

State Specific Training Module for California

Purpose of this Module

This module will provide some general information that TSPs need to conduct conservation planning in our state. This information is general in nature so the TSP may need to follow up with additional reading or training to make sure they have the knowledge, skill, licenses and certifications to conduct conservation planning in this state.

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Review of State Laws

Resource Setting	Requirement	Note
Most structural practices*	Professional Engineer (civil) license (PE-C)	1, 2, 3
“Forested environment” forestry practices*	Registered Professional Forester (RPF)	4
“Forested environment” rangeland practices*	Certified Range Manager (CRM)	5

*Practices may include installation of structures or vegetation (structural or vegetative practices), instruction and assistance to a cooperater in changes to management (management practices), or planning practices (Conservation Planning Activities (CPA) or Design and Implementation Activities (DIA)).

Many structural practices in California require a PE (civil) license, or registration as a Professional Forester. Some vegetative practices require registration as a Professional Forester or certification as a Range Manager. Planning and management practices in support of certain structural or vegetative practices may also require a corresponding certification or license. The “forested environment” refers to a CA State Board of Forestry determination, establishing the Board’s jurisdiction over a wide range of forest, brush and woodland environments ([Professional Foresters Registration \(ca.gov\)](https://www.nrcs.usda.gov/programs/forestry/registration)).

A CA NRCS TSP coordinator or CA NRCS state technical specialist may be contacted regarding licensing or other certification requirements for structural or vegetative practices. Contact information for CA NRCS TSP coordinators and state technical specialists are provided below in the presentation.

Review of State Laws – selected practices

Practice	Code	Requirement	Note
Building Envelope Improvement	672	PE	2
Drainage Water Management	554	PE-C	1,3
Lighting System Improvement	670	PE	2
Forest Stand Improvement	666	RPF	4
Farmstead Energy Improvement	374	PE	2
Prescribed Burning	338	RPF & Red Card – for forestlands only	6
Prescribed Forestry	409	RPF	4
Prescribed Grazing	528	CRM	5
Restoration and Management of Declining Habitats	643	RPF – for “forested environment” only	4
Shallow Water Development and Management	646	PE-C	1,3
Stream Habitat Improvement and Management	395	PE-C	1,3

Review of State Laws

Note	Requirement	Explanation
1	PE-C, CNMP: M&WH	By NRCS policy, Comprehensive Nutrient Management Plans require that an Inventory and Evaluations of existing and proposed structures be reviewed by a licensed Civil Engineer, indicated by a valid CA PE-C stamp.
2	Professional Engineer	A state professional engineer's (PE) license may be required for several energy conservation related practices. California state engineers licensing authority: http://www.bpelsg.ca.gov/applicants/
3	Professional Engineer – Civil	Due to earthquake hazard in California, a Civil Engineer's license (PE-C) is required for several structural practices, including some management and planning practices that may lead to detailed design specifications.
4	Registered Professional Forester	Due to environmental sensitivities in California, including erosion control, water quality and fish habitat, Registration as a Professional Forester (RPF) is required the California Board of Forestry for many activities on privately owned forestlands, including some management and planning practices. Link to RPF information: Professional Foresters Registration (ca.gov) .
5	Certified Range Manager	Certification by the Board of Forestry as a Range Manager is required for several vegetative, management and vegetative practices on rangelands intermingled with forest and woodlands in California. Link to information regarding CRM: Program for Certification of Rangeland Managers_FINALclean_102320 .
6	RPF – Burn Plan	The State of California has requirements for the responsible party of a controlled burn: Current registration as a Professional Forester, and current certification by Calfire or another agency as properly trained in fire management. Information link: Training National Interagency Fire Center (nifc.gov)

Review of State Laws

- California Environmental Quality Act: [CEQA: The California Environmental Quality Act - Office of Planning and Research](#)
- California Forest Practice Rules: [Forest Practice | CAL FIRE](#)
- California Coastal Commission:
<http://www.coastal.ca.gov/index.html>
- Environmental Justice: <http://www.calepa.ca.gov/EnvJustice/>

Review of State Laws, continued

- Land Conservation Act: [Division of Land Resource Protection \(ca.gov\)](#)
- Species of Special Concern in California: [Threatened and Endangered Species \(ca.gov\)](#)
- Sustainable Groundwater Management Act: [Sustainable Groundwater Management Act \(SGMA\) \(ca.gov\)](#)
- Porter-Cologne Water Quality Control Act: http://www.swrcb.ca.gov/laws_regulations/

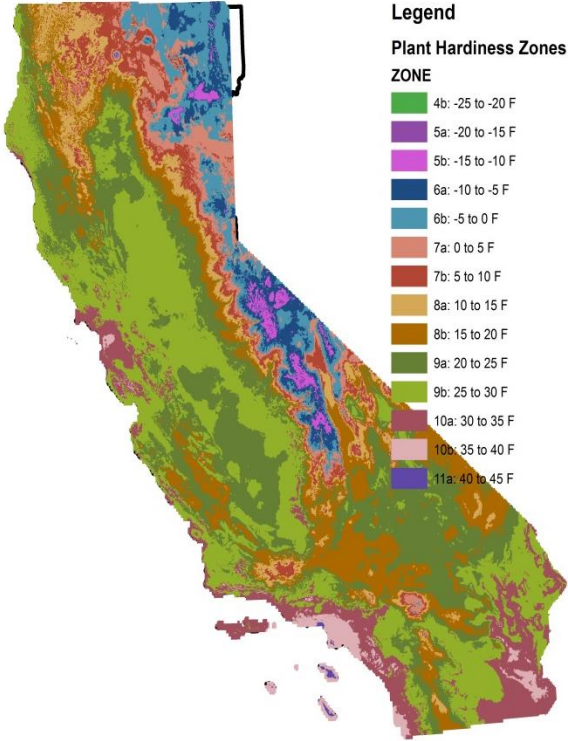
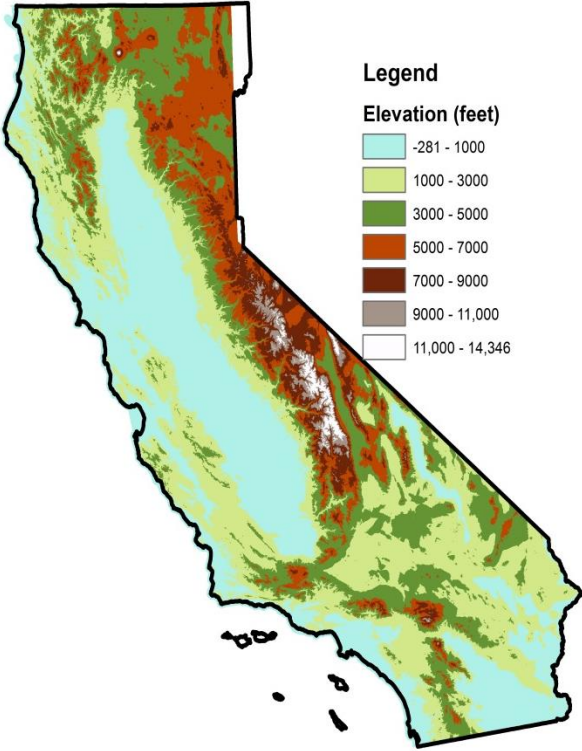
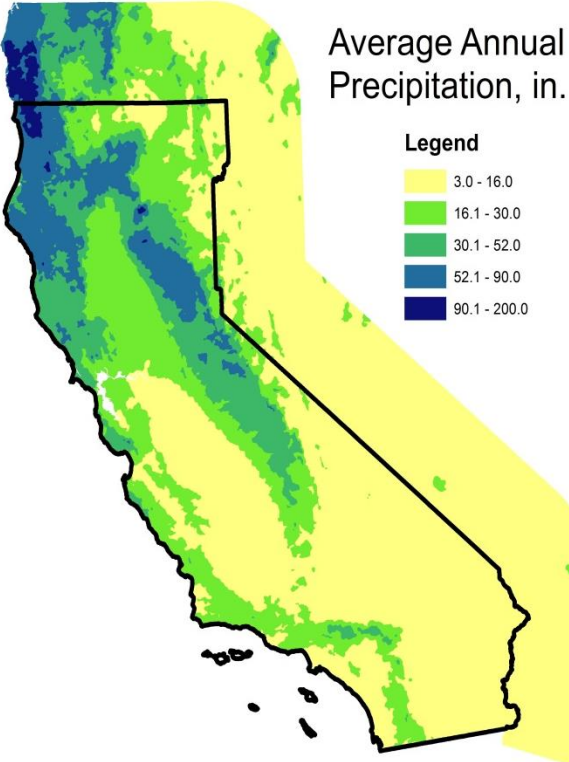
Review of State Laws, continued

- Irrigated Lands Regulatory Program:
http://www.swrcb.ca.gov/water_issues/programs/agriculture/
- (water quality) Dairy Order:
http://www.waterboards.ca.gov/rwqcb5/board_decisions/adopted_orders/general_orders/r5-2013-0122.pdf
- Grazing Regulatory Action Project:
http://www.waterboards.ca.gov/water_issues/programs/nps/docs/grap_factsheet.pdf

Review of California's resource conditions

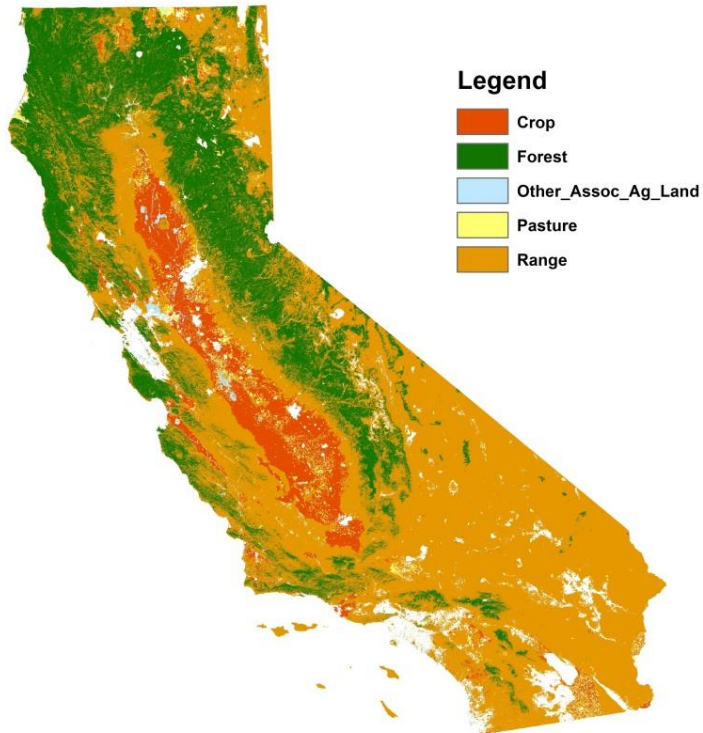
- Average annual precipitation
- Major land uses and land ownership
- Major drainage basins
- Air quality as a resource concern – areas
- US EPA water quality impaired streams
- Habitats and species of concern – areas
- Fire hazard or threat – areas of concerns
- Priority groundwater basins
- Soil erosion – areas of concern

California's Climate: Precipitation, Elevation and Plant Hardiness Zones

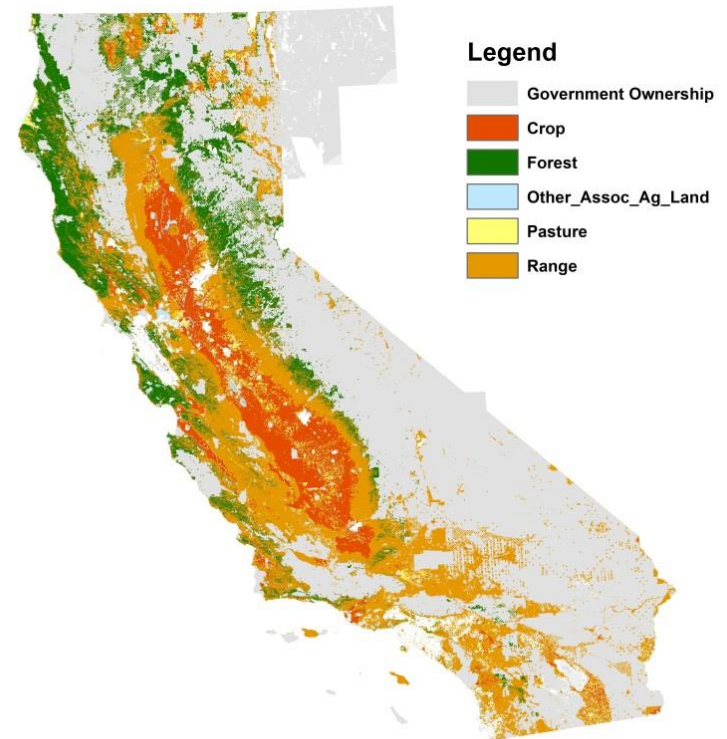


Major Land Uses in California

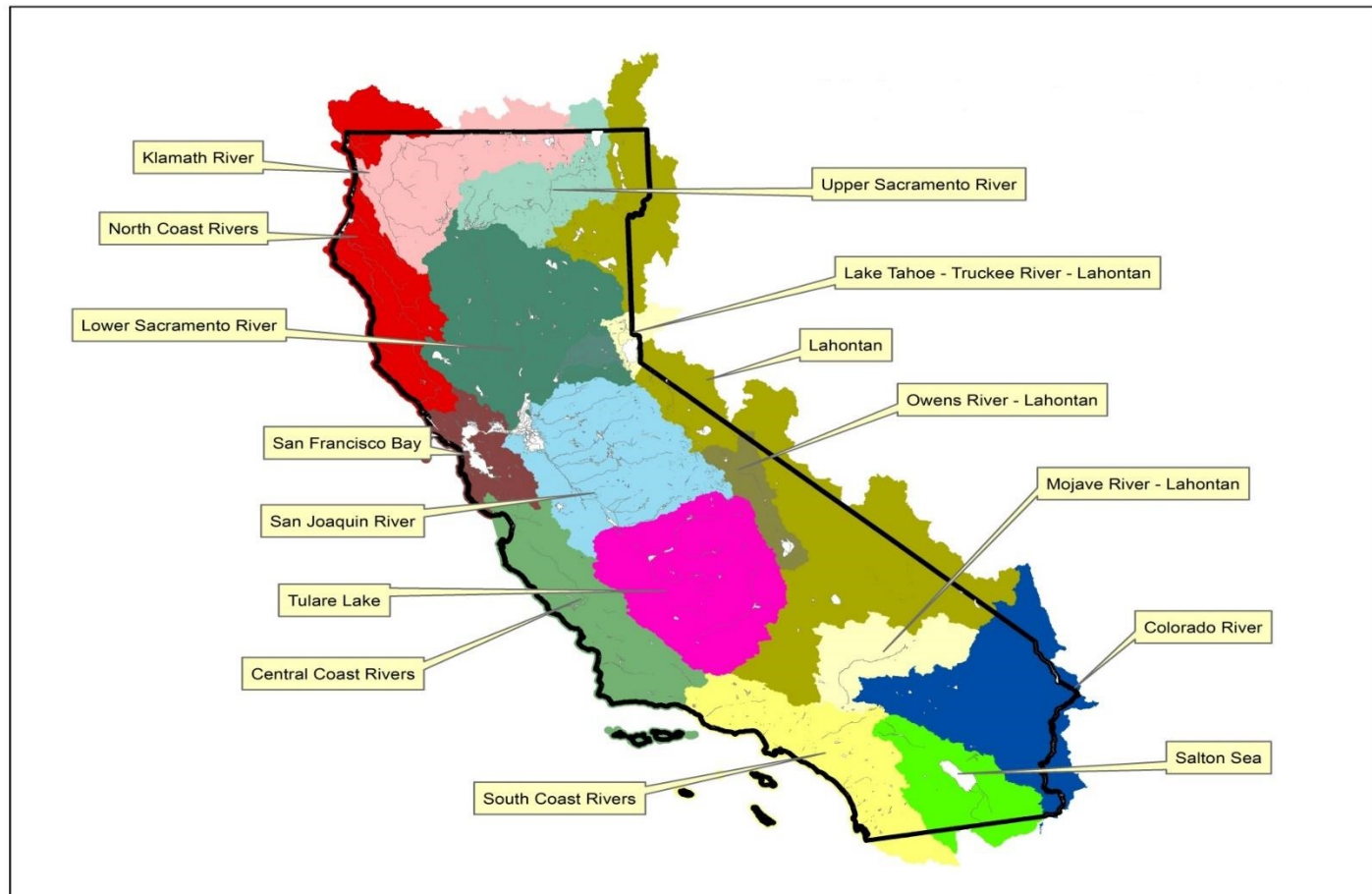
Major Land Uses in California



Major Land Uses on Private Lands in California

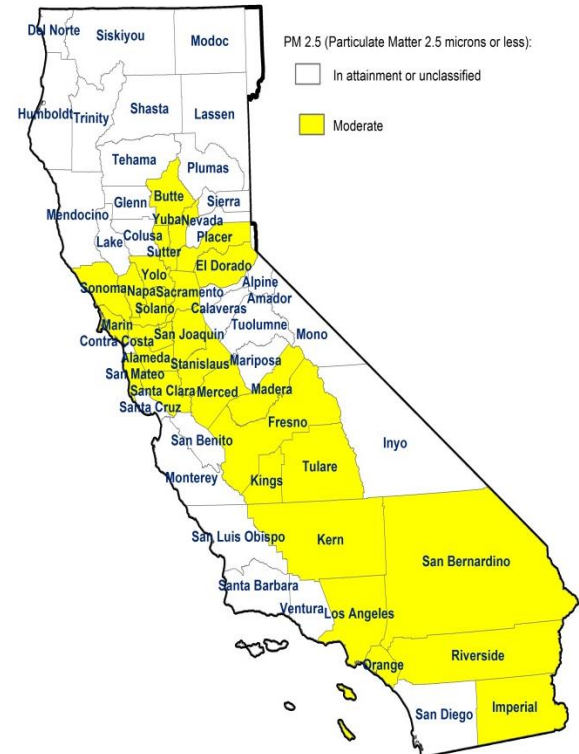
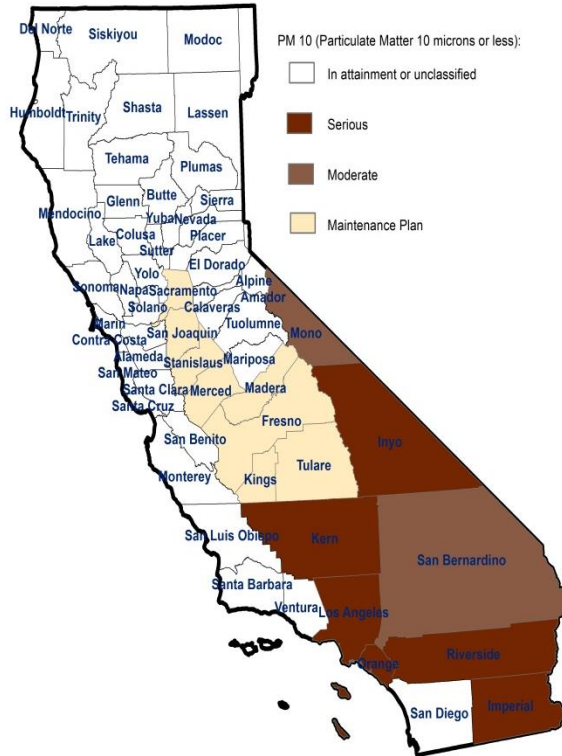
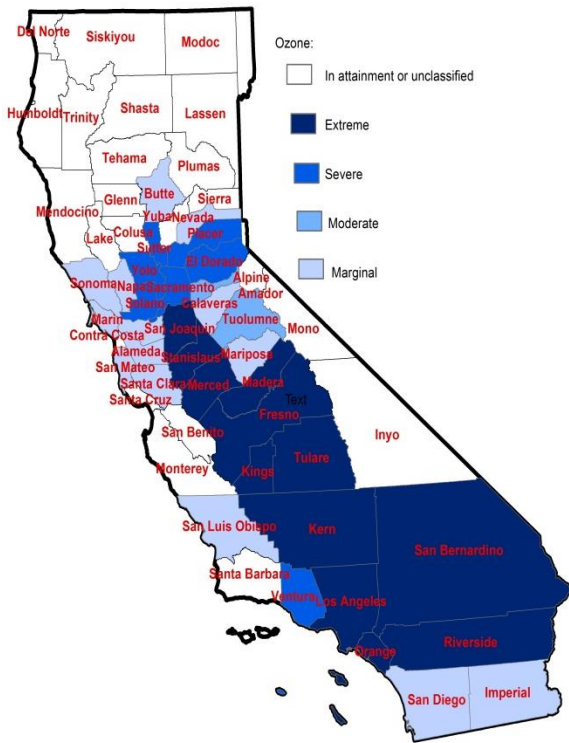


Major River Basins of California

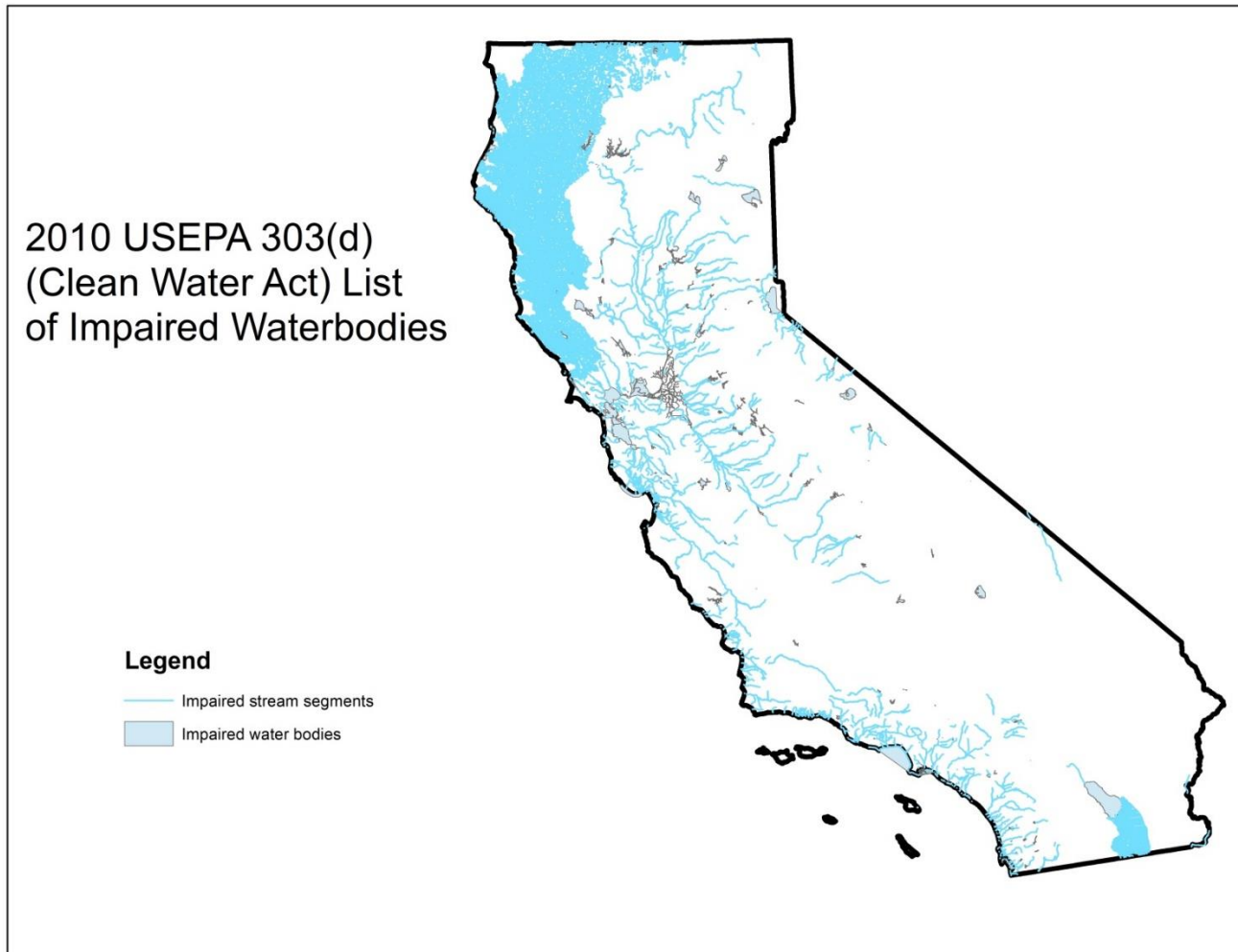


Agricultural Air Quality Planning Criteria

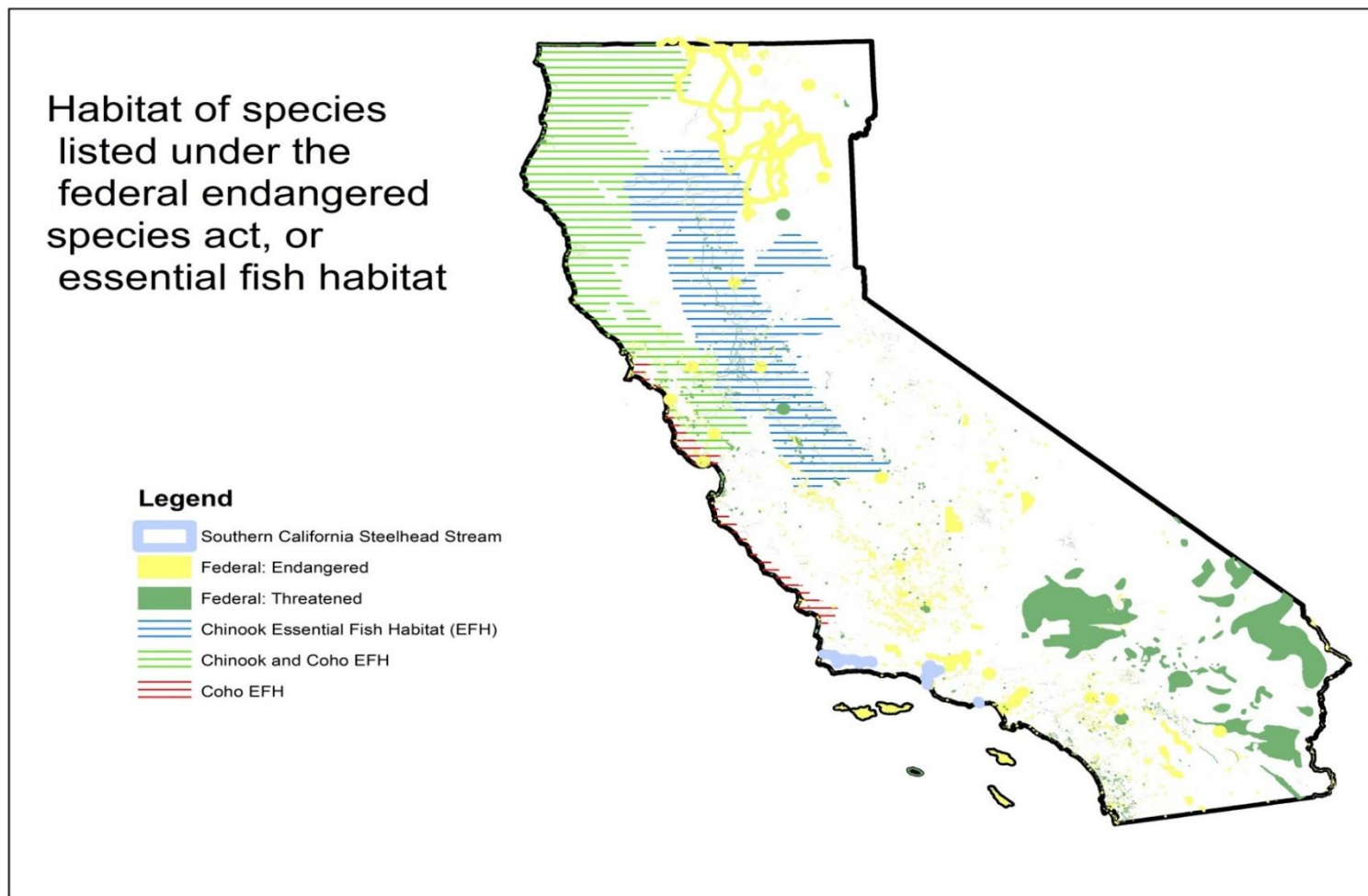
- Based on 2015 (CA) National Air Quality EQIP Initiative Program Description (and EPA Greenbook: <http://www.epa.gov/oar/oaqps/greenbk/ancl.html%23CALIFORNIA>)



Impaired Waterbodies



Endangered Species Act Habitat/Essential Fish Habitat



Fire Threat

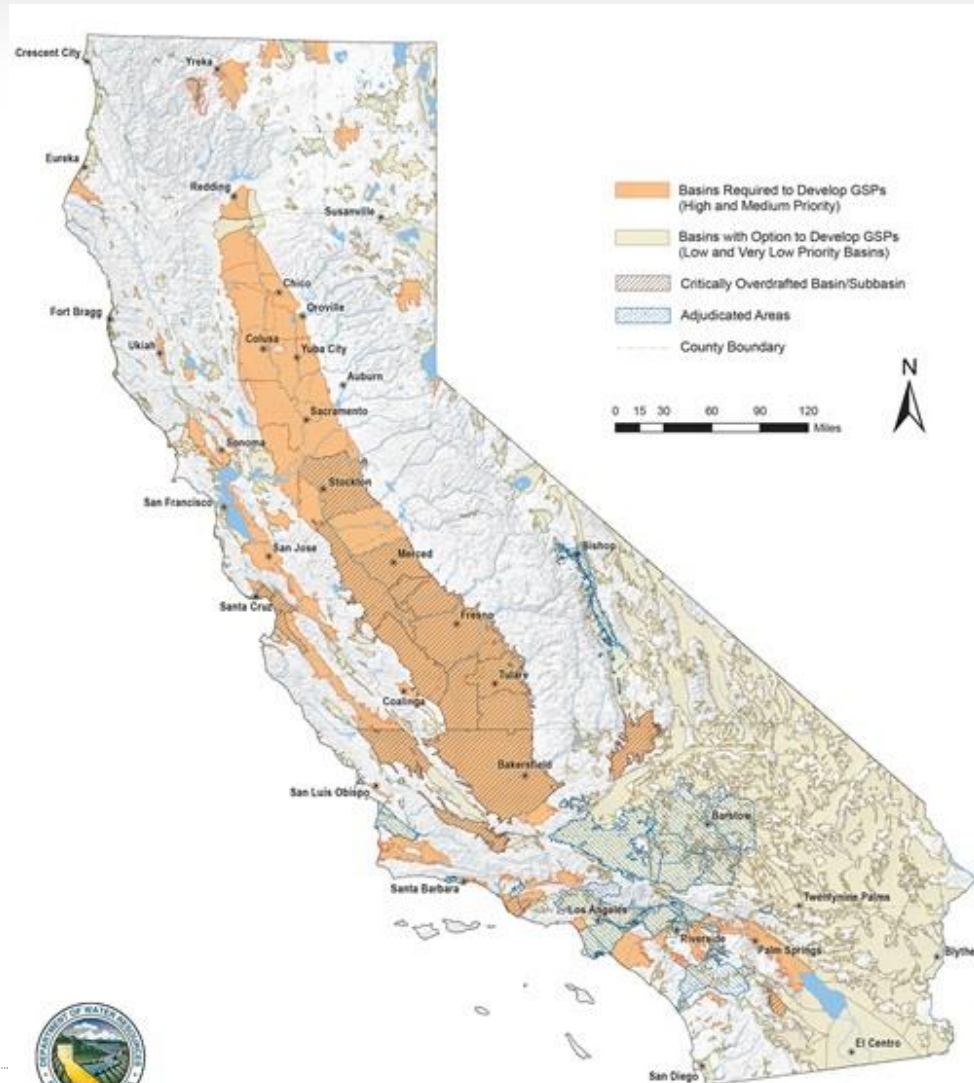
- Source:
<https://frap.fire.ca.gov/>



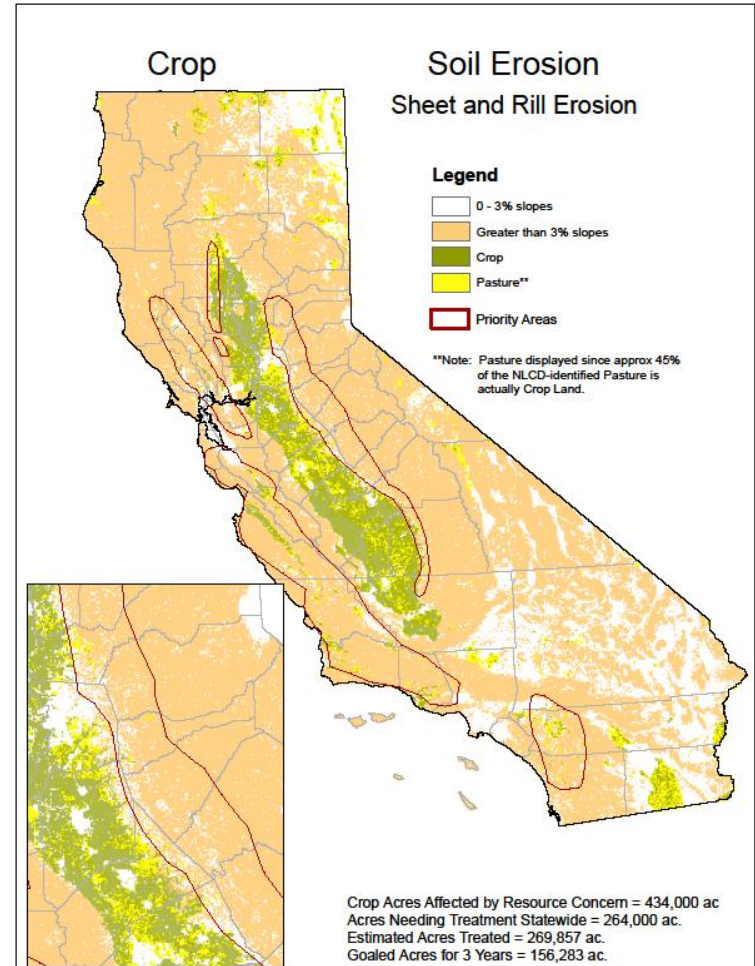
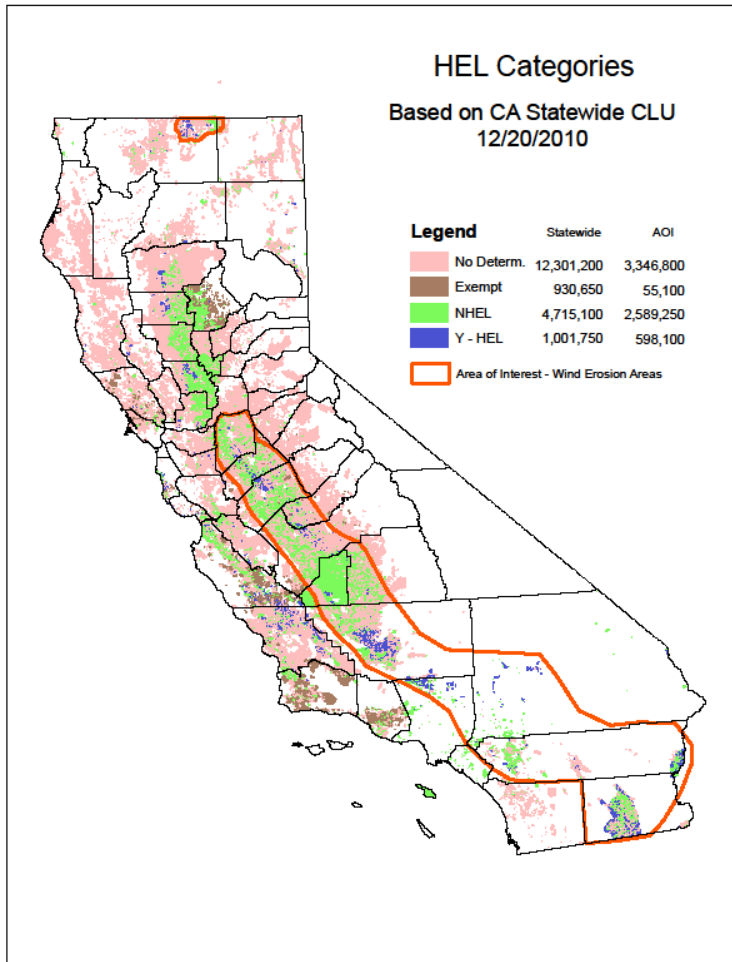
Managed Groundwater Basins in California

Source:

<https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization>

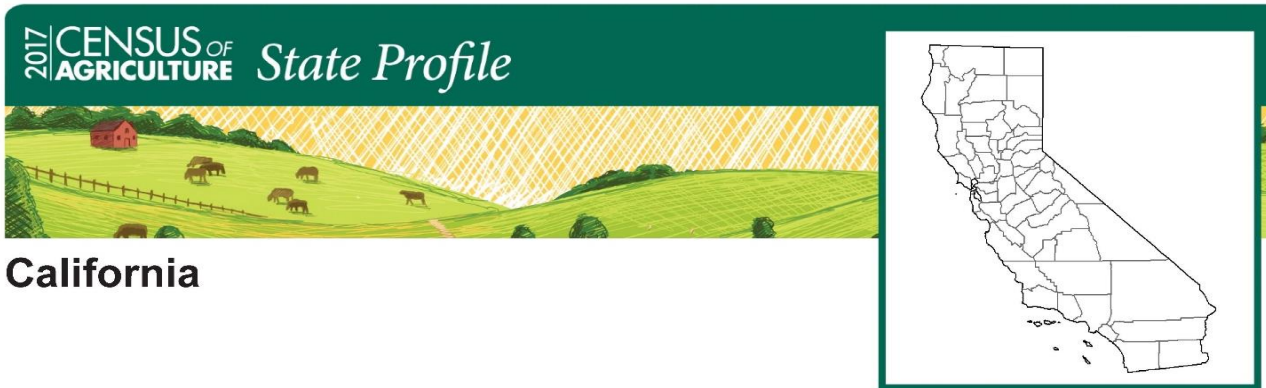


Highly Erodible Land (HEL) and Erosion Hazard



California Agriculture

- General farm information
 - Farm size and number
 - Farm size and land use
 - Farm operator characteristics
- Agricultural production
 - Major counties
 - Major crops



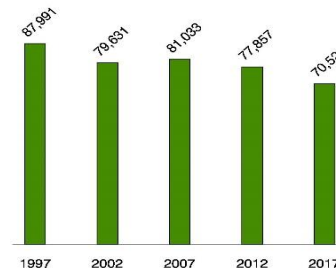
California

[cp99006.pdf](#)
[f \(usda.gov\)](#)

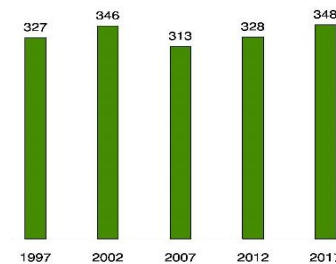
Total and Per Farm Overview, 2017 and change since 2012

	2017	% change since 2012
Number of farms	70,521	-9
Land in farms (acres)	24,522,801	-4
Average size of farm (acres)	348	+6
Total	(\$)	
Market value of products sold	45,154,359,000	+6
Government payments	127,938,000	-13
Farm-related income	1,404,033,000	+17
Total farm production expenses	37,775,929,000	+7
Net cash farm income	8,910,399,000	+5
Per farm average	(\$)	
Market value of products sold	640,297	+17
Government payments (average per farm receiving)	24,112	+25
Farm-related income	66,671	+31
Total farm production expenses	535,669	+18
Net cash farm income	126,351	+15

Number of Farms, 1997-2017



Average Farm Size, 1997-2017 (acres)



Total Producers ^c	124,405	Percent of farms that:	Top Crops in Acres ^d
Sex			
Male	78,170	Have internet access	82
Female	46,235		
Age		Farm organically	5
<35	7,983		
35 – 64	69,692	Sell directly to consumers	11
65 and older	46,730		
Race		Hire farm labor	43
American Indian/Alaska Native	1,428		
Asian	6,651	Are family farms	93
Black or African American	429		
Native Hawaiian/Pacific Islander	487		
White	113,717		
More than one race	1,693		
Other characteristics			
Hispanic, Latino, Spanish origin	14,597		
With military service	12,113		
New and beginning farmers	34,571		

Livestock Inventory (Dec 31, 2017)	
Forage (hay/haylage), all	1,555,233
Almonds	1,265,815
Vegetables harvested, all	1,170,573
Grapes	935,272
Rice	436,710
Broilers and other meat-type chickens	44,695,175
Cattle and calves	5,185,593
Goats	133,330
Hogs and pigs	96,456
Horses and ponies	99,621
Layers	14,194,957
Pullets	4,484,233
Sheep and lambs	475,291
Turkeys	3,756,534

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.

^a May not add to 100% due to rounding. ^b Among states whose rank can be displayed. ^c Data collected for a maximum of four producers per farm.

^d Crop commodity names may be shortened; see full names at www.nass.usda.gov/go/cropnames.pdf. ^e Position below the line does not indicate rank.

(D) Withheld to avoid disclosing data for individual operations. (NA) Not available. (Z) Less than half of the unit shown. (-) Represents zero.

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Crop Production by County in California

Source: <http://www.cdfa.ca.gov/Statistics>

2021 Census		(Bill. \$)		
Rank	County	Farmgate Receipts	% of Total	Major Crops
1	Kern	8.3	13%	Grapes, Oranges, Pistachios, Almonds
2	Fresno	8.1	13%	Grapes, Pistachios, Milk, Oranges
3	Tulare	8.1	13%	Oranges, Milk, Grapes, Cattle
4	Monterey	4.1	6%	Lettuce, Strawberries, Broccoli, Grapes
5	Merced	3.7	6%	Milk, Almonds, Sweet Potato, Chicken
6	Stanislaus	3.5	5%	Almonds, Milk, Chicken, Cattle
7	San Joaquin	3.2	5%	Almonds, Milk, Grapes, Walnuts
8	Kings	2.4	4%	Milk, Pistachios, Almonds, Cattle
9	Imperial	2.3	4%	Cattle, Lettuce, Alfalfa, Broccoli
10	Ventura	2.1	3%	Strawberries, Lemons, Avocados, Celery
	Other	19	29%	Grapes, Milk, Almonds, Strawberries
	Total	64		

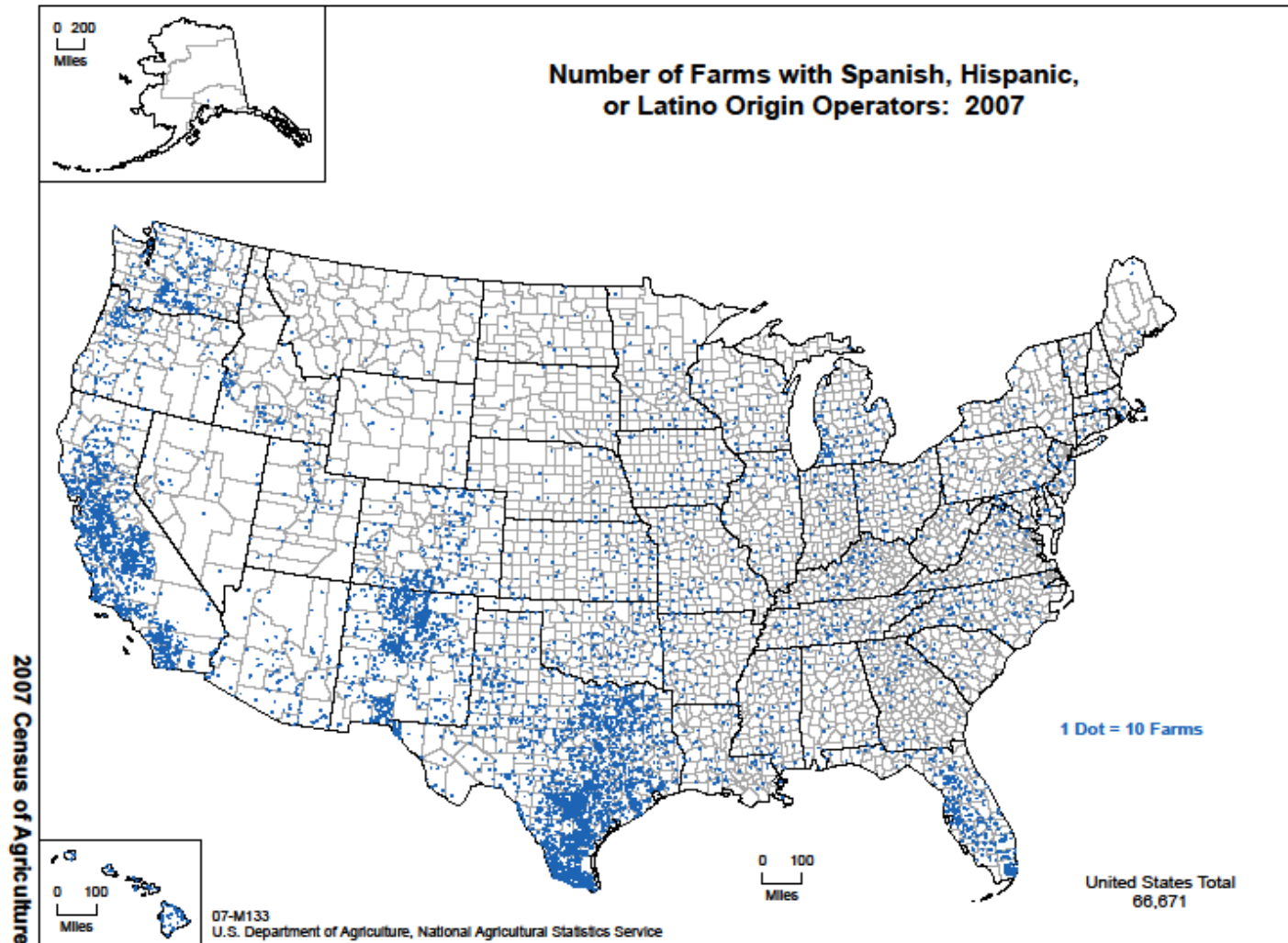
Major Crops of California

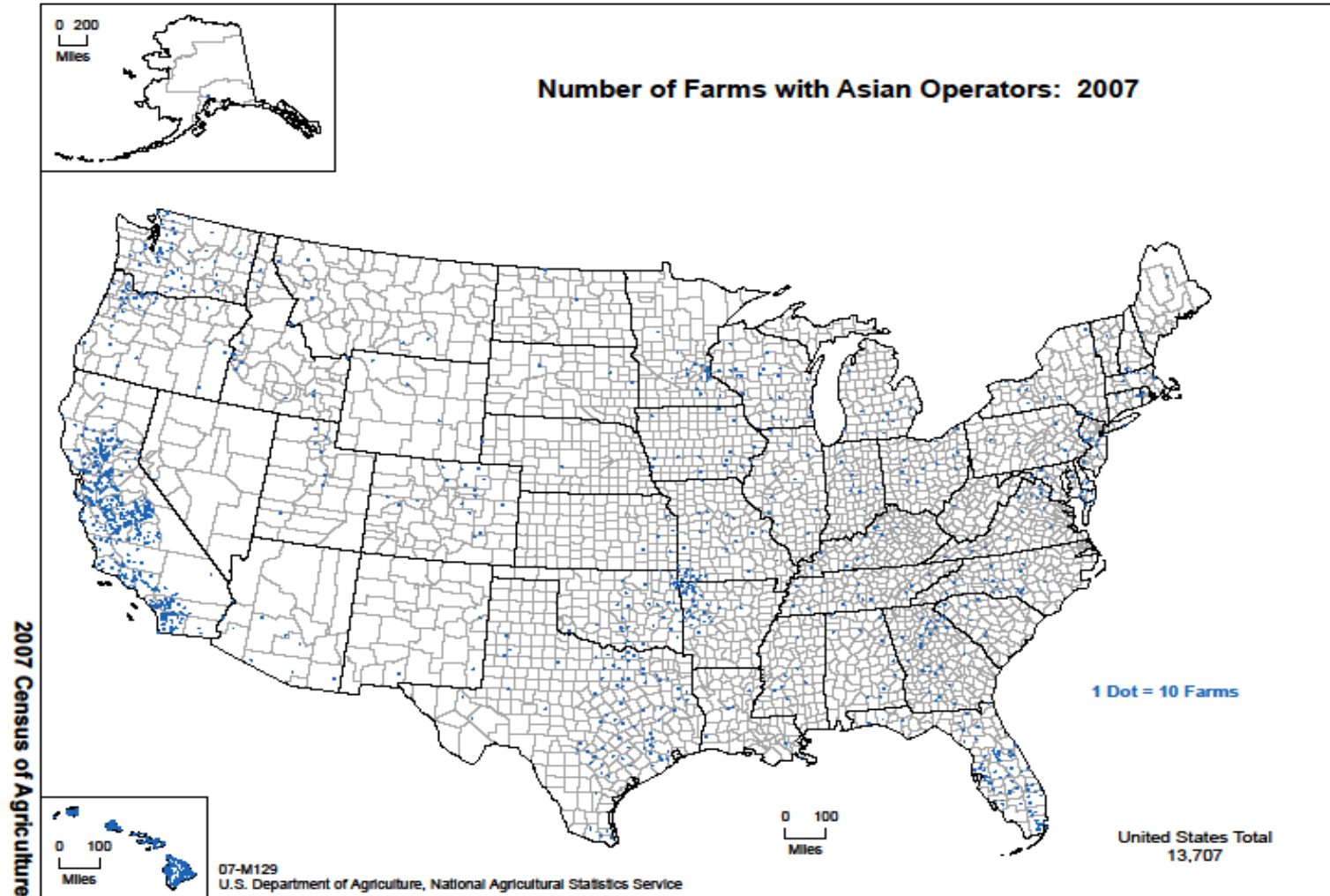
Source: <http://www.cdfa.ca.gov/Statistics>

2021 Rank	Census Crop	(Bill. \$)		Leading counties
		Farmgate Receipts	% of Total	
1	Grapes	7.4	11%	Kern, Fresno, Napa, Tulare, Sonoma
2	Milk	7.1	11%	Tulare, Merced, Stanislaus, Kings, Kern
3	Almonds	7.0	11%	Kern, Stanislaus, Merced, San Joaquin, Tulare
4	Oranges, all	4.3	7%	Tulare, Kern, Fresno, San Diego, Madera
5	Cattle, all	3.3	5%	Tulare, Imperial, Fresno, Merced, Kern
6	Pistachios	3.3	5%	Kern, Fresno, Tulare, Kings, Madera
7	Strawberries	3.1	5%	Monterey, Santa Barbara, Ventura, San Luis Obispo, Santa Cruz
8	Lettuce, all	2.1	3%	Monterey, Imperial, Santa Barbara, Fresno, San Benito
9	Tangerines	1.4	2%	Kern, Tulare, Fresno, Madera, Riverside
10	Peaches	1.3	2%	Fresno, Tulare, Kings, Stanislaus, Merced
	Other	24	38%	Fresno, Merced, Tulare, Monterey, San Joaquin

Social Considerations

- Environmental Justice areas of concern
- Hispanic farm operator location
- Hispanic farm operator location
- Asian farm operator location
- Working with minority producers





Working with Minority Producers:

- California has relatively large numbers of Hispanic and Asian farmers (prior slides), as well as many small-scale, elderly, female, beginning and veteran farmers (see Census of Agriculture, above).
 - Language or cultural differences can be barriers to communication. CA NRCS and some resource conservation districts (see map and list, below, this powerpoint) may be of assistance to planners. TSP planners should contact the field office they are working with when this appears to be the case.

Working with Minority Producers:

- California also has a relatively large number of, mostly small, tribal nations. The smaller nations are often called “Rancherias,” a local term ([reference](#)).
 - CA NRCS has specialist staff to help its employees do conservation planning on tribal lands. When working with a federally recognized tribe (see map and list, below, this powerpoint), TSP planners should let the field office for that service area know before contacting the tribal government directly.

Emerging Resource Issues

- Climate Change
- Soil Health
- Groundwater
- Drought
- Flood
- Fire
- Endangered Species

Climate Change/Carbon Sequestration

- California Climate Action Network (CalCAN)
 - <http://calclimateag.org/>
- USDA Climate Regional Hubs (California Sub-hub)
 - <http://climatehubs.oce.usda.gov/southwest-subHub-california>
- Marin Carbon Project
 - <http://www.marincarbonproject.org/>

Soil Health

- Conservation Agriculture Systems Innovation
 - <http://casi.ucanr.edu/>
- Walnut grower Russ Lester cover crops video
 - <https://www.youtube.com/watch?v=wGimp3tx7xc>
- CA NRCS soil health portal
 - [Soil Health | Natural Resources Conservation Service \(usda.gov\)](#)

Groundwater Contamination and Depletion

- CA Department of Pesticide Regulation groundwater protection program
 - <http://www.cdpr.ca.gov/docs/emon/grndwtr/index.htm>
- University of California at Davis groundwater nitrate study
 - <http://groundwaternitrate.ucdavis.edu/>
- Sustainable Groundwater Management Act (SGMA)
 - [Sustainable Groundwater Management Act \(SGMA\) \(ca.gov\)](#)

Drought Resiliency

- Drought.gov
 - [California Region Conditions | Drought.gov](#)

- California drought monitor
 - [California | Drought.gov](#)

- California drought action
 - [Current drought conditions \(ca.gov\)](#)

Flood Hazard

- California Office of Emergency Services
 - [Home Page - Cal MyHazards](#)

- California Water Watch
 - [California Water Watch](#)

- FEMA – California floodplain maps
 - [California Flood Maps | FEMA Flood Zone \(floodfind.com\)](#)

Fire Hazard

- CAL FIRE

- [California Department of Forestry and Fire Protection | CAL FIRE](#)

- California FRAP

- [Fire and Resource Assessment Program | CAL FIRE](#)

- Office of the State Fire Marshal

- [OSFM \(ca.gov\)](#)

Endangered or Threatened Species

- California Endangered Species Act
 - [Threatened and Endangered Species \(ca.gov\)](#)
- CNDDDB - Plants and Animals
 - [CNDDDB - Plants and Animals \(ca.gov\)](#)
- California Native Plant Society
 - [California Native Plant Society \(cnps.org\)](#)

Index of Personnel

(CA NRCS TSP mentors and coordinators, April 2023)

Name	Title	Relationship to TSPs	Contact information*
Jon Gustafson	State Resource Conservationist	Oversees Ecological Sciences programs and staff	(530) 792-5654, jon.gustafson@usda.gov
Greg Norris	State Conservation Engineer	Oversees Engineering programs and staff	(530) 792-5609, greg.norris@usda.gov
Jessica Rock	Acting EQIP/CSP Manager	Oversees financial assistance programs, including Environmental Quality Incentives Program.	(530) 792-5600, Jessica.rock@usda.gov
Hue Dang	State Planning Specialist	Oversees conservation planning training, policy and quality assurance, including TSP conservation planner certification.	(530) 792-5657, hue.dang@usda.gov
Steve Hill	Natural Resource Manager	TSP program coordinator.	(530) 792-5642, steve.hill@usda.gov

*Contact information: All are located at the Davis State Office, USDA NRCS, 430 G Street, #2146, Davis, CA 95616.

Index of personnel continued:

Name	Title	Relationship to TSPs	Contact information
Hudson Minsheu	State Agronomist	Oversees agronomic practices.	(530) 792-5659, HUDSON.MINSHEW@USDA.GOV
<i>*Brook Gale</i>	Nutrient Management Agronomist	Oversees nutrient management related practices as delegated by State Agronomist.	(559) 490-5122, brook.gale@usda.gov
Chris Zimny	State Forester	Oversees forestry practices.	(530) 792-5655, CHRIS.ZIMNY@USDA.GOV
Alan Bower	State Range Conservationist	Oversees range management practices.	(530) 792-5658, ALAN.BOWER@USDA.GOV
Tom Moore	State Wildlife Biologist	Oversees wildlife related practices.	(530) 792-5652, THOMAS.MOORE@CA.USDA.GOV
Ha Truong	Agricultural Engineer	Oversees several structural and related practices as delegated by State Conservation Engineer.	(530) 792-5615, HA.TRUONG@USDA.GOV

**Brook Gale is located at an NRCS Area Office: 1907 N. Gateway Blvd., Suite 101, Fresno CA 93727.*

Non-Discrimination Statement

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Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotope, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

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Certificate of Completion

After viewing the State Specific Training module, please print and sign the completion certificate on the following slide.

The certificate is your acknowledgement that based on the information provided in this module, you have the proper knowledge, skills and ability to conduct planning in this State.

Within your NRCS Registry profile, enter the training and upload the signed certificate to verify completion.

STATE SPECIFIC TRAINING MODULE COMPLETION CERTIFICATE

I, _____ hereby verify I have viewed and understand the content of *California State*
TSP Name
Specific Training Module and affirm I have the knowledge, skills, and ability to conduct conservation planning
services in this state.

TSP Signature

Date