Natural and Working Lands

November 7, 2016

Overview

- Goals
- Carbon/GHG Projections for NWL
- Next Steps

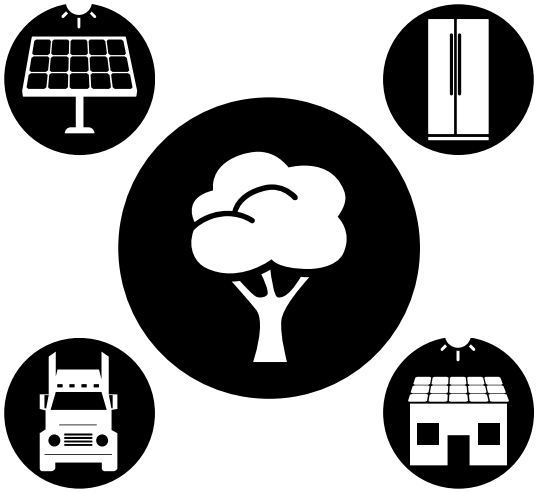
Goals

Manage California's Natural and Working Lands, including greenspace in urban areas, to be a resilient net sink of carbon in 2030, 2050 and beyond.

Goals

How do we get there?

Protect – Enhance – Innovate



Goals: Next Steps

- Expand the scope of lands (and waters) targeted for carbon sequestration
- Define and measure the "business as usual" case for land-based carbon sequestration and GHG emissions
  - Are we on track today?
- Identify and assess land use and management or restoration treatments that are expected to secure or increase carbon sequestration rates
  - What do we need to do to be successful in 2030, 2050?
- Identify and pursue implementation pathways

Draft Goals: Protect

Pursue development and new infrastructure construction patterns that avoid greenfield development and increase protections on natural and working lands to reduce the rate of conversion to intensified uses.

Success will be driven by land use decisions.

Draft scenarios modeled:

- Reduce the rate of land conversion to developed use by 50% - 75% by 2050, relative to BAU.

Draft scenarios for modeling purposes only.

Draft Goals: Enhance

Manage and restore ecological and agricultural systems to increase carbon storage and minimize GHG and black carbon emissions in a sustainable manner so that the carbon bank is resilient and grows over time.

- Forests: fuel reduction and prescribed burn treatments; reforestation
- Urban Areas: tree canopy
- Croplands and rangelands: composting, cover crops, and no-till
- Grasslands/rangelands: mountain meadows restoration
- Wetlands: coastal/tidal restoration, Delta managed wetlands restoration
- Oceans: eelgrass beds

Land Type	Activity	Low Scenario	High Scenario
Forests	fuel reduction and prescribed burn	60,000 acres/year treated through 2030	175,000 acres/year treated through 2030
Forests	reforestation	Increase rate 15% above BAU by 2030	Increase rate 30% above BAU by 2030
Urban Forests	urban tree canopy	Increase 20% above current by 2030	Increase 40% above current by 2030
Croplands	compost, cover crop, no-till	10,000 acres/year treated through 2030	
Rangelands		10,000 acres/year treated through 2030	
Rangelands/ Grasslands	mountain meadow restoration	Add 10,000 acres by 2030	Add 30,000 acres by 2030
Wetlands (Delta)	managed wetlands restoration	Add 15,000 acres by 2030	Add 30,000 acres by 2030
Wetlands (Coastal/Tidal)	restoration	Add 30,000 acres by 2030	Add 60,000 acres by 2030
Oceans	establish eelgrass beds	Increase extent 5% by 2030	Increase extent 10% by 2030

Draft scenarios for modeling purposes only.

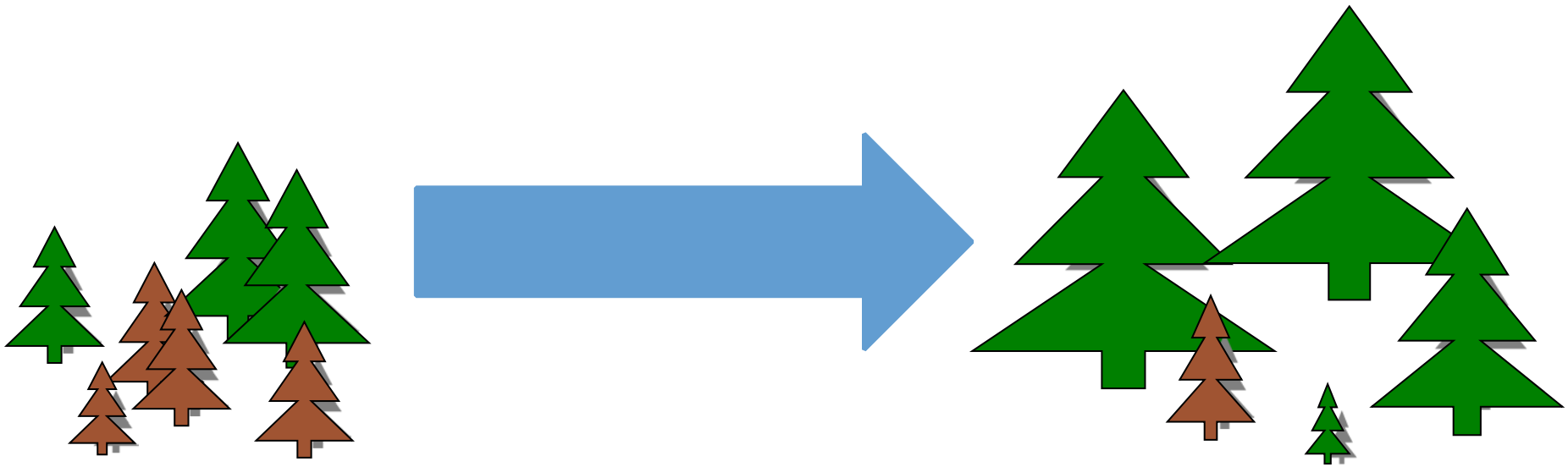
Scope and Scale of Goals

Will these goals get us where we want to be in 2030?

2050?

2100?

Scope and Scale of Goals



Scope and Scale of Goals

Projections: Scope of Work

- Contractor: Lawrence Berkeley National Laboratory
- Project Business-as Usual and "with policy" scenarios for land-based net carbon sequestration through 2050, 2100
- Spatial representation of carbon on landscape for use in modeling and other potential future uses (e.g., regional planning)

Projections: Data & Methods

- Survey and gather State use of data and methods; fill science gaps
- Gather statewide historical data on land use change trends, management and restoration practices
- Extrapolate BAU and with-policy trends to 2050

→ Public Workshop

Projections: Dynamic Modeling

- Improve data and methods; gather alternatives from external science contributors
- Incorporate current conditions and observed trends into model
- Diversify management practices and make application spatially explicit, on an ecoregional basis
- Project BAU and with-policy trends to 2050

→ Public Workshop

Projections: Long-term

- Project BAU and with-policy trends to 2100
- Incorporate climate models
- Continue to hone data, methods, modeling

→ ongoing

Projections: Going Forward

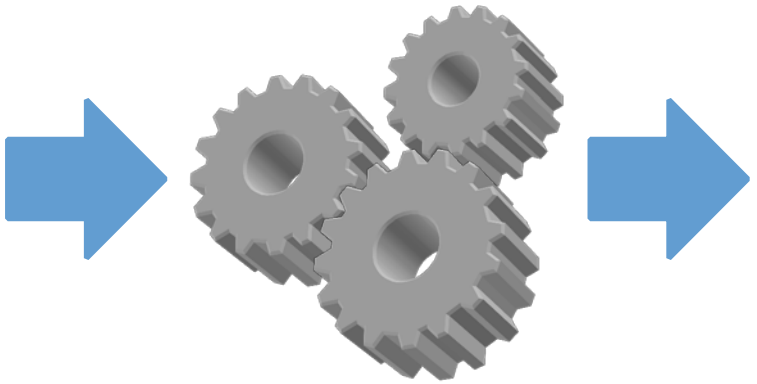
4th Assessment

Ongoing research

In-State expertise

External expertise

Federal partners



NWL Inventory

Accounting Frameworks

CO_2e Projections

(SB 859)

Next Steps

- Ongoing model development for projections; public workshops
- SB 859
- Identify scalable implementation pathways for protection and enhancement
- Articulate carbon accounting for cross-sector interactions to identify innovation opportunities – biomass, land use, water