

**SAN JOAQUIN
VALLEY
REGIONAL
MEETING**

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

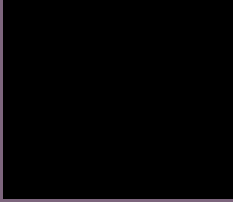


Agenda

1. Overview of state direction for natural and working lands
2. Overview of draft goals for conservation, restoration, and management in the San Joaquin Valley
3. Discussion on draft goals and outlook for future implementation

California's natural and working lands

rangeland



forests



shrublands



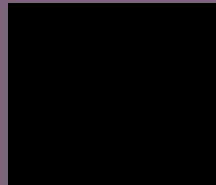
grasslands



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:



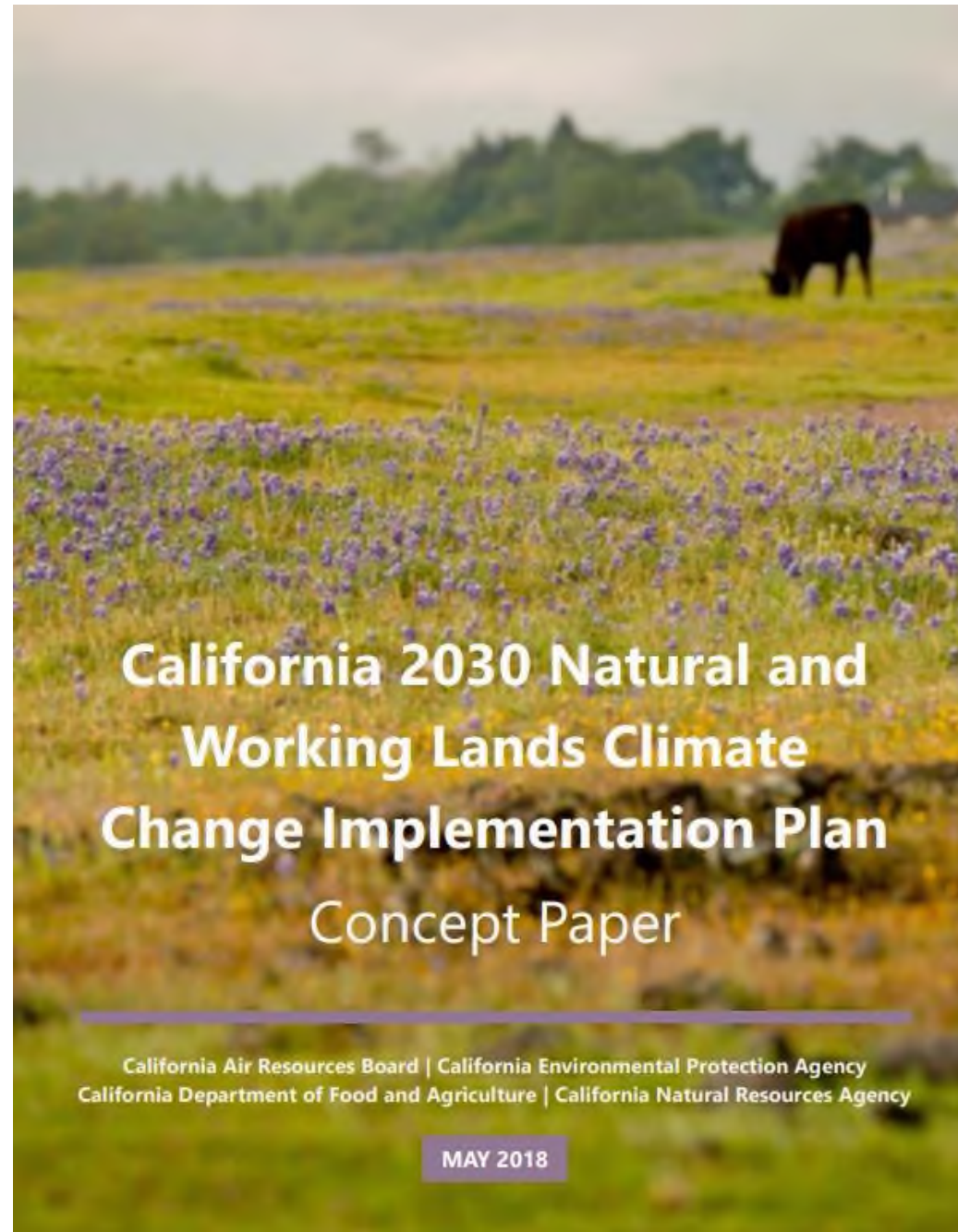
Increased ability for land to sequester carbon and provide other benefits

- 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>



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

- Plan relies on using **identified activities** (interventions)
- Sets an ambitious but achievable goal with targets that are **scaleable**
- 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 conservation programs
- 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

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

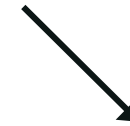
Regulatory minimum
only

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

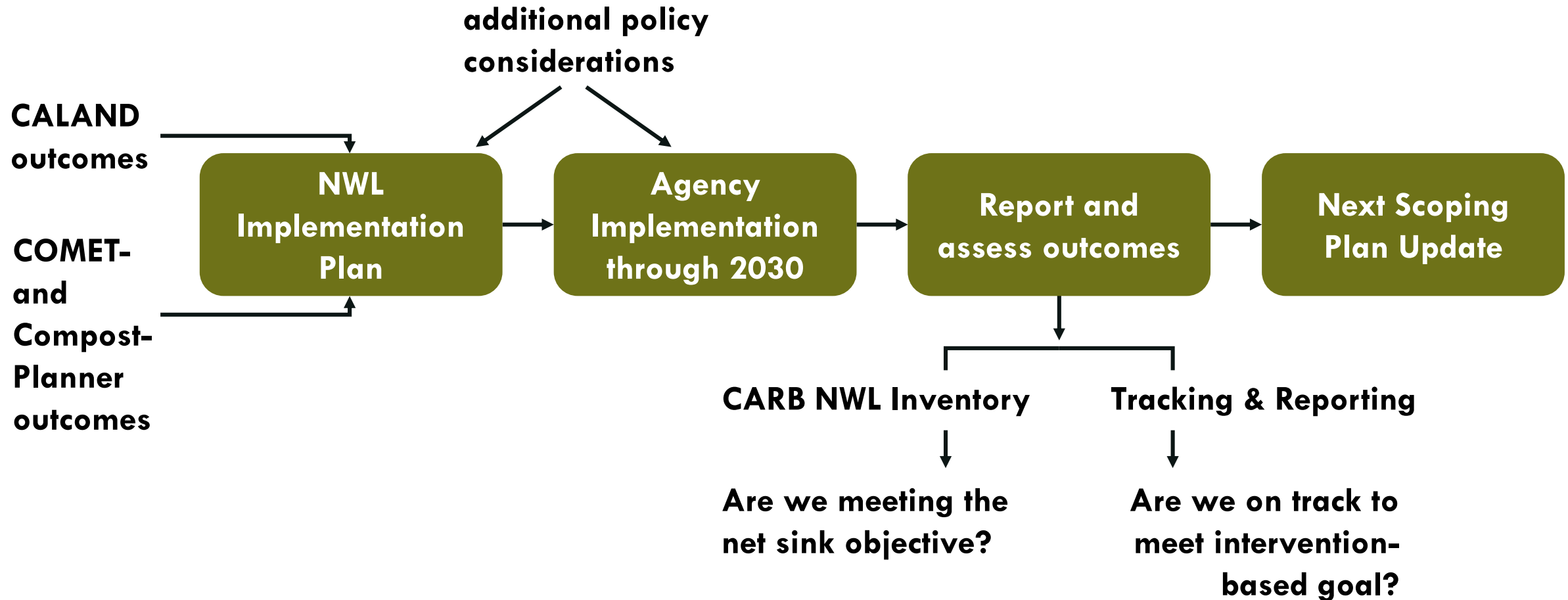
- Annual reporting on expected benefits based acres protected and brought under management using:
 - CALAND and other methods
 - COMET-Planner, Compost-Planner and existing quantification methodologies developed as part of California Climate Investments
- Develop a system for tracking and reporting actual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



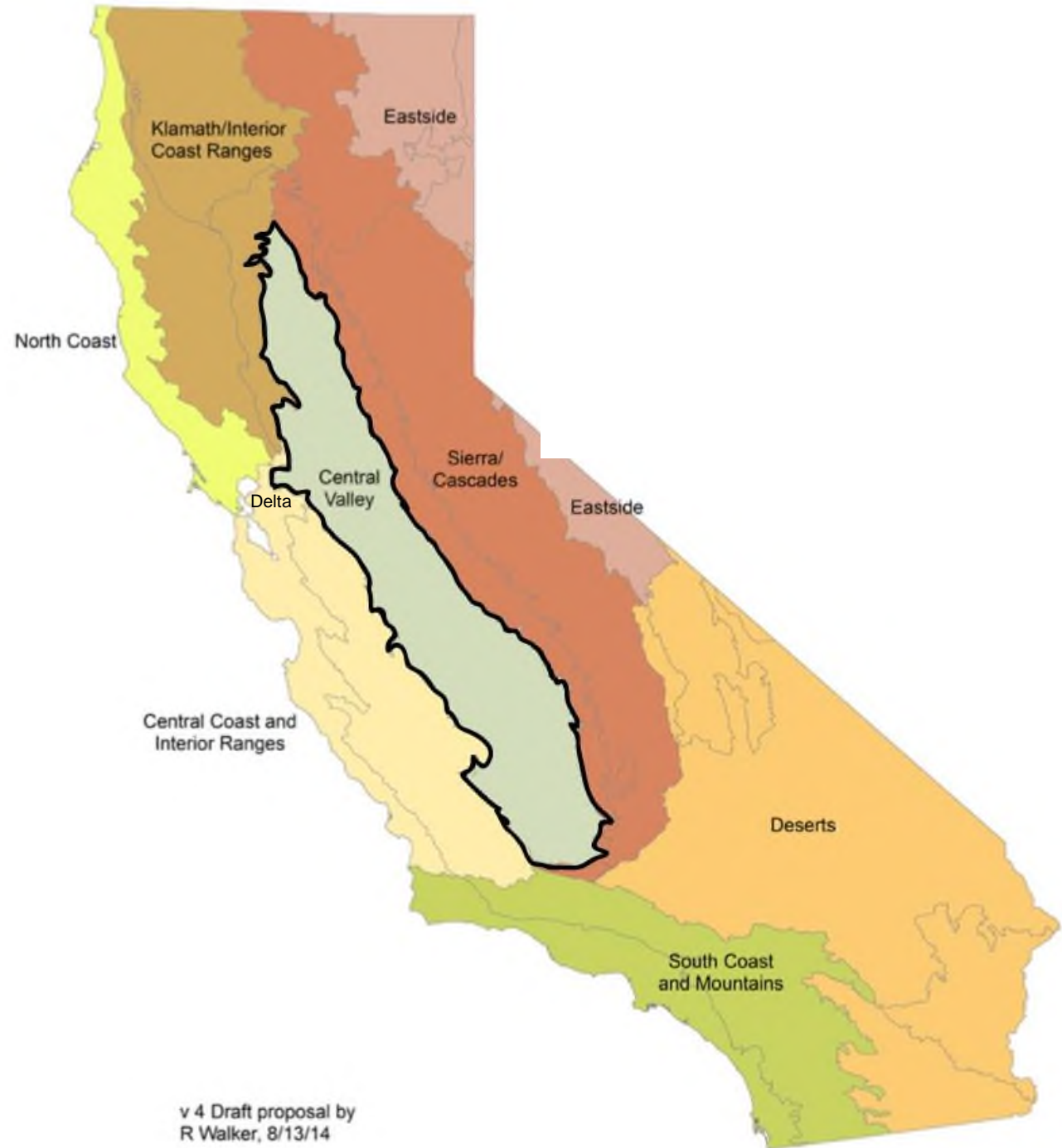
**November
2018**

Release final
Implementation
Plan

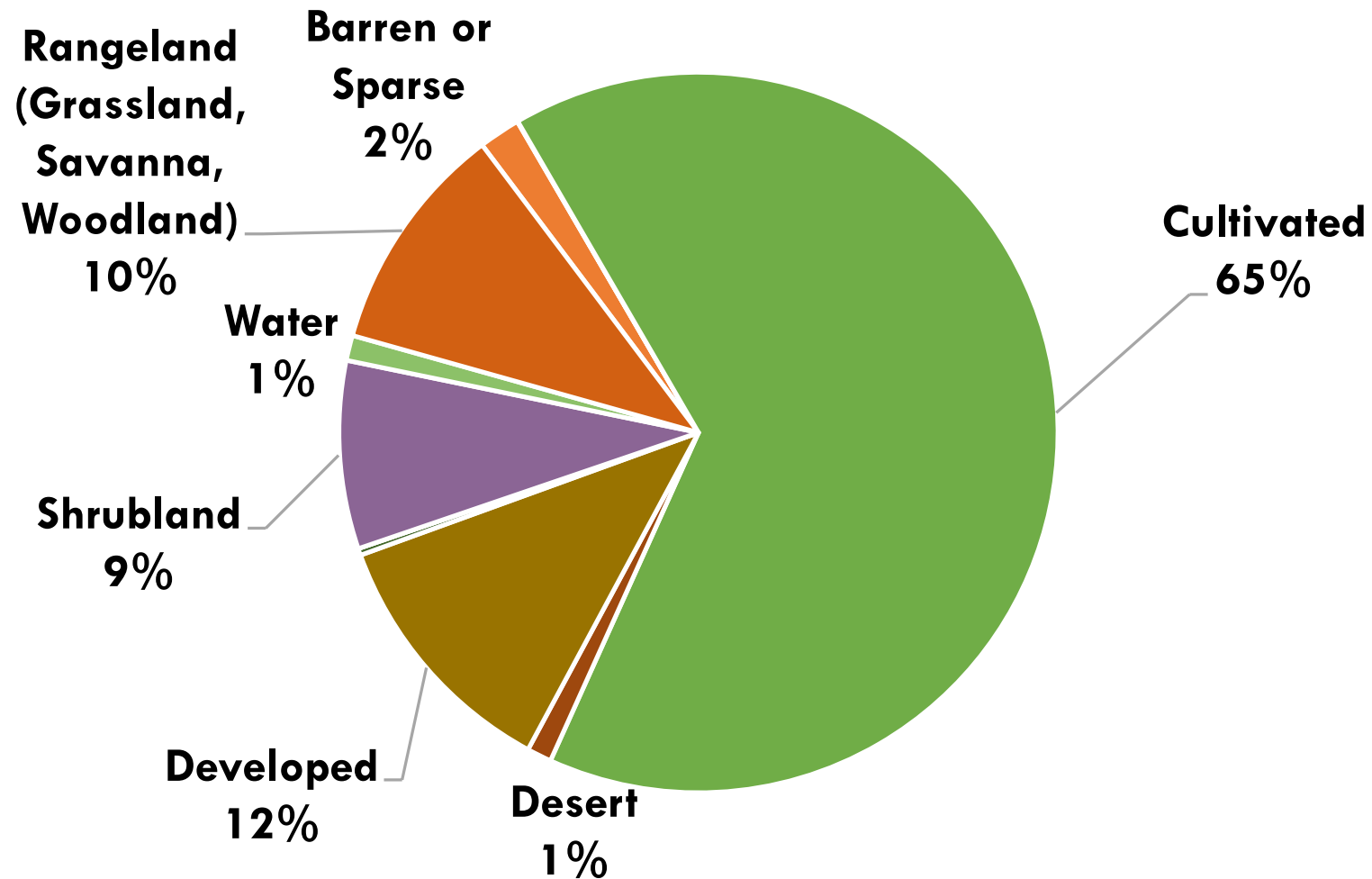
A photograph of a row of almond trees in bloom, with a green circular graphic overlaid on the left side containing text. The trees are in full bloom with white flowers. The ground is covered with a dark, textured material, likely mulch or a protective covering. The background is a bright, clear sky.

DRAFT GOALS
FOR NATURAL
& WORKING
LANDS IN THE
SAN JOAQUIN
VALLEY

Central Valley Ecoregion



Land Cover in the Central Valley Ecoregion



Setting acreage targets

Three scenarios based on:

no state activities



BASELINE SCENARIO

Regulatory minimum
only

two alternatives



**BUSINESS-AS-USUAL
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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 the Delta Conservancy, Department of Fish and Wildlife, Department of Water Resources
- **Ambitious alternative:** How many acres could be restored or managed over 12 years with an ambitious but achievable increase in funding?
 - Assumes acceleration of business-as-usual work

CA Natural Resources Agency Departments reporting conservation, restoration, and management targets in the Central Valley Region

Department of Conservation (DOC)

Department of Fish and Wildlife (CDFW)

Department of Water Resources (DWR)

Department of Forestry and Fire Protection (CAL FIRE)

State Parks

Wildlife Conservation Board (WCB)

CENTRAL VALLEY REGION: Compiled acreage targets

Practice	BAU (acres)	Ambitious (acres)	Reporting Agencies
Land Protection	155,554	236,801	Department of Water Resources, Wildlife Conservation Board, Department of Conservation, State Parks
Forest expansion	455	683	Department of Water Resources
Partial cut/ fuel reduction	13,620	20,710	Department of Water Resources, State Parks
Forest Understory Treatment	120	900	State Parks
Forest Prescribed Burn	-	600	State Parks
Oak Woodland Restoration	496	1,452	State Parks
Meadow Restoration	481	570	State Parks, Department of Water Resources
Riparian Restoration	14,913	22,462	Department of Conservation, State Parks, Department of Water Resources, Wildlife Conservation Board
Soil Conservation Practices	120	300	State Parks
Rangeland Rotational Grazing	-	60	State Parks
Urban Forest Expansion		10% canopy expansion	Department of Forestry and Fire Protection, Natural Resources Agency

Practices not reported for this region: reforestation, improved forest management, additional forest biomass utilization, rangeland composting, coastal wetland restoration, seagrass restoration



CENTRAL VALLEY LAND CONSERVATION & RESTORATION TARGETS

14,913 - 22,462 ACRES OF RIPARIAN RESTORATION

Riparian trees, primarily oaks, are established on grassland or cultivated lands

155,554 - 236,801 ACRES OF LAND PROTECTION

Reduced conversion of natural and working lands to urbanized land

496 – 1,452 ACRES OF OAK WOODLAND RESTORATION

Riparian trees, primarily oaks, are established on grassland or cultivated lands

Developing targets for practices on rangelands and cultivated lands funded by CDFA's Healthy Soils Program

Soil management practices

Cropland to herbaceous cover practices

Compost application practices

Establishment of woody cover practices

Soil Management Practices

Cropland Management Practices

Mulching (484)

Residue and Tillage Management – No-Till (329)

Residue and Tillage Management – Reduced
Till (345)

Cover crops (340)

Compost Application Practices

Compost Application to Annual Crops (CDFA)

Compost Application to Perennials, Orchards
and Vineyards (CDFA)

Compost Application to Grassland (CDFA)

Cropland to Herbaceous Cover Practices:

- Herbaceous Wind Barriers (603)
- Vegetative Barriers (601)
- Riparian Herbaceous Cover (390)
- Contour Buffer Strips (332)
- Field Border (386)
- Filter Strip (393)

Establishment of Woody Cover Practices:

- Windbreak/ shelterbelt establishment (380)
- Riparian Forest Buffer (391)
- Hedgerow Planting (422)
- Silvopasture (381)

2017 HSP AWARDED PROJECTS

2017 HSP AWARDED PROJECTS



Note: Final grant awards subject to change pending CDFA budget evaluations.

★ Incentives Program

51

projects

22

counties

8,992 tons CO₂e/yr

GHG Reduction

- Total grant amount requested: \$1.4 million
- 69 applications

★ Demonstration Projects

22

projects

20

counties

1,642 tons CO₂e/yr

- Total grant amount requested: \$3.2 million
- 27 applications

2017 HSP SECOND SOLICITATION AWARDED PROJECTS



Note: Final grant awards subject to change pending CDFR budget evaluations.

★ Incentives Program

33

projects

16

counties

7,470 metric tons CO₂e/yr

GHG Reduction

- Total grant amount requested: \$918,496
- 43 applications

★ Demonstration Projects

6

projects

7

counties

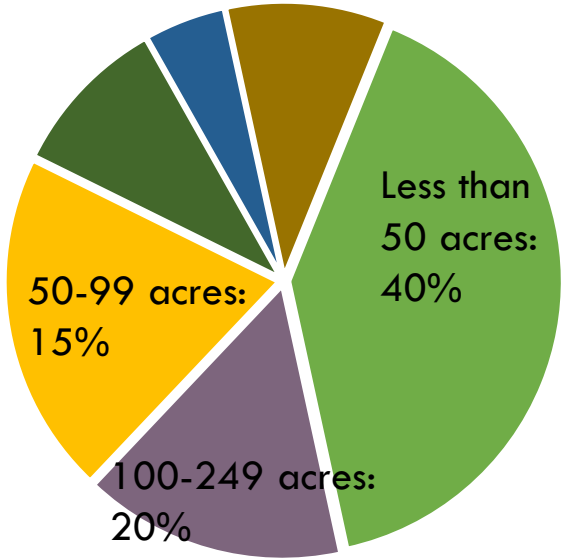
899 tons CO₂eq /year

GHG Reduction

- Total grant amount requested: \$549,429
- 11 applications

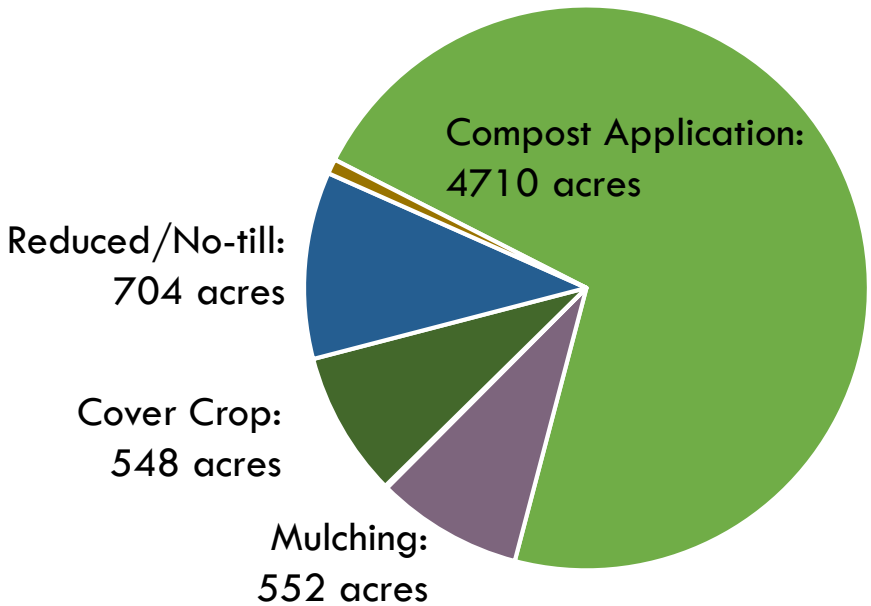
2017 HSP INCENTIVES PROJECTS INCLUDING SECOND SOLICITATION

Number of Awards by Farm Size



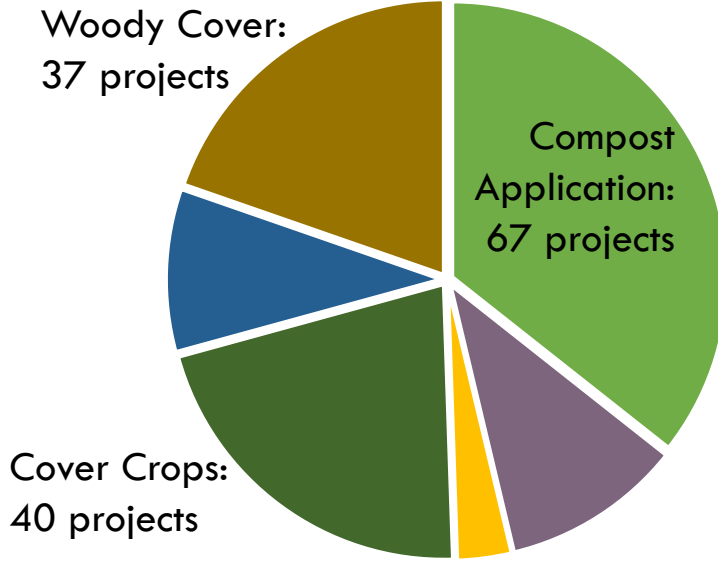
- <50
- 50-99
- 100-249
- 250-499
- 500-1000
- >1000

Most Popular Practices by Acres of Implementation



- Compost Application
- Mulching
- Herbaceous Cover Establishment
- Cover Crop
- Reduced/No-Till
- Woody Cover Establishment

Most Popular Practices by Number of Projects



- Compost Application
- Mulching
- Herbaceous Cover Establishment
- Cover Crop
- Reduced/No-Till
- Woody Cover Establishment

Average CA farm size: 329 acres
 79% projects on smaller farms (<250 acres)

Applications Received: 66 + 43 = 109
 Selected for Awards: 51 + 33 = 84



**QUESTIONS &
DISCUSSION**



GENERAL 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?

HEALTHY SOILS PROGRAM QUESTIONS

1. How extensively are the Healthy Soils Program practices used in this agricultural region?
2. What are the challenges and opportunities of using these practices in this agricultural region?

Feedback on Acreage Targets

BY JULY 10

please submit written comments on
acreage targets to:

emma.johnston@resources.ca.gov

THANK YOU

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