

SOUTH
COAST
REGIONAL
MEETING

California's 2030 Natural and Working Lands Climate Change Implementation Plan

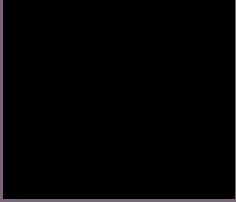


Agenda

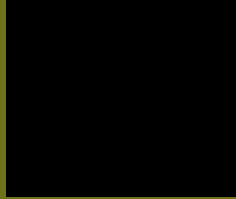
1. Overview of state direction for natural and working lands
2. Overview of draft goals for conservation, restoration, and management in the South Coast region
3. Discussion on regional draft goals and outlook for future implementation

California's natural and working lands

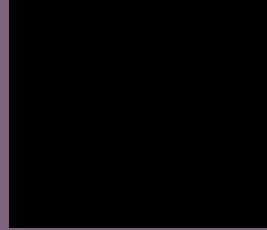
rangeland



forests



shrublands



grasslands



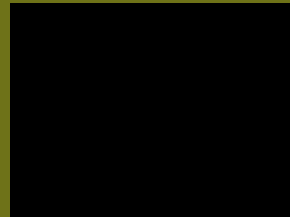
farms



riparian areas



seagrass



urban green-space



Overarching goal

CALIFORNIA'S CLIMATE POLICY PORTFOLIO



Double building efficiency



Cleaner freight and goods movement



50% renewable power



Slash potent "super-pollutants" from dairies, landfills and refrigerants



More clean, renewable fuels



Cap emissions from transportation, industry, natural gas, and electricity



Cleaner zero or near-zero emission cars, trucks, and buses



Invest in communities to reduce emissions



Walkable/Bikeable communities with transit



Protect and manage natural and working lands



Fully integrate natural and working lands into California's climate change policy portfolio

December 2017 Scoping Plan directive

- **Maintain** lands as a **resilient carbon sink** – achieve net zero or negative greenhouse gas emissions
- **Minimize**, where applicable, net greenhouse gas and black carbon **emissions**
- Sets a **preliminary goal** for sequestration and avoided emissions of at least 15-20 MMT CO₂e by 2030 through existing pathways and new incentives

Achieving California's vision for natural and working lands

2030 Natural and Working Lands Climate Change Implementation Plan



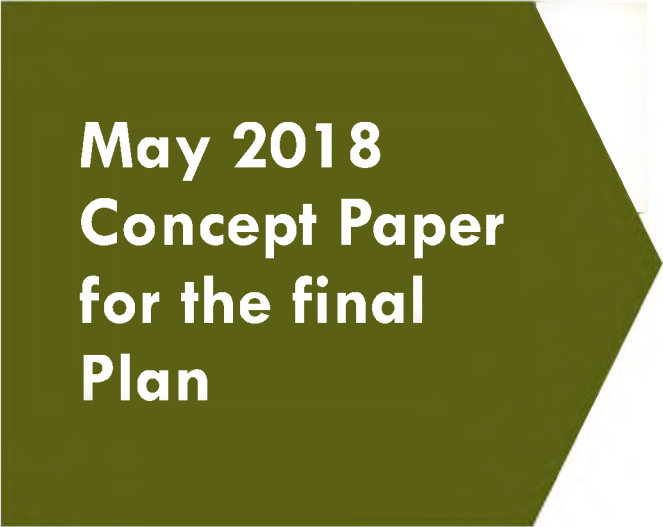
Blueprint for achieving state vision for natural and working lands:



Increased ability for land to sequester carbon and provide other benefits


- 1. Protect** land from conversion to more intensified uses by increasing conservation practices and local planning processes that avoid greenfield development;
- 2. Enhance** the resilience of and potential for carbon sequestration on lands through management and restoration;
- 3. Innovate** biomass utilization such that harvested wood and excess agricultural and forest biomass can be used to advance renewable energy and fuels objectives

- **Health**
- **Social**
- **Economic**
- **Environmental**



**May 2018
Concept Paper
for the final
Plan**

<https://arb.ca.gov/cc/natandworkinglands/nwl-implementation-plan-concept-paper.pdf>

A photograph of a cow grazing in a field of purple flowers. The cow is in the middle ground, facing left. The field is filled with small purple flowers in the foreground, transitioning to green grass in the middle ground. In the background, there are trees and a cloudy sky.

California 2030 Natural and Working Lands Climate Change Implementation Plan Concept Paper

California Air Resources Board | California Environmental Protection Agency
California Department of Food and Agriculture | California Natural Resources Agency

MAY 2018

State-funded activity (“intervention-based”) approach

- Plan relies on using identified activities (interventions)
- Sets an ambitious but achievable goal with targets that are saleable
- Focuses on State-supported land conservation, restoration, and management activities for State agency departments, boards, and conservancies
- Implementation will leverage new and existing programs at various departments and agencies & California’s history of implementing these activities through programs that often do not have carbon sequestration as their primary goal
- Programs will continue to provide ecosystem and societal co-benefits while sequestering carbon
- Facilitates tracking and reporting on progress towards goal

Multiple benefits of implemented projects



biodiversity
& habitat



water supply
& quality



climate
adaptation



tourism &
recreation



public
health



economic
development



cultural &
spiritual
values



temperature
cooling

Land protection, restoration, and management activities in the plan

Land protection Avoided conversion of land for development

Agricultural practices Cultivated land soil conservation, rangeland compost amendment, rotational grazing, conservation crop rotation, mulching, riparian restoration

Urban forests Expansion of existing urban tree canopy

Forest management Understory treatment, partial cut, prescribed burn, biomass utilization, improved management

Restoration activities Restoration and expansion of the extent of mountain meadows, managed wetlands, oak woodlands, riparian areas, and seagrass

Goals of final Plan

1

Help integrate natural and working lands with broader State climate strategy and future Scoping Plan

2

Include a final statewide 2030 intervention-based sequestration goal for natural and working lands

3

Identify scale and scope of State-supported **land conservation, restoration, and management acreage targets** needed for long-term objectives & 2030 goal

Tools for setting the 2030 carbon goal

Two tools for projecting the carbon impacts of conservation, restoration, and management activities:

California Natural and Working Lands Carbon and Greenhouse Gas Model (CALAND)

**COMET-Planner
Compost-Planner**

California Natural and Working Lands Carbon and Greenhouse Gas Model (CALAND)

- Developed by Lawrence Berkeley National Laboratory
- Empirically-based landscape-scale carbon accounting model
- Simulates effects of various practices and land use or land cover change on carbon dynamics



COMET-Planner & Compost-Planner

- **COMET-Planner:** developed by Colorado State University and U.S. Department of Agriculture Natural Resources Conservation Service
- **Compost-Planner:** developed by CARB with an interface developed by USDA-NRCS
- Both provide estimates of the net climate benefits resulting from implementation of various land-based management practices



Setting acreage targets

Three scenarios based on:

no state activities



BASELINE SCENARIO

Regulatory minimum
only

two alternatives



**BUSINESS-AS-USUAL
SCENARIO**

Maintaining
California's current
track



**AMBITIOUS
SCENARIO**

More aggressive levels
of state funding for
programs/ voluntary
efforts

Projecting carbon impacts of conservation, restoration, and management targets

ACREAGE TARGETS

Draft state agency acreage targets for conservation, restoration, and management + regional input



SCENARIOS

Projected acres of conservation, restoration, and management activities through 2030



MODELS

CALAND Model
COMET-Planner/
Compost-Planner



EXPECTED BENEFITS

Projected carbon benefits of these activities on a regional and statewide scale

Results of projections

- Alternative scenarios compared to baseline to show impact of state activities
- Projections will provide outlook on scale needed and reasonableness of proposed strategies

Additional considerations

- Near and long-term carbon impacts
- Climate change impacts, health, social, economic, and environmental benefits
- Cost effectiveness
- Geographic, environmental, social, and economic suitability
- Permanence, or long-term effect

Tracking and reporting

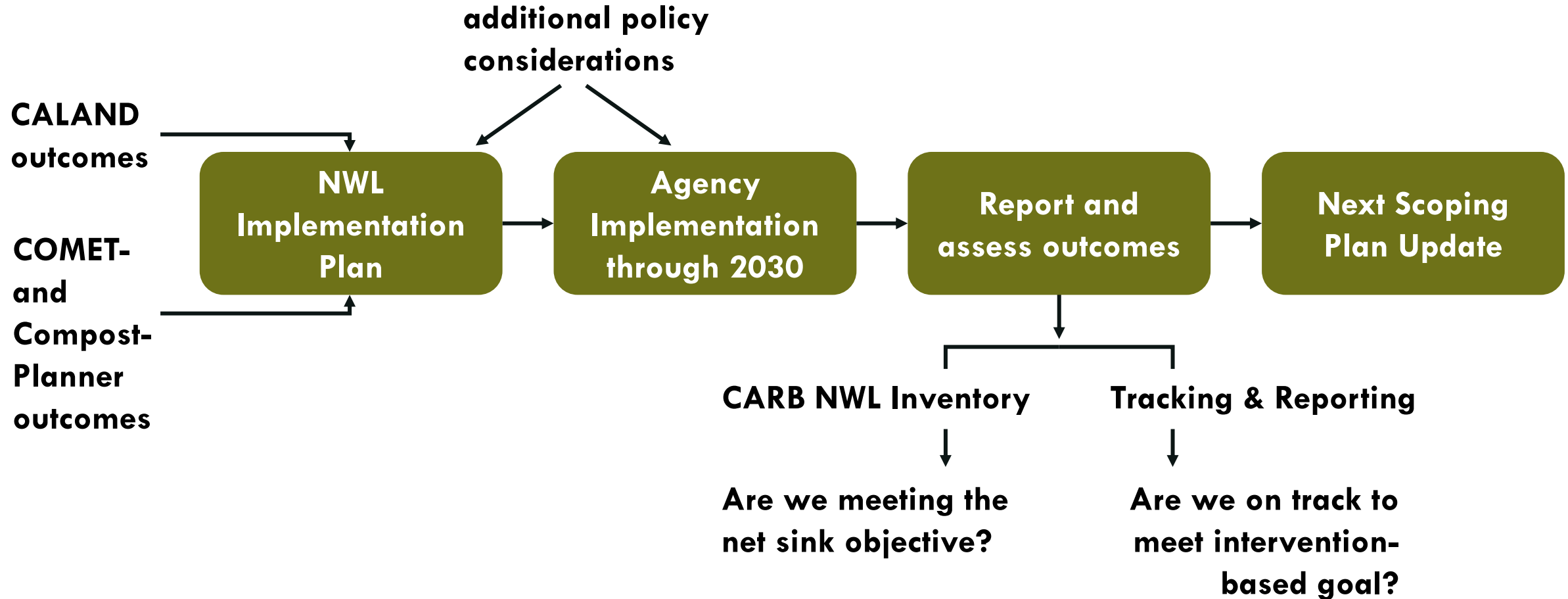
- Annual reporting on expected benefits based acres protected and brought under management using:
 - CALAND and other methods
 - COMET-Planner and existing quantification methodologies developed as part of California Climate Investments
- Develop a system for tracking and reporting actual outcomes

Assessing progress towards long-term objective

Natural and Working Lands GHG Inventory

- Retrospective snapshot of carbon stocks, stock-change and resulting GHG flux
- Used to assess progress on sector objective of net sequestration or negative emissions
- Will capture the effects of implemented interventions, along with other gains or losses that occur over the same timeframe
- Will help indicate scale of interventions needed

Framework: putting it all together



Moving Forward

June 2018

Regional meetings



Summer 2018

Develop draft
2030 natural and
working lands
goal and Plan



**September
2018**

Announce natural
and working
lands
intervention-
based carbon
goal



**November
2018**

Release final
Implementation
Plan

Arroyo Seco Confluence with the LA River

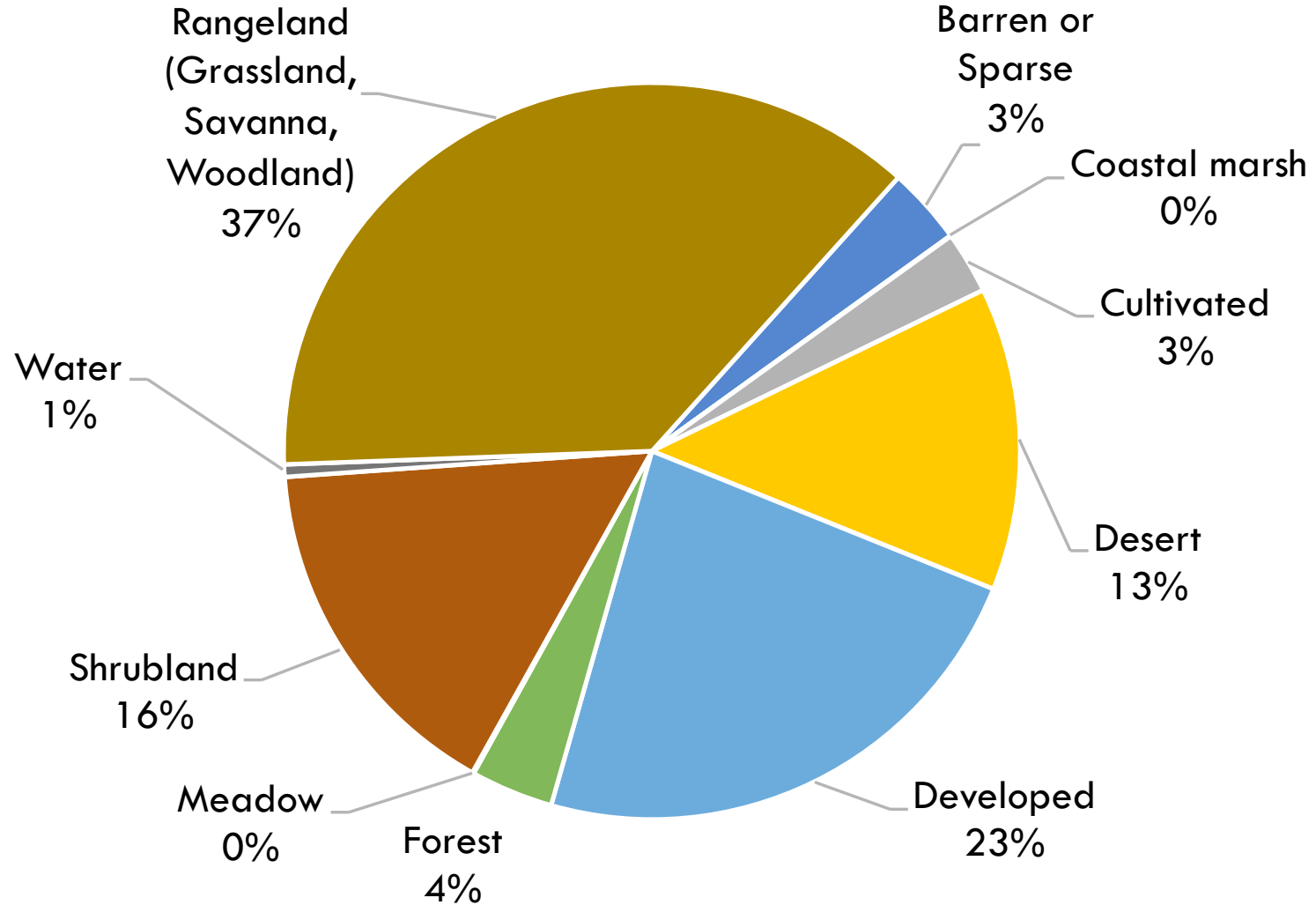


DRAFT GOALS FOR NATURAL AND WORKING LANDS IN THE SOUTH COAST

South Coast and Mountains Ecoregion



Land Cover in the South Coast



Departments working to conserve, restore, and manage lands in the South Coast

State Coastal Conservancy

Santa Monica Mountains Conservancy

San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy

San Diego River Conservancy

Baldwin Hills Conservancy

Department of Conservation (DOC)

Department of Fish and Wildlife (CDFW)

Department of Water Resources (DWR)

Department of Parks and Recreation (DPR)

Department of Forestry and Fire Protection (CAL FIRE)

Wildlife Conservation Board (WCB)

California Department of Food and Agriculture

Setting acreage targets

Three scenarios based on:

no state activities



BASELINE SCENARIO

Regulatory minimum
only

two alternatives



**BUSINESS-AS-USUAL
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Maintaining
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**AMBITIOUS
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More aggressive levels
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programs/ voluntary
efforts

Agency and department projections

- **Business-as-usual alternative:** How many acres could be restored or managed over 12 years assuming current bond and program funding?
 - Includes projections based on current grant and bond-funded programs through state conservancies, departments, and other existing plans and goals
- **Ambitious alternative:** How many acres could be restored or managed over 12 years with an ambitious but achievable increase in funding?
 - Aims to reflect goals from existing regional plans and ecological restoration needs assessments

Compiled acreage targets for the South Coast

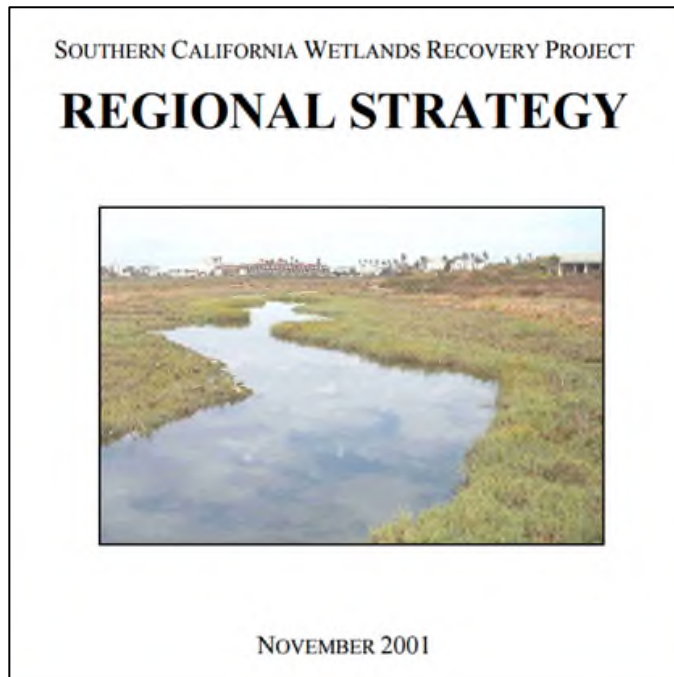
Practice	BAU	Ambitious	Implementing Agencies
Land Protection	75,645	131,778	Rivers and Mountains Conservancy, San Diego River Conservancy, Santa Monica Mountains Conservancy, State Coastal Conservancy, Department of Water Resources, Department of Conservation, State Parks, Wildlife Conservation Board
Reforestation	-	60	State Parks, San Diego River Conservancy
Partial cut/ fuel reduction	32,637	61,822	Department of Forestry and Fire Protection, State Parks, Santa Monica Mountains Conservancy, San Diego River Conservancy, Department of Water Resources
Forest Understory Treatment	300	12,500	San Diego River Conservancy, Santa Monica Mountains Conservancy
Forest Prescribed Burn	27,975	50,480	Santa Monica Mountains Conservancy, Department of Forestry and Fire Protection, State Parks
Improved Forest Management	300	12,500	Santa Monica Mountains Conservancy
Add. Forest Biomass Utilization	-	-	Santa Monica Mountains Conservancy
Oak Woodland Restoration	2,229	5,438	Rivers and Mountains Conservancy, State Coastal Conservancy, Santa Monica Mountains Conservancy, San Diego River Conservancy, State Parks
Meadow Restoration	1,498	1,808	State Parks, San Diego River Conservancy
Coastal Marsh Restoration	3,729	11,426	Rivers and Mountains Conservancy, State Coastal Conservancy, Department of Water Resources, State Parks
Riparian Restoration	4,395	9,816	San Diego River Conservancy, Santa Monica Mountains Conservancy, Department of Conservation, State Parks, Department of Water Resources, Wildlife Conservation Board
Soil Conservation Practices	5,496	5,736	San Diego River Conservancy, State Parks
Rangeland Composting	300	500	State Coastal Conservancy
Rangeland Rotational Grazing	-	-	-
Seagrass Restoration	-	-	State Coastal Conservancy, Ocean Protection Council
Urban Forest Expansion	1,320	2,168	San Diego River Conservancy, Santa Monica Mountains Conservancy, Rivers and Mountains Conservancy, Department of Forestry and Fire Protection, Natural Resources Agency

Ecological Restoration and land protection targets for the South Coast

Description	Practice	BAU	Ambitious	Implementing Agencies
Reestablishment of oak woodlands on grasslands and cultivated lands	Oak Woodland Restoration	2,229	5,438	Rivers and Mountains Conservancy, State Coastal Conservancy, Santa Monica Mountains Conservancy, San Diego River Conservancy, State Parks
Creation of saline tidal wetlands in coastal regions	Coastal Marsh Restoration	3,729	11,426	Rivers and Mountains Conservancy, State Coastal Conservancy, Department of Water Resources, State Parks
Riparian trees, primarily oaks, are established on grassland or cultivated lands	Riparian Restoration	4,395	9,816	San Diego River Conservancy, Santa Monica Mountains Conservancy, Department of Conservation, State Parks, Department of Water Resources, Wildlife Conservation Board
Creation of sub-tidal seagrass beds where none previously existed	Seagrass Restoration	-	-	State Coastal Conservancy, Ocean Protection Council
Reduced conversion of natural and working lands to urbanized land	Land Protection	75,645	131,778	Rivers and Mountains Conservancy, San Diego River Conservancy, Santa Monica Mountains Conservancy, State Coastal Conservancy, Department of Water Resources, Department of Conservation, State Parks, Wildlife Conservation Board

Developing ecological restoration targets: what regional plans, goals, & strategies should be included?

Coastal marsh restoration



Fuel reduction

The image shows the cover of a report titled "Fire & Fuels Management Southern California Adaptation Implementation Plan". It features the EcoAdapt logo in the top right corner. Below the title is a blue box with a gear icon and the text "Fire & Fuels Management Southern California Adaptation Implementation Plan".

Overview
During a two-day workshop in January 2016, southern California resource managers and regional stakeholders discussed fire and fuels management goals and core activities, highlighted priority climate change vulnerabilities that could affect the ability to achieve goals, and identified adaptation strategies and actions that reduced highlighted vulnerabilities. Adaptation strategies and actions identified included those currently being implemented as well as new actions prioritized for future implementation. Managers and stakeholders then developed implementation action plans for some adaptation strategies identified as future priorities.

Fire and Fuels Management Goals and Core Activities¹

1. Restore natural fire regimes to the landscape
 - a. Restore ecosystem health
 - b. Prevent stand-replacing fire in montane conifer and oak woodlands
 - c. Reduce fire frequency by increasing patrols, reducing fuels (focusing first on the immediate vicinity of buildings and then expanding out), engaging a fire-safe council, and increasing education/outreach activities
2. Prevent major erosion events and sedimentation that can result from stand-replacing fire
 - a. Use fire prevention strategies (see above)
 - b. Increase land use planning and collaboration with watershed agencies and organizations
3. Protect sensitive habitats (e.g., Big-cone Douglas fir, old growth chaparral stands)
 - a. Identify high-value areas (e.g., sites that haven't burned recently, areas that burned and are now in recovery)
 - b. Strategically reduce fuels in high-value areas
 - c. Include information about actions and prioritized high-value areas in fire management plans
 - d. Include information about sensitive habitats in the incident commander briefings

Oak woodland restoration

Oak Woodland Conservation Management Planning in Southern CA – Lessons Learned¹

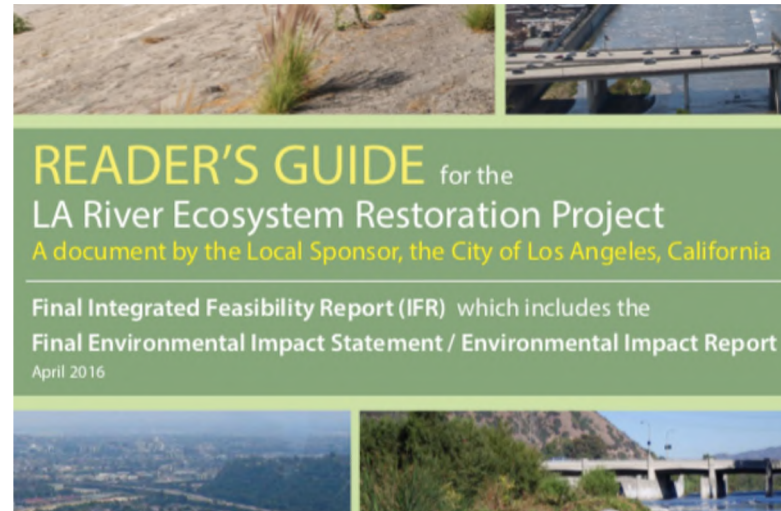
Rosi Dagit²

Abstract
The California Oak Woodlands Conservation Act (AB 242 2001) established requirements for the preservation and protection of oak woodlands and trees, and allocated funding managed by the Wildlife Conservation Board. In order to qualify to use these funds, counties and cities need to adopt an oak conservation management plan. Between 2008 and 2011, a team of concerned arborists, biologists, county foresters, planners, and other stakeholders wrestled with questions such as how to define an oak woodland in southern California, how much oak woodlands are worth, and examined the costs associated with a) losing existing oak woodlands; b) preserving existing oak woodlands; and c) expanding oak woodland habitat to suitable areas in the county. These efforts resulted in adoption of the Los Angeles County Oak Woodland Conservation Management Plan in 2011. However, it took until 2014 to work out the associated implementation plans for regional planning and public work staffs. The pitfalls and successes of developing this plan will be discussed in hopes of sharing the lessons learned with others.
Key words: conservation planning, oak woodlands

Introduction
Many counties and cities throughout California have long protected individual oak trees, and Los Angeles County led the way with the enactment of their Oak Tree Ordinance in 1982. However, these local regulations have had limited scope and success in protecting oak resources. Recognizing that loss of oak woodlands was

Developing urban greening targets: what regional plans, goals, & strategies should be included?

Urban forests and urban river restoration



Developing targets for rangelands and cultivated lands

Soil conservation practices

Includes cover cropping, reduced tillage, no-till, mulching, and compost

Rangeland compost application

Compost is applied to traditionally managed rangeland (grassland, savanna, and woodland land types in CALAND) and repeated either every 10 years or every 30 years. The base land type is traditionally managed rangeland.

Prescribed grazing practices

Managing the harvest of vegetation with grazing and/or browsing animals with the intent to achieve specific ecological, economic, and management objectives.

283,000

acres of cultivated land &

3,868,000

*acres of rangeland in the
South Coast ecoregion*



**QUESTIONS+
DISCUSSION**

Discussion Questions

1. Are **regional projects** reflected in the baseline and more ambitious draft acreage targets for conservation, restoration, and management?
2. How should the **ambitious** scenario be scoped for activities in your region? Are there existing regional planning and goal-setting documents that should be included within the ambitious scenario?
3. What are your regional implementation **priorities**? What is needed to support successful regional implementation?

CONSERVATION, RESTORATION, & MANAGEMENT ACTIVITIES

Land protection Avoided conversion of land for development

Agricultural practices Cultivated land soil conservation, rangeland compost amendment, rotational grazing, conservation crop rotation, mulching, riparian restoration

Urban forests Expansion of existing urban tree canopy

Forest management Understory treatment, partial cut, prescribed burn, biomass utilization, improved management

Restoration activities Restoration and expansion of the extent of mountain meadows, managed wetlands, oak woodlands, riparian areas, and seagrass

Feedback on Acreage Targets

BY JULY 9

please submit written comments on
acreage targets to:

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Thank you

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