California Department of Conservation
Division of Land Resource Protection (DLRP)

Our Mission:
The Division of Land Resource Protection provides information, maps, funding and technical assistance to local governments, consultants, Resource Conservation Districts and non-profit organizations statewide with the goal of conserving the state's agricultural and natural resources.

Farmland Mapping and Monitoring Program (FMMP)

The Program:
The Farmland Mapping and Monitoring Program provides consistent, timely and accurate land use data for assessing present status, reviewing trends, and planning for the future of California's agricultural land resources.

For further information, please contact:
California Department of Conservation
Division of Land Resource Protection
Farmland Mapping and Monitoring Program
801 K Street, MS 18-01
Sacramento, CA 95814-3528
(916) 324-0859
FAX (916) 327-3430

email: fmmp@consrv.ca.gov
www.conservation.ca.gov/dlrp/fmmp

Cover Graphics
Front: Various land uses and their portrayal in the Rural Land Mapping Edition data at the Madera-Fresno county line.
Back: Digital soil data, imagery, and land management information from multiple sources are used in the compilation of Important Farmland Maps. Example from Moorpark, Ventura County.

California Farmland Conversion Report 2000 - 2002

California Department of Conservation
Division of Land Resource Protection

Farmland Mapping and Monitoring Program

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Farmland Mapping and Monitoring Program Staff
Molly Penberth, Manager
Janet Carey
Patrick Hennessy
Kerri Kisko
Michael Kisko
Sherron Muma
David Patch
Judith Santillan

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Division of Land Resource Protection
Dennis O'Bryant, Acting Assistant Director
Emily Kishi, Administrative Liaison

Principal Data Sources include soil surveys produced by the U.S. Department of Agriculture-Natural Resources Conservation Service and aerial imagery acquired by the High Altitude Missions Branch of NASA. Current and historic satellite data by permission of SPOT Data Corporation and EROS Data Center. Additional photography sources included AirPhotoUSA and the U.S. Department of Agriculture Farm Service Agency.

Cultural base information for the Important Farmland Maps was derived from the U.S. Geological Survey, with updates from Geographic Data Technologies, Inc., and information derived from digital imagery.

Additional data on land management and land use conversion activity was made available from the U. S. Bureau of Land Management, U.S. Bureau of Reclamation, U. S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Water Resources, and the California Integrated Waste Management Board.

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Executive Summary

Statewide urban development marginally increased since 1998-2000, but continued its inland encroachment. The San Joaquin Valley's urbanization rate increased more than 75% in 2000-02.

California's urban land expanded by 92,750 acres - about 145 square miles - between 2000 and 2002, as documented by the Farmland Mapping and Monitoring Program (FMMP). The best agricultural soils, known as Prime Farmland, had a net decrease of 47,172 acres (74 sq. mi.) and were the source of 21% of statewide urbanization during the period. These summary statistics reflect the contributions of a series of demographic and agricultural trends that are discernable in county level data.

The FMMP biennial mapping survey covers approximately 91% of the privately owned land in the state (45.9 million acres) in 48 counties. Land use information is gathered using air photos, land management data, and other information which is combined with soil quality data in a geographic information system (GIS) to produce maps and statistics. The earliest data for most counties is from 1984.

Urban development continued to shift to inland counties during the 2002 mapping cycle. Nearly 25% of new urban land occurred in the San Joaquin Valley, the inland empire counties of Riverside and San Bernardino accounted for 22%, and the six-county Sacramento metropolitan area absorbed 14% of statewide urban increases. San Diego, Orange, and Sonoma were the only coastal counties represented among the top ten urbanizing list, accounting for 17% of the new urban total.

The most actively growing San Joaquin Valley counties included Kern and San Joaquin (6,265 and 6,211 acres, respectively) followed by Tulare (2,832) and Fresno (2,598). While Kern County experienced development in high desert as well as agricultural areas, 73% of the new urban area in San Joaquin County occurred on irrigated farmland--primarily surrounding Tracy and Stockton. Two-thirds of the new urban in Tulare County replaced irrigated farmland.

DOCUMENTATION

Detailed reports describing change in each county are available on the FMMP web site: conservation.ca.gov/dlrp/fmmp

The San Joaquin Valley also represented the largest acreage of Prime Farmland to urban conversion. Ten percent of all new urban land in California had been classified as Prime in San Joaquin Valley counties. A 13% increase in the rate of urbanization of Prime during the 2000-02 period is linked to the greater role inland locations played in supporting California's population growth.

Throughout the state, the majority of new urban acreage was devoted to housing and commercial uses. Golf course communities represented substantial acreage in some locations, including approximately 25% of the new urban land in Riverside County. Distribution centers and industrial uses occupied about 18% of the urban increase in San Bernardino County, particularly near the Ontario and Chino airports. Infrastructure to support communities occurred in the form of schools, hospitals, water treatment facilities, landfills, and in the Sacramento area, expansion of Sacramento International Airport.

California's agricultural land use patterns are dynamic, as market demand and resource limitations cause movements in and out of irrigated uses. Market saturation slowed the vineyard development trend of the late 1990's, with the exception of San Luis Obispo County. Orchard planting in the western foothills of the Sierra Nevada and eastern slope of the coast range remained significant, particularly in Glenn County. In continuation of a 1998-00 pattern, irrigated acreage gained in the Antelope Valley area of Los Angeles County, taking advantage of the area's favorable climate to meet strong market demand for baby carrots and potatoes. Two-thirds of the land brought into irrigated uses statewide did not meet Prime Farmland criteria.

Land idling occurred for multiple reasons: Riverside and Sacramento counties exemplified idling in anticipation of urban development, while in Contra Costa County the idled areas were on San Joaquin River Delta islands - in association with ecological restoration or water storage plans. Conversion to dairies and idling of areas with soil and water constraints were responsible for the bulk of this change in Tulare County.

Irrigated farmland also lost ground to the Other Land class, including low-density residential, mining, ecological restoration, and confined animal agriculture uses. This type of change was 34% higher during the 2002 update. Notable ecological restoration conversions involved 4,000 acres of tidally flooded land on Liberty Island (Solano and Yolo counties), and refuge projects in Butte, Glenn, and Tulare counties. Expansion of sand and gravel operations occurred in counties ranging from Riverside to Sonoma, in support of infrastructure for urban development. New or expanded confined animal agricultural facilities were common in Merced and other San Joaquin Valley counties, but also occurred as far north as Glenn County. Rural residential areas that are 10-25 acres in size, and remote developments in wooded areas, were better delineated throughout the project area due to the use of more detailed digital imagery.

In 2002, FMMP initiated the pilot Rural Land Mapping Project to better document conversions to Other Land in four San Joaquin Valley counties. Initial data on this effort is contained in Chapter Two of this report.

Comparing 2000-02 with the prior period, urbanization increased by 1.6%, but losses of irrigated farmland were 28% higher. Despite irrigated farmland expansion in some locations, increased urban development pressure in inland areas and other factors causing land to be removed from farming led to a 53,963 acre net loss in irrigated uses during the two-year cycle.