

Paving Paradise:

A New Perspective on California Farmland Conversion



Edward Thompson, Jr.
AFT California Director
November 2007



Paving Paradise: A New Perspective on California Farmland Conversion

Edward Thompson, Jr., AFT California Director
November 2007

Introduction

California is the leading agricultural state in America and one of the most important food production regions in the world – a food growing paradise. It is also the fastest-growing state, adding more than 400 thousand new residents per year. Between 1990 and 2004, the period covered by this report, over a half million acres of California's farmland were paved over, converted to urban uses. As long as the state's population continues to increase, the tide of development will not abate and the Golden State will continue to lose farmland to urban development. Given this state of affairs, the challenge for California is to assure that the best farmland remains available for agriculture and that urban development doesn't convert any more land than is truly necessary to accommodate its expanding population and economy. This challenge is made more difficult by the fact that most of the state's cities, where more than 90% of the population lives, are located in the midst of California's most productive farmland, generally in valleys and on coastal plains where the soil is deep, water is relatively abundant and the climate is mild. But it is a challenge we must successfully meet, if California is to continue to feed itself and the world.

The first step toward preserving California's best farmland is to understand what is happening to it and where. That is the purpose of this report. It contains the latest data and analysis of farmland conversion trends throughout the state of California. Its focus is the irreversible conversion of farmland to urban uses such as residential, commercial and industrial development. It does not document the conversion of farmland to other non-agricultural uses, for example, wildlife preserves, which also puts pressure on the food-producing resource base, but serves broader environmental goals that Californians support. Nor does it address changes in agricultural uses, for example, from cropland to grazing or vice versa. Data on these trends are available from the Farmland Mapping & Monitoring Program (FMMP) of the California Resources Agency, Department of Conservation, Division of Land Resource Protection, which is the source of all the land use data in this report, the contribution of which is gratefully acknowledged. Historic population data used in this report are from the U.S. Bureau of Census, while population forecasts are from the Demographic Research Unit of the California Department of Finance.

Source Data Links

Farmland Mapping & Monitoring Program
Demographic Research Unit
U.S. Bureau of Census

www.consrv.ca.gov/dlrp/FMMP/index.htm
<http://www.dof.ca.gov/Research/Research.asp>
<http://www.census.gov/>

How to Use This Report

This report is designed as an interactive information resource that will enable readers to extract data for their own purposes and, indeed, to conduct additional analysis of farmland trends. (We don't pretend to have all the answers and are eager to hear about insights you may glean from the wealth of data we have collected and organized.) The report consists of this Word document containing the Major Findings (below) and an Excel file that contains spreadsheets with statewide, regional and county-level data and analysis of farmland trends for the period 1990-2004, which is the longest and most recent period for which we have reliable, comprehensive data for the entire state of California. Both documents are also available as downloadable, printable pdf files at www.farmland.org/california. The text and spreadsheets are copyrighted by AFT, but advance permission to use anything in the report is granted so long as appropriate credit is given in any derivative work or publication, e.g., "Data and Analysis from A New Perspective on California Farmland Conversion, © 2007 American Farmland Trust."

Data Spreadsheet Contents

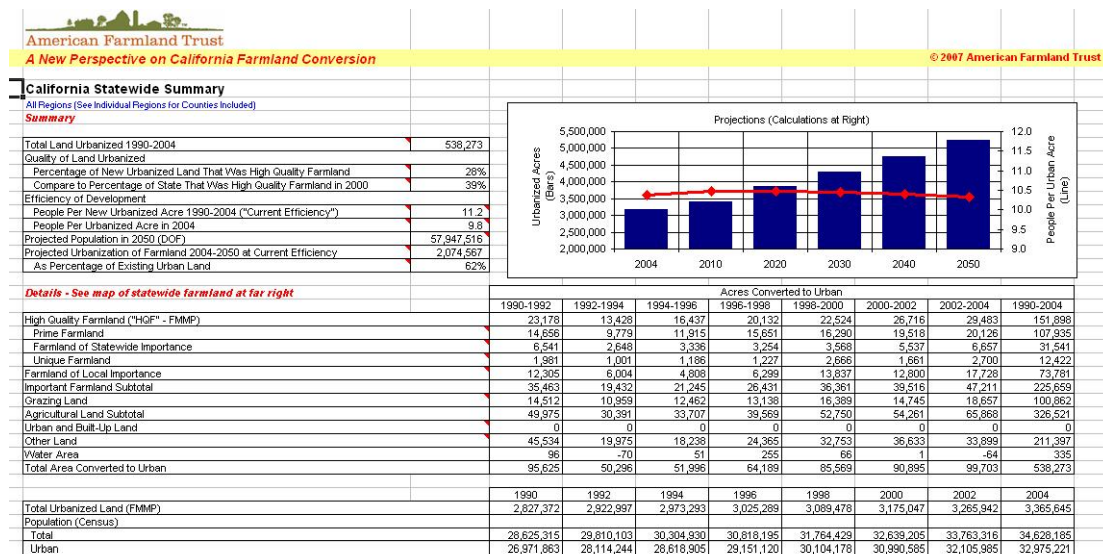
The Excel file includes 12 spreadsheets, listed below with descriptions of what each contains.

Guide to Data	Explains the layout of all spreadsheets.
State-Regional Land Profile	Existing total amount of land, agricultural land and high quality farmland in each of 7 regions of the state as of 2004.
Regions-All Counties	Summary data on major farmland conversion trends for the period 1990-2004: total land converted, agricultural land converted, quality of land converted and efficiency of land development for all regions and all counties mapped by FMMP. This sheet is especially helpful for comparing jurisdictions by re-sorting the data.
State-Top 10 Ag Counties	Summary and detailed data on farmland conversion trends 1990-2004, including every agricultural land classification, and projections of land conversion to 2050, for the state as a whole and for the top 10 producing agricultural counties,* plus a map of the state's agricultural land in 2000. Top 10 data are below the statewide data.
Northern Counties	Summary and detailed data on farmland conversion trends 1990-2004, including every agricultural land classification, and projections of land conversion to 2050, for each county within each region of the state. Individual counties can be viewed by scrolling down from the regional summary at the top. Rural residential data includes land devoted to urban and "ranchette" development in 2002 and 2004 for 4 counties in the San Joaquin Valley.
Bay Area	
Sierra Foothills	
Sacramento Valley	
San Joaquin Valley	
San Joaquin Rural Residential	
Central Coast	
Southern California	

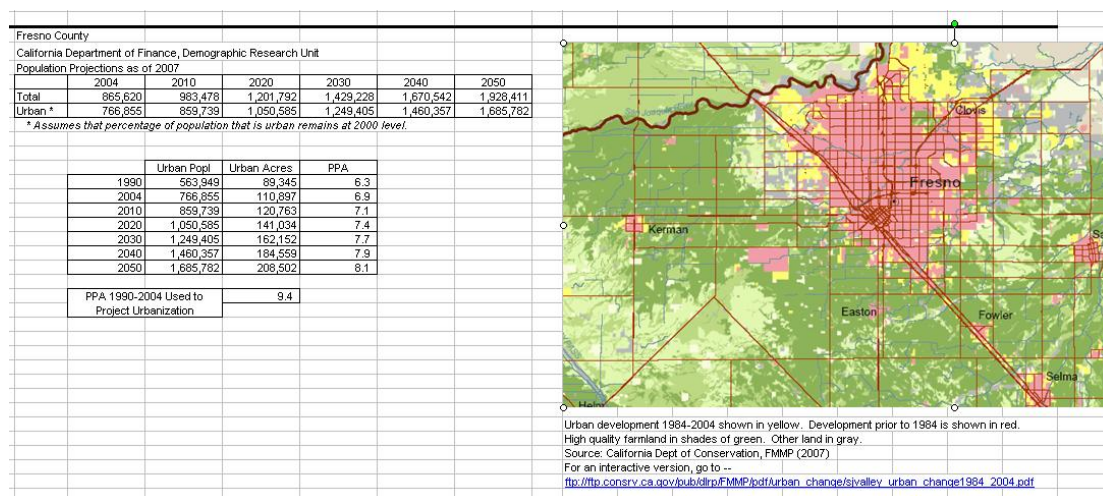
* In order, the Top 10 counties are: Fresno, Tulare, Kern, Monterey, Merced, Stanislaus, San Joaquin, San Diego, Kings and Imperial, based on 2002 farm gate value of agricultural product sales according to U.S. Census of Agriculture.

Explanation of Data and Analysis in Statewide and Regional Spreadsheets

All the spreadsheets in this file, except the State-Regional Land Profile and Regions-All Counties, use the same format shown below.



The top left of the initially visible screen contains summary data. Below that is detailed, biennial data on each type of agricultural, urban and other land. The official definitions of each type of land appear as a pop-up when you put the cursor over the cell containing the name of the type of land. Below the farmland data are population and urban land data, again in biennial increments. At the top right of the visible screen is a graph showing the projected loss of land through 2050 (note that the charts use different scales) and the change in development efficiency on which it is based. Alternative scenarios can be tested and graphed by changing the number of people per urban acre in the cell labeled "PPA 1990-2004 Used to Project Urbanization." (Be sure to change it back.) To the right of the visible screen (illustrated below) are the data used to project land conversion and, for counties where it is available, a map portraying all land types as of 2004 and the land developed 1990-2004. An interactive map of the region in which the county is located, enabling one to zoom in on specific areas, can be accessed by clicking on the active link below the map.



Key Issues

The total amount of land urbanized or otherwise developed for non-agricultural use is only one measure of the potential impact of conversion on California agriculture. The quality of land urbanized and the efficiency of development are both key issues that shed more light on the subject. The impact of land conversion on agricultural production capacity is greater (other things being equal) when the quality of the land developed is higher and/or the efficiency of development is lower.

In California, the **quality of land** from an agricultural perspective, is attributable to the fertility of its soils, the availability of irrigation water and micro-climates that are uniquely suited for the production of specific crops (e.g., citrus). All of these are to some extent captured in the FMMP definitions of various categories of land. In general, the higher the percentage of land developed that was “high quality farmland” (our shorthand term for prime farmland, unique farmland and farmland of statewide importance), the greater the impact on agriculture. A comparison of the percentage of land developed that was high quality farmland with the percentage of all remaining non-urban land in the jurisdiction that is high quality farmland sheds additional light on this issue by suggesting the extent to which the available options for developing less productive land are being pursued. The maps of actual development patterns against the backdrop of the various types of remaining farmland help identify potential alternatives for future growth on less productive land.

The **efficiency of development** is another key issue – perhaps the most important, given that city-centered growth in California will almost inevitably convert high quality farmland, placing a premium on not wasting it. This report measures the efficiency of development with the ratio of the number of people in an urbanized area to the number of acres of land occupied by all of the urban uses that serve them, from residences to shopping and schools, workplaces and roads; in short the entire urban “footprint.” The result is reported as “people per urban acre” or “PPA.” (There is an unknown, but almost certainly very small, degree of error in this calculation because the area defined as urbanized by FMMP does not precisely match the definition of urban areas used by the U.S. Census Bureau. Especially for comparative purposes, we are confident that our calculations are accurate enough.)

The number of people per urban acre in any given year shows what is actually on the ground. The PPA trend for the period 1990-2004 indicates how efficiently – or, in most cases, inefficiently – land is being developed right now. Generally speaking, the efficiency trend is more encouraging (higher PPA) than the efficiency of the development that exists on the ground today. But, lest this give a false impression, notice that it takes a significantly larger PPA trend to increase the PPA by a smaller amount from one year to the next. For example, in the Top 10 agricultural counties, it took a PPA of 8.2 between 1990 and 2004 to increase the PPA from 7.2 in 1990 to 7.4 in 2004. You can also observe this relationship in the data and graphs showing projections of future growth.

The efficiency of development calculation does not include rural residential development (“**ranchettes**”), for which data exist only for four San Joaquin Valley Counties. If all rural residential development were included, the overall efficiency of development in terms of the ratio of people to land converted to nonagricultural uses would be lower. In the four counties for which we have data, including ranchettes in the calculation reduces the current (2004) development efficiency 15% from 6.6 to 5.6 people per acre.

However, the spread of ranchettes is troublesome for reasons that go beyond the inefficient conversion of land. They tend to make agricultural production more difficult and expensive with demands that routine agricultural practices be curtailed or modified to protect the health and security of new neighbors. And they create an additional market demand for rural land that in many regions is inflating its price to a level above what commercial agriculture can pay and still remain economically viable. In this sense, ranchettes are like the bow wave created ahead of a ship; long before the ship itself hits, anything in its path will be swamped by the wave.

It is important to look at each of these three key issues – the quality of farmland being converted, the efficiency of its conversion and the spread of rural ranchettes – to get a full appreciation of how farmland conversion is steadily eroding California’s agricultural capacity.

Acknowledgments

American Farmland Trust wishes to acknowledge and thank all of those who contributed to this research. Funding was generously provided by the USDA Natural Resources Conservation Service, the Surdna Foundation, Bank of America, Wells Fargo, and AFT members, especially those in our Barnraisers Society. The essential farmland and development data, as well as insightful advice, were unselfishly provided by Molly Penberth, director of the Farmland Mapping & Monitoring Program, Division of Land Resource Protection, California Resources Agency. The U.S. Bureau of Census provided, not only the standard population data, but also a special recalculation of historic data based on a new definition of urban places to improve the accuracy of our calculations. Last but not least, we wish to thank all of our colleagues in the conservation and land use field who contributed their insights. Above all, we thank the agricultural producers of California without whose hard work and skill the land would not produce the bounty that it does. It isn’t “farmland” without farmers.

[Turn to the next page for Major Findings]

Paving Paradise: A New Perspective on California Farmland Conversion

Major Findings

Summary

One sixth of all the land developed in California since the Gold Rush was developed between 1990 and 2004. Urban development is disproportionately targeting the state's best farmland and is very inefficient, consuming an acre of land for every 9.4 people. In the state's most important agricultural regions, a larger percentage of high quality farmland is being developed, and development is less efficient, than in the state as a whole. Rural "ranchettes," the most inefficient kind of development, may account for a quarter of all the land devoted to developed uses in the Central Valley, the state's premier agricultural area. Though development efficiency is increasing, it is not happening fast enough to prevent the conversion of 2.1 million more acres of California land – much of it farmland – by 2050.

To conserve farmland, California communities – for local governments have the most control over land use -- must do three things:

- *Direct growth away from the highest quality farmland toward less productive land*
- *Develop land as efficiently as possible so as not to waste what we must convert*
- *Avoid rural ranchette development that fuels land speculation and drives up land costs*

This report offers a new perspective on how well California is meeting these objectives.

Total Land Urbanized

We are developing land for urban uses in California at an unprecedented rate. Between 1990 and 2004 – the period for which we have the most reliable data for the entire state – 538,273 acres of land were developed for urban uses. (Fig. 1) This represents one out of every 6 acres developed for urban uses in California since the Gold Rush. During the 1990-2004 period, the 38,448-acre annual rate of development was nearly twice as high as the 20,052-acre average for all years from 1849 to 1990. Rapid population growth, of course, is driving this trend. But the inefficiency of development in terms of the number of acres developed per person (below) is a strong contributing factor.

Fig. 1
**Total Acres Urbanized 1990-2004
By Region**

Southern California	220,033
San Joaquin Valley	115,196
Bay Area	74,473
Central Coast	44,358
Sierra Foothills	34,269
Sacramento Valley	33,849
Northern Counties	16,095
Statewide	538,273

Fig. 2
Total Acres Urbanized 1990-2004
Top 10 Counties

Riverside	70,150
San Diego*	50,978
San Bernardino	49,301
Kern*	30,111
Orange	30,086
Placer	22,643
Fresno*	21,552
San Joaquin*	19,676
Contra Costa	18,052
Sacramento	15,080

* Indicates top 10 agriculture producer among California counties.

Most of the land developed for urban purposes from 1990 to 2004 was more or less contiguous to existing cities and other settlements. (Refer to the maps in the regional spreadsheets.) Though this may represent “orderly” growth, there is a downside that cannot be ignored. Because most of California’s cities are located in the midst of the best farmland, *city-centered growth inevitably targets high quality farmland. This, in turn, places a premium on developing land efficiently, so as to minimize the amount of land removed from agriculture for each new mouth to feed.* These issues are explored in greater detail below.

Quality of Land Urbanized

Almost two-thirds (61%) of all the land urbanized in California from 1990 to 2004 – 326,521 acres – was agricultural land. (Fig. 3) In the most important agricultural regions, however, nearly three-quarters of all land developed was agricultural land. Moreover, it is likely that an even higher percentage of the total land developed was at one time used for agricultural purposes. This is because some of the rest of the land developed was formerly what the state Department of Conservation classifies as “other” land, including land that was once farmed but has been idled for a number of years in anticipation of being developed. Regrettably, the state does not quantify this transitional phenomenon, leaving a significant gap in our understanding of what is happening to California’s agricultural resources.

Fig. 3
Agricultural Land Urbanized 1990-2004
By Region

	Acres	As Pct of All Land Urbanized
Southern California	105,583	48%
San Joaquin Valley	70,231	74%
Bay Area	56,341	76%
Sacramento Valley	24,852	73%
Central Coast	24,757	56%
Sierra Foothills	22,574	66%
Northern Counties	6,764	42%
Statewide	326,521	61%

Not all agricultural land is equally important for food production. Farmland that has more fertile soils and more reliable water supplies tends to produce consistently higher crop yields at lower cost. This is the land agriculture can least afford to lose. In this report, we refer to this land as “high quality farmland,” and it includes lands classified by the state as prime farmland, unique farmland and farmland of statewide importance. (See the notes included in the spreadsheets. When you place the cursor over the red triangle in the corner of a cell containing a land type, e.g., “Prime farmland,” the official state definition will appear.)

Between 1990 and 2004, a total of 151,898 acres, or 28% of all land developed and 47% of the agricultural land developed, was high quality farmland. For comparison, in 2000 only about 22% of the approximately 40 million acres of California land mapped by FMMP was high quality farmland. High quality farmland accounts for only 9% of the state's total of about 101 million acres, much of which is desert and mountainous areas that are unsuitable for development.

Thus, *high quality farmland is being disproportionately selected for development* in comparison to both its share of all land in the state and of the land suited for development. Again, this is largely because most California cities are located in the midst of high quality farmland, where our agrarian ancestors settled precisely because of the fecundity of the land.

Fig. 4

**High Quality Farmland Urbanized
1990-2004 by Region (Acres)**

	Acres	As Pct of All Land Urbanized
San Joaquin Valley	70,231	61%
Southern California	37,883	17%
Bay Area	17,057	23%
Central Coast	12,933	29%
Sacramento Valley	11,521	34%
Northern Counties	1,272	8%
Sierra Foothills	1,001	3%
Statewide	151,898	28%

The loss of high quality farmland for development is most worrisome in the San Joaquin Valley, the

Fig. 5

**Most High Quality Farmland Urbanized
1990-2004 Top 10 Counties (Acres)**

San Joaquin*	14,888
Riverside	14,551
Fresno*	12,524
Kern*	12,025
Stanislaus*	10,189
Tulare*	8,758
San Bernardino	7,379
Orange	6,533
Santa Clara	6,233
Kings*	5,170

* Indicates top 10 agriculture producer among California counties.

state's leading agricultural region that accounts for 55% of the state's total agricultural sales. This valley lost almost twice as much high quality farmland to urbanization than any other region between 1990 and 2004, and almost half the state's total loss of high quality farmland. (Fig. 4) Six of its eight counties, all of which are among the state's top 10 agricultural producers, were also among the top 10 in total acreage of high quality farmland developed. (Fig. 5) Sixty-one percent of all land developed in the San Joaquin Valley between 1990 and 2004 was high quality farmland, the greatest percentage of any region in the state by far. (Fig. 4) In half of the eight San Joaquin Valley counties, more than 70% of all the land developed was high quality farmland. (Fig. 6 below)

Even more so than on a statewide basis, development is disproportionately claiming high quality farmland in the San Joaquin Valley. The ratio of the percentage of development on high quality farmland (61%) to the percentage of high quality farmland in the region (40%) is 1.5, indicating that development is 1 ½ times more likely to consume high quality farmland than less productive land.

In the more populous coastal regions, where little high quality farmland remains and the less productive land in the hills is often unsuitable or unavailable for development, high quality farmland is 2.5 to 3 times as likely to be urbanized as other land. Particularly troublesome is the pattern in Monterey County, which includes the nation's "salad bowl," the uniquely productive Salinas Valley. There development was 4 times as likely to consume high quality farmland as other land, despite the fact that almost 90 percent of the county is not high quality farmland.

The main reason why high quality farmland is being disproportionately selected for urban developed is that most of California's cities are – or were – located in the midst of high quality farmland, which is generally found in the level bottomland valleys of the state. They are located there, of course, primarily because many began as market towns and shipping points for agricultural products from the surrounding farms, which themselves grew up on the most fertile, well-watered land. Because state and local land use policies have favored city-centered growth to make it easier and cheaper to service new development, the expansion of cities has disproportionately consumed high quality farmland.

Inefficiency of Development

City-centered growth, with its disproportionate impact on high quality farmland, places a high premium on developing the land efficiently, consuming less acreage per person (for all urban uses, including commercial and civic as well as residential). Today, however, *development in California is generally very inefficient*, particularly in its premier agricultural areas.

As of 2004, there were only 7.2 people per urbanized acre on average in the state (omitting Los Angeles, which skews the analysis because it is far denser than other areas but has relatively little agriculture left). (Fig. 7) This does not include "ranchette" development, non-farm residences on very large rural lots, which are discussed below. There are even fewer people per urban acre in the state's most important agricultural areas. In the San Joaquin Valley, there were only 6.5 people per urban acre in 2004, while in the Sacramento

Fig. 6
**High Quality Farmland as Percentage of All Land Urbanized 1990-2004
Top 10 Counties**

Stanislaus*	83%
Kings*	78%
San Joaquin*	76%
Imperial*	74%
Tulare*	71%
Merced*	63%
Fresno*	58%
Sutter	57%
San Benito	50%
Yolo	50%

* Indicates top 10 agriculture producer among California counties.

Fig. 7
**Development Efficiency
By Region**

	Per Per Urban Acre	
	1990-2004	In 2004
Sacramento Valley	12.3	6.3
Southern California*	11.0	8.0
Bay Area*	10.3	7.8
San Joaquin Valley	8.1	6.5
Central Coast	7.6	7.2
Sierra Foothills	5.2	4.0
Northern Counties	2.6	2.6
Statewide	9.4	7.2

* Figures are with and without Los Angeles and San Francisco Counties

Valley it was 6.3 people per urban acre. In the top 10 agricultural counties, there were 7.4 people per urban acre in 2004, but if one excludes San Diego County, which accounts for half the population in these counties, the ratio falls to only 6.4.

The current development trend (1990-2004) shows the same pattern, with the state's major agricultural areas lagging behind the state as a whole in efficiency. (Fig. 7) In the San Joaquin Valley, new development between 1990 and 2004 consumed an acre for only 8.1 people, about 15% less efficient than for the state. (Imagine two four-person touch football teams playing on the gridiron in the Rose Bowl and you get an idea of how spread-out this is.) In the Sacramento Valley, new development consumed an acre for only 5.5 people outside of Sacramento County itself, which is among the state's leaders in the efficiency of new development. On the Central Coast, the people per acre developed ratio 1990-2004 was only 6.8 if one excludes San Mateo County, which during this period had the highest efficiency ratio of any county in the state except Los Angeles. On the whole, the top 10 agricultural counties consumed an acre of land for every 8.2 new residents 1990-2004. Only one top 10 agricultural county, Stanislaus, was among the 10 leading counties in terms of development efficiency. (Fig. 8)

Fig. 8
Development Efficiency 1990-2004
Top Ten Counties*

	People Per Urban Acre
San Mateo	27.4
Sacramento	20.6
Orange	19.1
Alameda	15.7
Santa Clara	13.4
Contra Costa	11.4
Stanislaus	10.8
San Bernardino	10.4
Riverside	9.9
San Benito	9.5

* Excluding Los Angeles (78.9) and San Francisco (NA) Counties

The trend in development efficiency is positive. Statewide, from 1990 to 2004, an acre of land was urbanized for every 9.4 people. (Fig. 7) (Again, this omits Los Angeles County, which skews the analysis because the efficiency of new development there was 5 times the statewide average. LA has gotten the message – about a half century too late to save its agriculture, which as recently at

Fig. 9
Development Efficiency
Improvement from 1990 to 2004
By Region

	People Per Urban Acre		Percent Improvement
	1990	2004	
Sierra Foothills	3.4	4.0	17%
Sacramento Valley	5.5	6.3	15%
San Joaquin Valley	6.1	6.5	8%
Bay Area	7.5	7.8	4%
Southern California	14.2	14.4	1%
Central Coast	7.2	7.2	0.7%
Northern Counties	2.6	2.6	0.5%
Statewide*	6.8	7.2	6%

* Does not include Los Angeles or San Francisco Counties.

1960 led the nation in total farm production.) But this was enough to increase the current people per urban acre only 6% from 6.8 in 1990 to 7.2 in 2004. (Fig. 9) If this slow rate of improvement continues, another 2.1 million acres of California land will be urbanized by 2050. (See Projections below) Development efficiency in the premier agricultural areas appears to be

increasing somewhat faster than in the state as a whole. But this may be due, at least in part, to the relatively low development efficiency in these areas, which would tend to magnify any percentage improvement.

Rural Ranchettes

The most inefficient – indeed, from an agricultural standpoint, downright wasteful – type of development is what are commonly called “ranchettes.” These are country estates, hobby farms and other rural residential uses on very large lots up to 40 acres. Some of these properties may be devoted to production agriculture, for

example, under lease to commercial growers. But typically they are residential in character, are too small or hemmed-in to be farmed for profit – as well as too expensive for commercial growers to afford – and, thus, have or all practical purposes been permanently removed from the state’s agricultural land base. A 1990 American Farmland Trust study found that ranchettes in the Central Valley averaged about 5 acres in size, which, if one assumes 3 people per household (a good general average in this region), would mean that ranchette development efficiency is only 0.6 people per acre – roughly one-tenth the “efficiency” of urban development in the Valley.

Despite their proliferation, reliable data on rural ranchettes in California are limited. The state Department of Conservation has mapped and compiled statistics on ranchettes in only four counties in the San Joaquin Valley: Stanislaus, Merced, Madera and Fresno. (The Farmland Mapping & Monitoring Program has apparently been limited in its ability to map more areas by budget constraints.) But what these data show is that *rural ranchette development is very troublesome – perhaps more so than urban development.*

In the four San Joaquin Valley counties mapped, ranchettes – and only those from 1.5 to 10 acres – comprised fully 26% of all land devoted to non-agricultural development in 2004. (Fig. 10) That is, one out of four acres of developed land was devoted to housing roughly 1.5% of the total population of those counties. New ranchettes established between 2002 and 2004 (the only period for which we have data) comprised 18% of all land developed for non-agricultural purposes, an improvement but still representing a very large amount of land accommodating very few people.

Fig. 10
**Ranchette Development
In The San Joaquin Valley by 2004**

	Urban Acres 2004	Ranchette Acres 2004	Ranchettes as Pct of All Developed Land
Stanislaus	61,171	6,623	10%
Merced	34,943	8,122	19%
Madera	24,975	27,106	52%
Fresno	110,897	38,690	26%
Total	231,986	80,543	26%

Projections of Future Development

Statewide, there were about 3.4 million acres of urban land in 2004. *If we continue to develop as much land per person as during 1990-2004, California will urbanize close to another 2.1 million acres of land by 2050 – not counting additional land lost to ranchettes.* (Fig. 11) Forty percent or about 800,000 acres of this will occur in the Top 10 agricultural counties – some of which may no longer qualify for the top 10. The San Joaquin Valley, the state's foremost agricultural region, will experience by far the largest percentage increase in urbanization. Almost as much land will be urbanized in the San Joaquin as in all of Southern California. By contrast, from 1990 to 2004, almost twice as much land was urbanized in Southern California as in the San Joaquin Valley. The fears of those who worry that the San Joaquin could become the next LA appear to be justified – unless the state's premier agricultural region grows “smarter” than in the recent past.

Fig. 11

Projected Urbanization of Land by 2050 At Current Development Efficiency By Region

	Acres	Pct Increase
Southern California	710,038	53%
San Joaquin Valley	628,068	127%
Bay Area	233,671	35%
Sacramento Valley	192,978	84%
Central Coast	148,680	40%
Sierra Foothills	90,751	84%
Northern Counties	61,380	75%
Statewide	2,074,567	62%


Observations

California is not performing very well at any of the three key indicators of farmland conservation. Urban development is targeting the state's best farmland, which surrounds most of its cities. Few alternatives are being pursued – for example, urban infill or new towns on less productive land – though they exist in almost every locality. New development is consuming far more land per person than is necessary comfortably to accommodate our needs, not just for housing, but for commercial and civic land uses as well. Community plans call for increasing urban densities, but the actual decisions of officials belie these good intentions. Meanwhile, rural ranchettes continue to proliferate, inflating farmland prices and conflicting with agriculture. While some progress is being made at increasing the efficiency of development, it isn't enough to make much of a difference in the amount of land that will be paved over within the next generation.

Given its relentless population growth and the apparent inevitability of city-centered growth, the key to saving farmland in California is to develop less land per person. It will take a concerted and sustained effort to promote urban infill, to increase residential densities and commercial floor-to-area ratios, to reduce the amount of land devoted to roads and parking lots, and to curb the spread of ranchettes. But the task is not as daunting as it might first appear. *If the state as a whole develops as efficiently as Sacramento County or the Bay Area did from 1990 to 2004, a million acres of California land could be saved within the next generation.*

That is the challenge that emerges from this new perspective on farmland conversion in California. The longer we wait to embrace it by taking effective action, the more difficult it will be to achieve the goal of securing the land resources on which California's unparalleled agriculture depends.

Summary Table from Database Spreadsheet



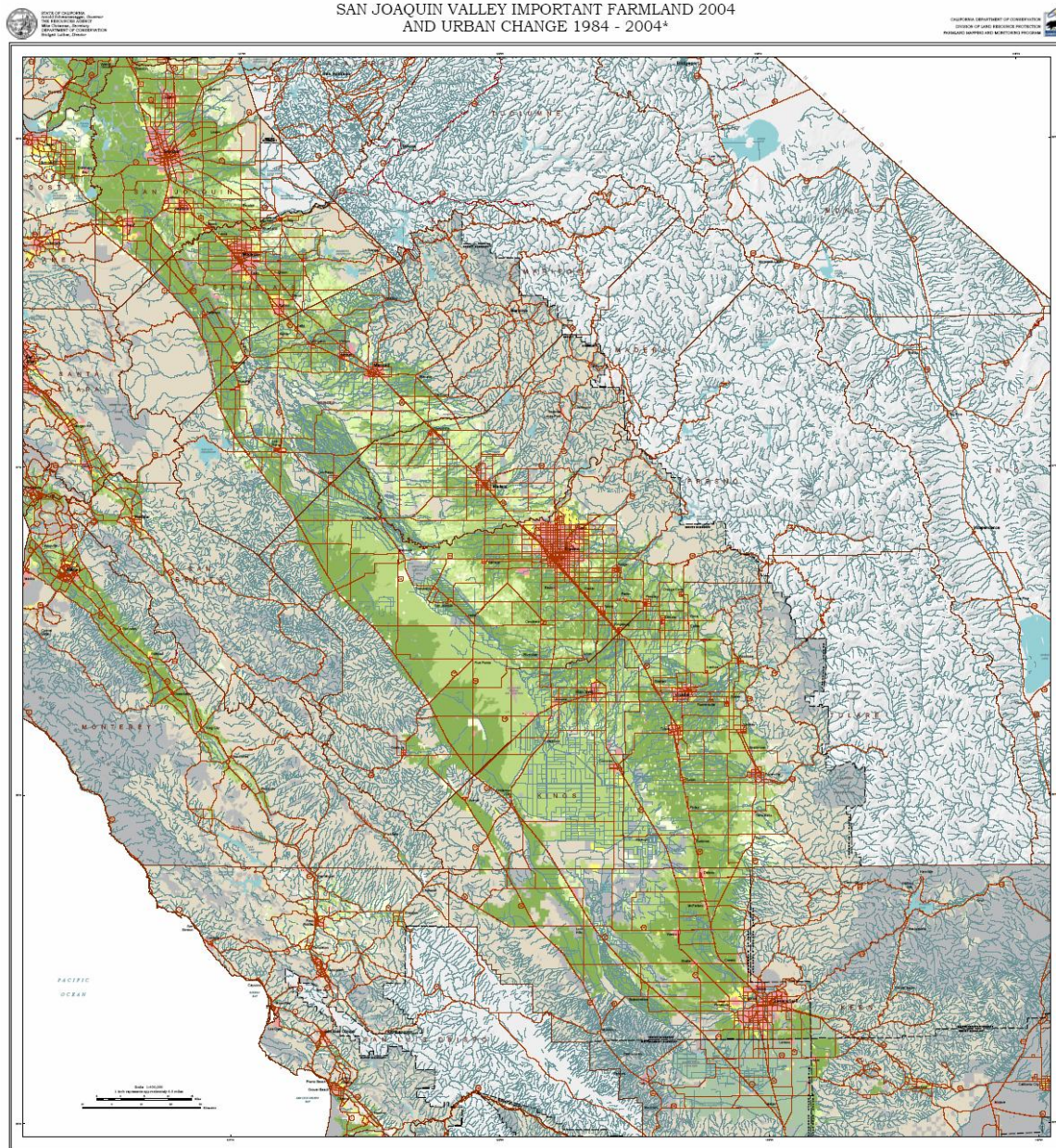
A New Perspective on California Farmland Conversion

© 2007 American Farmland Trust

Regions & All Counties: Comparative Summary Data

			Market Value of Agricultural Production 2002 (\$ Million)	Total Urbanized Land 2004 (Acres)	Total Land Urbanized 1980-2004 (Acres)	Average Annual Urbanization of Land (Acres)	Total Agricultural Land Urbanized 1980-2004	Total High Quality Farmland Urbanized 1980-2004	Percentage of Land Urbanized 1980-2004 That Was High Quality Farmland	Percentage of All Non-Urban Land in Region Developed 1980-2004 (Current Efficiency)	People Per Urban Acre for New Development 1980-2004	People per Urban Acre 1980	People Per Urban Acre 2004	Percentage Increase in People Per Urban Acre 1980-2004	Projected Urbanization of Land 2004-2050
Bay Area	BA	\$	1,860	673,743	74,473	5,320	56,341	17,057	23%	8%	10.3	7.5	7.8	4%	233,671
Central Coast	CC	\$	6,960	370,633	44,358	3,168	24,757	12,933	29%	10%	7.6	7.2	7.2	0.7%	148,680
Southern California	SC	\$	5,141	1,347,356	220,033	15,717	105,583	37,883	17%	7%	15.1	14.2	14.4	1.1%	719,038
San Joaquin Valley	SJ	\$	21,079	494,695	115,196	8,228	85,550	70,231	61%	40%	8.1	6.1	6.5	8%	628,068
Northern Counties	NC	\$	554	81,518	16,095	1,150	6,764	1,272	8%	8%	2.6	2.6	2.6	0.5%	61,380
Sacramento Valley	SV	\$	2,332	289,755	33,849	2,418	24,852	11,521	34%	41%	12.3	5.5	6.3	15%	192,978
Sierra Foothills	SF	\$	123	107,945	34,269	2,448	22,674	1,001	3%	4%	5.2	3.4	4.0	17%	90,751
State		\$	38,049	3,365,645	538,273	38,448	326,521	151,898	28%	22%	11.2	9.5	9.8	3%	2,074,567
County	Region														
Alameda	BA	\$	44	144,326	11,276	805	8,657	1,907	17%	2%	15.7	9.5	10.0	5%	37,670
Contra Costa	BA	\$	87	147,441	18,052	1,289	15,668	4,552	25%	11%	11.4	6.1	6.7	11%	69,016
Marin	BA	\$	53	41,903	2,976	213	942	9	0%	0%	4.7	5.6	5.5	-1%	12,450
Napa	BA	\$	548	22,245	2,884	206	1,625	313	11%	11%	6.0	4.8	5.0	3%	16,676
Santa Clara	BA	\$	251	187,176	14,337	1,024	11,996	6,233	43%	4%	13.4	8.5	8.9	4%	68,993
Solano	BA	\$	239	57,717	11,620	830	8,706	2,218	19%	29%	6.4	7.0	6.9	-2%	59,920
Sonoma	BA	\$	638	72,935	13,328	952	8,747	1,825	14%	8%	6.5	5.4	5.6	4%	37,939
Monterey	CC	\$	3,273	54,293	8,964	640	5,469	3,904	44%	11%	6.3	6.9	6.8	-1%	32,327
San Benito	CC	\$	269	7,644	2,191	157	2,013	1,103	50%	5%	9.5	4.5	6.0	32%	7,031
San Luis Obispo	CC	\$	597	42,124	7,463	533	5,448	694	9%	7%	4.0	5.1	4.9	-4%	22,360
San Mateo	CC	\$	158	71,282	1,827	131	175	5	0%	2%	27.4	9.2	9.7	5%	4,333
Santa Barbara	CC	\$	998	62,028	5,401	386	2,575	1,605	30%	11%	6.3	6.2	6.2	0%	19,808
Santa Cruz	CC	\$	412	31,421	4,378	313	600	496	11%	9%	4.2	7.2	6.8	-6%	16,674
Ventura	CC	\$	1,253	101,841	14,134	1,010	8,477	5,126	36%	20%	9.1	7.4	7.6	3%	46,148
Lake	NC	\$	62	14,442	1,776	127	642	76	4%	3%	4.8	2.2	2.5	15%	4,801
Modoc	NC	\$	88	3,235	95	7	30	17	18%	14%	(5.1)	1.0	0.8	-17%	5,274
Shasta	NC	\$	84	35,524	8,352	597	1,591	397	5%	2%	3.4	3.6	3.5	-1%	30,971
Siskiyou	NC	\$	148	15,377	2,748	196	2,771	133	5%	12%	(0.8)	1.4	1.0	-28%	8,362
Tehama	NC	\$	172	12,940	3,124	223	1,730	649	21%	6%	2.7	2.4	2.4	3%	11,973
Imperial	SC	\$	1,286	26,357	5,962	426	5,111	4,391	74%	51%	7.4	4.3	5.0	16%	26,725
Los Angeles	SC	\$	278	163,435	13,556	968	5,039	1,274	9%	3%	78.9	58.6	60.3	3%	39,496
Orange	SC	\$	312	282,180	30,086	2,149	10,667	6,533	22%	3%	19.1	9.5	10.6	11%	52,414
Riverside	SC	\$	1,169	277,273	70,150	5,011	36,764	14,551	21%	12%	9.9	5.1	6.3	23%	268,784
San Bernardino	SC	\$	565	259,266	49,301	3,522	26,307	7,379	15%	3%	10.4	6.2	7.0	13%	156,782
San Diego	SC	\$	1,531	338,845	50,978	3,641	21,695	3,755	7%	4%	8.6	8.3	8.3	1%	174,837
Amador	SF	\$	28	7,926	1,478	106	1,478	273	18%	3%	1.5	1.8	1.8	-3%	8,250
El Dorado	SF	\$	26	30,670	6,895	493	3,947	124	2%	1%	5.5	3.1	3.7	17%	15,666
Nevada	SF	\$	9	17,168	3,253	232	436	67	2%	1%	3.8	3.1	3.2	4%	5,619
Placer	SF	\$	60	52,181	22,643	1,617	17,468	537	2%	9%	5.6	4.2	4.8	14%	61,217
Fresno	SJ	\$	4,640	110,897	21,552	1,539	16,867	12,524	58%	31%	9.4	6.3	6.9	10%	97,605
Kern	SJ	\$	3,457	94,604	30,111	2,151	13,535	12,025	40%	19%	6.2	7.3	6.9	-5%	194,514
Kings	SJ	\$	1,407	30,768	6,666	476	5,326	5,170	78%	67%	6.1	3.5	4.1	16%	29,562
Madera	SJ	\$	1,105	24,975	5,315	380	4,713	2,136	40%	41%	9.1	2.5	3.9	56%	19,312
Merced	SJ	\$	2,388	34,943	7,224	516	6,898	4,541	63%	43%	8.0	5.1	5.7	12%	42,636
San Joaquin	SJ	\$	1,743	83,409	19,676	1,405	17,748	14,888	76%	63%	8.7	6.6	7.1	7%	117,189
Stanislaus	SJ	\$	1,978	61,171	12,277	877	12,277	10,189	83%	41%	10.8	6.7	7.5	12%	57,930
Tulare	SJ	\$	4,361	53,928	12,375	884	9,407	8,758	71%	48%	7.2	5.8	6.1	6%	69,320
Butte	SV	\$	432	43,819	7,412	529	4,020	1,660	22%	27%	4.0	4.0	4.0	0%	46,899
Colusa	SV	\$	393	4,624	1,193	85	1,148	535	45%	45%	5.2	1.6	2.6	56%	1,829
Glenn	SV	\$	394	6,080	854	61	659	313	37%	31%	2.7	2.6	2.6	0%	7,622
Sacramento	SV	\$	349	165,629	15,080	1,077	11,728	4,502	30%	31%	20.6	6.7	8.0	19%	38,872
Sutter	SV	\$	299	12,581	3,453	247	2,864	1,973	57%	77%	6.8	5.7	6.0	5%	24,484
Yolo	SV	\$	332	28,511	4,514	322	3,670	2,247	50%	51%	9.0	5.3	5.9	11%	14,413
Yuba	SV	\$	133	28,511	1,343	96	763	291	22%	22%	1.6	1.6	1.6	0%	58,859

Sample Map from Database Spreadsheet



- URBAN CHANGE 1984 - 2004***
 Urban change is defined as any land that has been converted from agricultural or natural resources to urban or developed land. This includes land that has been converted to residential, commercial, or industrial use. Urban change is shown in yellow on the map.
- Important Farmland Definitions for areas within soil surveys**
- PRIME FARMLAND**
 Prime farmland is defined as land that is highly productive and suitable for agriculture. It is shown in dark green on the map.
 - FARMLAND OF STATEWIDE IMPORTANCE**
 Farmland of statewide importance is defined as land that is highly productive and suitable for agriculture. It is shown in light green on the map.
 - UNIQUE FARMLAND**
 Unique farmland is defined as land that is highly productive and suitable for agriculture. It is shown in light green on the map.
 - FARMLAND OF LOCAL IMPORTANCE**
 Farmland of local importance is defined as land that is highly productive and suitable for agriculture. It is shown in light green on the map.
- Interim Definitions for areas outside of soil surveys**
- ORIGATED FARMLAND**
 Origated farmland is defined as land that is highly productive and suitable for agriculture. It is shown in dark green on the map.
 - DIORIGATED FARMLAND**
 Diorigated farmland is defined as land that is highly productive and suitable for agriculture. It is shown in light green on the map.

- Definitions used in both areas**
- GRAZING LAND**
 Grazing land is defined as land that is used for grazing livestock. It is shown in light green on the map.
 - URBAN AND BUILT-UP LAND**
 Urban and built-up land is defined as land that is used for urban or built-up purposes. It is shown in red on the map.
 - OTHER LAND**
 Other land is defined as land that is not used for agriculture or urban purposes. It is shown in grey on the map.
 - WATER**
 Water is defined as land that is covered by water. It is shown in blue on the map.
- Other Features**
- NOT MAPPED**
 Not mapped areas are shown in white on the map.
 - COUNTY LINE**
 County lines are shown as thin black lines on the map.
 - MAJOR ROAD**
 Major roads are shown as thick black lines on the map.
 - COUNTY SEAT**
 County seats are shown as small black dots on the map.

THE NATIONAL WETLANDS INVENTORY
 The National Wetlands Inventory is a map of the United States showing wetlands. It is a joint effort of the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service. The map is used to identify areas that are important for wildlife and fish. It is shown in blue on the map.

ACKNOWLEDGMENTS
 The map was prepared by the California Department of Conservation. It is a joint effort of the California Department of Conservation and the National Wetlands Inventory. The map is used to identify areas that are important for wildlife and fish. It is shown in blue on the map.