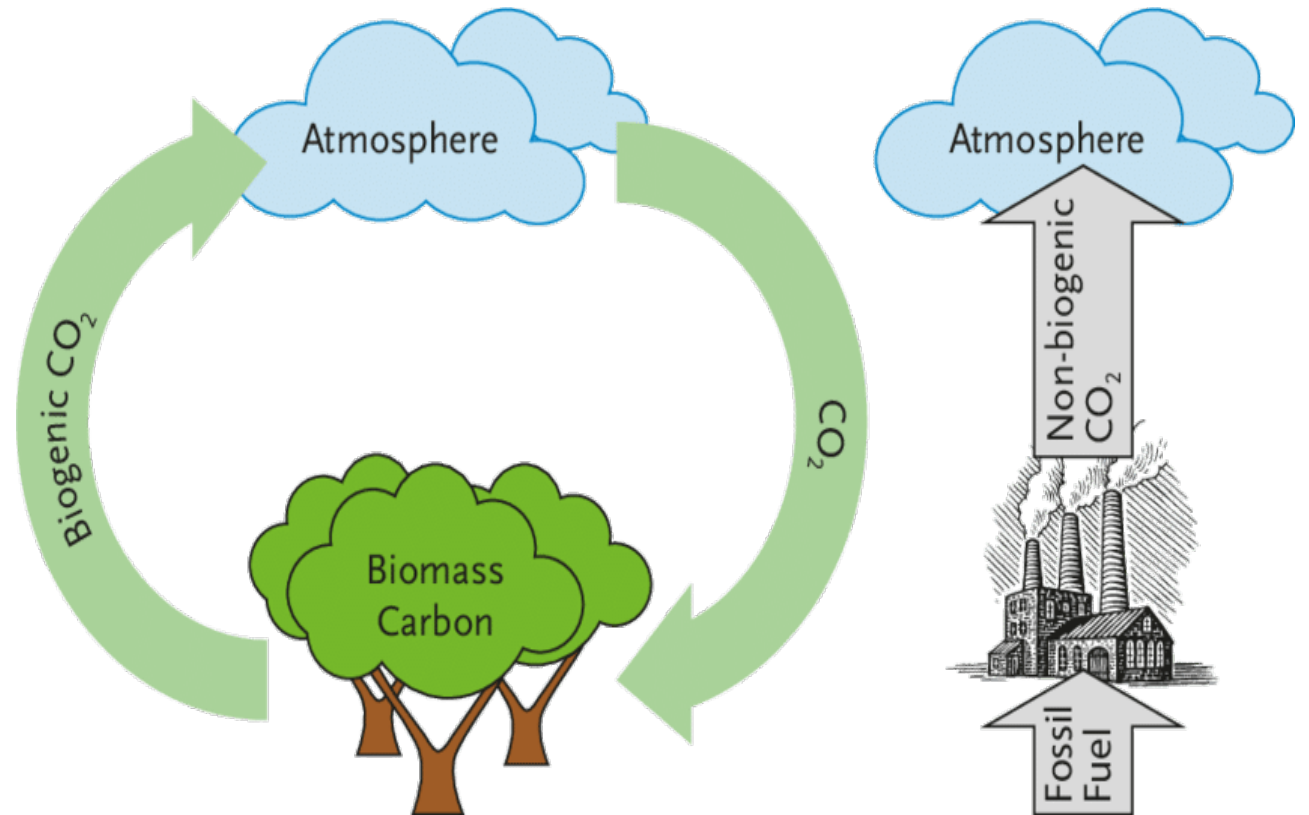
- Natural and working lands provide multiple benefits to California
 - Water and air quality improvements
 - Biodiversity and wildlife habitat
 - Food, fiber, and energy production
 - Recreation opportunities
 - Support local economies
- Climate change is affecting our lands
 - Forests stressed from wildfire, heat, drought, and pests
 - Crop yields affected by drought and heat
 - Biodiversity losses from changing vegetation

NWL – Emissions and Sequestration

- Earth's carbon cycle: transfers carbon between land, ocean, and the atmosphere
- Fire, plant respiration and decomposition are balanced by plant growth and other processes

- KEY DIFFERENCE -

- Fossil fuels: ancient carbon stored underground for millions of years.
- Fossil fuel combustion releases carbon that the atmosphere has not seen in recent carbon cycle



Graphic Source: National Council for Air and Stream Improvement

Example: Healthy and Resilient Forests

Resilient forest

Space between trees, minimal brush → Mostly small trees & brush burn → Mature trees remain → Small trees & brush grow back; cycle repeats



Unhealthy forest

Crowded trees, heavy brush → Fire burns into canopy → Burned forest & undergrowth → Brush grows back, trees may not



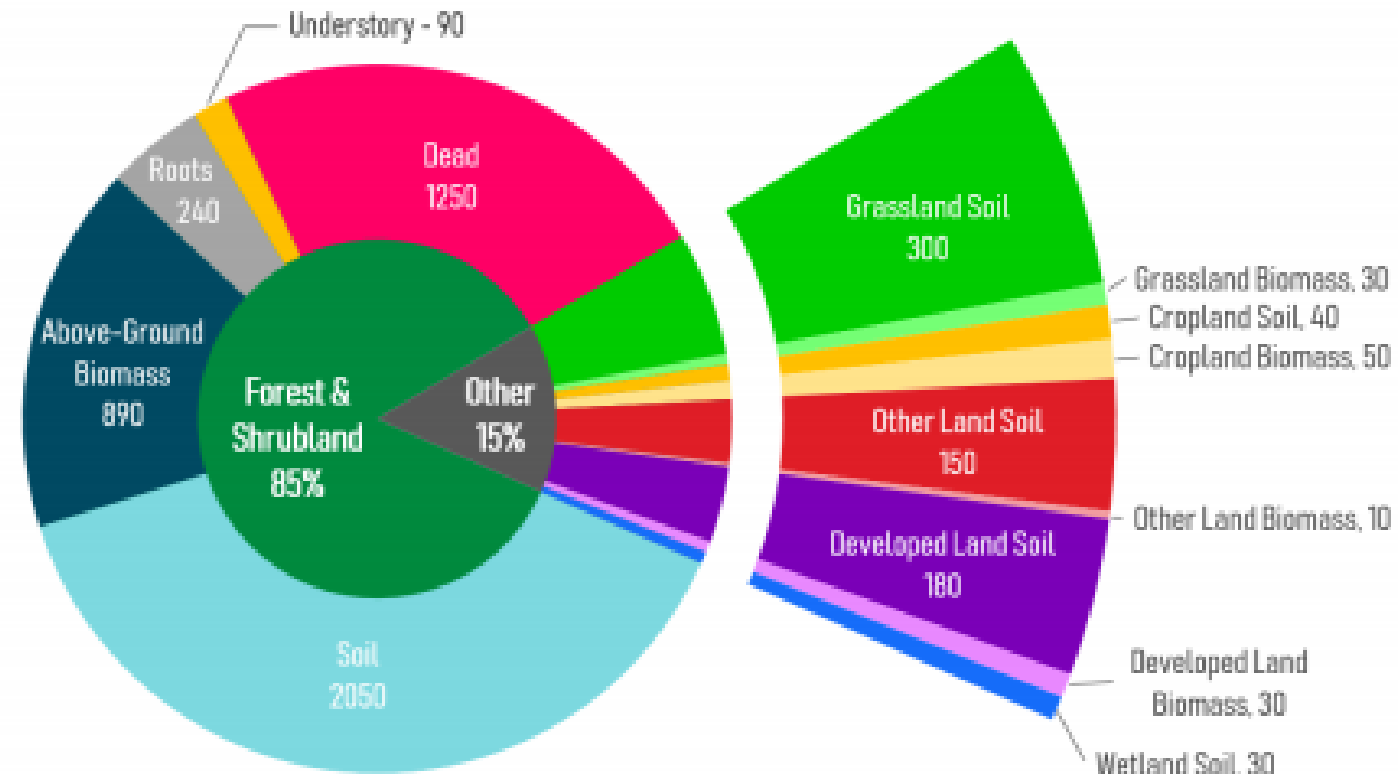
CARBON STORAGE

CARBON STORAGE

- NWL strategies can have complex ecological trade-offs
- Example: need to avoid prioritizing maximum carbon storage for forests in near-term at expense of long-term ecosystem health
- Need to also focus on water, air, biodiversity, and other benefits

Carbon Stored in Lands

- In 2018, CARB published data on carbon storage in California landscapes
 - 5,340 MMT carbon
 - Forest comprise 85% of CA's carbon stocks
- In late-2020, CARB published data on wildfire emissions from 2000-2019



NWL in the Near-term

- Focus Area Workshop Tomorrow – deeper dives on the following
 - Past climate work/plans and the current Scoping Plan
 - NWL Inventory, including fire emissions
 - CA’s recent action on forests, including the Wildfire and Forest Resilience Action Plan
 - Farmer and Rancher-Led Climate Solutions
 - CA Nature Tool and efforts to support 30x30
- Forthcoming workshops on target-setting and modeling for NWL
- Climate Smart Lands Strategy (CNRA)