

# TECHNICAL NOTES

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U.S. Department of Agriculture

Natural Resources Conservation Service

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TN-SOILS CA-20

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## IMPORTANT FARMLANDS DEFINITIONS AND CRITERIA AS APPLIED IN CALIFORNIA

### BACKGROUND

In 1979 the State of California identified a need to accurately define and map Important Farmlands in support of the state's Williamson Act (passed in 1965) which is used to protect prime agricultural lands. In 1980, a State Land Use Task Force of the California Rural Development Committee was formed to develop definitions and criteria for the California version of the national LIM (Land Inventory & Monitoring) program (conducted by the SCS). This task force was chaired by the Soil Conservation Service (SCS) (renamed as the Natural Resources Conservation Service, NRCS), but was also composed of other USDA personnel as well as California Department of Conservation staff.

The definitions and criteria for the Important Farmlands Inventory in California were agreed upon by California Rural Development Committee (CRDC) on May 29, 1980. This decision resulted in the National Conservation Planning Manual (NCPM) II-V (2<sup>nd</sup> edition) – Supplement CA-4 “Supplemental Material on Important Farmlands Inventory in California” dated February 20, 1981. This is a California version of the national LIM criteria. The SCS National Office approved the additional criteria in order to refine the definition of “Additional Farmlands of Statewide Importance. This revised definition enables a clearer separation of nearly prime farmland producing high value crops originally included under Unique Farmlands.

In addition, after conferring with California users of Prime Farmland lists including state, federal, and local agencies, it was determined that those soil map units containing both Prime Farmland soils and Urban Land components should not be omitted from Prime Farmland lists. The soil components meet the California Prime Farmland criteria as outlined in Supplement CA-4 and state and local agencies have requested that these soil map units be identified in the Important Farmlands Mapping and Monitoring process.

The Urban Land portions of these map units should not be considered Prime Farmland, but when the soil portion of the map unit in question meets the criteria, the map unit should be placed on the Prime farmland list for that soil survey area. If a soil-urban land map unit is placed on the list, the following statement will be included at the top of the page: “Urban or built-up areas within map units listed below are not considered Prime Farmland”.

This California supplement to National Soil Survey Handbook (NSSH) guidance is documented with National Soil Survey Handbook (430-VI-NSSH) California Supplement 93-1 dated November 20, 1993 and is filed under NSSH section 622.03- Farmland Classification.

This Soils Technical Note is a re-issue of the original Supplement CA-4 to the National Conservation Planning Manual (NCPM, Second Edition) which is no longer supported.

## **SUPPORTING DOCUMENTS**

The National Soil Survey Handbook Part 622 – Ecological and Interpretive Groups, Section 622.03 Farmland Classification.

## **FILING INSTRUCTIONS**

This technical note should be filed in the Soils Section of the of the Technical Notes binder. Additional copies of this technical note are available at the California Section I of the eFOTG (electronic Field Office Technical Guide) under the folder Technical Notes under the sub-folder Soils. <http://www.nrcs.usda.gov/technical/efotg/>

## **PRIME FARMLANDS**

Prime Farmland is land best suited for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not urban built-up land or water). It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Prime Farmland meets all the following criteria:

1. The soils have:
  - A. Aquic, udic, ustic, or xeric moisture regimes and an available water capacity of at least 4 inches (10 cm) per 40 to 60 inches (1 to 1.52 meters) of soil to produce the commonly grown cultivated crops (cultivated crops include, but are not limited to, grain, forage, fiber, oilseed, sugar beets, vegetables, orchard, vineyard, and bush fruit crops) adapted to the region in 7 or more years out of 10; OR
  - B. Xeric, ustic, aridic, or torric moisture regimes in which the available water capacity is at least 4 inches (10 cm) per 40 to 60 inches (1 to 1.52 meters) of soil and the area has a developed irrigation water supply that is dependable (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown) and of adequate quality; AND
2. The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50 cm), have a mean annual temperature higher than 32 degrees F (0 degrees C). In addition, the mean annual summer temperature at this depth in soils with an O horizon is higher than 47 degrees F (8 degrees C); in soils that have no O horizon, the mean annual summer temperature is higher than 59 degrees F (15 degrees C); AND
3. The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1 meter); AND

4. The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; AND,
5. The soils can be managed so that, in all horizons within a depth of 40 inches (1 meter), during part of each year the electrical conductivity of the saturation extract is less than 4 deciSiemens/meter (dS/m) and the sodium adsorption ration (SAR) is less than 13; AND,
6. The soils are not flooded frequently during the growing season (less often than once in 2 years); AND,
7. The product of Kf (soil erodibility factor, fine-earth) multiplied by the percent slope is less than 2.0; AND,
8. The soils have a permeability rate of at least 0.06 inch (0.15 cm) per hour in the upper 20 inches (50 cm) and the mean annual soil temperature at a depth of 20 inches (50 cm) is less than 59 degrees F (15 degrees C); the permeability rate is not a limiting factor if the mean annual temperature soil temperature is 59 degrees F (15 degrees C) or higher; AND,
9. Less than 10 percent of the surface layer (upper 6 inches (15 cm)) in these soils consists of rock fragments coarser than 3 inches (7.6 cm); AND,
10. These soils have a minimum rooting depth of 40 inches (1 meter).

#### **ADDITIONAL FARMLANDS OF STATEWIDE IMPORTANCE**

Farmland of Statewide Importance is land other than Prime Farmland that has a good combination of physical and chemical characteristics for producing food, feed, forage, and fiber and oilseed crops and is available for these uses (the land could be cropland, pastureland, rangeland, forest land or other land, but not urban built-up land or water).

Farmland of Statewide Importance meets all the following criteria:

1. The soils have:
  - A. Aquic, udic, ustic, or xeric moisture regimes and an available water capacity of at least 3.5 inches (8.8 cm) per 40 to 60 inches (1 to 1.52 meters) of soil to produce the commonly grown cultivated crops (cultivated crops include, but are not limited to, grain, forage, fiber, oilseed, sugar beets, vegetables, orchard, vineyard, and bush fruit crops) adapted to the region in 7 or more years out of 10; OR
  - B. Xeric, ustic, aridic, or torric moisture regimes in which the available water capacity is at least 3.5 inches (8.8 cm) per 40 to 60 inches (1 to 1.52 meters) of soil and the area has a developed irrigation water supply that is dependable (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown) and of adequate quality; AND,
2. The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50 cm), have a mean annual temperature higher than 32 degrees F (0 degrees C). In

addition, the mean annual summer temperature at this depth in soils with an O horizon is higher than 47 degrees F (8 degrees C); in soils that have no O horizon, the mean annual summer temperature is higher than 59 degrees F (15 degrees C); AND,

3. The soils have a pH between 4.5 and 9.0 in all horizons within a depth of 40 inches (1 meter) or in the root zone if the root zone is less than 40 inches deep; AND,
4. The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; AND,
5. The soils can be managed so that, in all horizons within a depth of 40 inches (1meter), during part of each year the electrical conductivity of the saturation extract is less than 16 deciSiemens/meter (dS/m) and the sodium adsorption ratio is less than 25; AND,
6. The soils are not flooded frequently during the growing season (less often than once in two years); AND,
7. The product of Kf (soil erodibility factor, fine-earth) multiplied by the percent slope is less than 2.0; AND,
8. Less than 10 percent of the surface layer (upper 6 inches (15 cm)) in these soils consists of rock fragments coarser than 3 inches (7.6 cm).

### **UNIQUE FARMLAND**

Unique Farmland is land other than Prime and Additional Farmland of Statewide Importance that is currently used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. Examples of such crops are citrus, olives, avocados, fruit and vegetables.

Characteristics of unique farmland:

- (a) It is used for a specific high value food or fiber crop;
- (b) It has a moisture supply that is adequate for the specific crop; the supply is from stored moisture, precipitation, or a developed irrigation system;
- (c) Combines favorable factors of soil quality, growing season, temperature, humidity, air drainage, elevation, aspect, or other conditions, such as nearness to market, that favor the growth of a specific food or fiber crop.

These lands are currently producing the following crops of high economic importance to California as identified in the annual report of the Department of Food and Agriculture:

<u>Fruit Orchard Crops</u>		<u>Tree Nuts</u>	<u>Vineyard and Cane</u>
<u>berries</u>			
Apples	Olives	Almonds	Bush berries
Apricots	Peaches	Walnuts	Grapes
Avocados	Pears	Pistachio	Kiwi Fruit
Cherries	Persimmons		

Citrus	Plums		
Dates	Pomegranates	<u>Irrigated Field Crops</u>	
Figs	Prunes	Alfalfa	Rice
Nectarines		Barley	Safflower
		Corn	Sorghum
<u>Vegetable Crops</u>		Cotton	Sugar beets
Artichokes	Cucumber	Oats	Wheat
Asparagus	Garlic		
Beans	Lettuce	<u>Specialties (not elsewhere classified)</u>	
(Dry & Snap) Melons		Cut Flowers	Nursery Products
Broccoli	Onions	Hops	Strawberries
Brussels	Peas	Ladino Clover	
Sprouts	Peppers	Seed	
Cabbage	Potatoes		
Carrots	Spinach		
Cauliflower	Sweet Potatoes		
Celery	Tomatoes		

**ADDITIONAL FARMLAND OF LOCAL IMPORTANCE**

In some local areas there is concern for certain Additional Farmlands for the production of food, feed, fiber, forage and oilseed crops, even though these lands are not identified as having national or statewide importance. Farmland of Local Importance is land of importance to the local economy, as defined by each county’s local advisory committee and adopted by its Board of Supervisors. Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Authority to adopt or to recommend changes to the category of Farmland of Local Importance rests with the Board of Supervisors in each county.