SACRAMENTO VALLEY & DELTA REGIONAL MEETING

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

CalEPA California Environmental Protection Agency

California Natural Resources Agency

California Air Resources Board

cdfa California Department of Food & Agriculture

California Strategic Growth Council

Agenda

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

California's natural and working lands

rangeland

forests

wetlands

grasslands

farms

riparian areas

seagrass

urban green-space

Overarching goal

California's Climate Policy Portfolio


Double building efficiency


50% renewable power

More clean, renewable fuels


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


Walkable/Bikeable communities with transit


Cleaner freight and goods movement


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


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


Invest in communities to reduce emissions


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 CO_2e 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

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Blueprint for achieving state vision for natural and working lands:

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

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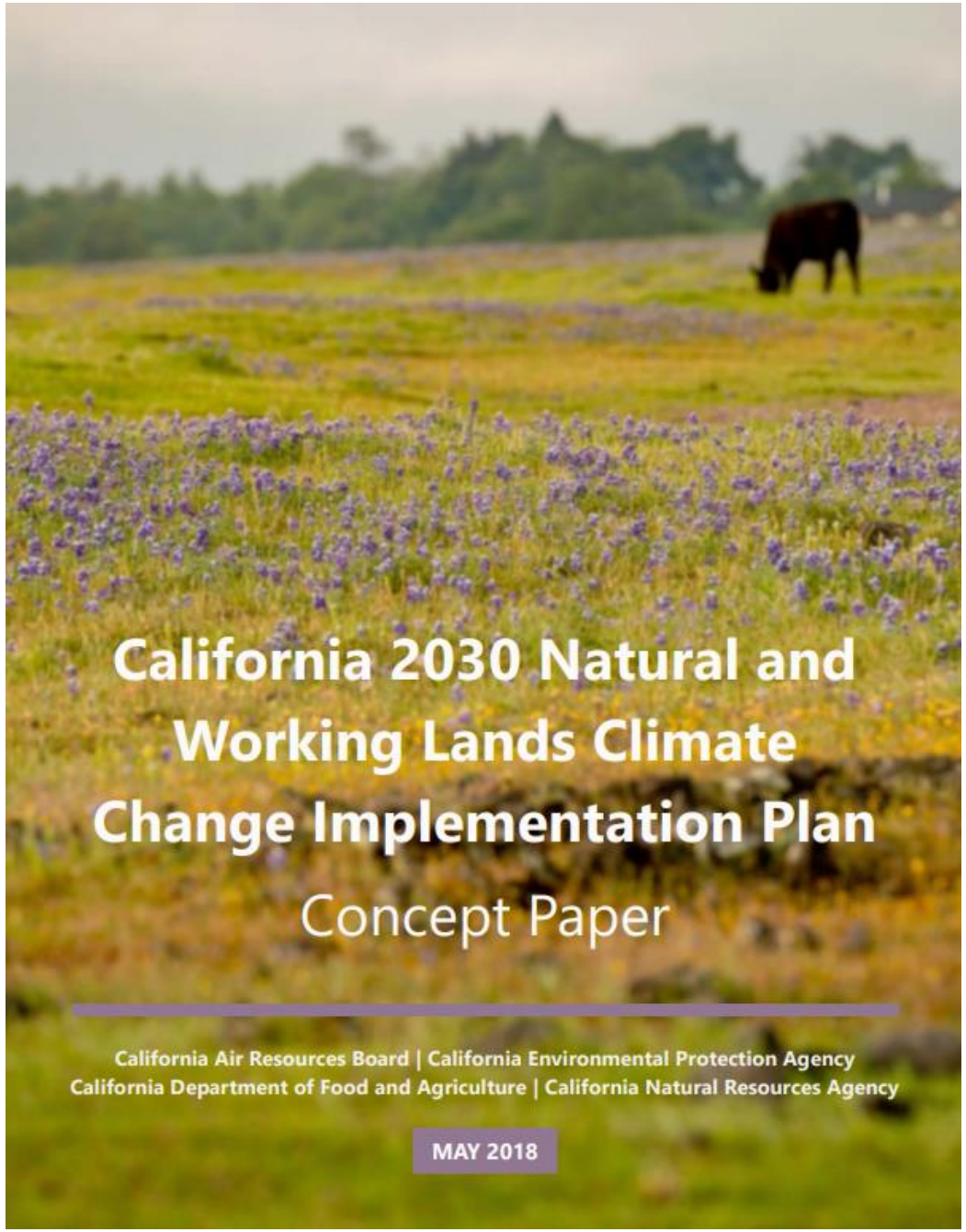
Increased ability for land to sequester carbon and provide other benefits

- ***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 **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 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

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

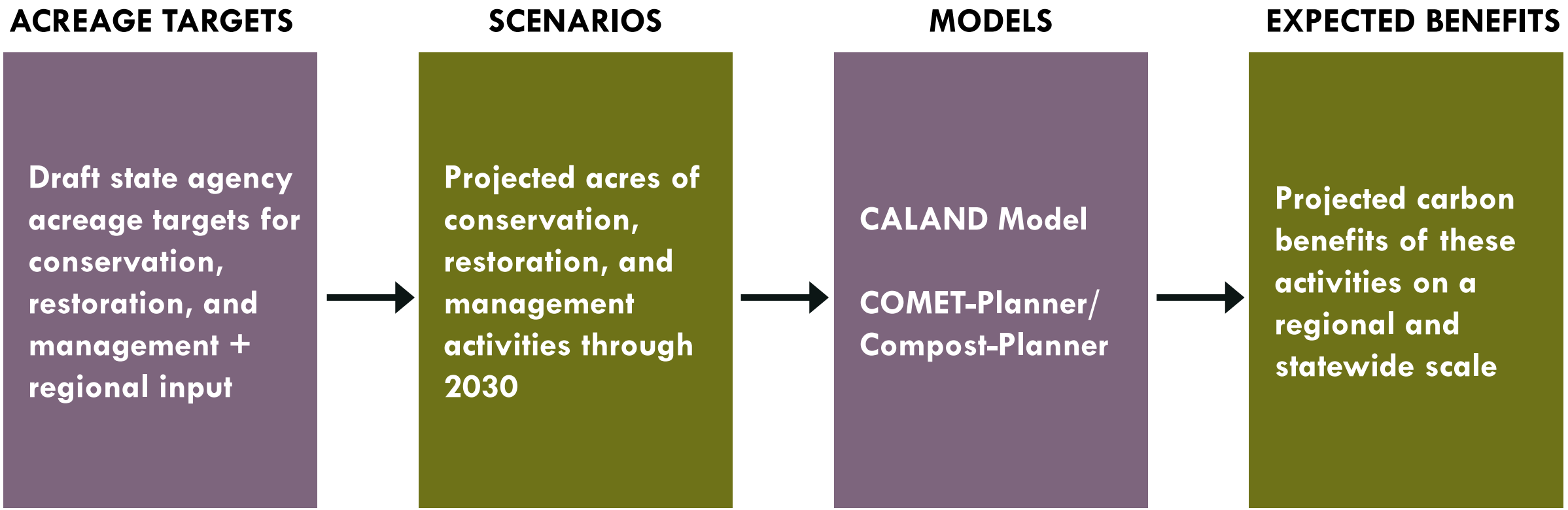
BUSINESS-AS-USUAL SCENARIO

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



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

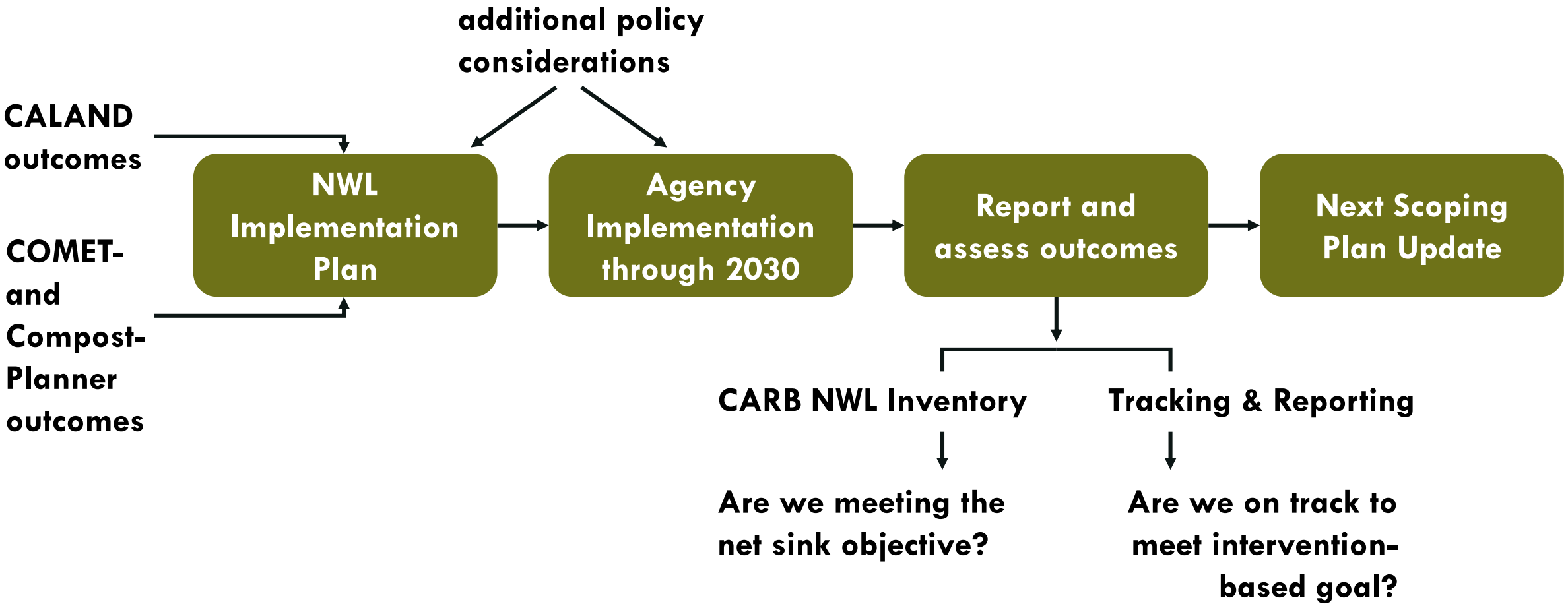
- Annual reporting on expected benefits based acres protected and brought under management using:
  - CALAND and other methods
  - COMET-Planner and existing quantification methodologies developed as part of California Climate Investments
- Develop a system for tracking and reporting actual outcomes

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

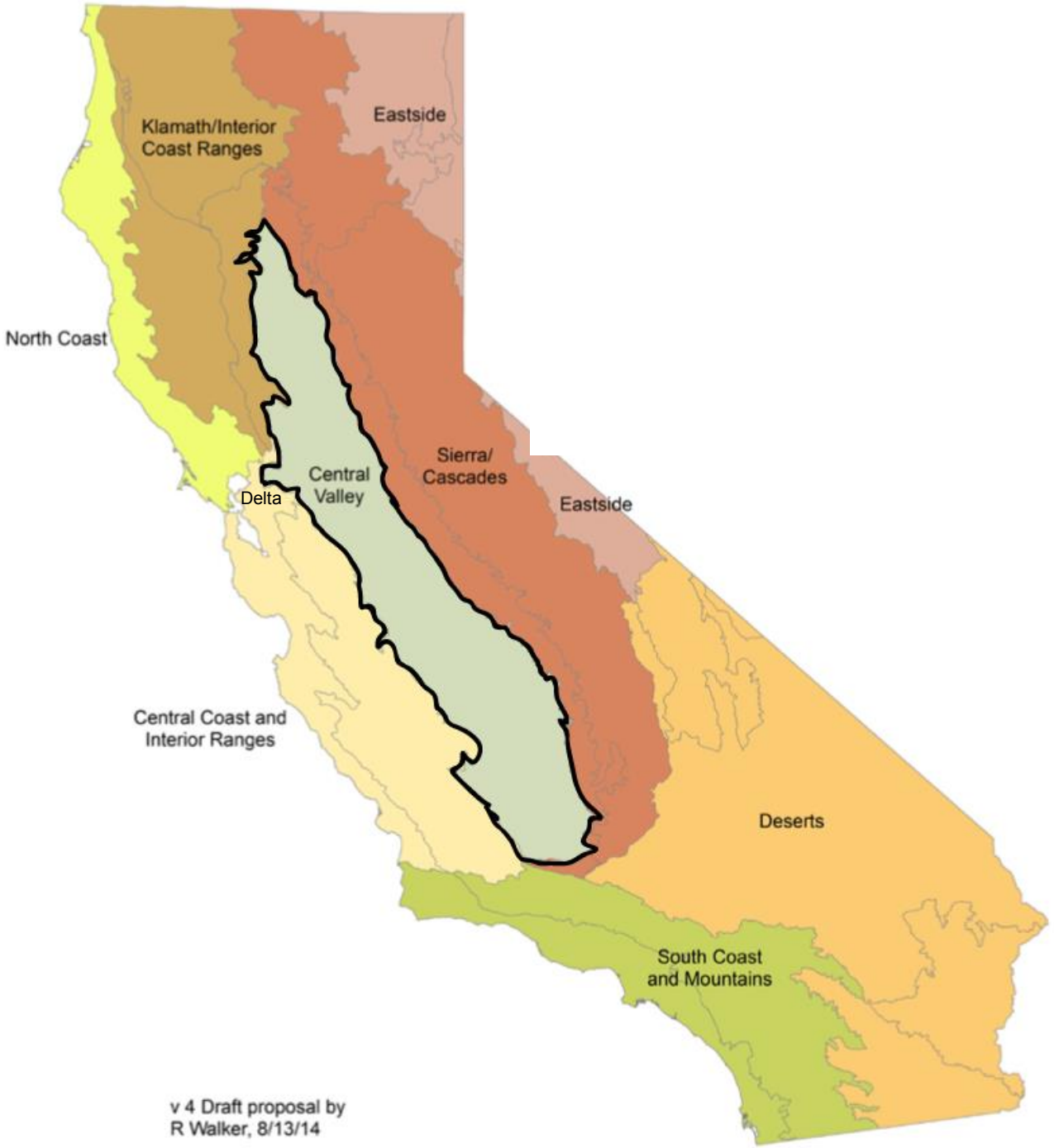
Release final Implementation Plan

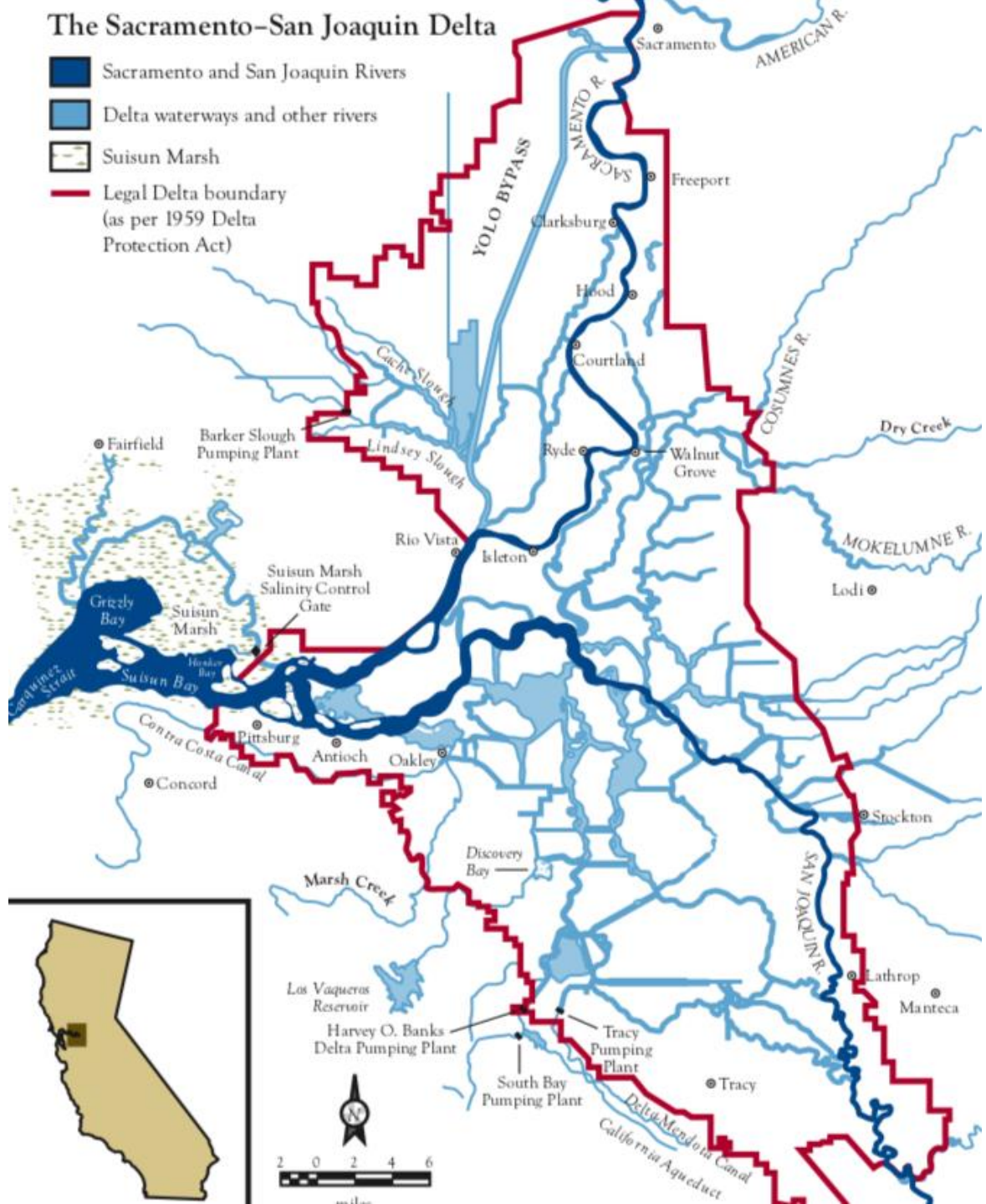
DRAFT GOALS FOR NATURAL AND WORKING LANDS IN THE SACRAMENTO VALLEY & DELTA

Ecoregions Encompassing the Sacramento-San Joaquin Delta and Valley

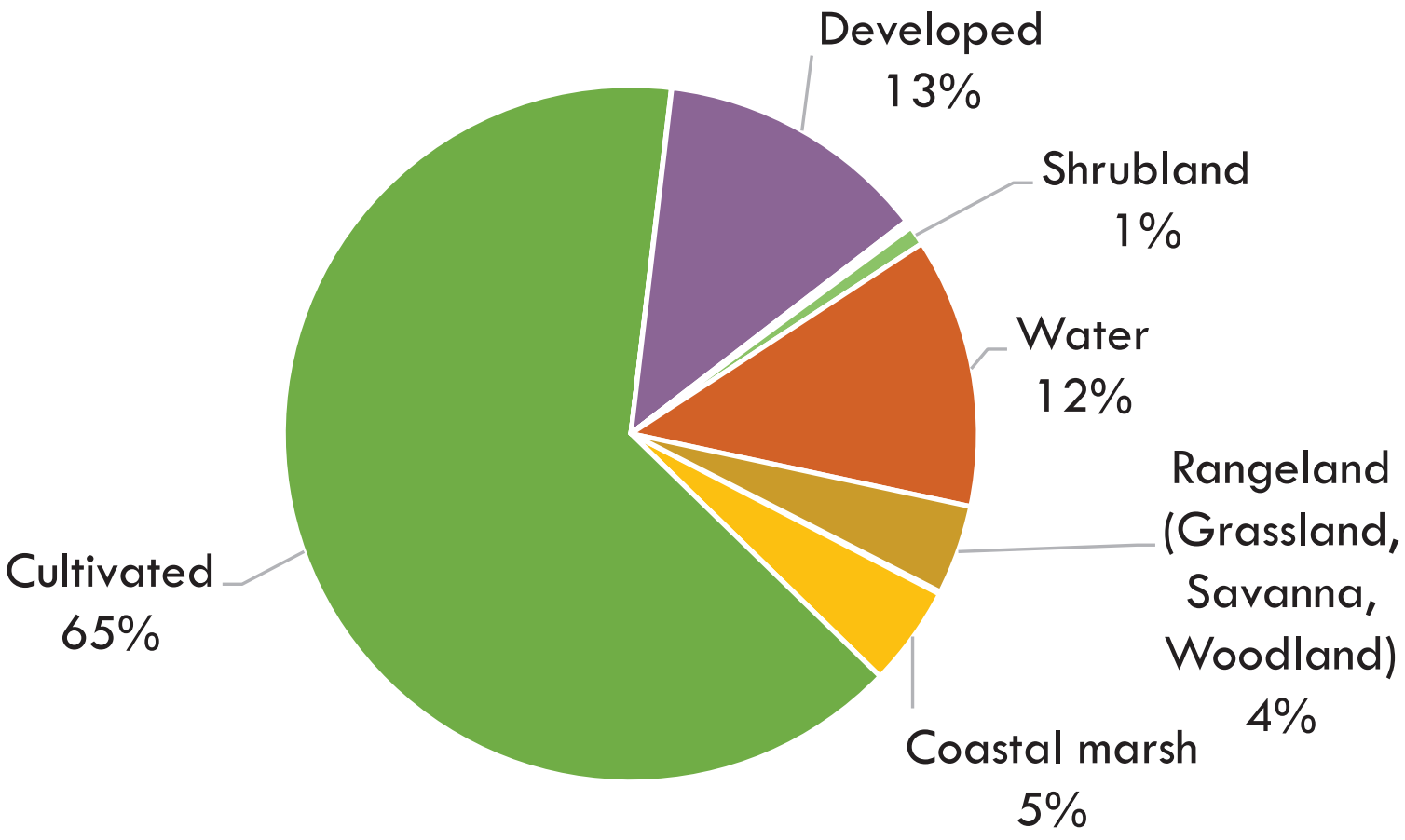
Sacramento Valley:
Northern part of Central Valley Ecoregion

Sacramento-San Joaquin Delta:
Legal Delta boundary

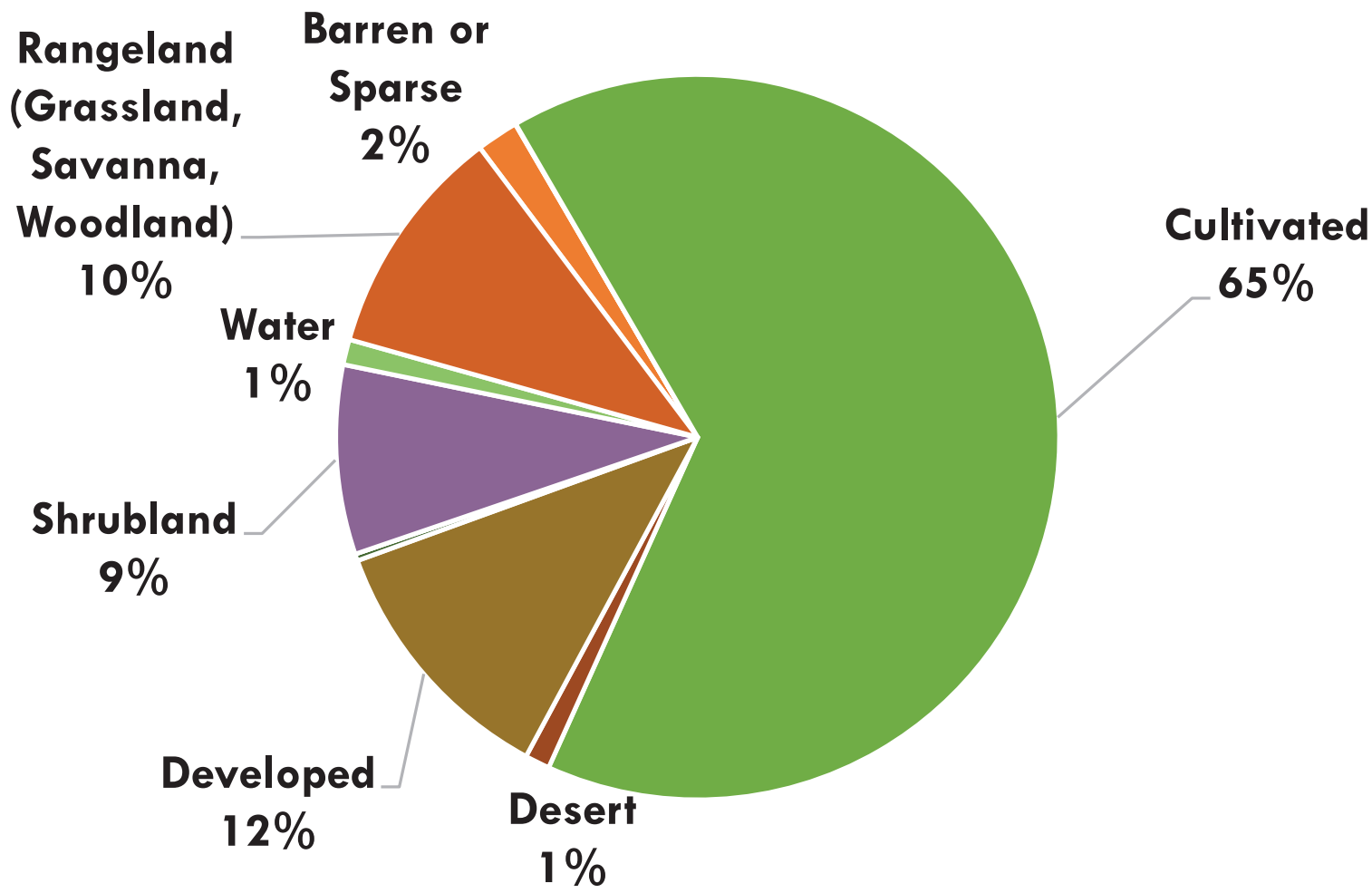



The Sacramento–San Joaquin Delta
Sacramento and San Joaquin Rivers
Delta waterways and other rivers
Suisun Marsh
Legal Delta boundary (as per 1959 Delta Protection Act)
Sacramento
AMERICAN R.
SACRAMENTO R.
YOLO BYPASS
Freeport
Clarksburg
Hood
Courtland
Cache Slough
COSUMNES R.
Dry Creek
Fairfield
Barker Slough Pumping Plant
Lindsey Slough
Ryde
Walnut Grove
Rio Vista
Isleton
MOKELUMNE R.
Lodi
Suisun Marsh Salinity Control Gate
Grizzly Bay
Suisun Marsh
Honker Bay
Carquinez Strait
Suisun Bay
Pittsburg
Antioch
Oakley
Contra Costa Canal
Concord
Stockton
Discovery Bay
Marsh Creek
SAN JOAQUIN R.
Los Vaqueros Reservoir
Lathrop
Manteca
Harvey O. Banks Delta Pumping Plant
Tracy Pumping Plant
South Bay Pumping Plant
Tracy
Delta-Mendota Canal
California Aqueduct
N
2 0 2 4 6
miles

Land Cover in the Sacramento-San Joaquin Delta



Land Cover in the Central Valley



Setting acreage targets

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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

Departments reporting conservation, restoration, and management targets in the Sacramento Valley and Delta Regions

Delta 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)

DELTA REGION: Compiled acreage targets

Practice	BAU (acres)	Ambitious (acres)	Reporting Agencies
Land Protection	8,514	21,577	Department of Water Resources, Department of Conservation, State Parks
Delta Wetland Restoration	15,000	30,000	Delta Conservancy, Wildlife Conservation Board, Department of Water Resources
Riparian Restoration	5,000	10,000	Delta Conservancy, Wildlife Conservation Board, Department of Conservation, Department of Water Resources
Coastal Marsh Restoration	41	51	Wildlife Conservation Board
Urban Forest Expansion	-	10% expansion in canopy	Department of Forestry and Fire Protection, Natural Resources Agency

Practices not reported for this region: reforestation, forest partial cut/ fuel reduction, forest understory treatment, forest prescribed burn, improved forest management, additional forest biomass utilization, oak woodland restoration, meadow restoration, soil conservation, rangeland rotational grazing, rangeland composting, coastal wetland restoration, seagrass restoration

DELTA REGION: Restoration and conservation practice descriptions & acreage targets

Description	Practice	BAU (acres)	Ambitious (acres)	Reporting Agencies
Conversion of cultivated lands to fresh managed wetlands in the Sacramento-San Joaquin Delta	**Delta wetland restoration**	15,000	30,000	Delta Conservancy, Wildlife Conservation Board, Department of Water Resources
Riparian trees, primarily oaks, are established on grassland or cultivated lands	**Riparian Restoration**	5,000	10,000	Delta Conservancy, Wildlife Conservation Board, Department of Conservation, Department of Water Resources

15,000 - 30,000 ACRES OF WETLAND RESTORATION

Reflective of the amount of **deeply subsided land** in the Delta (approx. 250,000 acres) & the amount of land under **public ownership** (approx. 40,000 acres) that could accommodate wetlands; includes all **EcoRestore** targets for wetlands

5,000 - 10,000 ACRES OF RIPARIAN RESTORATION

Reflective of over 1,000 miles of denuded waterways in the Delta that were once natural riparian habitat

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 REGION: Restoration & conservation practices descriptions and targets

Description	Practice	BAU	Ambitious	Reporting Agencies
Reestablishment of oak woodlands on grasslands and cultivated lands	**Oak Woodland Restoration**	496	1,452	State Parks
Riparian trees, primarily oaks, are established on grassland or cultivated lands	**Riparian Restoration**	14,913	22,462	Department of Conservation, State Parks, Department of Water Resources, Wildlife Conservation Board
Reduced conversion of natural and working lands to urbanized land	**Land Protection**	155,554	236,801	Department of Water Resources, Wildlife Conservation Board, Department of Conservation, State Parks

Developing targets for rangelands and cultivated lands

Soil conservation practices
Including cover cropping, reduced tillage, no-till, mulching, and compost application on cultivated lands

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

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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

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Herbaceous or woody cover establishment

QUESTIONS + DISCUSSION

Loren Kern

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

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Feedback on Acreage Targets

BY JULY 10

please submit written comments on

acreage targets to:

emma.johnston@resources.ca.gov

THANK YOU

Claire Jahns, *California Natural Resources Agency*

claire.jahns@resources.ca.gov

Shelby Livingston, *California Air Resources Board*

shelby.livingston@arb.ca.gov

Jenny Lester Moffitt, *California Department of Food and Agriculture*
jenny.lestermoffitt@cdfa.ca.gov

Emma Johnston, *Natural Resources Agency*

emma.Johnston@resources.ca.gov