California Farmland and Urban Pressures
Statewide and Regional Perspectives

Edited by Albert G. Medvitz, Alvin D. Sokolow, and Cathy Lemp
Acknowledgements

This collection of papers on California farmland-urbanization issues originated as a symposium, *Population Agriculture and the Environment*, organized by Al Medvitz for the annual meeting of the American Association for the Advancement of Science (AAAS), February, 1994, in San Francisco. The first versions of several of these papers were presented at that time. Mike Strauss of the AAAS facilitated the organization of the symposium. Other papers were added as a result of a second panel with the same title, organized by Medvitz in June, 1996, at the annual meeting of the Pacific Division of the AAAS in San Jose.

Calvin Qualset, director of the Genetic Resources Conservation Program of the University of California, helped to ensure the presentation of the first symposium. At his suggestion, then UC Vice President Kenneth Farrell, head of the Division of Agricultural and Natural Resources, provided funds to the Agricultural Issues Center for the preparation and publication of the collection. Hal Carter and Dan Sumner, the first and current directors of the Center, have strongly supported this project. Three anonymous outside reviewers reviewed all the papers and provided invaluable suggestions for their revision.

The authors of this volume come from a variety of backgrounds and experiences. For most, taking the time and effort to complete and revise their papers was an additional burden to already busy lives in which writing scholarly, peer-reviewed papers is not a normal part. Nevertheless, all authors devoted themselves selflessly to the task.

Taking the initial (frequently rough) drafts of the papers and working closely with the authors to turn them into polished final versions was the difficult task of Cathy Lemp, who in her labors far exceeded the normal duties of a copy editor.

Preparation of this publication was also supported by the staffs of the Agricultural Issues Center and the Community Studies and Development unit in the Department of Human and Community Development at UC Davis. Sandy Fisher of the AIC staff carried out most of the formatting in preparation for publication. Mike Fitzgerald of the HCD staff also contributed to this work.
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Introduction: The California Scene

Alvin D. Sokolow and Albert G. Medvitz

It is now more apparent than ever that California agriculture competes with other sectors of the state's economy for limited resources. Just in the past decade, tensions over land, water, and air quality—pitting farming against environmental, housing, industrial, and other uses—have escalated to new heights. The fact that California agriculture produces annually more than $25 billion in commodities, making it by far the leading agricultural state in the nation, does not shield the industry from a range of resource restrictions, many of the products of national and state policy.

One very visible dimension of the resource competition is the pressure on farmland from population increase and urbanization. California's agricultural wealth is produced on about 30 percent of the state's land area, including 8 million acres of mostly irrigated cropland and another 22 million of grazing acres. Rapid population growth steadily nibbles away at this farmland base. City expansion and other forms of urbanization take at least 23,000 acres out of production each year, according to estimates based on the incomplete numbers of the state's Farmland Mapping and Monitoring Program.

There are other impacts on farmland as well. Diminished water supplies, actions to protect endangered species and habitat, and market forces also take acres out of production or result in shifts from one mode of farming to another (grazing to cropland, for example).

But from a public policy perspective, the conversion of farmland to urban uses is the most striking type of change. Many California cities began as service centers for surrounding agricultural operations and, as they expand—onto nearby level terrain, the best building sites—they consume disproportionate amounts of the best farm soils. The sprawl and other inefficient land-use patterns that result create high public sector costs, traffic congestion, and air pollution, and frequently lead to local conflicts over growth politics and costs.

Thus the urbanization-farmland connection in California is the focus of this collection of papers. We explore several dimensions of the connection—demographic and agricultural trends over time,
state and local government policies, farmland conservation techniques, farm-urban tensions, land use patterns, and land markets. While wide-ranging, these topics are necessarily selective and do not cover some of the critical links in the chain. Not included in the collection, for example, are substantial discussions of the effect of decreasing water supplies on keeping land in agricultural production, or tensions and incompatibilities between agriculture and habitat conservation, or public perceptions about farmland preservation that differ between open space and economic values.

Authors

The 10 papers included in this collection originated as presentations to two conferences of the American Association for the Advancement of Science, the 1994 meeting of the national organization in San Francisco and the 1996 meeting of the Pacific Division of the AAAS in San Jose. The papers since then have been reviewed by outside readers and have been extensively revised and edited.

A major feature of the collection is that the authors bridge the gaps between academic, governmental, and private sectors. Accordingly, individual perspectives vary. The authors include two University of California academics (Rothstein and Sokolow), two farmers (Eisele and Medvitz), a community leader in land preservation (Faber), a land use and agriculture consultant now attending law school (Handel), the California policy director of a national environmental organization (Vink), an economist member of a state board (Moore), a former California legislative staffer who now directs a statewide "smart growth" coalition (Sanders), and a planner for the state of Oregon (Radabaugh).

Organization

We have organized the papers into two major sections that recognize the separate statewide and local dimensions of the urbanization-farmland relationship. The first concerns statewide demographic and policy trends. Several papers in this section provide the historical context for the current interplay of population and agricultural changes in California; others examine the nature of the urban-farm edge issue found in agricultural areas of the state, critique recent state government efforts to organize a growth management program, and describe the work of nonprofit land trusts in promoting farmland protection.

The second section fleshes out the earlier generic themes
with a series of studies of the interplay of urbanization, farmland policy and community politics in several different regions. California presents the most complex set of agricultural conditions in the U.S. in its variety of soil and climatic characteristics, commodities produced, and cultural practices employed; likewise, population pressures and urbanization vary in intensity and form between regions in the state. The case studies cover farmland-related developments in two Bay Area counties, the Central Valley, the northern Sacramento Valley, and Ventura County on the southern coast.

**Ongoing Urbanization-Farmland Issues**

Several major themes cut across the diverse contributions within this collection. They suggest that the nature of the urbanization-farmland relationship is more complex than any one or a few public policy changes can fix, and that these issues will persist for some time into the future.

1. **How Serious is the Problem?** If available statewide and county-level estimates about the acres of farmland converted to urban uses are to be believed, there is little immediate or near-future threat to the continued health of California agriculture. About 232,000 acres of farmland were converted to urban uses during the 10 years between 1986 - 1996, a 1.2-percent decrease in the total of 20 million acres mapped, according to the reports of the state’s Farmland Mapping and Monitoring Program. Converted “important farmland” or cropland acres during this period totaled 148,000, 1.9 percent of that category statewide. Furthermore, as Medvitz notes, California’s agricultural production continues to increase in volume and value even as the farmland supply diminishes, because of crop shifts and technological advances.

   A much more threatening picture, however, comes from the anecdotal accounts in the media and other popular sources of urban encroachment in agricultural areas: “paving over farmland” is the common metaphor. Farmland preservation advocates certainly pursue this line of argument. And it is compelling indeed to have the visual evidence in particular urban fringes of orchards and fields giving way to the steady expansion of new subdivisions and shopping centers.

   How do we reconcile these seemingly opposite views of reality? Beyond differences in perception, there are issues of timing, data adequacy, and related events. The small numbers recorded currently of course will add up to much larger volumes over time, as Medvitz notes. And other acres are taken out of agricultural produc-
tion because of habitat protection, wetlands restoration, the loss of water, and other factors. Greater efficiencies in new urban development, Radabaugh suggests, can ameliorate the problem, but the conversion trend is steady and ongoing as California continues to add millions of residents. How much breathing room do we have to devise and implement better ways of accommodating population increases and preserving farmland before California agriculture is seriously damaged? How quickly California responds to the problems depends on public perceptions, fluctuating political pressures, and the priorities of elected leaders.

Obtaining precise data is another issue. The FMMP reports—the state’s formal source of information on land-use changes—do not fully capture the story of farmland conversions throughout California. One reason is that some agricultural areas have not yet been inventoried by modern soil surveys, the basis of much of the mapping. Then too, conversion of land from agricultural to urban categories is often not directly revealed by the system because it occurs over a longer time span than the two-year reporting period and involves a transition period during which once-productive farmland lies idle before houses or other buildings are constructed. Perhaps the magnitude of the undercount is small. But still, a close review and validation of the FMMP system is in order, one that should include a comparison with other data sources, especially the details of zoning changes, subdivision approvals, and other rural-to-urban land-use shifts recorded by city and county governments.

Finally, we note that converted acreage presents only one aspect of the problem of urban encroachment on farmland. The bigger issue for growers and ranchers in many areas is the impact of urban neighbors on farm operations—the edge conflict addressed by Handel in this collection. Edge tensions of course can accelerate rates of conversion, as farmland owners retreat from the next wave of urban development because of the difficulty of continuing to operate next to residential subdivisions. The farmland preservation problem cannot be measured only in quantitative terms; it turns up at a more direct, neighborhood level all over California’s agricultural regions.

2. The Urban Side of the Equation. As much as communities try to protect their agricultural resources by focusing on explicit farmland preservation techniques (such as exclusive agricultural zoning, Williamson Act contracts, and right-to-farm ordinances), the policy efforts are misplaced if they do not concentrate on the forces that drive conversions—city expansion and urban development in
Introduction

unincorporated areas. The great challenge in California is to figure out how to maintain a healthy and prosperous agricultural industry in a rapidly urbanizing state. The most pertinent policy tools thus deal with the direction, rate, and efficiency of urban growth, as examined in several papers (Medvitz, Sanders, Eisele, Sokolow, Radabaugh, Moore) in this collection.

There is one farmland-focused technique, however, that offers considerable promise—the technique of acquiring conservation easements on individual farm parcels, discussed in the papers by Vink and Faber. Interest in this technique is rapidly increasing in California because of its emphasis on landowner fiscal incentives, the acquisition activity of a few land trusts and public agencies (primarily in coastal areas), and the state’s new funding source for farmland easements (the Agricultural Land Stewardship Program). But the high cost of purchasing development rights and the voluntary nature of easement sales by landowners make it doubtful that we will see more than a small quantity of farm acres covered by these restrictions in the future. Still, easements can be strategically located in relation to the path of urban growth in order to influence the direction of that growth and to protect large blocks of farmland. This means linking easement locations to boundary and other planning actions of local governments, including LAFCO decisions about city annexations and spheres of influence, general plan projections, and the designation of urban growth boundaries.

The urban implications of farmland protection also are very clear on a political plane. The advancement of a farmland protection agenda in California requires bringing urban leaders; farm, business, and environmental groups; and communities into this policy arena. Especially if it means spending public funds or developing new statewide planning policies and tools, this effort will require the active support of metropolitan constituencies and politicians—if for no other reason than because this is where the state’s votes and political muscle is located. Furthermore, there is no sense in promoting a farmland protection agenda by itself. It will succeed only as part of a broader effort to pin down an effective growth management program for California, one that addresses on a statewide basis the key issues of growth-preservation tradeoffs, geographical limits of urban development, land-use efficiencies, and local government finance and infrastructure.

California is far from achieving a viable growth-management program, according to Sanders and Radabaugh. Yet there are signs of possible political movement on this front. A new governor who took office in 1999 and his administration have the leadership
flexibility that a relatively healthy fiscal situation provides. And the
organized support for a strong set of state growth management
policies seems stronger than ever, as demonstrated by the coalition
gathered under the banner of the new California Futures Network.
Predecessors to this development were the 1995 Beyond Sprawl report of
a banking-environmental-housing coalition and the 1998 report of
the Agricultural Task Force that addresses population growth in the
Central Valley. There are also examples of coalition-building on
growth issues at the local level, notably the work of the Growth
Alternatives Alliance in the Fresno area that represents home build-
ing, agricultural, business, and preservation interests.

3. State Framework, Local Battles. It is state government
that provides the policy and legal framework for public efforts to
protect farmland—in legislating certain policies, empowering city
and county governments with the responsibilities and tools to carry
out these policies, and providing modest financial assistance. But it
is local governments that do the heavy lifting in this area and in
growth management and urban planning generally with consider-
able discretion in keeping with California's strong preference for
local control in these matters.

If state government develops a coherent growth manage-
ment program, as suggested above, local control will of course be
diminished. But a reasonable balance can be struck. State policies
and guidelines can be made more explicit and local governments can
be given substantial fiscal incentives (including increasing local
revenue-raising capacities), without severely restricting the ability of
communities to decide their public futures. Maintaining extensive
local control over urban growth does have certain advantages—it
can generate innovative policies and solutions, promote citizen
understanding and involvement, and recognize basic differences
from one community to another in popular preferences and values.
On the other hand, local control also gives individual communities
the leeway to avoid strong action to protect land and other resources
and to ignore the effects of their growth on other communities.

For the foreseeable future, the real struggles over farmland
protection will continue to be carried out in numerous local venues,
community by community. The proof is seen in the wide variation in
the priority given farmland protection and the particular policy
techniques employed by local governments in agricultural areas, as
described by Sokolow. The local struggles concerning farmland
protection and urban development usually involve extensive politi-
cal maneuvering over time. In fact, policy development in this local
arena may be, as Faber and Eisele discovered in Marin and Napa
counties, a matter of citizen mobilization in which opposing interests face off, elected governing bodies change course, the ballot is used to make policy, and even litigation becomes a standard tool.

4. The Limits of Policy. It remains to note that the ability of state and local governments to control urban growth through policy alone is severely limited. People's behaviors and preferences concerning their pocketbooks and lifestyles are the critical factors driving urbanization—homeowners want large lots in country settings, urban developers seek cheap land for building purposes, neighbors and local officials oppose high-density development in the interest of quality of life, and landowners try to maintain their economic options.

Yet private and public actions are closely intertwined. Amid the economic and political complexities that surround urban development and farmland protection in California, responsible state and local governments can influence these forces and the overall course of urban development—through market, regulatory, and planning policies, and through information and persuasion.
Part I:
Statewide Perspectives
Chapter One

POPULATION GROWTH AND ITS IMPACTS ON AGRICULTURAL LAND IN CALIFORNIA: 1850 TO 1998

Albert G. Medvitz

For the first 110 years after statehood, California’s very rapid population growth was associated with the expansion of its agricultural land base and crop diversity. Population is still rising, but the agricultural land base over the last 40 years has steadily declined. Even so, agricultural productivity has continued to increase—due to increased irrigation, crop improvements, and other inputs—although the real economic value of California production has remained uncertain and volatile. Projections of future land conversions derived from population growth estimates and California’s Farmland Monitoring and Mapping Program raise questions about the conditions necessary to maintain the future viability of California agriculture.

A century ago, California’s population was around a million, about the same number of people who now attend the Rose Bowl Parade every January first. Today California’s population is more than thirty times greater—and still growing. Historically, this burgeoning population thrived upon exploiting California’s natural landscape. As a result, the state’s land, water, and climate now support one of the world’s most significant agricultural systems.

From its inception as a state, California increased its agricultural production by bringing new land into production as well as by applying new technologies and management practices. But after World War II, the century-long trend of net yearly increases in land for agriculture ceased and California began a trend in net losses of agricultural land that continues today. Despite these losses, California’s agricultural establishment continued to generate increasing amounts of food and fibre. In other words, the amount of land in agriculture, for the first time, began to decline after World War II, but production continued to rise due to greater technical inputs, expanded irrigation, and new crops.
In the decades following World War II, local, state, and national policy makers became concerned about the conversion of agricultural land for other purposes, particularly for urban growth. The scope and magnitude of land-use changes raised the specter of possible damage to the state's agricultural sector. More recent broad-scale analyses by the American Farmland Trust (1995), The Bank of America et al. (1995), and various other organizations and agencies are currently calling attention to the need to protect California agricultural land.

To act reasonably to protect California's agricultural land resources, we must understand the character and dynamics of population growth in the state and how it relates to agricultural land. This paper will discuss the history of population growth in California, its impact on agriculture, and some scenarios of future population growth.

Population Growth

From the time gold was discovered, California's population ballooned. U.S Census data show that from 1860 to 1990, California's average growth rate per decade has been 3.36 percent per annum. As shown in Table 1 and Figure 1, population has risen by about 41 percent per decade since statehood (US Bureau of the Census, 1993), reaching higher levels for extended periods.

California's population growth has two components: natural increase (births minus deaths) and immigration (domestic interstate and international). Between 1980 and 1990, one half of the average population growth (600,000 per year) derived from natural increase, one quarter from domestic immigration, and one quarter from international immigration (Bouvier, 1991:11).

After 1990, growth patterns began to change. The population continued to expand, but more slowly: 1.9 percent per annum from 1989 to 1994 (California State Department of Finance, 1994 and 1991). Between July 1994 and July 1995, the growth rate declined

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1 Pre-1940 data were obtained in personal conversation with US Census Bureau personnel. Decade Average Growth is the 10-year average between census assuming exponential growth: e.g., Avg. Growth (1980 to 1990) = [Logn (Pop.1990/Pop. 1980)]/10.

2 The annual percentage increase is calculated assuming exponential growth over the four-year time period between July 1990 and July 1994.
Population Growth and Its Impacts

Table 1: California Population Growth, 1860 to 1990

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Average % Yearly Growth Rate</th>
<th>% Increase Over Decade</th>
</tr>
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<tbody>
<tr>
<td>1860</td>
<td>379,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1870</td>
<td>560,000</td>
<td>3.9</td>
<td>47.8</td>
</tr>
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<td>1880</td>
<td>864,000</td>
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<tr>
<td>1890</td>
<td>1,213,000</td>
<td>3.39</td>
<td>40.4</td>
</tr>
<tr>
<td>1900</td>
<td>1,485,000</td>
<td>2.02</td>
<td>22.4</td>
</tr>
<tr>
<td>1910</td>
<td>2,377,000</td>
<td>4.7</td>
<td>60.1</td>
</tr>
<tr>
<td>1920</td>
<td>3,426,000</td>
<td>3.66</td>
<td>44.1</td>
</tr>
<tr>
<td>1930</td>
<td>5,677,000</td>
<td>5.05</td>
<td>65.7</td>
</tr>
<tr>
<td>1940</td>
<td>6,907,000</td>
<td>1.96</td>
<td>21.7</td>
</tr>
<tr>
<td>1950</td>
<td>10,586,000</td>
<td>4.27</td>
<td>53.3</td>
</tr>
<tr>
<td>1960</td>
<td>15,720,000</td>
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<td>1970</td>
<td>19,970,000</td>
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<td>23,667,000</td>
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<td>1990</td>
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</tr>
<tr>
<td>Mean</td>
<td></td>
<td>3.36</td>
<td>40.7</td>
</tr>
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</table>

Source: US Census Bureau

Figure 1: California Population Growth, 1860 to 1997

*exponential population curve calculated as Population=Population in 1860 x exp(k*t) where k=.0336 and t=time in years since 1860
still further to 0.90 percent (California State Department of Finance, 1996). During this time, the state experienced a net outmigration loss of 74,000 people. Even so, California’s natural increase added 350,000 new people: far more than the losses to outmigration. Population grew by 1.4 percent in 1996 and by 1.8 percent in 1997 as domestic immigration increased (California State Department of Finance, 1998)—a gradual increase, much below earlier averages.

Investors might find interest rate increases of one or two percent to be insignificant, but in the context of population change such increases demand attention. To appreciate the magnitude of California’s population growth, one may compare it to international growth rates using Table 2. These data clearly show that California’s

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPERIAL</td>
<td>4.4</td>
<td>ORANGE</td>
<td>2.0</td>
</tr>
<tr>
<td>ISRAEL</td>
<td>3.8</td>
<td>BANGLADESH</td>
<td>2.0</td>
</tr>
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<td>MADERA</td>
<td>3.5</td>
<td>INDIA</td>
<td>1.9</td>
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<td>PERU</td>
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<td>SAN BERNADINO</td>
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<td>3.0</td>
<td>HAITI</td>
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<td>KENYA</td>
<td>2.8</td>
<td>CALIFORNIA</td>
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<td>AFGHANISTAN</td>
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<td>SANTA CLARA</td>
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<td>RIVERSIDE</td>
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<td>ARGENTINA</td>
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<td>ZIMBABWE</td>
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<td>CHINA</td>
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<td>SOUTH AFRICA</td>
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<td>VIETNAM</td>
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<td>FRANCE</td>
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<td>TULARE</td>
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<tr>
<td>MEXICO</td>
<td>2.0</td>
<td>ITALY</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Table 2: Five Year Average Population Growth Rates of Selected Countries, California, and Selected California Counties* (California and Counties in Bold)

* California and county rates are mean yearly rates calculated for the period 1990 to 1995. They are somewhat less than 1980-1990 averages and are based on Department of Finance estimates rather than US census counts. Country estimates are 1990-1995 averages from the World Bank’s World Population Projections: 1994-95.

3 To use an example with which many people are familiar, increasing the number of children in California by 350,000 will require an additional 17,500 new teachers with classroom space in just seven years. The following year an additional like number of teachers will be required to take care of additional children plus the original number. When placed in terms of social and economic infrastructure costs, it is easier to see that the costs of one or two percent growth rates are substantial.
growth patterns are consistent with those of developing or third-world countries (California State Department of Finance, 1994; Bos et al., 1994). Of course, California is economically stronger than developing countries and its rapid population growth takes place in a context of greater wealth and income; nevertheless, this growth poses difficult, persistent policy and management problems for the preservation of agriculture and the environment.

It is worth emphasizing that Table 2 does in fact reflect historically slow rates of population growth for California. For more than a century, California has grown an average of nearly twice as fast as it did during the 1990-1995 period used to construct this table. Further, individual county growth rates in California have been astoundingly large for periods lasting as long as a decade. Since 1940, twelve of California’s 58 counties have experienced decade-long periods of population growth with averages between six and eight percent. For example, Santa Clara County more than doubled its population between 1950 and 1960 with an eight-percent-per-annum growth rate.  

Early Effects of Population on Farmland

The Positive Side of Population Growth

It is customary in late-twentieth-century California to focus upon the problems posed by rapid population growth, but for much of California’s modern history, population growth has actually benefited agriculture. Morton Rothstein [California Agriculture over Time, in this collection] points out that, from around 1850, California’s population growth was associated both with rapid urban growth and with the continuing expansion in large-scale, highly-technological agriculture. This association is consistent with Ester Boserup’s proposition that population growth is a causal driving factor in agricultural innovation (1965:117). Olmstead and Rhode describe the vibrant growth of California agriculture throughout the state’s modern history as an example of “induced innovation”—innovation, particularly mechanization, developed in response to the state’s special climatic conditions and to “factor

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4 It is interesting to note that, though there were times when California as a whole and some individual counties were growing at phenomenal rates, only a few remote counties have ever lost population. For example Modoc, Humboldt, Del Norte, and Trinity counties all declined in population in the 1960 to 1970 period and some others experienced only modest growth.
scarcities" (particularly labor). Regarding California’s agricultural development, Olmstead and Rhode conclude:

The settlement process, the worldwide search for appropriate crops and cultural practices, the wholesale shift in crop mixes, and the massive investments in water control and irrigation, along with numerous other measures, are fundamentally stories of biological investment in a labor-scarce land abundant environment. (1997:25)

An important part of this investment was devoted to encouraging people to come to California. Indeed, Marriano Vallejo, the Mexican governor of Alta California before the Gold Rush and before statehood, invited settlement in northern California from the United States to develop the agricultural potential of the land (Rosenus, 1995). The economic and policy conditions which invite settlement have continued to the present day, but now new residents, rich as well as poor, are increasingly regarded by many as a threat to the State’s agriculture.

Figure 2 correlates population growth with the expansion of

Figure 2: Number of Farms and Land in Farms vs. Population, (1910 to 1992)

Population Growth and Its Impacts

California agriculture in the twentieth century in terms of land use and numbers of farms (US Bureau of the Census, 1936, 1946, 1956, 1989, 1994). Until the mid-1930s, the increasing population in California was associated with rising numbers of farms. After a sharp peak in the mid-30s, the number of farms remained relatively stable for a decade and a half, then began an extended period of decline. By contrast, the amount of land used for farming in California continued to increase through the 1950s and into the 1960s before beginning its decline.

Higher Productivity, Fewer Acres

A notable aspect of the post-World War II period in California has been the continuing increase in agricultural productivity even though more farmland is being used for purposes other than agriculture. Inexpensive water made available by massive federal and state irrigation projects like the Central Valley Project and the California Aqueduct has helped accelerate the trend from extensive agriculture to more intensive agriculture. Even today, new crops are being introduced continually, and the latest agricultural and food processing and distribution technologies allow greater productivity on fewer farms.

Figures 3 and 4 show changes in agricultural land use in the post war era. Figure 3 shows the increasing shift to irrigation from 1955 to 1992. Cropland (not including grazing land) declined from about 13 million to 10.5 million acres, a loss of nearly 21 percent. In that same period, the amount of irrigated land increased from about 7.0 million acres to just shy of 7.6 million acres, a gain of almost 7.5 percent (US Bureau of the Census, 1994, 1989).

Figure 4 shows the changes in post-war cropping patterns generated by the shift to more intensive farming. Despite variations (coinciding with fluctuations in weather and prices), field crops such as wheat, barley, or corn have generally lost acreage in comparison to the more labor-intensive, higher-value orchard and vegetable crops. Despite a declining land base, the addition of new seed varieties and improvements in cultivation, chemical technologies, and management patterns have led to a doubling of yields in field crops between 1955 and 1993. Vegetable crops showed a similar increase, while yields of fruits and nuts have risen by 25 percent (Figure 5).

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5 Crops like fruit, nuts and vegetables, or livestock produced in confined settings are considered intensive. Extensive crops are those like dryland grains and grazing. Intensive agriculture produces crops which require more labor and other inputs, but which generally yield higher value.
Figure 3: California Agricultural Land Changes, 1954 to 1992

Figure 4: Acres Crops Harvested by Category, 1955 to 1993.
Livestock production has followed a similar pattern, with declines in extensive grazing of meat-producing animals such as sheep offset by increasing numbers of intensively-managed dairy cows and housed poultry for the production of eggs and meat (Medvitz and Sokolow, 1995:14).

**Change Is the Only Constant**

Historically, patterns of agricultural land use in California have always been fluid. Irrigated pasture is converted to orchards. Grazing land, sometimes regarded as marginal, is upgraded to vineyards or orchards. Orchards are removed in favor of floral and ornamental production. Irrigated ground used for wheat or barley is modified for turf grass production for urban areas. Large poultry farms are established on old cattle ranges.

The dynamic character of California agriculture owes much to the State's special climatic conditions. Almost all land in the temperate micro-climatic regions of the state is suitable for produc-
tive and profitable agriculture. For example, even the steep hillsides of the coastal ranges produce commercial bay laurel. In 1997, the State recognized 350 crop and livestock commodities, including seed flowers and ornamentals (California Department of Food and Agriculture, 1997:16). Just 31 years earlier, only 200 crop and livestock commodities were listed (California State Agricultural Statistics Service, 1966:5). The addition of 150 new agricultural products in this period reflects the continuation of a long-term trend in diversification.

California Agriculture in the Future

California’s experience from 1850 to 1950 has taught that population growth, together with sufficient human and technical input, contribute to increasing production for California agriculture. The lessons of the immediate post-World War II era seem to confirm that population pressure was not incompatible with agricultural production, even as the agricultural land base and the farm population began to decline and new concerns for the environment and a sustainable future began to take hold. California agriculture not only survived, it thrived on adaptation and increased complexity.

Pressures Increase

But by the 1970s, the continuing pressures of population growth began to generate concerns about California’s agricultural future. Residents of the northern San Francisco Bay counties, observing Southern California’s sprawl with its highly visible problems of air pollution, congested highways, and destruction of productive agricultural lands, reacted strongly against permitting such conditions to develop on their own turf [as recounted in Eisele, Twenty-Five Years of Farmland Protection in Napa County, and Faber, Protecting the Resource with a Land Trust: A Case Study of the Marin Agricultural Land Trust, in this collection.]

At about the same time, new analyses of world economic and environmental conditions suggested that technologically-driven adaptations were limited in their ability to cope with the effects of rapid population growth (Ehrlich, 1968; Meadows, et al,1972; Schumacher, 1973). The Environment arrived on the scene as a competitor for California’s scarce land (and water) resources, thus complicating the issues of agricultural development and land use. In the early and mid-1970s, new policies seeking to safeguard California’s diminishing species and threatened resources in the face of rising population pressures went far beyond setting aside spec-
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tacular pieces of landscape as parkland. Efforts to protect wetlands, rare aquatic and terrestrial species, and predators favored by the public moved beyond public ownership to intervene in day-to-day agricultural operations. By the time Marc Reisner published his Cadillac Desert (1986), the struggle for water no longer involved only urban and agricultural users; advocates for endangered species and habitat preservation were represented as well.

It has become increasingly apparent in the late 1990s that the conditions of California’s first century of modern history no longer obtain. There is no longer a “land-abundant” environment, the water supply is reaching its limits, and there is widespread concern that California’s agriculture itself is at risk if continuing patterns of growth continue. This is the message of the American Farmland Trust (1995), The Bank of America and others (1995), and—more recently—government agencies such as those represented in the CALFED process (1998). The State Department of Water Resources is now projecting substantial losses of irrigated farmland in California, the very resource that has allowed continuing increases in production despite overall declines in agricultural land (California State Department of Water Resources, 1998). The ability of the people of California to manage these new conditions depends on their understanding of the dynamics of the State’s population growth.

Rates of Population Growth

There is little question that California’s population will continue growing, but at what rate of increase? Five different scenarios of extrapolated population growth are shown in Figure 6. (The Department of Finance population projections are based on State government models of population dynamics. The other extrapolations are for comparison purposes and show a range of possibilities based on historical trends.) The scenarios include:

- continuation of the 1980-to-1990 rate of 2.29 percent per year;
- continuation of the 1992-93 reduced rate of 1.8 percent per year;
- California Department of Finance population projections based on demographic modeling through 2020 (1997);
- continuation of the 1.24-percent rate in 1993-94; and
- a drop to 0.9-percent-per-year increase, assuming a continuation of the 1994-95 rate of growth (about a 1-percent natural increase and a net small outmigration).
Figure 6: California Population, 1910-1990 extrapolated to 2040

California could experience a renewal of outmigration, a rapid decline in births, or an increase in deaths. But it is more likely that the economic recovery of the late 1990s will continue and that population growth will resume at levels within the ranges outlined above. It is also possible, if unlikely, that the century-and-a-half trend of growth rates of 3.36 percent per year may resume (this extrapolation is not presented, however, for fear of appearing alarmist).

Under the least-growth assumption, the State’s population would approximately double to 50 million by 2050. If the 1980-90 trends recover, California’s population could triple to something close to 90 million people by mid-century. With land and water resources increasingly scarce, we can anticipate that the effects of current and future population growth on agriculture will be very great indeed. The photographs in Figure 7 vividly illustrate these effects as they occurred in Santa Clara County between 1950 and 1980.
Population Growth and Its Impacts

Farmland Monitoring and Mapping Program

Since 1984, we have had away of tracking the scale of farmland conversion to urban uses through the California State Department of Conservation's Farmland Monitoring and Mapping Program (FMMP). FMMP data collected since 1984 show land-use changes over 12 years (1984-1996) in 44 of California's 58 counties (FMMP, 1998, 1996, 1994, 1992, 1990). Data gathered from 35 of these counties over the ten-year period from 1986 to 1996 can be used to get some sense of land-use changes over time in California. These 35 counties contain 60 million acres (total state acreage: 100 million) and comprised 24 million people in 1996, about 75% of the State's population.

The FMMP 1986 survey in the 35 counties identified about 17 million acres of land in agriculture and 2.1 million acres in urban usage. Data for 1996 show the agricultural land base declined by 369,000 acres for a 2.2 percent decrease over the 10-year period while the urban land base rose by 347,000 acres, a 16.5 percent increase. Substantially smaller amounts of land, totaling 27,000 acres, were converted to parks, to wildlife habitat, and to rural residential "ranchette" developments, according to unpublished estimates provided by the FFMP. To illustrate what these conversions mean in terms of existing urban land in California, Table 3 compares the new California urban land created over the past ten years to previously existing urban land in selected counties. The growing population in California has produced more urban land in the ten-year period from 1986 to 1996 than exists in several of its most urbanized counties, which at one time were noted for their agriculture.

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6 The FMMP was created by the California State Legislature in 1982 to identify and monitor changes in the State's important farmlands. The program revises its estimates every two years. Because of important omissions in the data, the program initially included only 38 counties: those for which soil survey and other mapping data already existed. Additional counties have been included as more data become available. Occasionally the area of survey within given counties is also adjusted. FMMP staff caution that the very first 1984 survey published by the program is not entirely reliable. Reasonable comparisons over time are possible only from 1986 for the 35 identified counties.

7 The counties for which 10-year comparisons can be made are: Alameda, Amador, Contra Costa, El Dorado, Fresno, Glenn, Imperial, Kings, Lassen, Los Angeles, Madera, Marin, Mariposa, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, San Benito, San Bernardino, San Diego, San Louis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Solano, Sonoma, Stanislaus, Tehama, Ventura, and Yolo.
Figure 7a: This 1948 US Geological Survey aerial photograph (HR-2-169) shows approximately 6.5 square miles of land in family farmers growing mostly orchard crops in Santa Clara County, California, south of the City of San Jose.
Population Growth and Its Impacts

Figure 7b: This 1993 US Department of Agriculture aerial photograph (NAPP 6355-57-06-14-93) shows the same tract of land converted to urban purposes over a period of 45 years. The majority of the land in this photograph was overrun by urban growth by the early sixties. Similar contrasting photos of the same region appear in An Introduction to the World Conservation Strategy prepared for the International Union for the Conservation of Nature and the United Nations Environment Programme (1984, p. 10).
Table 3: Comparison of New Urban Land Created in 34 Surveyed Counties Between 1986 and 1996 with Existing Urban Land in Selected Counties*

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>ACRES URBAN LAND (1994)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW URBAN</td>
<td>346,993 created between 1986 and 1996</td>
</tr>
<tr>
<td>Orange</td>
<td>262,240 existing in 1996</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>176,853 &quot;</td>
</tr>
<tr>
<td>Sacramento</td>
<td>146,902 &quot;</td>
</tr>
<tr>
<td>Alameda</td>
<td>138,060 &quot;</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>136,248 &quot;</td>
</tr>
<tr>
<td>San Mateo</td>
<td>70,186 &quot;</td>
</tr>
<tr>
<td>San Joaquin</td>
<td>69,733 &quot;</td>
</tr>
<tr>
<td>Sonoma</td>
<td>64,100 &quot;</td>
</tr>
<tr>
<td>Solano</td>
<td>50,971 &quot;</td>
</tr>
<tr>
<td>Monterey</td>
<td>49,230 &quot;</td>
</tr>
<tr>
<td>Marin</td>
<td>39,827 &quot;</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>27,708 &quot;</td>
</tr>
<tr>
<td>Napa</td>
<td>20,318 &quot;</td>
</tr>
</tbody>
</table>

* surveyed counties are those 33 counties with comparable FMMP inventories between 1986 and 1996 encompassing about 60 million acres and a combined 1996 population of 24 million people.

Source: California Department of Conservation, Farmland Monitoring and Mapping Program, California Department of Finance Population Estimates.

It should be borne in mind that several important agricultural counties with rapidly-growing urban populations—e.g., Sacramento and San Joaquin—are not included in this analysis because FMMP data do not allow comparison over the ten years. Table 3, therefore, actually underestimates the amount of new urban land created. The information presented here for the 35 counties, however, seems to be representative for the entire state when compared with FMMP data on land conversions in counties more recently surveyed.

**Future Projections**

As California’s population continues to increase, so will its need for urban land. Assuming future urban expansion rates of between 1.5 percent and 2.2 percent per year (the growth rate indicated by the FMMP data) and estimating California’s current
urban land base conservatively at about 3.5 million acres, we can expect urban land to occupy somewhere between 8 and 12 million acres by the middle of the twenty-first century. Extending these projections to the year 2100, we can estimate that California’s urban land base probably will occupy somewhere between 16.5 and 34.5 million acres. In other words, it is in the realm of reasonable probability that in another 100 years, urban land in California will occupy one third of the State: more area than is currently occupied by agriculture.

Stunning as these projections may seem, they are based on current patterns of land use and on actual experience. These projections do not allow for possible limitations to urban expansion resulting from water scarcity, environmental litigation, and other economic and/or social factors. But even if these factors do slow urban growth to some extent, we cannot count on agriculture to adapt to a declining land base as it did earlier in the century. New conditions prevail in California.

Environmental Demands. Among the new conditions are increasing environmental demands placed on State resources, requiring set-asides of land and water for environmental purposes in the heart of California’s major agricultural regions. For example, current planning for the CALFED Bay-Delta program proposes to set aside somewhere between 202,000 and 290,000 acres of important irrigated farmland to achieve water quality and environmental restoration goals in the Sacramento/San Joaquin Delta (CALFED Bay-Delta Program, 1998:5).

Water Restrictions. Even more important than the loss of agricultural land in general is the loss of irrigated land, the factor that permitted continuing production despite diminished acreage. The California Department of Water Resources is projecting a statewide loss of 300,000 acres of irrigated farmland by the year 2020 and a net decline of 2.3 million acres feet of water use by agriculture during the same period. This is perhaps the most fundamental change from earlier historical conditions. While some potential exists for water conservation, and new technologies and crops will undoubtedly come on line, it is unlikely that the agricultural establishment can continue to maintain, let alone increase, production when supplies of agricultural water and land are both in decline.

Economic Uncertainties. Despite its historic resilience, California’s agricultural industry is vulnerable to more than depletion of the land base and competition for the state’s water supply. Unpredictable economic downturns are an ever-present concern in an industry subject to influences as disparate and uncontrollable as weather and market forces.
Official statistics are hopeful. Data presented by the California Department of Food and Agriculture and the U.S Census Bureau typically show that California agriculture is on an ever-increasing income spiral despite the declining base of farmers and land. For example, the 1992 Census of Agriculture reports an increased amount for the total market value of all agricultural products sold in California for every census year since 1959 (Bureau of the Census, 1994). A review of the California Department of Agriculture’s California Agricultural Statistics from 1960 to 1997 shows a similar trend. Both sources show more than a six-fold increase in the total market value of California agricultural products sold since 1960.

So why should we worry? For one thing, neither source presents inflation-adjusted figures. When the data are adjusted in this way, the picture differs dramatically. Figure 8 shows in comparison the total California agricultural output in current dollars and the

Figure 8: Total California Agricultural Product Current and PPI Adjusted Dollars, 1960 to 1996

![Graph showing total California agricultural output in current dollars and PPI adjusted dollars from 1960 to 1996.]

same data adjusted for inflation (in 1992 dollars) using the producer price index from 1960 to 1997. The inflation adjusted-pattern was a sharp rise in real product value of California’s total agriculture output from $15 billion in 1972 to $19 billion in 1974, followed by an extended period of decline to $15.5 billion in 1984 and then a marked recovery to $20 billion in 1992 and $23 billion in 1996 (again, using prices adjusted to 1992 dollars). But the 1998 crisis in wheat and grain crops reminds us that cyclical downturns—perhaps as severe and long as the post-1970s experience—can occur without warning in the future. Given a more constrained land base, increased competition for water, and greater intrusions from urban centers, it will be far more difficult to recover from the next downturn.

**Points to Consider**

Despite the possibilities for optimism, the data presented above leave us with an unanswered set of questions about California and its agricultural establishment. Some of these are obvious:

- How can we determine whether we still have an ample supply of farmland?

- If our current acreage is sufficient, when—given projected growth—will we begin to experience a supply problem?

- Is the process of technical and management innovation in agriculture (including sustainable practices) accelerating at a rate that will allow farmers and ranchers to compete on a world stage to provide reliable and safe food and fiber to our own local and national population, let alone to a growing world?

- Can they do so while competing with population demands for land and other crucial resources and, if so, for how long?

- How long can California’s agriculture continue to generate sufficient income to support itself in the face of an inflating population?

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8 The producer price index is similar to the more familiar consumer price index but takes into account the changing value of currency in relation to goods and services purchased for production rather than for household consumer consumption.
Basic questions about the processes of change and decision-making in response to the pressures on California’s agricultural resources must also be considered. For example:

- Under what conditions does a populace recognize its local agriculture as important enough to protect?

- What are the strengths and limitations of current policies and processes for assessing and protecting agriculture as a resource?

- How does the aesthetics of landscape and culture play into decision-making about agriculture?

The limited analysis presented here does not attempt to resolve these issues, only to raise them and to clarify some of the issues that impact agriculture in California. Clearly, a better understanding of population growth in California and its implications for agriculture must be pursued. At least as important are investigations into the processes of economic and political decision-making which characterize the interaction of California’s population with the land upon which it thrives.

References


Population Growth and Its Impacts


Chapter Two

CALIFORNIA AGRICULTURE OVER TIME

Morton Rothstein

The demands of the first migration of Euro-Americans into California during the Gold Rush launched the state's agricultural industry. By the mid-to-late 1800s, Central Valley ranch land was transformed into a mechanized, mono-cultural wheat operation with world-wide markets. From 1890 to World War II, agricultural land use shifted to the diversified, more intensive production of fruits, nuts, and vegetables we are familiar with today. Irrigation, technology, and the continual pressure of a steadily-growing population has led farmers to practice ever more productive agriculture—but has placed our rich farmland in ever greater jeopardy.

American farmers in the "Golden State" have gone through many transformations since the first European ranchers and farmers reached the remote and variegated Pacific Coast. After the Gold Rush in 1849 when the flow of immigrants to California from around the world reached epic proportions, settlers rose to the challenges presented by California's unique range of climate and land patterns and began to develop the state's vast agricultural potential. The continuous spread of farms across the diverse land-forms and mini-climates of the state's coastal, Central and Imperial valleys increased the number of crops grown in California from a dozen or so during the Spanish period to more than 350 today. They range from the ordinary to the exotic, from hay for animal feed to barley for beer and gin to wine and raisins. Such growth depended on informed farm entrepreneurs rapidly adopting innovations: tractors, chemicals, hybrid seeds, and other advances stemming from scientific research. Farmers used technology and scale to boost their output, enabling them to produce more with less investment in money and labor (Barron, 1995). They depended also on such capital-intensive improvements in the state's infrastructure as railroads and dams for storing and controlling water. Farmers learned to agree on uniform quality standards in grading almost every field crop and livestock animal.
In the arid lands of California the most successful farmers were those who could draw enough water, through private investment or government largess, and who could adjust quickly to market changes. But farming in a largely near-desert state was, and remains, a risky business. Few Californians—city people or farmers—fully understood the state’s unusually diverse geomorphology and climates and fewer still grasped the indigenous peoples’ techniques for prospering without harming the land. Friction often developed between the needs of growers and the demands of townspeople, miners, and loggers for more land and more water. From time to time over the last century, these disputes have grown sharper, as has public concern about the environmental consequences of an increasingly technical husbandry—a concern shared by more and more responsible farmers.

This paper traces the course of the struggles and successes of California’s farmers from its early beginnings to the present, providing a brief overview of historical and technical events that have led to the conflicts and challenges facing California agriculture today.

Before 1849: The Earliest Beginnings

For millennia, agriculture in California was largely confined to the hunting and gathering activities practiced by Native Americans. When the Spanish arrived, there were perhaps more than 300,000 Native Americans in California’s roughly 200 tribes, a high concentration for hunter-gatherers. On lands which generations of Americans later regarded as virtual desert, these people used fire to remove undesirable plants and relied very little on cultivation for food and fiber and left little environmental damage on lands they inhabited. Sadly, as was the case with indigenous people in much of the Western Hemisphere, only a few of California’s Native Americans survived the ravages of diseases in the “Columbian Exchange” (Crosby, 1972). Their numbers declined sharply, then steadily, until they leveled off at a nadir of about 15,000 by 1900 (Bean, 1992; Rawls, 1992).

During most of the Spanish period from 1780 to 1821, priests and a few officials dominated the missions, the presidios, and the pueblos along the coast’s Camino Real from San Diego to Sonoma. Farming consisted mostly of small-scale subsistence and pastoral activities: growing small plots of wheat, lentils, and maize; growing grapes for sacramental wine; breeding and raising cattle and sheep; and raising horses for herding, hauling, and communication. A few extensive ranchos provided hides and hooves for distant markets.
The end of Spanish rule in 1821 brought only a few wider market opportunities to those remote northwestern provinces of Mexico, mostly in the form of a larger trade in hides and tallow. The Mexican government’s secularization of the missions from 1834 to 1836 transferred much of the land held by churches to residents or to recently arrived rancheros from northern Mexico, as well as to a few United States citizens involved in mercantile pursuits around the Monterey and San Francisco Bays. After the war between Mexico and the United States ended in 1848, land titles and boundaries, often ambiguously described, went through lengthy testing in American courts, which frequently returned dubious verdicts that sped the transfer of titles to ranchos into American hands (Gates, 1967 and 1991; Hornbeck, 1983).

1850 to 1870: California Agriculture Develops

After the Mexican-American war ended, California quickly became a territory and then a state, its population in 1850 predominately confined to towns and cities. Ever since then it has remained a place where urban growth has outstripped the development of thinly populated rural sections. California has been unusual in the American experience in that its farmers have remained a minority. Yet, implicit in Henry George’s famous critique of the rapid increases of the Bay Area’s land values (“unearned increments,” he called them) which enriched real estate investors or claimants, lay the conviction that its heavy urban majority caused a lopsided distribution of wealth. Many of the state’s poorer farmers and those who sympathized with them have by and large held that same conviction (Barker 1955).

Whatever their status, farmers quickly recognized and developed the natural advantages offered by California’s benign climate, rich soils, and easy access to seaport ports. [Within two decades of the Gold Rush, these factors helped make California landowners world leaders in growing and exporting major non-perishable products—most notably grains after the 1860s—and then an exceptionally large array of staples, fruits, nuts, dairy products, and specialty crops (Dasmann, 1965).]

During the 1850s, when “the world rushed in,” settlers also relied to a considerable extent on staples—butter, cheese, and meats—imported from such distant sources as South America and Australia (Holliday, 1981). From the earliest days after statehood, the development of innovations in farm machinery and equipment for raising and handling crops that had begun spreading across the
Midwest also came to California where many local inventions were developed, rapidly increasing the state’s farm labor productivity. By the 1860s, farm output exceeded local demand and other innovations helped farmers compete in distant markets for wheat, their major cash crop. They grew it on extensive tracts, the nation’s first and largest “bonanza farms,” and shipped it around the Horn in sailing vessels to Britain and Western Europe, where demand for basic foodstuffs was increasing as the Industrial Revolution drew laborers to the cities.

1870 to 1890: Wheat Production on a Global Scale

Two unprecedented developments that shaped much of the nation’s farming until late in the nineteenth century spurred the growth in size and number of California farms, particularly in the state’s Central Valley. First, in 1846, Britain’s repeal of its Corn Laws (measures that had protected its home market for cereals) triggered a world-wide movement toward freer trade.

Second, the rapid adoption of steamships in the Mediterranean and then the Atlantic trades, along with trans-oceanic cable service to virtually every major seaport, increased the global trade in bulky products. More and more vessels sailing to Pacific and Indian Ocean ports sought cargoes for the long distance trade in which they still had an advantage. These changes brought the world’s largest grain market within reach of California farmers: in the 1870s, some 300 to 500 ships were departing from San Francisco Bay every year (Paul, 1958; Rothstein, 1975).

At the same time, the “first American agricultural revolution,” which began in the 1840s and burgeoned in the 1860s and ’70s, was gathering momentum (McClelland, 1997). The rapid infusion of technological improvements—horse-drawn seed drills, steel plows, and (most importantly) mechanical reapers—broke through the obstacles to producing large quantities of wheat, oats, and barley that had persisted for millennia. Headers, a mechanical sythe developed in California during the 1860s and ’70s, simply cut the grain from the top of the stalk rather than felling the entire plant as did conventional reapers made by McCormick and shipped by rail to the Pacific Coast. By the end of the century, larger-scale wheat and barley growers found it easiest to fill gunny sacks directly with grain from a harvester during the early summer harvest and then to pile the sacks in the fields and throw a tarpaulin over them until they could be shipped to warehouses along the northern San Francisco Bay.

Even the earliest horse-drawn machines multiplied the
output per man-hour of the harvest labor force five-fold, no small matter when labor and capital were relatively scarce. These did not improve yields per acre, the major goal of previous and concurrent agricultural advances in Europe where land was the scarce factor of production, but they quickly enlarged the number of acres on which a land-owner and family in the western hemisphere could farm successfully. Since the varieties of soft winter wheat then available could grow only in the winter months when most of California’s rain falls, a farmer’s prosperity was directly linked to the number of acres of rich soil he could control. This gave the wealthier, more entrepreneurial farmers of the state a distinct advantage, initiating a pattern of land ownership that preserved a skewed distribution in farm size (very large and rather small units were relatively numerous while mid-size farms were in danger of being driven out of business). This distribution still marks both the nation and the state (Boserup, 1983; Rasmussen, 1962; Rothstein, 1975).

Not only farmers profited from the increasing wheat harvests. In the early 1870s the state’s leading grain dealer was Isaac Friedlander, who immigrated from Europe to South Carolina and established himself there as a cotton broker before coming to California. His early use of the telegraph to establish and maintain connections with eastern and European markets gave him a virtual, if temporary, monopoly on charters for the sailing vessels that carried Californian wheat 18,000 miles around Cape Horn to the Liverpool grain market. He was the first of several speculative businessmen called “Wheat Kings” in California during the late nineteenth century. Communication and transportation continued to improve as the network of railroads expanded, just as the expansion of wheat acreage was making the state a grain exporter rather an importer. Timely news via telegraph and cable about commodity prices and ship charters helped break down the relative isolation of Pacific Coast traders and made them more fully a part of the rapidly expanding global economy. The state’s farmers responded as vigorously to these new incentives as southern planters had done more than fifty years earlier to the cotton gin. In the 1880s, the peak of the wheat decades in the state, California’s wheat farmers often led the nation in profits.

But, between 1870 and 1890, difficulties arose in the midst of this scenario of growth and enterprise. As the century progressed, world prices for grains declined as new frontiers were settled in Argentina, Canada, and Australia and as production rose in other wheat belts in the United States suited to bonanza farming. Shipping rates charged by railroads reached new heights, but not without objection. Settlers moving into the hills of southern San Joaquin
Valley and San Luis Obispo County to begin growing wheat did successfully mount populistic campaigns to obtain redress (Magliari, 1989). Environmental conflicts also arose. Hydraulic gold mining, a process that washed away much of the soils in the state’s northern stretches of ore-rich lands and hillsides, caused major environmental problems in California’s central valleys and foothills in the 1860s and ’70s. As waterways downstream from these operations filled with silt, rivers and streams were diverted, and frequent floods covered productive farmlands with debris. It took farmers—many of whom were literally being ruined by this large-scale destruction—more than twenty years of persistent appeals to obtain legislation redressing their grievances. In many cases this assistance came too late, both for the farmers and for the environment (Kelley, 1989; Dasmann, 1965; Paul, 1988; Worster, 1985).  

In the 1880s, a shift away from wheat and grain production began to occur. A majority of the state’s growers—especially those in the smaller valleys—began shifting into dairying and irrigated fruit, nut, and vegetable production, anticipating the capital- and labor-intensive, scientifically-based farming that has been the hallmark of the state’s agriculture throughout the 20th century (Jenny, 1961). Leading this movement were such progressive farmers as Peter Shields of Davisville and John Bidwell of Chico, who began to realize that a wheat monoculture, year after year, was depleting the rich soils of the Central Valley. Shields gave both financial and political support to the agricultural research being done on the present site of the University of California at Davis. Bidwell gradually set more and more of his 10,000 acres aside for other crops, mostly in relatively small orchards and vineyards which required much more labor inputs, and urged his neighbors to follow his example in diversifying crops.

However, orchard crops and vines require more water on a regular basis than grains do, and California’s climate is not designed to provide rain on a regular basis (Vaught, 1996; Hunt, 1942).

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1 A similar heedless disregard for prior rights of smaller farmers took place in the 1920s and ’30s when controversial decisions by legislatures and courts decreed that Los Angeles had a greater right to the waters of the Owens River valley than did the people who made a living from farming the valley. Owens Lake was subsequently drained and is now a primary source of alkaline dust for the area.
1890 to the end of World War I: The Shift to Irrigated Crops and Labor-intensive Farming

Irrigation was essential for an ever greater number of specialty crops. Before the 1890s, most irrigation projects in the state were conducted by private individuals or by irrigation districts authorized by the state legislature, ostensibly to help distribute water more equitably to middle-sized farms. Considerable controversy arose over how and on what basis a farmer’s access to water should be determined. This area of conflict was exacerbated in 1902 by the passage of the Newlands Reclamation Act, a law which stipulated that farms could receive no more than 160 acres worth of water from federal projects. It was a provision largely ignored or subverted by many prosperous farmers who regarded preferential treatment as a birthright. The issue was not resolved—and then in favor of the existing status quo—until the 1980s (Taylor, 1979).²

While wealthy farmers could use their connections to obtain support for the state’s research university and to gain privileged access to water, wealth was not the only source of power in the agricultural community. New market demands for diverse crops increasingly required producers of each crop to work closely together for quality control, to promote more consumption (using brand names and other forms of advertising to stimulate demand), and to manipulate supply, sales, and prices.³ In part because there were fewer landowners and hence less scope for conflict, farmers in California were able to organize strong producers’ cooperatives more quickly and extensively than those in other states. Sunkist citrus growers, who recently celebrated their 100th year as a cooperative, are a prime example of this quasi-monopolistic power in controlling crop production and marketing—occasionally going so far as to use force or intimidation to do so. Sun-Maid, Blue Diamond, and other successful cooperatives—in effect, conglomerates of growers—have been equally successful. The ability of such coops to grade, adver-

²Abuse of the letter or intent of irrigation policy persisted until well into the 1980s. To Paul S. Taylor (Department of Economics, University of California at Berkeley), well known for his championship of a more equitable distribution of irrigation rights, goes a great deal of the credit for the improvement of this situation. An untiring activist, he wrote widely in support of change until it was accomplished.

³One of the leaders in supporting the efforts to organize along these lines was Harris Weinstock, who, with his half brother David Lubin, took a young lawyer, Aaron Sapiro, under their wing and helped him obtain work during the 1920s in drawing up “iron clad” contracts for keeping most specialty crops in the control of the coop managers.
tise, pack, and above all to administer prices has made them the most effective farmer organizations in the western half of the nation (Barron, 1995; Jenny, 1961; Larsen and Erdman, 1962; Larsen, 1958; Prescott, 1977-78; Woeste, 1992, 1993).4

World War I proved to be a mixed economic blessing to Golden State farmers. The war generated high prices for their output, but it also produced an enduring set of problems in recruiting and holding the laborers who were essential in growing the state’s specialty crops. When grain was the leading farm product, much of the short-term, highly-seasonal labor force employed was drawn from America’s skid rows: the hoboes and bindle-stiffs who “rode the rails” between the fields during the planting and harvesting seasons. But when farmers began to shift to new crops and the number of available workers stayed low, growers recruited more immigrants to tend their fields. Indeed, enough Filipinos, Chinese, and Japanese—many of whom had moved eastward after stints in Hawaii—arrived between the 1870s and World War I to fill the need for labor. They were followed by the more direct arrivals of Sikhs, Armenians and other Near Easterners already skilled in handling and preserving olives, figs, dates, raisins, and other semi-tropical fruits. Some of the workers earned enough to acquire their own small plots of land.

After the “Great War” the gates of immigration were closed. Congress passed restrictions soon after the Armistice which largely cut off agricultural’s source of labor. This was a significant economic blow to growers, who over the previous decades had become accustomed to being able to hire readily from clusters of men gathered at stations up and down the Great Central Valley (Chan, 1986; Fuller, 1991; Jensen, 1988; Melendy, 1977; Takaki, 1989; Vaught, 1995; Woirol, 1991). An alternative source of labor was coming within relatively easy reach, however, just across the state’s southern border. People from Mexico had moved across that border virtually unimpeded for much of the nineteenth century. By 1900, their population was about seven million, not enough to cause much concern; indeed, they were welcome. The Mexican Revolution before and during the First World War sent a growing stream of refugees fleeing north at a time when California’s labor force was depleted. And both countries benefited as opportunities for work in California, caused by shifts in US consumer demands for fruits, nuts, vegetables, and dairy products, coincided with Mexico’s accelerating population growth in the 1920s (Galarza, 1977).

4 Later, as processing methods—particularly freezing—improved, the coops became even better equipped to control every aspect of marketing and distribution.
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The 1920s to World War II: Domestic Demands Shift

As America recovered from the First World War, intensive research by university staff brought scientific knowledge about nutrition to all Americans, causing a veritable "vitamin craze" to sweep the country in the 1920s. At the same time, the growth of service industries in the US created more desk jobs, reducing the ideal calorie intake for most men to less than 2500 a day. As gradual as these shifts were, they resulted in a steady decline in the per capita consumption of bread, fatty meats, and potatoes (Levenstein, 1988) and contributed to a steady growth in the demand for California's farm fruit and vegetable commodities. As refrigeration and air conditioning became available for storing and transporting delicate fruits and vegetables to all parts of the country at the peak of their perfection, California went from eleventh place among the states in value of farm products in 1900 to second place in 1930. During this period, the state's total population grew from less than 2.5 million to nearly 6 million.

But the Great Depression of the 1930s put the growers of all crops into straitened circumstances and also stimulated the movement into the state of displaced farm tenants and workers from the South. That exodus, and the accounts of their plight, captured much national attention and led to criticism of the state's two relatively new general grower's organizations, the Farm Bureau and the Associated Farmers. These bodies were accused of exerting their influence to fend off most efforts by state and federal agencies to regulate the growers' treatment—or mistreatment—of farm labor (Chambers, 1952; Gregory, 1989).

World War II to the Present: Growth and Its Challenges

Benefits of Agricultural Expansion

It was World War II that prompted the most rapid growth of farming in the Golden State. The war accelerated national acceptance of the scientific knowledge that several generations of research had made available. Application of new technology—such as tractors and other internal combustion and electrical machinery for

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5 Not all fads and fashions favored growth, however. When women adopted the styles of scantily-clad flappers in the 1920s instead of those of the well-padded Gibson Girls of pre-war days, the cloth required for the average dress went from 7 yards down to a mere 4 yards. While this trend lasted, cotton and wool producers had to settle for lower prices.
fields and packing houses—made California the unquestioned leader in the value of its crops and in the productivity of its workers. Although advances in agricultural engineering were available as early as the 1920s and ’30s, low prices and discouraging prospects at home and abroad at that time kept technology from being used to full advantage. Better prices, secured by subsidies during and after the war (a legacy of the New Deal), transformed the outlook for farmers. One short-term benefit of the war was the exemption from the draft for sons of farmers deemed to be producers of essential crops for the war effort. Another was the Bracero Program, a federally-sponsored effort to encourage large-scale migration of laborers from Mexico and to keep them in the fields after the war ended. (The program was not fully phased out until 1981.) (Clarke, 1997; Chambers, 1952; Fuller, 1991; Galarza, 1977; Rasmussen, 1951)

In the 1950s the largest influx of people from other states that California had yet seen descended upon the state, most of them finding places in the large cities and suburbs of southern California. Every week during the early 1950s, for example, almost 1,000 new families were arriving in Los Angeles alone. For many small-scale farmers this urban growth meant markets near at hand, and the westward tilt of the nation’s population continued virtually unabated to the present. By 1980, California was by far the national leader in the value of its farm products, the most valuable of which came from its dairies with beef cattle second in importance.

In the general prosperity after 1945 came the second agricultural revolution. California farmers completed the transition from horse-drawn equipment to tractors and began adopting a dizzying variety of new hybrid seeds and genetically-improved livestock breeds. Every agricultural niche was affected. For example, as orchardists found themselves in competition for the bees needed to pollinate their expanding orchards, they began paying beekeepers to put hives near their trees rather than charging honey producers for access to their blossoms. Wine-makers in places like Napa Valley sought to improve the quality of their grapes and to fight the blights of viral infestations on their vines. They succeeded in reaching the high—and more remunerative—global standards of European vintners and in obtaining the coveted regional designation of “Napa Valley” on the labels of each bottle that passed muster (Wooten, 1987; Lapsley, 1997). New fertilizers and pesticides improved yields and labor productivity, giving farmers the choice of pursuing large-scale specialization in a single crop or of diversifying their output. The benefits of a century of public and private agricultural research were passed on to consumers, making food in the US cheaper relative to income than anywhere else in the world (Lazonick, 1993; Levenstein, 1993; Maney & Hadwiger, 1980).
Drawbacks of Expansion

California’s spectacular agricultural growth has inevitably been accompanied by a set of new problems. For one thing, competition between the state’s farmers grew tougher, with the advantage going to those who controlled more land and were thus able to make better use of the new crops and equipment. The average size of a farm increased to over 400 acres (about the national average) and the number of farms in the state declined within fifty years from a peak of 133,000 in 1940 to about 79,000 in 1990.

While this trend may have been less severe in this state than it was in much of the rest of the nation, California’s unique agricultural situation resulted in fewer farms able to provide year-round work for under-employed citizens. Critics have linked the decline in the number of farms and farm jobs to agricultural research that has catered to the demands of large operators at the expense of other tillers. They cite the example of the motorized tomato-harvester developed at UC Davis—a device that permits vast fields to be mechanically stripped of ripe tomatoes with minimal human input—to demonstrate the negative impact of such improvements. The argument runs that smaller producers are priced out of the market and laborers who depend on the tomato crop for employment are left without work.\(^6\)

Farm laborers picking such crops as strawberries are also affected by a new form of sharecropping under which some of the workers are selected to act as foremen for a very meager return. It provides more flexibility and less risk to owners and labor recruiters, but dubious benefits for those who work in the fields. California’s Agricultural Labor Relations Act—the legacy of Cesar Chavez, the labor organizer who drew the world’s attention to the plight of migrant workers in the 1960s and ‘70s—was intended to protect laborers from this sort of exploitation but, while it provides many benefits, loopholes in its enforcement have grown larger over time (Wells, 1997).

Another consequence of agricultural expansion is the problem of environmental hazards associated with farming in the state. A widening range of citizens is becoming more concerned that

\(^6\) Defining a single cause and effect for any complex situation and making moral judgments is a tricky business, however. The nation’s love affair with pizza, which created a demand for huge quantities of cheap tomato paste, may have been what caused tomato growers to clamor for better harvesting tools. And some suggest that freeing farm workers from hand-picking tomatoes in the hot Valley sun, and concentrating them instead in sheds where they sort and pack other commodities, benefits both owners and workers.
the field practices of those committed to working on the land, whatever the scale of their operations, may require more regulatory restraints. One issue is the use and abuse of chemicals: many people fear that farmers' efforts to force a greater yield from less land with ever larger applications of pesticides, herbicides, and chemical fertilizers may have reached their limits. The long-term effects of irrigation on water and environmental quality are another source of uneasiness.

And the Future . . .

The "big business" segment of California agriculture is likely to continue in its present direction of expansion and the use of scientific research to enhance the bottom line. Many of the large corporations that have taken over the heritage of the bonanza farms will go on depending more upon mechanization than upon human labor; chemistry will occupy a major role in protecting and fertilizing crops; and genetic engineering will develop grains, orchard, and specialty crops that are more productive and pest-resistant and livestock—cattle, sheep, hogs, and poultry—that can furnish more meat, milk, wool, eggs.

Yet, as California agriculture becomes a bigger business, a counter-revolution already under way appears to be gathering momentum. There is a growing demand among environmentally-aware consumers for food uncontaminated by pesticides, hormones, or antibiotics. Alternatives to mainstream agriculture, such as Integrated Pest Management (IPM) and the organic-foods movement, have attracted the interest not only of researchers and small farmers but also of certain major agricultural operations. Requiring a greater infusion of skilled and semi-skilled labor, these methods show promise in helping to restore balance both to the environment and to the marketplace.

In any case, whatever form California agriculture may take in the years to come, the single greatest threat to its prosperity—and possibly even to its survival—will almost certainly be the state's steadily-rising population. As discussed elsewhere in this collection, people arriving in California or migrating outward from urban areas are pursuing the American Dream—a house and a little land within reach of employment opportunities—deep into prime farmland. Suburbs of major cities are growing faster then ever, reaching across rich coastal and valley lands toward one another and closing off agricultural opportunities forever. Although there has not been a
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major famine attributable to anything but distribution problems since the early nineteenth century, the Malthusian dilemma—that population growth will outrun increases in food supplies—remains a danger world-wide. California farmers, together with an informed public, will be needed in the ongoing effort to confront, guide, and control it (Arnold, 1988; Ravallion, 1987).

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Chapter Three

CONFLICT ON THE URBAN FRINGE

Mary E. Handel

California's commercial agriculture is more than open space and scenic vistas—it is an industrial-like activity that generates chemical drift, dust, odor, and other sources of discomfort and even health risks for urban neighbors. The negative impacts also flow in the other direction, as new residential development adjacent to working farms burdens agricultural operations with pilferage, trespassing, and marauding dogs, and force changes in cultivation practices. California's urban-farm "edge" problem, including the differing perspectives of farm operators and urbanites, is dissected in this paper. It concludes by noting how close attention to urban design and changes in agricultural practices can reduce the tensions.

California's population growth and expanding cities generate an increasing level of conflict between urban and agricultural land users. The loss of farmland to development, though a major issue, is not the only source of friction; simply living on the urban edge and farming next to it raises many concerns for both the urban resident and the farmer.

Possible ways of reducing this discord include establishing firm urban growth boundaries, creating better buffers to separate urban and agricultural land uses, eliminating incompatible uses in agricultural zones, and better educating the non-rural public about the realities of farm management practices.

This study examines the nature of the urban/agricultural conflict and the approaches local governments have taken to reduce or eliminate it in 16 California counties located in four regions.\(^1\) It

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1 Research in the 16 counties was conducted for a Master of Science Thesis in Community Development (Handel, 1994). Approximately 40 interviews were conducted in 1993 and 1994 with city and county planners; private planning consultants; non-profit organizations; and state and local regulatory agencies. In addition to a literature review on the urban/agricultural conflict, the general plans and various ordinances of the 16 counties and several cities were reviewed. The 16 counties include: (1) the four Bay Area counties of Contra Costa, Marin, Napa, and Sonoma; (2) the four south-central coast counties of San Luis Obispo, Santa Barbara, Santa Cruz, and Ventura; (3) the four Sacramento Valley counties of Butte, Glenn, Sutter, and Yolo; and (4) the four San Joaquin Valley counties of Kern, San Joaquin, Stanislaus, and Tulare.
covers the actions of both county and city governments. Some of the material presented here also is drawn from a more comprehensive study of farmland protection policy in the Central Valley. The two studies combined generated a total of more than 175 open-ended interviews, the basis for the majority of the findings presented here.

In examining the origins of the urban/agricultural conflict and its assorted public policy aspects, this chapter considers the separate perspectives of farmers, urban dwellers, and local officials.

The Extent of the Conflict

Because California is both the leading agricultural producer and the most populous state in the nation, friction between agricultural and urban uses of the land is nearly inevitable. Throughout California’s agricultural valleys and grazing lands, conflict tends to occur in three areas: (1) at the edges of expanding cities, (2) at the edges of growing unincorporated communities, and (3) on land zoned for agriculture when incompatible land uses are allowed.

Expanding city edges are often the source of conflict. Many California cities were originally established as service centers for nearby farms. As time went on and the cities grew, surrounding farmland was gradually converted to urban uses. The continual expansion of the urban edge creates an atmosphere of impermanence for adjacent farmers if no firm urban growth boundaries are in place. California farmers not immediately adjacent to urban edges today may find themselves there tomorrow as cities reach outward to accommodate their growing population.

Unincorporated communities through their county governments tend to place fewer restrictions upon land use than cities do, nor is growth contingent upon existing infrastructure. As a result, their expansion tends to take the form of large lots and rural residential neighborhoods that rely upon private septic systems and wells

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2 Supported by the UC California Policy Seminar, the Central Valley study was based largely on interviews conducted in 1993 and later years with local government officials and community leaders in seven counties: Fresno, Kern, San Joaquin, Stanislaus, Sutter, Tulare, and Yolo. This study was carried out by the Farmland Policy Project, UC Cooperative Extension, Department of Human and Community Development, UC Davis. For its principal findings, see Sokolow, 1997.

3 References to the impermanence syndrome are common in the literature on urban/agricultural conflicts. Farm economists point to the impermanence syndrome as a result in attitude by farmers on the urban edge, when they begin waiting for their time to sell out and they no longer have an incentive to acquire or invest in new farm equipment or adopt longterm production management.
Conflict on the Urban Fringe

instead of municipal sewer and water systems. Commercial centers are also attractive to counties seeking ways to generate more revenue in the post-Proposition-13 era.\(^4\)

Incompatible land uses in agricultural areas give rise to two issues: (1) the creation of conflicts with adjacent farmers in all directions, and (2) the growth-inducing potential of a project; that is, the creation of another point from which “leapfrog development” may emanate in the future (California Department of Conservation, 1991).\(^5\)

The general plans and zoning ordinances of many agricultural counties allow such uses as golf courses, recreational facilities, bed-and-breakfast inns, churches, schools, and daycare centers on agricultural land. Although these uses are not automatically granted (they usually require discretionary-use permits), the potential exists for creating situations incompatible with intensive agriculture.

The subdivision of farmland into smaller parcels and the allowed minimum parcel size for agricultural zones becomes an issue. Since local governments allow a house to be built on agricultural parcels, smaller parcels result in more residences and tend to attract non-farm residents who want to live in the country. Besides removing land from commercial agriculture, these subdivisions raise the likelihood of friction between residents and farmers.

Conflict at the Edge

When urban development meets farmland, urban residents suffer inconveniences—but so do farmers. The latter fact is sometimes lost on urban planners, whose primary focus is the comfort of urban residents within a city’s jurisdiction.

Table 1 presents the issues most frequently cited as cause for contention between urban residents and farmers from the perspective of each.

These issues are discussed in more detail below.

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\(^4\) Proposition 13, passed by California voters in June 1978, amended the California Constitution by placing new restrictions on local government’s ability to raise property taxes and set property tax rates. This eventually cut property tax yields for local governments.

\(^5\) This report states that “impacts of [farmland conversion from urban development] are generally greater when the conversions occur in isolated farming areas as opposed to areas adjacent to existing urban developments.”
The Urban Perspective

According to agricultural commissioners, local government officials, and California Department of Food and Agriculture staff, the most common complaints from urban residents concern pesticides and noise.

Pesticides. Although California has some of the most stringent pesticide regulations in the nation, the general public’s knowledge of pesticide use and confidence in its regulatory agencies is limited. Urban residents do know, however, that pesticides have been implicated in the past as being harmful to the environment, wildlife, and human life.

Some people consider any pesticide exposure unacceptable (Van Driesche, 1987) and fear that pesticides used in nearby agriculture put them at risk for such chronic health problems as cancer, pregnancy complications, and damage to immune and nervous systems. They are aware that these health problems are difficult to detect in their early stages and that a latent period prior to the onset of symptoms is common, but few urban residents have any concept of the dose or exposure level required to create a health risk.

Chemicals can be toxic to humans in three ways: (1) oral toxicity by ingestion, (2) dermal toxicity by contact with the skin, and (3) respiratory toxicity by inhalation. Given the increasing chemical consciousness in our society, urban residents’ wariness is understandable, particularly when pesticides are used near their homes. They seldom know what chemicals are being applied or for what purpose, and tend to distrust the farmer’s judgment.

Farm aircraft are particularly disturbing to urban residents. Residents’ concerns about pesticides are heightened when they see something being sprayed over nearby fields. According to agricultural commissioners, they often blame the pilot and the farmer for poisoning the neighborhood and disturbing the peace. As one commissioner explained:
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A airplane is a stigma to the general public. It’s partly a visibility issue. If the activities on the farm are less visible, then the interface conflicts are reduced, which is one reason for physical barriers between farmland and residential uses. But as soon as that airplane gets up in the air, everybody has a view. We’ve had people call us and say, “get that airplane out of here!” And when we go out there, the pilot is seeding alfalfa twenty feet over the ground. ... The airplane is a lightning rod for complaints.

Noise. Many people move to rural areas to escape the city’s clamor, only to be awakened at dawn by their neighboring farmer. Complaints come from residents within earshot of irrigation pumps, carbide cannons used to scare away birds, night-time harvesting, and wind machines that circulate air when temperatures dip below freezing.

Here again, planes are a problem: noisy as well as visible when they are flying low and making numerous passes over a field until the application is complete. Treatment from the air is faster than ground application, reducing the duration of the noise but not its volume—particularly when the plane pulls up at the end of the field to make a turn. While landscaping and other barriers can shield residents from the sight and sound of ground applications to some degree, nothing can shield an aircraft.

Odor. Dairy, poultry, and other livestock operations are the most common sources of complaints about odor from urban residents, although plant decay and food processing are also cited as annoying. Facilities serving agriculture by, for example, turning grapes into wine, beets into sugar, and tomatoes into sauce, were once located well outside cities and were hailed as a source of jobs. As cities expanded, however, houses filled in the space. Newcomers, with the expectation of ideal rural living and no connection to the area’s agriculture or the processing plant, moved in to occupy them. California’s outdoor lifestyle brings such people into close proximity with strong odors, some of which they fear as potentially noxious. No wonder the number of complaints about odor are on the rise.

Dust, Burning, and Air Pollution. Urban residents find that the dust raised by disking, mowing, and harvesting can become unpleasant and a health hazard, while agricultural burning can dim the sky and sift ashes over lawn furniture and swimming pools.

Flies and Mosquitoes. Livestock operations and decomposing vegetation often generate complaints of fly populations. Standing water in irrigation ponds and drinking troughs can become
mosquito incubators. These and other insects intrude on an expected quality of life and enjoyment of California outdoor living.

Traffic. Farm equipment is large, slow, and likely to deposit lumps of dirt on the roadway, interfering with the flow of traffic and creating hazards for bicyclists and pedestrians. Many urban residents feel that the least farmers can do is use public roads only during non-commute hours.

The Farm Perspective

Pesticide Application Restrictions. Newly arrived urban residents plague farmers with complaints about the carefully designed and regulated operations that have been followed for years, sometimes creating the need for costly special management practices. Their intrusion can force the prohibition of pesticides used in the past and the elimination of air applications.

Agricultural chemicals are classified by categories and strict laws govern how pesticides must be labeled. While the California Environmental Protection Agency has the ultimate responsibility for regulating the chemicals, the agricultural commissioners in each county are in charge of enforcement. Farmers must file an annual report with the agricultural commissioner listing the pesticides they plan to use and detailing the kind and location of crops to be treated. Before using a restricted pesticide, farmers must notify the agricultural commissioner 24 hours in advance so that the site can be inspected for potential hazards—such as adjacent schools or “people-intensive” activities—and the handling and application of the pesticide observed. In addition, state law requires farmers to avoid “substantial drift” (a term defined by the ag commissioners for each county), negative health effects, and contaminated clothing when using pesticides.

The agricultural commissioner’s judgment is a significant factor in setting limits and conditions for application of restricted pesticides. They judge sensitive situations on a case-by-case basis, with schools and hospitals seen as the most sensitive uses of land adjacent to farming operations. When people-intensive land uses develop next to farming operations, the farmer’s use of pesticides is often restricted.6

Agricultural commissioners can also require farmers to provide buffers between urban uses and active agriculture where no

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6 The timing of applications is important. The work must be done when wind and temperature conditions are ideal so that the pesticide does not drift from the target crop. This usually requires applications during evening or early morning hours.
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pesticides can be applied. Again, this is done on a case-by-case basis, depending upon the site and the specific conditions, since state law contains no specific provisions for setbacks or buffers. Larger buffers are required for air applications, impacting the kind of coverage a farmer can achieve with a chemical application. Losses of crop productivity and increases in time, labor, and cost result when farmers must change their management practices.

After submitting to increased pesticide regulation in the interest of public safety, often at considerable cost and inconvenience, farmers are particularly sensitive to complaints from urban residents—which still occur despite the precautions they have already taken—and their resentment toward these newcomers builds.

Response to Noise and Odor Complaints. Farmers wonder why urban residents move to the country if they can’t tolerate the noises and odors that are part of agricultural operations. Noisy aircraft draw complaints from urban residents whatever the purpose is—seeding, fertilizing, circulating air to rid plants of excess moisture, or the ever-unpopular pesticide application. Farmers who use aircraft, carbide cannons, wind machines, and cultivating and harvesting equipment note that these are necessary for continuing production. Land that isn’t farmed might well be developed for urban uses, presenting new residents with the same noises they attempted to escape by moving to the country.

The odors associated with agricultural operations also bother some urban residents, even when they occur seasonally and for brief periods. For example, subdivision dwellers downwind of a walnut grower in Stanislaus County erupted when decaying walnut hulls were spread in an open field so that they could be disked in. As quickly as he worked, he couldn’t beat the complaints.

Air Pollution. One agricultural commissioner noted that the common practice of applying sulfur to grape vines to reduce mildew resulted in complaints about dust in his area. Residents also complain about air quality and ash drift on days when agricultural burning is allowed, even though increased regulation has reduced the number of days that tree and vine prunings or grain stubble can be burned.

It is ironic that air quality in the Central Valley has deteriorated despite greater regulation of agriculturally-produced particulates, largely because vehicle emissions have increased along with the rising population in the area. Due to geographical and weather patterns, the Central Valley has the potential for greater air pollution than the Los Angeles Basin if its population continues to grow. As
one Central Valley farmer said:

We have less agricultural burning today than we had twenty years ago. We have less dust because most growers are going to non-tillage practices in their orchards and vineyards. Agriculture is creating fewer emissions today than it did twenty years ago, yet we have more air pollution than ever before.

In actuality, farmers suffer from pollution caused by urban residents, especially commuters. Ozone levels already cause reduced yields of up to 20 percent for more than 25 Central Valley crops, according to the UC Agricultural Issues Center (1991).

**Pets and Dogs.** The Tulare County General Plan recognizes that increased urban densities often place more demands on farmers to control pests associated with farm operations, such as midges, gnats, flies, and mosquitoes. But farmers have their own complaints about pests coming from urban areas, an issue acknowledged by the Sonoma County General Plan. If, for instance, a subdivision replaces an orchard, the trees that are kept for decorative purposes or to justify the subdivision’s name can become a sanctuary for potential pests. Cultivated plants in an urban landscape may create weed problems in nearby fields. In addition, insect infestations that cause massive agricultural losses have been traced to produce imported from other areas by urban residents. Under the Santa Barbara General Plan, recreational paths must be designed to minimize the possibility of people and animals spreading avocado root rot to producing groves.

Dogs wandering in from nearby subdivisions can disrupt and even threaten livestock operations. One agricultural commissioner reported seeing the tails of cows chewed off after an attack by neighborhood dogs.

**Traffic.** Urban residents reveal their impatience with slow farm machinery through their driving manners, rarely adjusting their expectations about traffic flow when they move to the country. This complicates the difficulties farmers already experience in moving large equipment from one field to the next on roads crowded well beyond design capacity with urban drivers. Sharing the roadway is particularly difficult at harvest time, when heavily-loaded trucks must merge into heavy traffic.

**Increased Liability from Trespassing.** Urban residents often regard orchards, vineyards, row crops, grazing lands, and grain fields as a potential recreational area. When signs warning of recent pesticide application are ignored and children play in waterways
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intended for irrigation, landowners can be held liable for accidental injury or death. California is notorious for its recent flurry of such lawsuits. A Kern County grower has experienced this new reality first-hand:

I used to let people picnic on my property. Families from Los Angeles County would drive here to spend an afternoon in the country, until one visitor broke his arm and sued me for $10,000. Now I have to chase people off my property because the liability is too great. Today a farmer could lose everything in one lawsuit.

*Theft, Vandalism, and Litter.* Farmers start experiencing these problems when the urban population moves into their backyard (Lisansky and Clark, 1987). Farm equipment customarily left in the field at the end of the day’s work, batteries, aluminum irrigation pipes, and sprinkler heads become targets for thieves and vandals. Dirt bike riders sometimes chase cattle, leave erosion-causing ruts in hilly areas, and spin “donuts” in fields of young vegetables. Fast drivers on dirt roads can send clouds of dust over crops, contributing to mite infestation and a subsequent need for additional pesticide applications. Urban intruders who cut fences or forget to close gates release livestock which can wander onto roads, risking injury and causing accidents that leave farmers vulnerable to lawsuits. Increasingly, fires started either deliberately or accidentally decimate fields of ripe grain and hillside grazing lands.

Urban residents also pilfer food crops. In Ventura County, orchard crops such as avocados and citrus are a target for people who steal fruit for their own consumption and those who make a business of stealing fruit to sell. A San Joaquin County farmer sees pilfering as one of the major problems with urban encroachment, citing the experience of a vegetable farmer whose nighttime visitors routinely help themselves to his crops. A cherry grower had to install a chain-link fence along his property line next to a subdivision to keep people from breaking branches and stealing his fruit. Fencing against vandalism and theft is costly and makes it difficult to maneuver equipment and move crops out of the field (California

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7 According to the results of this New Jersey statewide survey of farmers, trespass and vandalism were the number one concern of farmers and 82 percent of those surveyed stated they had experienced negative effects from these incidents. The second concern was nuisance complaints from neighbors, noted by 55 percent of the farmers surveyed. The authors note that for farmers, the adverse effects of land use conflicts are often “complex, diffuse, and difficult to measure” (p. 225).
Department of Conservation, 1991).

The amount of household trash—garbage, old couches and mattresses, white goods—dumped onto farmland rises as the nearby urban population increases. Litter in the fields can damage farm machinery, and plastic tarps blown in from construction projects, sometimes eaten by cattle, can be deadly.

**Influences on the Conflict**

There are a number of characteristics intrinsic to both agriculture and urban development that have an impact on the problems experienced at the urban edge.

**The Nature of Agriculture: Crops and Layout**

Agricultural activities vary by area and by season and the complaints heard from neighboring urban residents vary accordingly. Livestock operations elicit complaints about flies and odor; grain growers hear complaints when they burn the stubble. In Kern County, there are more complaints from residents living near cotton fields than from those living next to crops such as carrots, onions, or potatoes, primarily because cotton plants must be defoliated before harvest and the defoliant is audibly and conspicuously applied by aircraft.

Complaints also fluctuate according to the maturity of many crops. For example, large trees in a mature almond orchard may require aerial applications or air blast sprayers, while small trees in a young orchard can be served by less intense ground applications.

Another factor that affects both urban residents and farmers is the physical layout of the fields. The direction in which rows of annual or permanent crops run is normally dictated by fixed considerations—topography, soil quality, exposure to sunlight, available drainage. The advent of urban residents has created a number of logistical difficulties for farmers, however. For example, an urban edge, defined by a fence or wall, makes it hard to turn a tractor at the ends of rows. Pesticide application can be restricted along the urban edge, forcing farmers whose rows run perpendicular to the urban edge to turn off their sprayers early. Running the tractor to the end of the row without being able to spray wastes time and fuel but is still noisy, so residents may continue to complain. Replanting so that rows run parallel to the urban edge, making the farmer's job somewhat easier, can be expensive, impractical, and contrary to good farming practices.
Conflict on the Urban Fringe

New Residents and Urban Development

The influx of people who are attracted to rural areas of California and the nature of development—residential or commercial—next to farmland also influence the conflict between farmers and urban residents.

*The New Rural Citizens.* Many people come to the country from urban areas in search of an idealized rural lifestyle. Generations removed from the farm, they are neither socially nor economically tied to the farm community, have no understanding of agriculture, and are unprepared to tolerate inconveniences caused by normal farm practices. As one agricultural commissioner noted:

They see blossoms and fields of mustard in the early spring and assume that this is what rural living is all about, but as summer approaches after they’ve moved into their new homes, the noise, dust, and smells drive them crazy.

Reflecting upon the residents that Kern County attracts from Los Angeles, an elected official observed:

People move next to the almond orchards because they look nice, but then they call my office wanting me to do something about the agricultural practices on that property because it is a nuisance to them. They want to live in the rural area, but when they get there, they don’t want to live with the rural consequences. The interfaces between urban and rural uses accelerates the farmers’ desire to get away from them because they are constantly called on the carpet to account for why they are spraying or why their engines are running in the middle of the night.

Relatively inexpensive housing is another attraction for urban dwellers who are willing to become commuters. Sutter County, well within commuting distance of Sacramento, sees its agricultural land being converted into subdivisions. A politically-active farmer there observed, “Outside developers come in to take advantage of the situation. It’s cheap land, desperate local politicians, and farmers in poor economic positions.” Commuters are unlikely to embrace their new agricultural environment, however. As Edward Blakely, then chairman of the Department of City and Regional Planning at UC Berkeley, pointed out, with reference to the Central Valley: “Many commuters don’t develop strong loyalty to
the community. Since they don’t work there, they don’t feel much allegiance to the place” (Carter and Nuckton, 1990, p. 27).

But urban attitudes toward farm operations are not always negative. The rate and pattern of growth within cities can influence the attitude residents have toward adjacent farmland. An official from Delano (population 23,000 in 1990) noted that residents of this Kern County city don’t complain about agricultural operations:

The people here in the valley have lived that way for their whole lives. There’s not really any resentment. We haven’t had leapfrog development, and growth has been very systematic, growing out from the core.

Length of tenure in an agricultural environment can also be a factor in the acceptance of farming practices. A survey of Woodland residents in Yolo County (Woodland Edges Project, 1992) found them to be philosophical about agricultural disturbances, noting that some practices can be a nuisance but such nuisances are to be expected in a farming community. The project also found that 43 percent of survey respondents had lived in the city for over 25 years, another 26 percent for at least eleven years, and only 9 percent for two years or less. In addition, 87 percent were concerned about the conversion of farmland.

Deliberate control of urban expansion can keep a city from outgrowing its ties with its surrounding agriculture. In the early 1970s, Petaluma in Sonoma County became the first community in the nation to limit the number of permits allocated to development projects. A city official recently reported that few complaints come from citizens here because most people realize they live in a farm community.

Urban Development. The nature of development near farmland can influence the intensity of the urban-rural conflict. The general consensus in farming communities is that residential development is simply not compatible with farming for all the reasons

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8 With faculty from the departments of Environmental Design, Applied Behavioral Sciences, and Agronomy and Range Sciences at the University of California, Davis, the Woodland Edges Project took an interdisciplinary approach to studying the areas where urban development meets farmland. Although unpublished to date, several papers have been written on the project. More information is available from Patsy Eubanks Owens, Center of Design Research, Department of Environmental Design, University of California, Davis. This 1992 study found that concerns of the farmer included reduced crop yield from restricted practices, trespassing, crop vandalism or damage, and traffic. Residents complained about agricultural practices, mentioning burning and dust most often as a pollutant, health hazard, and nuisance. Other complaints were odors, airplanes, and noise.
already discussed. However, industrial and selected commercial development is another issue. Because human activity is less concentrated and non-residential uses are often noise and odor producers themselves, there are fewer points of contention with agriculture. A case in point is presented by Tulare County’s Rural Valley Lands Plan, developed in 1975 to evaluate the suitability of non-agricultural uses outside the Urban Area Boundaries. A point system was developed to rank proposed projects; the final number of points determined whether a project was appropriate for approval, needed further discussion, or was inappropriate. The Plan recognizes that residential uses are less compatible with agricultural operations than commercial and industrial uses, a conclusion with which agricultural commissioners concur.

**Controlling Patterns of Development**

The patterns of development that create unstable urban edges in agricultural areas often result from local government decisions and policies. As population growth has increased the pressure to accommodate new residents in these areas, the level of conflict between urban and rural interests has also increased. Nearly every region in California suffers from the lack of urban growth boundaries and other policies that could restrict the residential expansion. Local governments and, some argue, the state must become more involved with growth management issues if the urban/agricultural conflict is to be reduced.

**Conflicting Perspectives on Farmland**

Conflict can result from different perspectives on the value or purpose of farmland. For cities and counties, farmland can serve as a source of open space or a land bank for future expansion. To many urban residents, farmland represents idyllic country living, while to farmers, the land is their means of making a living. From these differing viewpoints come different—and often conflicting—expectations for farmland and opinions on how it should be managed.

**Open Space**

For many urban residents and local government officials, the value of farmland lies in the open space it provides, not its food-production capabilities. After giving several examples of this viewpoint in the western world, Bryant and Johnston conclude,
California Farmland & Urban Pressures

"Planning efforts are often more concerned with protecting the integrity of the regional landscape and farmland protection is important only because it supports valued open space" (1992, p. 53-4). Logan and Molotch observe that, when urbanization threatens farmland in California, public concern centers on the loss of open space rather than on the loss of some of the most productive farmland in the world (1987).

Local governments often regard agricultural land as a convenient buffer between urban areas, while urban residents typically focus on its scenic qualities, both aesthetically and in terms of property values.

*Buffer Zones.* Several city and county general plans view and promote agriculture not as an industry in itself, but as a buffer between communities, between residential and industrial uses, and between airports and residential uses.

Separating communities by using farmland as buffers can take various forms. In Tulare County, the General Plan for the city of Visalia states that agricultural land is to provide a buffer between itself and other cities, viewing farmland as a foundation for the city’s economic base but also as the rural landscape and open space surrounding the city. The San Luis Obispo General Plan recognizes the use of agricultural land in separating communities and preserving community identity and rural character. The cities of Antioch and Brentwood in Contra Costa County signed a memorandum of understanding that preserves the farmland between them. In a complicated political and economic maneuver, the Solano County cities of Vacaville and Dixon established a conservative easement on a thousand acres of farmland along Interstate 80 to serve as a greenbelt between them.⁹

Agricultural land also acts as a buffer between residential development and incompatible land uses such as airports. The 1991 Land Use Element of Santa Maria’s General Plan recognizes agriculture as the buffer between houses and the airport approach zone. Glenn County sees farming as a good use for land around the airports. The city of Shafter in Kern County took this principle one step further, claiming the use of farmland for an airport-urban buffer as a justification for annexing land (thus affording the land more

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⁹After buying the land in 1995, Vacaville and Dixon sold it less than a year later for the same price but protecting it through the Vacaville-Dixon Greenbelt Authority with a conservation easement limiting the land to agricultural uses. Prior to the original sale of the property to the cities, Solano County’s Measure A was renewed by the Board of Supervisors which prevented unincorporated land from being developed for the next 15 years. With the immediate development potential stripped from the property, the property owner, a speculator with development plans, sold the land to the cities for a non-speculative price.
Conflict on the Urban Fringe

protection from development than it would have under county jurisdiction).

Scenic Values. Many urban newcomers to rural areas arrive with expectations of farmlands as open space, which helps to explain their strongly negative reactions to farmlands as industry. A Central Valley agricultural commissioner reported the experience of people in an expensive subdivision bordering an orchard. First came the complaints about work at night, then came the complaints about spraying:

We talked to [the residents] and asked, “Didn’t you realize you were moving next door to an orchard?” and they answered, “Oh yes, the trees are beautiful when they’re in bloom. We thought we were finally going to live in the rural atmosphere that we always wanted.” They didn’t know that noise, dust, and pesticide use go along with living in a rural area.

Adding fuel to the conflict is that fact that houses on the urban edge are often considered more desirable and so are more expensive than those deeper in the subdivision. On the northern edge of the city of Napa, for example, vineyards provide the open space ambiance for adjacent urban neighbors, and those houses sell for higher prices than similar ones down the street. This price differential is particularly apparent when the adjacent agricultural land is under a conservation easement or an urban limit line prevents annexation by the city. Dividing the land market into distinctly urban and rural areas has a profound impact on land values: as speculation in farmland decreases in greenbelt areas, land prices fall; as urban land next to the greenbelt gains amenity value, prices rise (Nelson, 1986).

As property values on the urban edge increase, residents who have paid the price to live there may be more sensitive to inconveniences caused by farming, feeling that they have bought the right to their version of rural living. Dust, noise, odors, and pesticides threaten not only their comfort but their investment, making edge neighbors more likely to file lawsuits against farmers than other subdivision dwellers. Ironically, although urban dwellers complain about practices on nearby farms, they resist proposals to convert farmland to urban uses because they moved to the country to view farmland, not more houses. Again, they value agricultural land for its rural ambiance and open space, not for its industrial aspect—which may provoke complaints from these very residents on another day.
Land Bank

Some cities and counties see agricultural operations as a convenient way to hold land until the time for urban development arrives rather than as a resource for long-term industrial use. Officials in both Porterville and Tracy, like many city planners, recognize the expedience of keeping land in large parcels (i.e., forty acres or more) at the city’s edge so that eventual development need not work around existing structures to extend streets and water and sewer lines.

Some city officials complain about their county’s approval of large-lot subdivisions near city boundaries because such development reduces the city’s options significantly. Cities may find themselves eventually annexing these subdivisions and spending time, effort, and money bringing them up to city standards. Other cities simply avoid growing in the direction of these county subdivisions, forcing urban growth in a direction that might not be to the city’s long-term advantage.

Resource Land

Agricultural land is a natural resource farmers need and use to produce a product in order to make a living. Because farmland lacks buildings, parking lots, and other embellishments commonly associated with commerce and industry, urban residents and city officials tend to regard it as open space rather than working landscape.

Many general plans mandate separating traditional industrial use from residential development as a matter of course, requiring developers to incorporate such buffers as setbacks, roadways, landscaping, berms, walls, and fences into their subdivision designs. Recognizing farmland as an industrial resource may help justify a buffer requirement to diminish the conflict between rural and urban users.

The concept of separating residential development from the industry of agriculture is only beginning to be recognized by some local planners and decision-makers as a legitimate concern, although farmers have been fighting the open space notion for some time. In Santa Barbara County, for example, a separate agricultural element was designed so that agriculture could stand alone, rather than remaining part of the open space element.

It is important to realize that farmland, though more visually pleasing than most industrial areas, involves economics like any other industry. If farmers cannot make a reasonable living from it,
this working landscape may be converted to other uses, including more urban development. The authors of a major text on rural planning (Lapping et al, 1989, p. 177-8) warn that:

There is no such thing as farmland without farmers. If non farmers are to enjoy the amenities of a working rural landscape, then they must either learn to tolerate farming practices or else settle at a distance from farm operations. The friction between farmers and non farmers involves a clash of property rights that cannot be resolved in the marketplace. Instead, legislative bodies and the courts must act as referees.

**Conclusion: Resolving the Conflict**

Once we understand the causes and nature of urban-rural conflict, we can begin to take action to resolve the problems. Local governments must take the lead in advocating land-use decisions and other measures that will help reduce the areas of contention, as shown in the first three suggestions below, but the agricultural community also needs to take some responsibility in educating their urban neighbors.

1. **Local governments need to establish firm urban growth boundaries to keep farmland from being converted into residential subdivisions.**

   Each time the urban edge is permitted to expand into the surrounding agricultural area, a new set of farmers is subjected to the frustrating restrictions of trying to work next to touchy urban residents. Many farmers sell out in disgust and the cycle of development continues. Firm urban growth boundaries clearly distinguish land for urban development from land for agriculture, eliminating the opportunity and motive for developers to speculate in cheap farmland.

   The means for accomplishing this already exist. Local Agency Formation Commissions (LAFCOs) have guidelines for sheres of influence and annexation that, when applied, can discourage urban sprawl. Conservation easements can be established at the urban edge through the purchase of development rights, compensating farmers and keeping the land in agriculture for future generations. When or if current landowners do sell their land, the next owners understand that the land will remain in agriculture and can be prepared to face the challenges confronting farmers at the edge.

   What is required of local governments is the ability to set firm limits on urban expansion, the will to use the available tools to do so, and the ability to educate their constituents about the need for farm protection.
prevent urban sprawl, and the commitment to follow through on the trajectory they set.

2. **Local governments need to reduce interference between agriculture and urban land uses by establishing appropriate buffer zones.**

   Most planners agree that the best way to handle incompatible land uses is to use buffers to separate them. Local governments, long accustomed to regarding agricultural land as a buffer in itself, must learn to recognize it as industrial in nature. The next step is to acknowledge the need for buffers between urban residents and farmers to reduce the inconveniences to both. Several questions still remain to be answered by local government in consultation with the agricultural community and land-use planners: (1) Who provides the buffer? (2) How large is it? (3) What uses might be allowed in the buffer area?

3. **Local governments need to address their general plans and zoning ordinances to eliminate incompatible land uses in agricultural areas.**

   To protect farmland from urban development, local governments must ensure that their general plans and zoning ordinances reflect this intent. Clear definitions of appropriate land uses in agricultural areas will make incompatible land uses easier to guard against.

   Since local governments allow a house on each agricultural parcel, the allowed minimum parcel size is also an important consideration. Smaller parcels can lead to the construction of more houses, and more houses increase the potential for conflict between farmers and urban residents. Larger parcels not only result in fewer houses in unincorporated agricultural zones, they also provide more land that acts as a buffer between urban/rural uses.

4. **The farming community needs to work harder to educate the non-farm public about agricultural practices.**

   The agricultural community needs to make friends with the urban public and help them understand why particular farm management practices are necessary. Why, for example, do wind machines have to operate at three in the morning? Why must growers harvest at night? Why does rice need to be seeded with an airplane?

   Believing that greater tolerance will come when urban residents understand farm practices, several farm organizations already dedicate time and money to this task, and some farmers pursue their own educational programs by holding tours and farm days at their farms and ranches. Some farmers even walk the neighborhoods of adjacent subdivisions to inform residents of practices associated with their particular operations. Agricultural
commissioners agree that urban people are more likely to accept the less pleasant parts of rural living when they understand what is happening and why. The better they understand the industrial nature of farmland, the less likely they will be to harbor unrealistic expectations about life in the country.

Urban residents, once they understand the farmer's viewpoints and the reasons for them, may even become useful allies. Only two percent of our population is directly involved in food and fiber production, a very small constituency. Consequently, farmers' needs and values are often overlooked by appointed and elected public officials. By involving the rural newcomers in their affairs as informed partners, farmers have a better chance to influence policy decisions made by public officials.

California agriculture faces a real challenge: to maintain world-class agricultural standing and continue providing the quality, quantity, and variety of food and fiber products it does now while accommodating a population that is growing faster than that of many third-world countries. Taking the necessary steps to reduce the urban/agricultural conflict is one way to help us meet this challenge.

References


Chapter Four

GROWTH MANAGEMENT AND FARMLAND: THE STATE POLICY CONTEXT

Steve Sanders

In California, farmland preservation efforts at the state level are weak, sporadically applied, and politically vulnerable. As long as state fiscal policy limits the revenue-raising ability of local governments, cities and counties will be forced into competition for lucrative development through land-use decisions that downplay the importance of agricultural land protection. But real alternatives to the present state of affairs are available which can balance the critical issue of farmland conservation with the need to provide housing and economic growth for California’s ever-increasing population.

In the 1980s, California’s population growth increased at the record-setting pace of 25 percent in a single decade. The recession of the early 1990s temporarily slowed the pace, but now that the worst economic downturn in more than 50 years is receding into history, business expansion is underway once again. The California Department of Finance expects a net increase of six million residents in the next ten years (Heim, 1997). Yet the state is ill-prepared to manage the impacts of another burst of rapid growth, particularly the growing demand for land development.

Perhaps no components of the state’s economy are at greater risk from growth than agriculture and open space. Many of the new suburbs of California are built on land formerly used for farms and ranches or on the undeveloped wildlands that are an essential part of wildlife’s natural support system.

Farmland has been developed at a rapid clip in order to accommodate the 600,000 new residents who come to California every year. Urbanization at this rate gives rise to major problems; for example, the smog from human activities that collects in agricultural valleys costs farmers hundreds of millions of dollars in annual crop
losses (American Farmland Trust, 1989). And the demands of a growing urban population and economy—coupled with a belated effort to reverse decades of ecological decline in the state’s rivers, lakes, and wetlands—places an enormous strain on scarce water supplies, creating pressure to divert water from farms in order to serve cities and the environment (Goldman, 1991; Reisner, 1997).

This paper focuses on three key questions with respect to the conversion of agricultural land:

- What are the challenges posed by growth and development to California’s agricultural economy and to the communities and individuals that depend upon agriculture for their livelihood?

- How well has state government responded to these challenges facing agriculture?

- And finally, what can recent state policy efforts tell us about the prospects for strengthening the state’s policy framework to ensure that California agriculture remains healthy and viable into the future?

**California’s Growth: The Challenge to Agriculture**

California’s farmlands face five major threats related to growth: (1) the direct loss of agricultural land to new subdivisions; (2) the “rurbanization” of the agricultural landscape with ranchettes and hobby farms; (3) pressure to divert water used for agriculture to serve growing urban and environmental demands; (4) the extension of major growth-inducing public facilities and services into rural or natural areas; and (5) the destructive fiscal competition among cities and counties to capture the revenue benefits of urban development. Each of these challenges is examined more closely below.

**The Loss of Agricultural Land**

In the 10-year period between 1986 and 1996, California land devoted to urban uses increased by an average of about 35,000 acres a year, according to the State Farmland Monitoring and Mapping Program [See Medvitz, Population Growth and Its Impacts on Agricultural Land in California: 1850 to 1998, in this collection.] Most of this land was converted from agricultural uses.

The location of new development is also an important consideration. The same conditions that define the most desirable
crop land—good weather, flat terrain, and access to water—provide the best settings for new homes and businesses as well. In the 1960s, 1970s, and early 1980s, most new development took place near the coast. In response, many agricultural enterprises—dairies and orchards, for example—fled the coast for Imperial, Riverside and San Bernardino counties and the great Central Valley. These areas are now among the fastest-growing regions in the state, leaving California agriculture literally nowhere else to go (Heim, 1997).

The “Rurbanization” of the Working Landscape

In many rural landscapes it is common to see one-, two-, and five-acre “ranchettes” where residents may keep horses, a few farm animals, or a small farm plot. This pattern of development accommodates people who seek a rural lifestyle but derive most of their income and social connections from nearby towns and cities.

In 1989, the American Farmland Trust estimated that over 400,000 acres of Central Valley land had been designated for rural residential uses. Local officials have indicated similar concerns throughout the inland areas of southern California and the pastoral areas along the coast. as well. In most cases, such developments have been carved out of much larger farms and ranches, retaining the feel of a rural area but effectively reducing the amount of land in active, productive agriculture.

As more people are introduced into an area, the conflicts between residents and the realities of farm life, with its noise, odors and chemicals, increase (as addressed in Handel, Conflict on the Urban Fringe, in this collection). Farm practices become more controversial and restricted. Typically, land costs rise as the underlying value begins to reflect the higher return of developed uses, fostering yet more land conversion.

Finally, the reduction in agricultural activity may pass a critical point where the network of suppliers, laborers and services which sustain agriculture can no longer be economically supported, forcing many of the remaining farms to change crops, subdivide, or go out of business.

Water for Farms?

There is a three-way tug of war among agriculture, urban centers, and the environment for California’s limited supply of water. Farming in California is based on plentiful water at affordable prices. With few exceptions, the state’s expanding urban areas have fully tapped nearby water sources and are located long dis-
tances from reliable supplies of additional clean drinking water. At the same time, California’s fish, game, birds, forests, endangered species, and other wildlife are increasingly dependent on threatened aquatic resources: free-flowing rivers, natural streams, and intact wetlands, marshes, lakes, and vernal pools.

There is general consensus that California has moved from an era of water development to one of water management (Goldman, 1991; Reisner, 1997). While some incremental increases in supply and conveyance facilities can be made, the water system we have in place today is the basic system we will have for the foreseeable future. Even the largest and most controversial proposed projects, such as the Auburn Dam or a new “isolated facility” to bypass the Sacramento-San Joaquin Delta, would not dramatically increase either the supply or the reach of the existing system of federal, state, and local water facilities (Macdonald, 1993).

Increasingly, agriculture is feeling the strain of a static water supply. About three-quarters of the state’s developed water supply comes from rivers and streams (American Farmland Trust, 1986). As the impacts of decades of diversions have become better understood, the courts, water regulators, and elected officials have moved to retain a larger share of water for in-stream environmental uses which maintain and enhance the value of fisheries and natural habitat, limiting the supply available to cities and farms.

As new water storage and conveyance facilities are built, old water supply contracts are renegotiated. Maintenance costs mount and the average cost of water delivered to the fields rises while the reliability of receiving full water delivery allotments declines. Cities can pay the price, especially when water is scarce, and spread it over their large rate-payer base. Farmers, quite often, cannot. In essence, the cost and unreliability of water may price farming out, speeding the process of farmland conversion.

**Public Works Pave the Way for Urbanization**

There is a vigorous debate among environmentalists, pro-growth advocates, and academics over whether new infrastructure "causes" growth or vice versa, but there is little disagreement that growth tends to follow the facilities available to service it (Misczynski, 1987). The California Environmental Quality Act recognizes this, for example, by requiring that the “growth-inducing impacts” of new infrastructure projects be analyzed prior to approval.

The mere existence of a major public facility with unallocated capacity—a freeway, water system, or sewer system, for
example—tends to act as a magnet for new development. Hence, large freeway interchanges in rural or low-density suburban areas accessible to existing urban centers become nodes for new “edge city” office parks and subdivisions, whether there was ever a plan or intent to urbanize the area or not.

The very high initial cost of providing infrastructure often forces the urbanization of the area in order to provide the underlying economic value to pay for the facilities.1 As general public revenues decrease, jurisdictions must create assessment districts, development fees, and other value-capture mechanisms in order to pay for infrastructure (Miczynski, 1987).

In effect, decisions by public officials on the size, character, and location of major public facilities become a major determinant of future patterns of urban development. Because the potential impacts of these decisions on agricultural land are too often not understood or not considered by public officials, the long-term viability of the agricultural economy is placed at risk.

**Fiscal Pressures for Farmland Conversion**

Beginning in the late 1970s, California began a slow drift into a fiscal straitjacket. Retaining a competitive economy and a high quality of life requires the state to increase its levels of investment in infrastructure, environmental quality, and social capital, yet state and local agencies are hampered in their ability to raise the needed revenues by a complex set of voter-approved tax and spending limitations. Local communities have used many strategies to respond to this dilemma, including development fees, ballot measures to override tax and spending caps, and—most importantly—competition for revenue-producing development.

California allocates sales tax revenue to local governments through a site-based formula. Instead of being distributed on a per-capita basis, revenues flow to the jurisdiction where they originate and may bear little or no relationship to the costs of providing the

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1The South Natomas/North Natomas area of Sacramento presents an example of a situation in which infrastructure preceded development. When the Interstate 5 and Interstate 80 freeways in metropolitan Sacramento were constructed, they intersected on farmland miles from urban development. The creation of a north-south and east-west freeway interchange spurred a speculative land development effort that in 1986 succeeded in overturning local general plan policies to keep the North Natomas area in agricultural use. At the same time, the near flooding of existing South Natomas subdivisions in 1986 launched a major effort to protect the entire basin that included building extensive levees, grading for drainage, and installing pumping systems. This project became another major rationale for the subsequent development of North Natomas to distribute the cost of flood protection more broadly.
services and facilities to accommodate development. The state has made matters worse by shifting a large and growing share of the local property tax from cities, counties and special districts to schools, thereby relieving the state’s General Fund of a large portion of its obligation to fund education as mandated under Proposition 98.

With little prospect for increased revenues from the state or their own voters, counties and cities compete in an increasingly desperate effort to attract revenue-producing development with low service needs, such as auto malls and “big-box” retailers (warehouse-style operations such as Wal-Mart and Target). They avoid land uses that create on-going costs for expensive public services, particularly housing affordable to middle-income or lower-income families.

This “fiscalization of land use” (Misczynski, 1987) affects agriculture adversely in three ways. First, cities push to include large swaths of agricultural land in their spheres of influence, the area eventually expected to be annexed in the future. This signals the market to raise land prices in anticipation of development, shifting the economic calculus away from long-term agricultural use. [See Moore, Land Markets and Planning Boundaries at the Urban Edge: Ventura County Patterns, in this collection.] Secondly, as areas on the urban fringe are developed, farmlands are assessed part of the cost of the infrastructure, further increasing the economic pressure for conversion.

Finally, counties, usually the units of government most protective of farmland, begin to feel obliged to engage in the development game as well, if only to preclude cities from capturing the economic windfall while shifting the burdens elsewhere. As a consequence, county leaders’ commitment to agricultural protection weakens over time as new areas of the county are opened to development.

The State Policy Response

Program responsibilities to carry out farmland preservation policies are divided among local communities and the state. Local agencies have direct authority to make land-use decisions and primary responsibility for implementing specific resource conservation projects and programs. State responsibilities, centered in the Department of Conservation, focus primarily on data collection and technical assistance, review of local actions, and funding for conservation programs.

State policies for agriculture and open space stress conserva-
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tion of land in order to promote the continued viability of the farming economy, provide open space for scenic and recreational purposes, and maintain the integrity of natural systems necessary to protect environmental quality and wildlife. These policies sometimes can and do conflict with one another as, for instance, when restrictions are placed upon farming practices to protect endangered species, or when water diverted for agricultural use causes fisheries to decline precipitously.

Components of California’s Farmland Protection System

California’s system of protecting and conserving farmland dates back to at least 1965 when the state enacted the Williamson Act. As the system has evolved over time, it has come to rely on six major components:

- Tax relief for agricultural property
- Direct land conservation
- Constraints on city incorporation and annexation of farmland
- Local planning and development policies
- State planning and investment policies
- Environmental review and mitigation requirements

Tax relief for agricultural property is provided through the Williamson Act, which assesses property taxes on farm landowners who pledge to retain their land in agricultural use for ten renewable years at a reduced rate that reflects the land’s value for farming rather than for development. Counties may choose to opt into the Williamson Act and receive subventions from the state to make up for part of the property tax lost due to the program. Despite the cost to financially-strapped county governments, the Williamson Act is a popular program with widespread use in rural areas throughout California. Legislation in 1998 (“Super Williamson Act”) amended the program to allow for 20-year or longer landowner contracts with additional property tax decreases.

While the Williamson Act provides a useful tool to encourage long-term agricultural use of the land and discourage leap-frog and remote development, the program appears to have had only a marginal success in stemming the conversion of the most vulnerable farmland to urban uses. Possible explanations include the fact that participation by property owners is optional, farmers may use the ten-year period to transition out of farming and into development, and much of the acreage enrolled in the program is remote from the
urban edge where development pressures—and the benefits of the program—are greatest.

**Direct land conservation** is carried out primarily through local and regional agricultural land trusts and local governments. Land trusts can purchase acreage outright, but more commonly acquire easements to preclude development on agricultural land. Proposition 70 of 1988 provided state bond funding to a number of land trusts throughout the state for these programs. [See Vink, *Farmland Conservation in the Private Sector: California Land Trusts*, in this collection.]

In 1995 California created the Agricultural Land Stewardship Program to provide grants to local trusts and governments for farmland protection. The program has been modestly funded since its inception, with $1 million of state money in 1996-97, $1.9 million in 1997-98, $13.7 million in 1998-99, and $2 million proposed in the governor’s budget for 1999-2000. While some land trusts, such as those operating in Marin, Sonoma and Napa Counties, have been successful in protecting locally important agricultural areas, conservation easement programs to date have had only a minor impact on the overall trends in farmland conversion at the regional and statewide scale.

**Constraints on city incorporation and annexation of farmland** are contained in the Cortese-Knox Act and other state laws governing the creation, incorporation, annexation, and other aspects of local government organization (Division 3 [commencing with Section 56000] of Title 5 of the Government Code). Many policies in the body of state law are directly and indirectly related to land conservation—including an explicit directive to protect farmland from unwarranted conversion—but none of them provide for operative authority.

At present, these general state policies are overseen by Local Agency Formation Commissions (LAFCOs) in each county, composed of city, county, and public representatives, which review and approve city and special district annexations and sphere of influence changes. LAFCOs have no direct authority over land use and cannot override city or county decisions regarding development applications; in fact, they typically reflect the specific interests of the city and county governing boards from which they are drawn, which often conflict. As a consequence, LAFCOs rarely reject an annexation or incorporation proposal championed by an urban community based on its impacts on farmland. They frequently become mired in controversy when they do act to protect agricultural land.

**Local planning and development policies** are set forth in a substantial body of state law, the most significant of which is the
requirement that cities and counties rely on their General Plans as the basic framework for land use and physical development (Government Code Section 56000 et seq.). Local development projects are subject to relatively strict procedural requirements, especially requirements that actions be consistent with the General Plan and local zoning, and that environmental impacts be assessed and disclosed to the public.

Agriculture is typically included in the local general plan, in either the state-mandated land use or open space elements, or an optional agricultural element. [For a discussion of how Napa County’s General Plan was used in this regard, see Eisele, Twenty-Five Years of Farmland Protection in Napa County, in this collection.] However, state law does not impose any meaningful substantive requirements that local governments actually protect or preserve agricultural land in the face of development pressures. Instead, California’s strong tradition of local home rule grants individual cities and counties wide discretion over land use and development decisions, which they often exercise to allow the conversion of farmland to urban uses.

*State planning and investment policies* that impact agricultural land range far beyond the Farmland Mapping and Monitoring Program, the Agricultural Land Stewardship Program, and the Williamson Act administered by the Department of Conservation for the explicit purpose of conserving farmland. Of vastly greater significance are state decisions on water supply, water quality, freeway routes, university campus and prison locations, priorities for school construction and renovation, flood protection, and a number of other issues that all impact the location, pace, and timing of suburban and rural development and, with it, the pressure for farmland conversion.

For the most part, the individual departments charged with transportation, water, flood control, or other functional responsibilities tend to pay little attention to the impacts their decisions may have on agriculture. State agencies such as the Governor’s Office of Planning and Research have the authority to coordinate functional plans to carry out state policies for agricultural land preservation as well as other issues, but they have neither the political will nor a mandate from the governor’s office to do so. As a consequence, the state lacks a unifying vision or comprehensive approach to planning and development.

*Environmental review and mitigation requirements* are relatively strong in California, compared with other states. The California Environmental Quality Act (CEQA) is perhaps the pre-eminent state environmental statute in the nation. Nearly all public
and private development projects in California are subject to CEQA, which requires an analysis and disclosure of a project’s potential environmental effects. Alternatives to the project that would lessen or eliminate the environmental impact must be considered, and any unavoidable adverse impacts of the project must be mitigated, where feasible.

However, the act has several weaknesses when it comes to protecting farmland. Farmland conversion per se is not considered a "significant environmental impact" under CEQA. As a consequence, many farmland conversion actions escape environmental scrutiny altogether. Even when significantly adverse farmland impacts have been identified, the agency with primary decision-making responsibility for a given project may declare that the benefits of the project outweigh the impacts or may decide that alternatives to the project or mitigation measures intended to lessen its impact are "infeasible." These decisions do not have to be based on any objective standards or criteria, and are usually not subject to review or approval by other agencies.

The Political Context of Farmland Policy

Given the serious threats to the fundamental underpinning of California’s $24 billion agricultural economy—the land itself—why isn’t state government doing more to ensure a stronger and more effective state farmland protection policy?

The answers are complex but the main issue is that the forces committed to farmland protection are too weak, fragmented, and isolated to secure sufficient political support for the enactment and effective implementation of substantial farmland protection programs. Farmland protection interests face a diverse and powerful set of potential adversaries with competing interests, including other agriculturists, the land development industry, urban interests, environmentalists, and local officials, among others.

Perhaps the most important issue is that the agricultural community itself is split. While advocacy groups such as the American Farmland Trust promote agricultural protection, the California Farm Bureau Federation and individual county farm bureaus are often divided. Many farmers and their heirs see the land as their greatest asset and are loath to give up the potential benefits of converting the land for development. Lacking a unified voice, agriculture is in a weak position to advocate strong farmland protection measures at the state level.

A second consideration is the formidable economic and
political power of the land development industry. Builders, develop-
ers, property owners, building trade unions, realtors, bankers, and
other well-connected and politically-active interests have a direct
stake in making sure that the development process proceeds with as
few restrictions as possible. Large sectors of the building industry
have come to rely on the economic return that accrues from purchas-
ing farmland cheaply and then persuading local officials to change
the allowable uses, thereby conferring substantial added value to the
land. As a consequence, there is strong resistance to any effort to
restrict the supply or raise the cost of farmland potentially available
for conversion.

Third, environmentalists are often at odds with the farm
industry in California. Disputes over water for farms versus water
for fish and wildlife have been especially bitter, protracted, and
divisive. Friction over agricultural runoff, pesticide use, and agricul-
tural burning only add to the animosity and distrust. These conflicts
make it extremely difficult to establish farmer-environmentalist
coopulations over farmland protection, even where common interests
may unite these two constituencies.

Fourth, urban interests also pose a dilemma for farmland
protection advocates. While polls show that city residents in general
support saving farmland, primarily for the green space that open
landscapes provide, urban and suburban families in search of
affordable housing are the driving force that fuels farmland conver-
sion. Once in place, suburban residents file nuisance complaints
about the noise, odors, and other consequences of farming on the
urban edge, adding further pressure to get out of farming and sell
the land for development (as addressed in Handel, Conflict on the
Urban Fringe, in this collection). Often suburban community activists
use "environmental" arguments to battle higher-density housing and
mixed-use developments, thereby perpetuating low-density sprawl
land use patterns that consume more farmland.

Fifth, urban water suppliers have a direct interest in expand-
ing the supply of water available to serve growing cities. In
California's zero-sum water game, that supply can only come from
one of, or a combination of, four places: greater conservation and
efficiency, limitations on serving future residents, diversion of water
from environmental uses, or acquiring water rights from agriculture.
Conservation and efficiency are expensive and unpopular. Limiting
the number of future residents embroils water agencies directly in
controversial land use conflicts. Diverting water from the environ-
ment lacks public support and is fraught with legal peril. That
leaves acquiring water from agriculture in many cases as the path of
least resistance.
Finally, local officials are in perhaps the most difficult position of all. Although they are often sympathetic to the value of protecting agricultural land, they are subject to enormous fiscal, economic, and political pressures to develop farmland. Farmers are few and those who would benefit from the conversion are powerful. Rarely is agriculture the most important industry in a community. Even where it is, individual farmers may press for the right to convert their land. And, given the fiscal competition for new development, officials often believe their communities have little choice but to attract new development to build their tax base if they are not to wither economically.

The Lessons of SB 161 and SB 901

Given these daunting political circumstances, is it possible to strengthen state farmland preservation policy in California? Two recent attempts to deal with some of the fundamental threats facing agricultural land in California—one a failure, the other a modest, qualified success—provide some intriguing lessons.

SB 161

In June of 1992, Senator Mike Thompson, (D-Napa) amended his Senate Bill (SB) 161 while it was in the State Assembly. As it originally passed the State Senate, SB 161 related generally to economic development. The amendments Senator Thompson obtained in the Assembly transformed SB 161 into a strong farmland-preservation and growth-management bill. The amendments were intended to address three inter-related threats to farmland:

- city annexation to accommodate sprawl,
- county approval of subdivisions and ranchettes on farmland, and
- damage to watersheds needed to sustain agriculture.

In an opinion piece published July 25, 1992 in the Napa Register headlined “Beware of Regional Government,” Senator Thompson stated that it was his intent to amend SB 161 “to include it in the current package of growth management bills. It’s an effort to ensure that local agriculture has a voice in the debate that will establish strict criteria for protecting agricultural lands and our environment.”

Modeled on Napa County’s agricultural protection program [See Eisele, Twenty-Five Years of Farmland Protection in Napa
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County, in this collection], SB 161 provided that counties could adopt agricultural, watershed, and open space protection zones in their General Plans with limits on permitted uses and minimum parcel sizes. Once an agricultural protection zone was adopted by a county, each city and the county would be required to adopt a land-use designation system to foster planned growth while protecting farmland.

The land-use designation system was required to include minimum average housing density objectives and incentives for promoting compact development in areas identified for urbanization. Land within an agricultural protection zone could be used for purposes compatible with agriculture, but conversion of land within the zone would be restricted. Property within the zones would receive favorable tax treatment and a program to transfer or purchase development rights would be required.

In essence, the bill proposed a tradeoff: protection of a county’s agricultural land in return for more intensive development within cities to accommodate growth. Farmers would be compensated for their lost development opportunities through tax breaks and payment for their development rights.

The bill was sponsored by the California Farm Bureau Federation and supported by other farm groups, the Sierra Club, and other environmental organizations. It was opposed by the California Cattlemen’s Association but not actively opposed, initially, by the land-development industry.

Assembly amendments fine-tuned the proposal but left its essential features intact. The bill passed the Assembly in August, 1992, by a vote of 45 to 25 (mostly along party lines, with nearly all Democrats in support and nearly all Republicans opposed). While the majority of aye votes came from urban legislators responding to their environmental constituency, seven members representing farm areas voted for the bill. Farm Bureau sponsorship was critical to gaining their votes and securing passage in the Assembly.

As it happened, the bill was amended just as the Legislature was considering a number of important growth management bills, including Senator Rebecca Morgan’s San Francisco Bay Area regional governance bill, SB 797, which Senator Thompson opposed.

When SB 161 returned to the state Senate for a final vote on concurrence in Assembly amendments, both SB 797 and SB 161 were on the Senate floor. SB 797 was actively opposed by the land-development industry as well as by many Bay Area governments. In the course of the Senate’s deliberations, opposition to the land-use designation system contained in SB 161 grew among the lobbyists representing the development industry.
Their active opposition was a major factor in the defeat of both SB 161 and SB 797 in the Senate floor vote in the final hours of the 1992 legislative session, even though both measures had previously passed all the policy and fiscal committees and survived earlier floor votes in both houses.

SB 901

SB 161 was developed and dispensed within a mere two months. In contrast, SB 901—authored by Senator Jim Costa (D-Fresno)—emerged in 1995 after several years of prior legislative effort. Proposed jointly by the Farm Bureau and the East Bay Municipal Utility District, SB 901 was intended to address an important gap in the land use and water planning processes.

The bill emerged in the wake of a number of major development projects around the state that had been approved by cities or counties without the prior assurance of an adequate, reliable water supply. Farmers feared that these “new towns” would take their water. Water suppliers feared that their current rate-payers would be forced to build and pay for expensive new facilities to serve these developments.

The solution proposed in SB 901 was to require that cities and counties allow water agencies to determine through the environmental impact report process if the project could be assured of adequate water in both wet and dry years. If not, the city or county would be required to (1) turn down the project, (2) mitigate the impact of an inadequate water supply, or (3) make a finding of overriding considerations (which could be challenged in court).

The bill directly pitted urban water suppliers and agriculture against the land development industry. Counties were strongly opposed, while cities were split since many were also municipal water suppliers. The sponsors made a strategic decision not to solicit or publicize environmental support, given the anti-environmental tilt of the Assembly Republican majority elected in 1994.

Instead, the sponsors undertook a three-pronged effort: to secure the support of as many agricultural and water interests as possible in order to present a united front; to broaden the coalition to include business interests with a stake in a reliable, long-term water supply; and to attract public attention through editorials and news articles linked to the ongoing drought. This effort was extremely successful, with the farm sector providing crucial support at critical moments to convince farm-area legislators to break with their colleagues to support the bill in committee and on the floor.

Near the end of the process, it was clear the bill would pass
the legislature and reach the governor’s desk, despite the intense opposition of the California Building Industry Association, the California Association of Realtors, the California Business Properties Association, other land development interests, the California State Association of Counties, and the California Chamber of Commerce.

Both the farm community and the development industry have been traditionally aligned with Governor Pete Wilson. Perhaps in an effort to spare the governor from having to choose between two long-time allies, a compromise was reached the last week of session that substantially weakened the bill. The compromise language removed the ability of a water agency to determine whether the lack of an adequate water supply was a significant environmental impact under CEQA. By retaining this authority, cities and counties were free to downplay or ignore the findings of the water agency in making their land-use decisions.

SB 901 as enacted into law will be helpful to farmers and water suppliers seeking better consideration of water issues in land-use planning, but it will not be the strong tool to protect urban and agricultural water supplies that its sponsors originally envisioned.2

Conclusions

The legislative history of SB 161 and SB 901 indicate that progress in reducing conflicts between development and agriculture is possible—but extremely difficult. SB 161 failed because there was insufficient time to develop a strong coalition, educate opinion leaders, and broaden the base of support beyond farming and environmental interests. It also addressed the issue of land use head-on, drawing the fire of powerful suburban land-development interests.

SB 901 succeeded because the coalition of urban water interests, farmers, and some major businesses, coupled with press and public attention (and a recent drought), was sufficiently powerful to craft unusual legislative majorities in both the Senate and Assembly. The bill benefited from earlier attempts made in 1992 and 1994 that helped lay the ground work in the legislature, and—most importantly—forged the working relationships needed between urban water interests and farm interests, uneasy allies at best.

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2 Since this account was written, a coalition of water agencies and agricultural and environmental groups has promoted more explicit review of the water availability of proposed development. They sponsored a packet of bills in the 1999 state legislative session to close the loopholes of SB 901, including a closer integration of water supply in land use planning.
But in the final analysis, the change wrought by SB 901 was modest and incremental, due to the strong power and influence of the land-development industry, both within the legislature (where compromise was encouraged in order to gain crucial votes) and within the governor’s office (where a veto was a distinct possibility).

There are at least two lessons from this experience. First, for meaningful farmland protection to be enacted in California, the farm community itself must be more united and aggressive in advocating for protection. In this, the combined effort of the American Farm-land Trust and individual county farm bureaus, together with articulate leadership within the California Farm Bureau Federation and other statewide agricultural associations, is critical.

Secondly, a broad coalition including water suppliers, business and community leaders, environmentalists, and local officials must be brought together to understand the importance of farmland protection from their individual vantage points. In point of fact, each of these entities has something important to gain.

- **Urban water interests** could find value in an approach that would guarantee a reliable water supply to both cities and farms, in return for farmers agreeing not to develop their land.

- **Business and community leaders**, particularly in the Central Valley and along the Central Coast, could be convinced of the economic benefits of preserving the land base of California’s $24 billion agricultural economy, so long as affordable housing and job opportunities could still be provided for community residents.

- **Environmentalists** could support an approach that resulted in more secure protection for open space and more orderly urban growth, so long as natural resources were protected.

- **Local officials** could benefit from efforts that combined farmland protection with incentives for infill development and redevelopment in existing urban areas, if they were coupled with fiscal reforms to compensate for the loss of tax receipts and to ease the competition with other local agencies over the revenues from new development.

     Still, even if all these interests can be persuaded to work together on concrete measures to stem the loss of California’s farmland, it is unlikely that key elements of the building industry and its allies would go along. As a consequence, only modest and incremental change is likely unless political leadership in Sacramento
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decides to tackle the economic, social, and environmental consequences of rapid farmland conversion in the face of the determined opposition of most of the land-development industry.

References


Chapter Five

FARMLAND CONSERVATION IN THE PRIVATE SECTOR: CALIFORNIA LAND TRUSTS

Erik Vink

A promising technique for protecting farmland involves the work of nonprofit land trusts in acquiring interests in farm parcels through outright purchase and conservation easements. Now numbering over 115, local and regional land trusts—concentrating primarily on preserving wetlands, forests, riparian corridors, and wildlife habitat—have operated in California since the early part of the century. A much smaller number of land trusts in the state is devoted primarily to farmland protection. About 14 have been organized in the last 20 years. Their history, agendas, modes of operation, and optimistic outlook in terms of funding and acceptance among farmers and ranchers are examined here.

Farmland conservation efforts have historically focused on local government land use regulation. Local general plans and zoning ordinances have served to preserve agricultural production areas from the incursion of incompatible urban-type land uses. While these regulatory efforts are effective for a time, they may offer only transitory protection, vulnerable to changing political climates. The impermanence of regulatory efforts has led to a growing interest in permanent efforts to protect farmland. These efforts are mostly carried out by private land conservation organizations known as agricultural land trusts, one type of non-profit trust devoted to the protection of resource land. Agricultural land trusts work on a voluntary basis with individuals landowners to establish permanent restrictions against future non-agricultural development of their land. These restrictions, known as conservation easements, are increasingly used to accomplish farmland conservation goals throughout California.
History of Land Trusts in California

Land conservation organizations dedicated to safeguarding important natural resources have existed in California since the early part of the twentieth century. Some of these first organizations focused their efforts on acquiring Northern California coastal forest lands for addition to the state park system. In fact, the early history of land conservation organizations—leading up to and beyond the establishment in 1954 of a California presence by the nation’s premier land conservation organization, The Nature Conservancy—revolves to a large extent around coastal land protection in Northern California.

As California has experienced periods of rapid population growth over the past several decades, the number of land trusts in California has increased to over 115 (Land Trust Alliance, 1995). No longer focused primarily on coastal land protection, these organizations exist in every region of the state and are working to protect every type of land resource in California—wetlands, forests, trails, archaeological sites, sea dunes, riparian corridors and wildlife habitat, to name only a few. While most of these organizations are concerned with natural land protection, an important—and growing—group of land trusts is focusing on protecting the state’s rich agricultural land resources, in response to the growing recognition that agricultural land is a resource worthy of protection for its food-producing capability. The first of these organizations in California—and indeed the nation—was the Marin Agricultural Land Trust (MALT), formed in 1980. [See Faber, Protecting the Resource with a Land Trust: A Case Study of the Marin Agricultural Land Trust, in this collection.]

Agricultural Land Trust Organization and Activities

Agricultural land trusts, like other private land conservation organizations, are non-profit organizations qualified under Section 501(c)(3) of the Internal Revenue Code. Non-profits are operated for "exempt purposes"—including scientific, educational and charitable endeavors—enabling donors who give money or land interests to claim the value of these donations as a tax deduction.

Land trusts, like other non-profits, are forbidden to endorse political candidates and are largely prohibited from engaging in lobbying activities. They can, however, endeavor to influence legislation and impact political campaigns within certain limitations. Most organizations can allocate up to 20 percent of their annual expenditures for direct lobbying activities, where the group itself
works with legislation and political campaigns. Up to a quarter of that amount (or 5 percent of the total) is allowed for "grass-roots lobbying," where the group requests others to ask their elected representatives for a particular legislative action.

Land trusts are governed by boards of directors whose fundamental purpose is to establish organizational objectives and policies and to monitor progress toward achieving them. The members of most of the agricultural land trusts’ boards of directors are volunteers, chosen to reflect the diverse talents needed for a successful organization: farmers respected in the landowner community, professionals who can assist with land conservation work (real estate, legal and development expertise), and members of the local business and civic community to aid in fundraising and community relations.

Agricultural land trusts are distinguished from other land conservation organizations by two attributes. First, the primary focus of these organizations is on protecting farmland, as indicated by their names and by-laws. For example, the Monterey County Agricultural and Historical Land Conservancy, founded in 1984, lists as its objectives "...to preserve, protect and enhance the agricultural, historical, environmental, natural wildlife habitat, scenic and recreational values of such lands...within Monterey County". Second, the governing boards of these land trusts usually include a strong representation from farmers; in fact, organizations specify in their by-laws that a majority of the board of directors must be farmers.

There are presently at least 15 land trusts in California that focus exclusively on protecting farmland (see Table 1). In addition, a similar number of organizations are working to protect farmland as part of larger efforts to preserve open space.1 These organizations are located throughout the state with a focus on the greater San Francisco Bay Area and a cluster of new organizations in the Central Valley.

**Agricultural Land Trust Activities**

Agricultural land trusts typically advance farmland conservation efforts in the communities where they work in three ways: by acquiring interests in land; by advancing policy efforts to protect farmland; and by promoting educational efforts to highlight the importance of farmland.

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1 Examples of these organizations include the Peninsula Open Space Trust, Sonoma Land Trust, Riverside Land Conservancy and the Land Trust of San Luis Obispo County.
# Table 1: Agricultural Land Trusts in California

<table>
<thead>
<tr>
<th>Organization</th>
<th>Year Incorporated</th>
<th>Area of Activity</th>
<th>Acres Protected</th>
<th>Contact/Address/Phone</th>
<th>Paid Staff</th>
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<tr>
<td>Agricultural Trust of Contra Costa County</td>
<td>1997</td>
<td>Contra Costa County</td>
<td>0</td>
<td>28 Monday Blvd. Suite 200 33390</td>
<td>No</td>
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<tr>
<td>California Rangeland Trust</td>
<td>1998</td>
<td>California</td>
<td>0</td>
<td>Dan Morris, Exec. Director</td>
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<td>Marin Agricultural Land Trust</td>
<td>1980</td>
<td>Western Marin County</td>
<td>25,504 (CE)</td>
<td>Bob Berner, Exec. Director</td>
<td>Yes</td>
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<td>Mendocino Agricultural Land Trust</td>
<td>1994</td>
<td>Mendocino County</td>
<td>0</td>
<td>Roger Sterneck, Exec. Dir.</td>
<td>Yes</td>
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<td>Merced County Farmland and Open Space Trust</td>
<td>1993</td>
<td>Merced County</td>
<td>0</td>
<td>Linda Macedo, President</td>
<td>No</td>
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<tr>
<td>Monterey County Ag and Historical Land Conservancy</td>
<td>1984</td>
<td>Monterey County</td>
<td>4,800 (CE)</td>
<td>Brian Riebe, 3rd of Dir. P.O. Box 1731</td>
<td>No</td>
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<tr>
<td>North Delta Conservancy</td>
<td>1992</td>
<td>SW Sacramento County</td>
<td>0</td>
<td>Catherine Barnek, Secretary</td>
<td>No</td>
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<td>San Benito Agricultural Land Trust</td>
<td>1993</td>
<td>San Benito County</td>
<td>0</td>
<td>Paul Hain, President P.O. Box 2168</td>
<td>No</td>
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<td>San Joaquin Farmland and Open Space Trust</td>
<td>1990</td>
<td>San Joaquin County</td>
<td>0</td>
<td>John Schick, Secretary</td>
<td>No</td>
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<td>Solano County Farmland and Open Space Foundation</td>
<td>1986</td>
<td>Solano County</td>
<td>82 (CE)</td>
<td>Pamela Mullin, Exec. Dir.</td>
<td>Yes</td>
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<td>South Livermore Valley Agricultural Land Trust</td>
<td>1994</td>
<td>SE Alameda County</td>
<td>1,236 (CE)</td>
<td>Chuck Haley, Exec. Director</td>
<td>Yes</td>
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<tr>
<td>Southern California Agricultural Land Foundation</td>
<td>1990</td>
<td>Chino Valley (San Bernardino County)</td>
<td>363 (Fee)</td>
<td>Pamela Widjas, Exec. Dir. P.O. Box 2328</td>
<td>Yes</td>
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<tr>
<td>Ventura County Agricultural Land Trust and Conservancy</td>
<td>1992</td>
<td>Ventura County</td>
<td>0</td>
<td>Larry Rose, President P.O. Box 4664</td>
<td>No</td>
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<td>Yolo Land Trust</td>
<td>1988</td>
<td>Yolo County</td>
<td>1,318 (CE)</td>
<td>Kerinna Kail, Exec. Direct. P.O. Box 1196</td>
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<td>Yuba-Sutter Land Trust</td>
<td>1996</td>
<td>Yuba &amp; Sutter Counties</td>
<td>0</td>
<td>Dale Whitemer, Adviser 1263 Nicolor Drive Marysville, CA 95901</td>
<td>No</td>
</tr>
</tbody>
</table>

CE = Conservation Easement  
Rev = Fee Simple
Acquiring Interests in Land: Conservation Easements

Although all land trusts work to protect land resources, they accomplish their objectives in a variety of different ways. Outright purchase of land (fee-simple acquisition) is the preferred approach for organizations intent on managing land for a particular resource goal, such as restoring and maintaining wetlands.

Agricultural land trusts, on the other hand, rely on less-than-fee (less than full ownership) interests to protect farmland. Their primary interest is using conservation easements, usually referred to in the eastern United States as “development rights.” Conservation easements are deed restrictions granted by property owners to limit the type and amount of development that may take place on their property (Diehl and Barrett, 1988). Agricultural land trusts are principally interested in continuing agricultural uses of land by prohibiting future urban development, and a conservation easement can meet this goal without incurring the ownership and management responsibilities associated with fee-simple acquisition. Thus, the land remains in private ownership and management, farmed by a farmer. Agricultural land trusts can acquire conservation easements from landowners through both donation and purchase and also, on occasion, from local governments as part of the land-use-entitlement process.

When conservation easements are donated, the value of the conservation easement (the difference between the land’s fair-market, unrestricted value and its deed-restricted value for agricultural purposes) is considered a charitable contribution by the Internal Revenue Service and qualifies the donor for income tax deductions. The Napa County Land Trust and the Monterey County Agricultural and Historical Land Conservancy have worked with vineyard owners in Napa and Monterey counties, respectively, who have donated conservation easements to these organizations. For example, the Chalone Wine Group donated a conservation easement on 1,200 acres of vineyards in Monterey County.

When conservation easements are purchased, the landowner receives a cash payment for the value of the deed restriction. Organizations with funding available to purchase conservation easements tend to be the most successful, since most cash-poor, land-rich farmers are unable to donate a conservation easement on their farmland. One of the best examples of this “purchase of agricultural conservation easements” (PACE) in California is MALT’s accom-
plishment: protecting over 25,000 acres of west Marin grazing land through a program to purchase conservation easements.²

Land trusts can also be granted conservation easements as part of the land-use-entitlement process. For example, the City of Davis has designated the Yolo Land Trust to co-hold conservation easements granted to the city by project developers. The City of Davis’ 1995 Farmland Preservation Ordinance requires development projects that convert agricultural land to urban use to mitigate the loss of farmland by protecting other farmland with a conservation easement on an acre-for-acre basis. As co-grantee, the Yolo Land Trust’s job is to monitor the easement-protected land in the future to ensure compliance with the restrictions outlined in the conservation easement. To date, five mitigated projects have been completed, with more anticipated as the city grows. This type of activity can be expected to increase as local jurisdictions express greater interest in adopting farmland mitigation programs.

Policy Efforts

Land trusts are often “policy neutral,” given the nature of their work as non-political organizations working on a private and voluntary basis with landowners, and rarely become involved in local land-use decision making. However, several agricultural land trusts in California are quite active in local policy efforts and were even formed as a response to controversial local land-use issues. The Land Utilization Trust, for example, was formed in 1992 in San Joaquin County to settle a lawsuit brought against developers by a local environmental organization. The Land Utilization Trust has participated in general plan discussions for San Joaquin County and the City of Stockton, advocating farmland mitigation for general plan updates that would convert large tracts of farmland to urban use.

Agricultural land trusts can also become involved in local policy issues to advance farmland protection efforts before their conservation easement acquisition program is fully established. Since landowners are often unable to donate such a large portion of their primary asset, land trusts may find that taking part in local land-use decision-making is the most effective way to contribute to farmland protection efforts until they can develop a source of public or private funding for purchasing conservation easements.

² For a more complete discussion of the valuation of conservation easements and their acquisition by purchase and donation, see Cosgrove and Freedgood, 1997.
Farmland Conservation in the Private Sector

Educational Efforts

All land trusts are involved in some educational efforts, usually intended to inform the landowner community about conservation easements and how they function. This work is largely accomplished through producing and distributing brochures and pamphlets, and occasionally by sponsoring seminars explaining the tax implications of a conservation easement sale/donation.

However, some agricultural land trusts—particularly the newer ones that haven’t yet established funding for conservation easements—are involved in broader efforts to educate the communities they serve about agriculture or conservation issues. The North Delta Conservancy, for example, is still seeking funds for conservation easement acquisition but has been very successful in encouraging landowners in the Delta region of Sacramento County to place wooden boxes on their property to provide a safe location for ducks to hatch their eggs. This organization is also working to teach schoolchildren about the agricultural, natural and historic resources of the Sacramento Delta region.

History of Agricultural Land Trusts in California

Agricultural land trusts are a relatively recent innovation in California; so new that the first one—the Marin Agricultural Land Trust (MALT)—was incorporated in 1980. Several key events have contributed to the formation of these entities and to their emergence throughout the agricultural regions of the state.

California State Coastal Conservancy

In 1976, the Conservancy was created by legislation to implement programs for protecting, restoring and enhancing coastal resources. Formed in the wake of the California Coastal Plan, and somewhat as an antidote to the regulatory efforts of the California Coastal Commission, the Conservancy was authorized to undertake projects to acquire interests in coastal agricultural lands so that these lands would not be converted to other uses (Coppock and Ames, 1989). With the adoption of agricultural policy criteria in 1979, the Conservancy signaled its intent to provide funds to nonprofit land trusts to carry out land conservation activities that furthered the mission of the Conservancy.
California Farmland & Urban Pressures

MALT, the first agricultural land trust in California, relied upon the Conservancy for early support of its efforts to protect west Marin ranch land. In 1984, the Conservancy approved a $1 million grant to MALT for a demonstration agricultural land conservation project, at the same time approving similar grants for projects in Monterey and Sonoma counties. Following those initial grants, the Conservancy has provided support for farmland conservation activities in a number of projects along California’s coastline. For instance, the agricultural land trusts in Monterey and Ventura counties and the agricultural land protection activities of the Peninsula Open Space Trust, the Land Trust of Santa Barbara County, and the Sonoma Land Trust all receive support from the Conservancy.

Proposition 70

Proposition 70, the California Wildlife, Coastal and Park Land Conservation Bond Act, was approved by California voters in 1988. Among the $776 million provided for land conservation efforts was $63 million for farmland protection activities in eight California counties. Although a majority of this funding went to farmland protection efforts in just three counties ($15 million for Marin, $20 million for San Bernardino, $10 million for Riverside), lesser amounts were also allocated for farmland protection efforts in Santa Cruz, Monterey, San Mateo, Santa Barbara and Sonoma counties.

In addition to providing a tremendous boost to fledgling agricultural land trusts—the Monterey County Agricultural and Historical Land Conservancy and the Southern California Agricultural Land Foundation, for example—the passage of Proposition 70 also signaled that organized land conservation efforts in any part of California could benefit from funding in future state general-obligation land conservation bond measures. This was no small factor in the establishment of a number of agricultural land trusts throughout California, such as the Yolo Land Trust and the San Joaquin County Farmland and Open Space Trust.

Release of Reports/Calls to Action

Reports that identify land trusts as an effective means of conserving local farmland have also been effective catalysts. For example, American Farmland Trust’s 1989 report—Risks, Challenges and Opportunities: Agriculture, Resources and Growth in a Changing Central Valley—called for the establishment of local agricultural land trusts and was credited with sparking the formation of land trusts in San Joaquin and Merced counties.
Farmland Conservation in the Private Sector

Local Ballot Measures

Local ballot measures were responsible for creating and funding the Sonoma County Agricultural Preservation and Open Space District (SCAPSO), a public agency, in 1990. While most public open space districts acquire property outright for use as parks or nature areas, SCAPSO follows the private land conservation model of acquiring conservation easements to protect open space and agricultural land. Sonoma County voters approved a 20-year 1/4 cent increase in the local sales tax to fund SCAPSO.

To date, over 25,000 acres of land have been protected and SCAPSO enjoys an annual funding stream of nearly $10 million. Local farmland conservation efforts throughout the state have taken note of Sonoma's effort and several Central Valley counties have seriously discussed following its lead.

Future Prospects for Agricultural Land Trusts

The prospect for the continued growth and health of agricultural land trusts in California is quite favorable for the following reasons.

Creation of the Agricultural Land Stewardship Program

The Agricultural Land Stewardship Program (ALSP), created by state legislation in 1995, is administered by the California Department of Conservation to provide grants to land trusts and local governments throughout the state to acquire conservation easements on agricultural land. Although initially funded for only $1 million in fiscal year 1996/97, the proposed annual budget has grown to $3.7 million in fiscal year 1998/99. Despite this modest funding level, the success of initial acquisitions and the growing interest on the part of landowners will likely generate additional support for expanding the available funding.

This program has already served as the matching component for federal funding available under the 1996 Farm Bill's Farmland Protection Program, which allocated $35 million nationwide toward state and local farmland protection efforts. Through several years of Congressional appropriation, this program has provided nearly $2 million of matching funding to California for conservation easement acquisition through the ALSP.
The strongest indication that agricultural land trusts will continue to thrive and prosper is the fact that they are increasingly accepted and supported by agricultural landowners, as demonstrated by the presence of more farmers and ranchers on their boards of directors. Recently, groups such as the Agricultural Task Force for the Central Valley—a private task force of prominent agriculturalists seeking consensus for farmland conservation efforts—and the California Cattlemen’s Association have been discussing the vital role that conservation easements and agricultural land trusts play in providing additional options for farmland conservation.

The policy changes undergone by many of the major agricultural organizations has also contributed to the general acceptance of these groups and their work. For example, the California Farm Bureau Federation supports conservation easements and the role of agricultural land trusts and strongly backed the ALSP legislation.

The evolution in the perception of agricultural land trusts by farmers and ranchers—from “communist land grabs” to “accepted tools for farmland conservation”—highlights the goodwill and favorable impression landowners are left with after working with these organizations. Through the ambassadorship of farmers and ranchers serving on the board of directors of these organizations to the positive stories from landowners who have worked with them, agricultural land trust and their conservation easement activities are meeting increasing favor from the larger agricultural community.

Conclusion

California’s agricultural land conservation efforts are expanding to new areas of the state and increasing their conservation easement activity. Even so, these efforts will continue to be constrained by two factors: the level of interest in participating and the lack of available funding.

The demand for conservation easement programs from farmers in the eastern United States exceeds the funds available; however, it is important to note that the programs will not appeal to all landowners. Some will hesitate to place a permanent restriction on what is, for many, their primary asset. A far greater constraint, however, will be the limitation of funding. In a state with as much threatened agricultural land as California, it will take more than several million dollars a year to provide for other than a few demonstration projects.
Farmland Conservation in the Private Sector

Even so, the potential for advancing farmland conservation efforts is great. Far from concentrating solely on land protection, agricultural land trusts also dedicate themselves to educating public officials, landowners, and the general public about the value of agriculture and about using agricultural conservation easements to protect a community’s farmland. In addition, they are expanding their involvement in local policy efforts to protect farmland. All of these efforts supplement and support the primary function of agricultural land trusts as a means of providing permanent protection from urbanization for important agricultural lands in California.

References


Part 2:
Regional and Local Perspectives
Chapter Six

TWENTY-FIVE YEARS OF FARMLAND PROTECTION IN NAPA COUNTY

Volker Eisele

Napa County has developed an effective and systemic approach to protecting prime agricultural land. This personal account is a vivid case study of citizen action in Napa County during a 30-year period of personal, political and legal confrontation over efforts to convert some of the most significant wine-grape-producing acreage in the world to other uses. It analyses the long-term processes of developing strategies and policies for preserving agricultural land in that county.

Originally slated to become largely a bedroom community for the Bay Area metropolis, Napa County is considered by many to have developed one of the most effective and systematic approaches to agricultural land protection in California today.1 The following pages provide an historical overview of the development of Napa County’s land-use policies and an analysis of the various methods and measures used to enact such policies. This is not just an academic exercise, but a lesson as to what can and what cannot be accomplished at the local level.

Profile of Napa County

Napa County is part of the nine-county San Francisco Bay Area region (see Figure 1). It borders San Francisco Bay to the south and is surrounded by mountains on all other sides. In a larger sense, it is part of the California Coast Range, with elevations of up to 4,300 feet. The Napa Valley is a 30-mile-long river valley on the west side of the county, two to three miles wide at its northern end and seven

1Testimony by Larry Livingston, a well-known planner of Livingston-Blaine & Associates in San Francisco, before the Napa County Board of Supervisors in May 1993.
miles wide at the southern end. There are a number of smaller valleys in the central and eastern parts of the county. The fertile sections are relatively small: of the county’s a total surface area of 508,000 acres, approximately 36,000 acres are planted in grapes and roughly 250,000 acres are used for grazing. The best available estimates speak of a potential for an additional 20,000 acres of wine grapes, mostly on hillside lands.²

The combination of warm sunshine and the cold Pacific Ocean current flowing along northern California’s coastline produces an ideal climate for growing wine grapes. Vines were brought

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²This estimate was used in the Environmental Impact Report prepared for the Winery Definition Ordinance by the Napa County Planning Department, 1989.
Twenty-five Years of Farmland Protection

in by the earliest settlers who came to the Napa area around 1838. In the subsequent 150 years, the consensus in the industry is that the Napa Valley has become the top quality wine region in the United States and the only one considered to be equal to the great wine regions of France and Germany. The planted acreage has more than doubled in the past twenty years to the current 36,000 acres. From an economic standpoint, the total impact of the wine industry is close to $1.5 billion ($1.2 billion in wine sales alone plus the industry’s estimated effect on local economies) with a farmgate value of the wine grape crop at around $250 million.³

The population in Napa County early in 1998 was approximately 120,000 and is concentrated in the Napa Valley. Here, five cities—Calistoga, St. Helena, Yountville, Napa, and American Canyon—contain nearly 95,000 people, about 78% of the county’s total population.

The Choice Must Be Made: Agriculture or Urban Sprawl?

Napa County has been relatively successful in preventing large-scale conversion of agricultural land, but it has taken 25 years of intense land-use battles to establish and maintain practical defenses for the county’s prime farmland. These battles continue today; although people both inside and outside the Napa Valley may believe that the county is safe at last, the fact remains that this is a war that can never be “won.”

A convenient starting point for describing the political setting of Napa County is the passage of the California Land Conservation Act, or Williamson Act, in 1965. In simple terms, the Williamson Act allows the County Assessor to employ a use-value approach in determining the taxable value of agricultural property. In other words, the income potential of the agricultural activity becomes the basis for taxation rather than the speculative market value of the land. In return, the land owner signs a contract with the county, stipulating that he or she will not subdivide or develop the land for a minimum of 10 years.

Before property tax advantages could be passed on to the landowners, a county had to establish an agricultural zoning district. In Napa County, this required a substantive change in zoning policies. A debate arose over whether the county should experience considerable urban development as part of the Bay Area metropolis, as envisioned in many planning scenarios after World War II, or

³Napa County Agricultural Commissioner, 1998.
would be able to retain and protect its agricultural character. In November of 1965, the University of California Cooperative Extension Service organized a conference to analyze the economic future of Napa County, focusing on whether the county could “afford” to keep agriculture and successfully manage a growing urban population. The growth potential looked enormous: the county’s first general plan in January 1969 projected a population increase of nearly 200 percent to 216,000 by the year 2000.

A first step in the continuing struggle to resolve this debate took place in April 1968, when the Napa County Board of Supervisors created an Agricultural Preserve Zone comprising the entire floor of the Napa Valley. In a political compromise, the minimum lot size was established at 20 acres rather than the 40 acres originally proposed. Two factors contributed to resolving the issue: the burgeoning wine industry and the influx of property owners who, from personal experience, knew all too well the consequences of rapid urban development. What may seem a relatively mild land-use regulation today was at that time a revolution: to declare support for agriculture by imposing a 20-acre minimum lot size in areas that previously allowed a one-acre minimum was a major event in California. These changes were incorporated into the county’s general plan of January, 1969.

It is important to consider the political and social context in which the agricultural preserve emerged. The environmental movement blossomed and “slow growth” became part of the political agenda. City intellectuals were moving back to the country and becoming leaders of the movement. The first Earth Day was held in 1970 and the movement to save the California coast had begun.

Political choices reflected this new orientation. In 1970, the Board of Supervisors appointed a County Planning Director who had developed the first greenbelt and open space plan for the Bay Area. By 1972, Napa County elected two new supervisors who

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4 Among the many people who worked so hard for the agricultural preserve zone, a few must be singled out for special mention. Dorothy Erskine, who had a weekend home in Calistoga, founded People for Open Space (now known as the Greenbelt Alliance) in 1958 and worked diligently behind the scenes. Frederick Monhoff, a retired architect and Professor at the University of Southern California, founded UNVA (Upper Napa Valley Associates; now United Napa Valley Associates), a group of mostly newcomers inside and outside the developing wine industry committed to preserving the Napa Valley. Andrew Pelissa and Lowell Eddington represented the grape-growing community and Jack Davies, founder of Schramsberg Vineyard, represented the new vintners. These people provided the critical testimony in favor of the agricultural preserve during the public hearings before the Planning Commission and the Board of Supervisors.
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organized the first real environmental group in Napa: Napans Opposed to Wasteland (NOW). The elections of 1974 strongly confirmed the trend: two more conservation-oriented members were elected to the Board of Supervisors.\(^5\)

Developing a System of Agricultural Land Protection

**Zoning Decisions**

Zoning provides only a flimsy sort of protection. All it takes to change zoning decisions is a three-vote majority on any Tuesday, the day the Board of Supervisors meets. In 1968, concerned that too bold a move could trigger a backlash among the voters, the Board watered down the original agricultural preserve zone proposal in two important ways. First, it decreased the minimum lot size on the valley floor from the initially-proposed 40 acres to 20 acres, and second, it allowed a landowner to sell the farm and retain the home if the home parcel was one acre or larger. (In other words, a landowner with 21 acres could keep one acre plus a house and sell the remaining 20 acres. The new owner of the 20-acre parcel could also have a house, thus placing two houses on the original 21-acre parcel.) While these concessions weakened the protection of the valley, it is possible that without them the political foes of the agricultural preserve would have won, and vineyards would not exist in Napa Valley today. These zoning regulations were not changed for 11 years.

In February of 1973, the two conservation-minded supervisors elected a year earlier persuaded a third supervisor to vote for an emergency ordinance that increased the minimum lot size on the hills from 1-10 acres to 40 acres. This ordinance was revolutionary in 1973; at the time, only a small hilly area in western Marin County used for grazing was known to have a higher minimum (60 acres). The survival of this ordinance was assured when it received the backing of the two new conservationist supervisors elected in 1974.

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\(^5\)The two new supervisors, elected in 1992, John Tuteur and Ginny Simms, had previously organized the first real environmental group in Napa: Napans Opposed to Wasteland, or NOW. The organization did not survive after the elections, but its influence was felt for many years. The supervisors elected in 1974, both of whom served until 1982, were Dowell Martz and Sam Chapman. Also, the county had a stroke of luck when in 1970, the Board of Supervisors named James Hickey as County Planning Director. He remained in office for nineteen years, until a pro-growth majority on the Board of Supervisors forced him out. His professional skills, his vision, and his broad outlook were critical in shaping the county’s growth policies.
A group of "old-timers"—vineyard and winery owners—found the notion that the government could tell them what to do or not to do with their own land so threatening that they sued the county over the Agricultural Preserve zoning. They lost the suit, but to this day there is a vocal minority which considers this type of zoning unconstitutional and un-American. Although legally irrelevant, these sentiments are still important politically: they provide the breeding ground for political opposition to strict measures for agricultural land protection.

The General Plan’s Land Use Element

The two zoning decisions of 1968 and 1973 owed their inception to political courage and a general sense that "something had to be done" to prevent subdivisions and to protect agriculture. In 1975, the Napa County Planning Department gave its more formal blessing to this trend by developing the first Land Use Element of the general plan as required under state law. A summary plan was sent out to registered voters throughout the county, asking them to choose one of three levels of growth to be attained by the year 2000: (1) 115,000, (2) 150,000, or (3) 200,000 people. Text and maps explained in clear and simple terms the pros and cons of each scenario. The response was overwhelmingly in favor of the lowest population figure.

The Land Use Element received another boost from an unexpected direction. In 1973, the state legislature passed a law which required local zoning ordinances to conform to the jurisdictions’ general plans. This elevated the general plan to the level of a local land-use constitution, and every word in it suddenly had real meaning.

It is in this light that we have to appreciate the impact of the first goal of the new Land Use Element: "To plan for agriculture and related activities as the primary land uses in Napa County and concentrate urban uses in the county’s existing cities and urban areas.” The definition of “urban” is as follows: “The term ‘urban’ shall include any use, activity or development placed on a parcel of land that is not needed for the agricultural use of the parcel.” In practical terms, this meant that all ordinances which applied to subdividing were tightened, and that the 40-acre limit was reaffirmed and became part of the general plan. The general plan map now had two categories of agricultural lands, together comprising over 90 percent
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of the county: Agricultural Resource (AR), which included the floors of all the valleys—about 10 percent of ag lands—and Agriculture Watershed and Recreation (AWR), later changed to "Open Space" (AWOS), which included the rest of the ag lands.

The Need for Zoning and Parcel Size Regulation

In spite of the General Plan, the population reached 115,000 almost ten years before the 1975 Land Use Element's projected date of 2000. When the urbanizing effect of a continuous stream of tourists who visit the County annually (estimated at over five million in 1997) is factored in, it became clear to proponents of land preservation that the Land Use Element of 1975 was too weak.

Yet, many people had difficulty with the regulation. They could agree that protecting the vineyards was critical, but the 40-acre-minimum lot size on hillsides was harder to understand: it seemed such a huge area! Property owners who had counted on subdividing their land for their children found it particularly hard to accept.

Even after decades of public debate, people who have not personally experienced the consequences of smaller lot sizes remain unconvinced of the importance of maintaining large (e.g., 160-acre) minimum parcel sizes. Part of the problem, to this very day, is that people who live in rural areas often do not understand that, as California’s population continues to rapidly grow, development pressure will be at their back door. But rural dwellers often see the light once unexpected new development is proposed in their neighborhood. Even a strong property rights advocate can support tough land-use regulations when his or her own livelihood and lifestyle are being threatened.

The most recent confrontation took place in January of 1994, when a majority of the supervisors increased the minimum lot size to 160 acres in the areas designated AWOS on the general plan map. This action was heavily promoted by the county’s leading agricultural organization, the Napa County Farm Bureau. In 1991, the Bureau sent a questionnaire to all its members to gather input on this issue. The following is a summary of responses received:

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
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<tbody>
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<td>46%</td>
<td>25%</td>
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"Zoning that encourages the existence of large parcels is essential for the survival of agriculture in Napa County."

6Personal records and recollections of the author.
"We need the strongest possible protection for agricultural lands." 65% 23%

"In the interest of agriculture the number of residences built on agricultural land should be kept as low as possible." 52% 24%

During the hearing process, however, many individuals spoke against the 160-acre minimum, saying that it was too large, that it made it difficult to provide homesites for children, and that it would make it impossible for young people to enter the field of agriculture. These comments point to an inherent problem in solving the agricultural land conversion issue: the well-established "right" to build a house on any parcel of record.

Proponents of this view often fail to recognize—among other things—the incompatibility of urban and agricultural uses. Before they experience agricultural practices first-hand, newly-transplanted urbanites rarely anticipate the unpleasantness of being awakened in the night by wind machines or of finding sulfur blowing through their back yards (see Handel, Conflict on the Urban Fringe, in this collection).

**Parcel Size and Land Values**

Maintaining large parcels helps prevent urban sprawl into agricultural lands in two ways: it leaves open as much land as possible and it deters the casual buyer of the proverbial "house in the country." The enormous increase in the value of urban real estate has made country parcels close to urban centers much more attractive. It is relatively easy to move from a city lot and dwelling valued at $1.5 million to a 60-acre parcel valued at $500,000 in Marin or Napa County.

Land cost is a critical component of the cost of agricultural production: the larger the parcel, the less the unit cost per acre and the more economical the agricultural operation. The challenge exists in creating a market for agricultural lands that reflects the agricultural income potential alone. This can only be accomplished by restricting residential building on agricultural land, unless the
Twenty-five Years of Farmland Protection

A parcel is large (e.g., 160 acres) and cannot be further subdivided. Existing smaller parcels can still be bought and sold, thereby adding flexibility to the land market and providing opportunity to young farmers starting an agricultural operation and to retiring farmers liquidating their investments.

There is also a potential elitist effect of large-lot zoning that must be taken into account. The traditional rural population views the ongoing gentrification of the countryside with fear and suspicion. A large parcel becomes a symbol for wealth and power, and, although this is often a misperception, the political consequences are serious. Judging by the large number of parcels of all sizes that existed prior to the parcel size increase in Napa County, the large minimum lot size probably is more a symbolic than a real problem. For example, in January of 1994, according to the Planning Department, there were roughly 7,000 parcels in the AWOS area, about half of them with no residences in place. Only 894 parcels in the county are 160 acres or larger and fall under the new 160-acre minimum. In other words, many parcels are still available for house-building.

In fact, the total supply of buildable parcels in Napa County's unincorporated lands is over 8,000, many of which are under 10 acres. Because these smaller pieces are attractive to urban buyers, they sell for as much as $150,000 to $350,000 per acre, effectively removing smaller parcels from agriculture forever. By contrast, large parcels of good vineyard are sold for approximately $50,000 to $80,000 per acre.

Political Losses and Gains

The adoption of the 1975 Land Use Element was followed by a backlash in 1976, causing the conservationist supervisor representing the most conservative area of the County to lose her reelection bid. The election also impelled the two remaining members of the conservationist coalition of the Board to join the two conservative members in lowering the 40-acre limit on the hillsides to 20 acres. Subsequently, the county received a flood of applications to subdivide hillside acreage into 20-acre parcels.

The growing market for these "estate parcels" drove their value so high that agricultural uses—even vineyards—were no longer economically viable. In 1979 the Board reacted and, with a 3-2 vote, established a uniform 40-acre minimum for both hillside and valley parcels. In that same year, the Board created a planning framework for a fire-and-seismic-risk zone that would require a 160-acre minimum. The zoning was established, but it was never properly inserted into the general plan—an omission that was to
have long-term ramifications.

The 1980 supervisory election produced a pro-growth majority, temporarily ending any hope of using zoning as a conservation tool. That election also demonstrated, however, that no candidates, regardless of their platform, could openly argue against agriculture or the wine industry. Both had become sacred cows. The political debate centered around determining how to sustain agriculture, rather than openly proposing anti-agriculture alternatives. A common argument would begin, "We cannot rely on agriculture alone; what if the wine industry is in trouble?"

**Conflict Intensifies**

In 1981, the Board’s new pro-growth majority tried to create more flexibility for developers by employing a rather lax interpretation of the general plan. Ironically, they started out by reaffirming all the policies of the previous twelve years, which they had previously opposed. In one proposal, out of town developers, using offshore funds, wanted to cut up 1,250 acres in the Carneros region into 40-acre ranchettes, certainly allowable under the general plan. However, neighbors created such a storm that the proposal died on a 5:0 vote in 1981. (During the 1985 hearings on the proposed subdivision of a 4700-acre property, county counsel maintained that the 1981 decision would not have stood up in court and could not therefore serve as a guiding precedent for later Board decisions. This legal interpretation paved the way for the approval of numerous subdivision proposals up to 1993, that should not have been allowed, because they created economically nonviable agricultural parcels.)

The Board pursued its own agenda by allowing commercial development (e.g., bed and breakfast businesses) in agricultural areas. These incursions were sometimes hotly contested. When developers proposed a large restaurant and motel complex—Vintner’s Inn—to be built on agricultural land, an ad-hoc committee of grape growers joined the Napa County Farm Bureau in filing a suit against the County, arguing severe General Plan violations. The judge issued an injunction prohibiting the County from allowing any development within the watershed of the Napa River until the General Plan had been completed and found adequate by the Superior Court. This ruling recognized not only that the county had violated the Land Use Element but also that several elements of the general plan had not yet been completed.

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7The plaintiffs’ attorney, Vic Fershko from Napa, built such a convincing case that the judge issued the most comprehensive injunction against any development that has ever been issued against a county.
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The expert planner retained by Farm Bureau became, in effect, the judge’s advisor, reviewing the general plan and identifying for the court the specific issues that required revision. A most critical revision involved implementing the fire-and-seismic-risk zones (the 160-acre minimum lot size): the judge’s ruling required the county to insert language into the plan to implement this zoning regulation properly. This was a hollow victory, however; the new general plan language allowed a range from 40 to 160 acres in the AWOS, with the result that the minimum lot size remained at 40 acres. Larger parcels were only required under the most extreme circumstances, such as slopes over 30%. Subsequent attempts to clarify this language further—or simply to increase the limit to 160 acres—failed.

Ten years of conflict followed, embroiling nearly every subdivision proposal in the AWOS. Since county counsel took the position that the legal minimum parcel size was 40 acres, it required intense political pressure to convince the Board to apply the higher minimum. Not until the supervisorial election of 1992 produced a 4-1 slow-growth majority was action initiated that resulted in establishing the 160-acre minimum in AWOS areas. Unfortunately, by the time of the final vote in January of 1994, the supply of buildable parcels had reached huge proportions due to continuous lot splits over the years.

Countywide Initiatives

After the 1976 election, it became clear from a farmland protection standpoint that the zoning process was too slow, too difficult politically, and always a remedy after the fact. In line with the character of local government, zoning was more a response to an apparent crisis rather than a forward-looking measure that anticipated problems and thereby prevented them.

The local initiative and referendum process provided by the California Constitution gave Napa County conservationists a means of overcoming this obstacle, however. The building boom during the late 1970s and the constant stream of parcelization stimulated a more aggressive approach to agricultural land preservation. An environmental group, Citizens’ Council for Napa Tomorrow, became the nucleus for the first major countywide land-use initiative.

Measure A. Measure A was drafted in 1980.\(^8\) The initiative

\(^8\) The environmental group that drafted the measure, Citizens’ Council for Napa Tomorrow, benefited greatly from the active cooperation of Supervisor Dowell Martz and the critical legal guidance of attorney Vic Fershko.
stipulated that the population growth of the unincorporated areas could not exceed 1% annually. Control was maintained via the number of building permits issued in one calendar year. U.S. Census data for population figures and occupancy rates became the mathematical foundation for converting population growth into housing construction permits. Ironically, the initiative was approved by voters in November 1980—the year of the Reagan election, the most anti-environmental election to date, and the one which seated a pro-growth majority on the Napa County Board of Supervisors.

The initiative, which runs through the year 2000, was immediately attacked in the courts as being unconstitutional. After losing at the Superior Court level and in the Appellate Court, its opponents retreated. Development groups, however, succeeded in getting state legislation enacted that makes a renewal of Measure A extremely difficult.

The official reason for the anti-Measure A legislation was that slow-growth measures were designed to prevent needed housing construction, especially for the low-income population. In order to renew Measure A, it would be necessary to produce an analysis that would indicate that any local government, with such a measure in place, could meet all of its local and regional housing requirements. In fact, until 1996, the housing element of the Napa County general plan had been certified by the State Department of Housing and Community Development every time. It is currently not certified because the State refuses to allow Farm Labor Housing and rehabilitated units under the affordable-home category.

Measure A, an extremely comprehensive local-growth-control measure, required that its provisions be adopted as part of the county general plan. It gave the county nine months in which to complete the implementation process. Only the time frame for implementation was part of the initiative, however; state law now requires that the initiatives spell out the specifics of the implementation.\(^9\)

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\(^9\)Assuming that most of us are not planners and/or attorneys, it is clear that under these new circumstances citizen groups face a difficult task in crafting comprehensive, durable measures. Citizens who seek to enter the initiative process must usually obtain professional advice before attempting to place their initiative on the ballot. Initiatives that succeed at the polls are still subject to legal challenges, and a citizen group without sufficient resources to hire a skilled attorney to correct technical errors in the draft or to argue the case in court may be more likely to see the work of years dismembered in court than a group with the benefit of expert guidance. A case in point is the Walnut Creek Growth Control initiative that won the vote but was overturned by the California Supreme Court on technical grounds (cf. Lesher vs. City of Walnut Creek).
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*Measure J.* Measure A remains a bulwark against large-scale subdivisions until 2001 but the possibility for renewal is very remote and, in any case, it cannot protect against redesignation of agricultural lands on the general plan map. Another avenue for citizen action opened up in 1985 when Solano County voters passed their Measure A, enjoining their Board of Supervisors from redesignating agricultural land for urban uses for 10 years without a vote of the people. Since this initiative was never challenged in court, it provided a useful model for the citizen coalition that formed in Napa County after a pro-growth majority emerged from the November 1988 supervisorial elections.  

The San Francisco law firm of Shute, Mihaly, and Weinberger, hired by the coalition, spent several months and $35,000 to draft the “2020 Initiative,” later known officially as Measure J. The measure was based upon two key premises: (1) that the general plan, as it existed in 1989, was adequate and useful for protecting agriculture—it clearly separated urban and agricultural uses and established the goal of planning for agriculture as the highest and best use for the County’s unincorporated areas; and (2) that the Board of Supervisors, as a political body, could not be relied upon to prevent substantial urban development, especially when presented with proposals for land-use exceptions.

In effect, Measure J removes the supervisors’ ability to redesignate agricultural lands—AR and AWOS on the general plan map—without a prior vote of the county’s electorate. There are some tightly-worded exceptions to this, but they do not really change the essence of the measure. (Local Agency Formation Commission actions, such as the approval of annexations and extensions of city spheres of influences, are not subject to the measure.)

In November of 1990, the initiative passed by nearly a two-to-one vote and, at the same time, a slow-growth majority that favored Measure J was elected to the Board. In reaction, the Building Industry Association of Northern California and the Pacific Legal Foundation joined to file suit in Napa Superior Court against Measure J. The Board hired the firm that originally drafted the measure to defend the county.

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10The success of political moves depends more often than not on proper timing. When, in November 1988 the Board of Supervisors came under the control of a pro-growth majority, the time was right. The author of this paper was very familiar with the Solano County initiative and understood what needed to be done. He created a new citizen coalition that hired the outstanding land-use law firm of Shute, Mihaly and Weinberger, of San Francisco.
In court, the plaintiffs argued that the general plan, though required for a county or city, is a matter of "statewide concern." This concern, they maintained, is expressed through the legislative intent, placing the Plan and amendments to it beyond the control of the local electorate. The plaintiffs also insisted that it is illegal to bind future boards of supervisors via an initiative.

The Superior Court in 1992, the Court of Appeals in San Francisco in 1993, and the California Supreme Court in 1995 rejected the plaintiffs' arguments in strongly-worded decisions. The appeal to the California Supreme Court ended in a 5-2 decision in support of Measure J. The Court clarified once and for all that the local electorate has the right to pass general plan amendments and bind future Boards of Supervisors. Additionally, the Court ruled that the 30-year limitation built into Measure J was not relevant—voters have the right to decide these land-use matters indefinitely. The decision reaffirmed that land use in California is a matter of local control and therefore subject to local initiative and referenda.

Policy Tools Evaluated

Initiatives, as discussed above, are—in this author's opinion—the best political tools for preserving agricultural lands and maintaining their current function that are available to the citizens of California. The initiative process gives dedicated activists the political means to place their own land protection agenda before county voters. Still, we need to be aware that, by its very nature, an initiative can only cover a small detail of larger reality. For example, Measure J prevents the Supervisors from allowing large scale land conversion; however, if cities want to grow and they obtain the necessary approval from LAFCO, Measure J becomes useless because it cannot protect against annexations.

The zoning framework created by the general plan does protect agricultural land. Despite its shortcomings, zoning has been a relative success in Napa County. Its usefulness has probably been exhausted in the AWOS areas, however; only in the AR areas (Agricultural Resource, the valley floor areas of the county) would an increase to a 160-acre minimum prevent further subdividing.

The Williamson Act, by contrast, has had only a minor impact on Napa County. Currently, only 64,000 acres out of 425,000 acres of agriculturally-designated lands are under contract. Of the 64,000 acres, 51,200 acres (80 percent) are grazing lands and the remainder are vineyards, only about 35 percent of total grape acreage in the County. Since the tax reduction applies to the land only and not to expensive improvements such as trellis systems or
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ponds and irrigation systems, vineyard owners have not greatly benefited.

Additionally, under the use-value system, the higher the crop value, the higher the taxable value—and wine grapes in Napa County are among the most highly valued of agricultural commodities. These factors contribute to negligible tax reductions for productive vineyards under this Act (although it is still an issue if the land was recently acquired, thus causing a high “factored base year value”). In effect, the changes brought about by Proposition 13 have eliminated the property tax as a real or perceived threat to agriculture.

The Williamson Act does, however, provide substantial tax benefits for undeveloped hillsides. Although officially classified as grazing land, hillsides may instead be owned by real estate speculators who profit from the tax reductions as their land rises in value. In Napa County, it is debatable whether the Williamson Act has truly helped to protect agricultural land or has simply provided a tax break to landowners who may or may not be involved in production agriculture.

Conservation easements have not become a major land preservation tool in Napa County. The Napa County Land Trust has accepted donations of open-space easements on several hundred acres of important vineyard lands and controls the development rights of about 10,000 acres of land countywide, but it lacks the resources to purchase conservation easements outright. The limited tax benefits rarely provide sufficient incentive to landowners to donate such easements. Nor has buying conservation easements been a viable option for the county; in 1992, voters had an opportunity to approve an extremely modest tax to finance the acquisition of open-space lands by purchasing easements but the proposal lost 3-1. (Of course, the timing of this initiative could not have been worse because the severe economic slump was not conducive to raising any taxes, no matter how small.)

All in all, the two most effective tools in Napa County’s continuing effort to protect agricultural lands have been the general plan with its zoning component and the initiative process.

Problems in the Future: An Interpretive View

Urbanization is almost always an irreversible process: once land has been developed, it is effectively lost to agriculture for all time. Whether agricultural production will continue in Napa County—and in California—will be one of the great political debates
of the future. The sheer volume of worldwide wine production makes the contribution from Napa’s acreage comparatively inconsequential, providing fuel for the argument that desperately needed housing could be built here and wine imported from Europe.

If, however, we decide that agricultural production is necessary and desirable in Napa County, then policy questions should become easier to resolve. For example, it makes little economic sense to allow 5- or 10-acre minimum lot sizes in agricultural areas, nor should urban uses on any agricultural lands be allowed. Further, each jurisdiction can no longer continue to plan as if it existed in a vacuum, separate and independent from all other communities. Finally, we must realize that initiatives, by their very nature, can apply to only a small part of the whole issue. Measure J, for instance, prevents the Board from allowing large-scale land conversion but it cannot protect agricultural land from annexation by growing cities which have obtained the necessary approval from LAFCO. Only if LAFCO is controlled by slow-growth advocates can we be assured that cities will be encouraged to practice infill rather than allowed to expand into agricultural lands.

A number of serious problems must be addressed if agriculture is to survive in this county. Future land-use decisions will be affected by the issues of population growth, the parcelization of agricultural land, biological threats to the wine industry, and considerations of inheritance.

Population Growth

Between 1968 and 1997, the population of the City of Napa grew from about 34,000 to 63,000. Countywide, since 1970, growth has averaged over 2% per year, reaching approximately 120,000 today (India’s growth rate is only slightly higher). Compared to many other cities and counties in California, this is not extreme; however, unincorporated areas are threatened by the annexation power of the five cities (which are becoming increasingly surrounded by vineyards along the Napa River corridor). To contain these cities would require infill policies and an eventual halt to annexations. When and if this point will be reached is difficult to determine. The general plans of the five cities show tremendous infill potential and, in some cases, the cities could grow beyond their urban boundaries into non-agricultural areas. For example, on the east side of the City of Napa, there are over 3,000 acres of unincorporated land which are zoned residential. However, if the city annexes that land, it will not be available for the county to use to fulfill its housing requirements, which brings up yet another obstacle.
Over the years, the State Legislature has steadily moved in the direction of forcing all jurisdictions to accept a "fair share of housing." This "fair share" is calculated by regional agencies, such as the Association of Bay Area Governments (ABAG), on the basis of population forecasts provided by the State Department of Finance. Although the State cannot force a county or city to build houses, it can, under certain circumstances, withhold state fiscal aid. The real issue, in this context, is that all jurisdictions, however small, must draft a growth plan. This growth plan is documented and becomes an action plan through the housing element of the General Plan.

The question of where these houses should be built therefore arises and the answer, too often, is, on agricultural or other open-space lands. Cities tend to be built on level ground with productive agricultural land around their perimeters. In many areas, preserving these lands is apparently not an issue, since there are farmers eager to sell and communities eager to grow. However, given cities such as St. Helena or Yountville, surrounded by outstanding vineyards, how can this mandated growth be accommodated? I believe growth and agriculture are on a collision course; however politicians and others, still adhere to the illusion that both are possible.

Parcelization

Another threat to agriculture is continuing parcelization, the subdividing of agricultural land discussed earlier in the context of planning and zoning. In addition, the California Supreme Court and the State Legislature have created a monster called a "Certificate of Compliance." This is a process by which antiquated subdivisions, many of which go back to the 19th century and have been long forgotten, can be legalized, regardless of the existing, legally valid plans for an area. This has resulted in the creation of many new substandard parcels in the middle of agricultural lands. Fortunately, the legislature passed, and Governor Wilson signed, a district bill (AB 1527) for Napa County agricultural lands that eliminates the possibility of resurrecting antiquated subdivisions on these lands.

The practical consequences of parcelization can be observed from the real estate ads in Napa County newspapers. Five-acre parcels are valued between $150,000 and $350,000 per acre since they are so readily adapted to residential use, while producing vineyards go for $50,000 and $80,000 per acre. This illuminates a basic truth: matter how high agricultural land values climb (in Napa County, they are among the highest in the United States), residential, commercial, and industrial uses can increase land values well beyond the point where agricultural profit margins can compete.
These five-acre parcels can become homesites in the middle of agricultural land; frequently, they are purchased by urbanites who "love the vineyards" and subsequently complain that normal agricultural practices are "too loud" or "dangerous." Although a right to farm ordinance is on the books in Napa County, it is only a band-aid. Public officials and politicians must respond to these complaints, and no ordinance can prevent the filing of a lawsuit. (See Handel, "Conflict on the Urban Fringe," in this collection.)

**The Threat of Grape Diseases**

Another problem that clouds the future for agriculture in Napa County is a specific wine industry concern. Diseases such as Phylloxera, a tiny insect, and Pierce's Disease, an insect-borne bacterium, are capable of destroying thousands of acres of vineyard. These problems can and will be solved, but in the process some landowners will sell land to development for needed income. This traditional method by which farmers generate cash flow induces further residential parcelization and weakens the overall agricultural environment.

**Inheritance**

Finally, we should address the issue raised when children inherit valuable agricultural land. Though it is difficult to produce precise figures, the inability to pay estate taxes frequently leads to subdividing the farm or to selling the whole enterprise. When land values reach exorbitant heights, as in the Napa Valley, and growers are competing with wealthy individuals who consider it fashionable to live in the Napa Valley, few farm families survive estate taxes without subdividing or selling.

**Conclusion: Finding Solutions**

**State Responsibilities**

After observing and working with local government for over 25 years, I am convinced that substantive agricultural land protection needs to be provided by the state. Before we can hope to protect Napa County's agricultural land, we need a statewide, comprehensive planning effort that recognizes the central importance of agriculture for society. Competing uses for agricultural land must also be restricted at the state level, for agriculture cannot compete on
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economic grounds. Only when the state recognizes the need to protect agricultural land will we find long-term solutions.

This does not mean the state should be involved in local details, but it must establish policies which will insure land-use patterns which protect agriculture and other open space land. In reality, the state already has legal authority over the most critical areas. For example, annexations are undertaken on the basis of legislation mandating LAFCOs in each county. But state law currently contains no real protection against annexing agricultural land and converting it to urban uses.

The provision of housing also comes under state control. While sufficient low-income housing must be constructed, it makes no planning sense to force county governments—which administer mostly open lands—to build houses when these homes would be better situated in urban areas where services are located. At the very least, agricultural land should be explicitly exempted from any housing requirements.

There are other critical areas over which the State has control, but does not exercise it, to ensure agriculture’s survival. For example, state water laws fail to insure that the ground water underlying a given agricultural area will be available for agricultural production on that land. The legal framework that made the Owens Valley disaster possible is still the law of the land. The importance of this issue was demonstrated to the Napa Valley five years ago when the City of Napa attempted to drill wells on agricultural land for urban uses 15 miles away. This was only prevented through pressure brought by grape growers on other growers who stood to profit from the drilling. In short, state law should prohibit the separation of land and the underlying ground water.

Finally, the very way in which agricultural land is defined contributes to its demise. By hammering away at the distinction between “prime” and “non-prime” lands, pro-growth organizations have succeeded in classifying huge amounts of critical cropland as unimportant.

County Obligations

Although Napa County is a microcosm of the entire state in many respects—in population growth, urban sprawl, and gridlock as well as in threatened agricultural land—it is very different in one important respect. No other county in the State depends economically upon a single agricultural commodity to such an extent. Even Napa’s tourist industry, which contributes $350 million to the economy, depends on the wine industry. If subdivisions were to
replace vineyards, tourists would no longer flock to the Napa Valley.

It follows that Napa County must be especially vigilant in protecting its agricultural assets against the effects of population growth and parcelization. While population growth cannot actually be controlled, it can be channeled. Napa County’s population has increased by 45% since 1970 without significant loss of agricultural land, which shows that good planning, together with enlightened politics, really can contain growth for quite some time.

The ultimate solution would be to ban residential building on agricultural land altogether, something many European countries have done for a long time. The next best way to do this indirectly is to establish a sufficiently large minimum parcel size. Unfortunately, the resistance of landowners remains so strong that, in combination with development interests, they generally find a way to prevent parcel size increases.

This points to a key problem: the structure of local government. Local politics is driven by individual proposals, and the Supervisors merely react to each proposal brought before them. Rarely do Supervisors take charge and move the County in a defined direction according to a well-thought-out plan.

Finally . . .

In the final analysis, we need a comprehensive planning effort that recognizes the central importance of agriculture for society. Furthermore, we need to abolish competing uses from agricultural land in order to prevent competition that always ends in the demise of agriculture. It may be stating the obvious, but this comprehensive approach has never gone beyond pious declarations by politicians. Therefore, planning remains not a comprehensive effort to anticipate problems and find solutions, but rather an ad-hoc activity responding to political pressure.

“The Napa County Story” could serve as an example for saving agricultural land through intelligent planning, politics, and sheer hard work. Those of us who live and work in Napa County and are passionate about agriculture, feel strongly that ours is an important example to be studied and followed. Above all, the message we would like to convey is this: protecting agricultural land, California’s most productive resource, from those with a different vision is a job that never ends. It requires dedication, a high level of realism, and constant, tireless vigilance; after all, agricultural land can always be converted to housing, but housing never returns to agricultural land.
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References


Napa County Conservation Development and Planning Department. Staff reports and *Napa County General Plan*.

Chapter Seven

MALT: THE LAND TRUST EXPERIENCE IN MARIN COUNTY

Phyllis M. Faber

The Marin Agricultural Land Trust (MALT), established in 1980 in Marin County, was the first land trust in the nation whose exclusive purpose was to safeguard agricultural lands. In the face of rapid population growth after World War II, both newcomers and longtime residents in Marin County sought to protect farm and ranch land from conversion to other purposes by obtaining and managing conservation rights or development easements. This paper tells MALT's story, describing the social, political, and economic factors that guided its inception and led to its success.

In 1980, the Marin Agricultural Land Trust (MALT) was established. Land trusts have been growing in favor as a way to preserve resources over long periods of time or in perpetuity, but MALT was the first land trust in the nation founded for the sole purpose of protecting agricultural lands. That a such land trust could be created at this time and place is due in large part to the uniquely close relationship that developed between the ranching and environmental communities in Marin County. By the end of 1997, MALT had protected the agricultural potential of 25,444 acres of land in perpetuity, about 22 percent of the county's agriculture lands. The events, efforts, and singular characteristics of Marin County that led to founding MALT are presented here.

Physical Setting

Approximately one-third of Marin County's 336,000 acres are presently in agriculture. The county is surrounded by water on two sides: San Francisco Bay along its eastern coastline and the Pacific Ocean on its western coastline (Figure 1, page 129). Marin County's major cities are located in the eastern urban corridor near the eastern bay shoreline fringed with tidal salt marshes, while
undeveloped ocean-facing foothills, bays, lagoons, and beaches occupy the Pacific coast to the west. Agricultural lands cover the rolling hills in the north-central and western parts of the county.

Marin County's long coastline moderates its Mediterranean climate and summer fog extends the grass season to provide favorable grazing. Marin's grazing lands are considered some of the best in California. Since fresh water is scarce, ranching operations often develop their own sources from small dams and spring-fed wells. The lack of water historically has delayed major development efforts for West Marin.

Background

Population Growth

Until the Golden Gate Bridge was completed in 1937, Marin County was inaccessible from San Francisco except by boat. The county's population didn't begin to increase rapidly until after World War II, when many servicemen who had been routed through San Francisco returned to settle in eastern Marin where suburban housing was still inexpensive. By 1970, the population reached 205,000 and was projected by the Bay Area Simulation Study (BASS) to rise to 390,000 by 1990—nearly doubling in only 20 years (Marin County, 1971).

Over the years, however, a strong environmental community was developing. Among its first successes were the elimination of billboards from the county. The politically-oriented Marin Conservation League was instrumental in helping to establish a long-range planning department within the county government; in fact, the group actually funded a planning consultant for the county to do the background work for a zoning ordinance. Due in part to county-wide policies that strongly encouraged development within the urban corridor and also to a shortage of fresh water, the 1990 population was confined to around 242,000 (Marin County, 1997).

The Place of Agriculture

Until the late 1960s, agriculture was the largest industry in Marin County. From the early days, Marin provided first butter and cheese for San Francisco and later, with refrigeration, its milk. Today the county ranks thirteenth in California in the production of dairy products (California DFA, 1997). In addition, its prime coastal grazing lands support thriving, though less significant, beef and
sheep industries. The relative importance of agriculture’s contribution to the county’s economy declined in recent years as large corporations such as Fireman’s Fund, Lucas Films, and computer software companies established themselves and assumed economic prominence.

In the 1960s it looked as though Marin County’s agricultural industry was on its way out for different reasons: it would be replaced by suburban development, the same fate that had befallen the Santa Clara Valley south of San Francisco. When the Federal Government created the Point Reyes National Seashore for public recreation in 1962, language in the enabling legislation sought to preserve existing ranches and provide leaseback arrangements, but the viability of ranches is always less secure when the future is uncertain. And uncertain it was: A master plan adopted in 1967 by West Marin envisioned a city of over 100,000 at the south end of Tomales Bay and the number of dairies in Marin County dropped from 150 in 1950 to fewer than 100 in 1970, almost none of them in East Marin (Hart 1991). An air of hopelessness and inevitability pervaded the industry. Ranchers hesitated to put money into maintenance or improvements; their children hesitated to stay on the ranch as a career choice.

A Changed Vision

In the early 1970s, after 20 years of rapid growth and conversion of agricultural land to suburban uses in East Marin, the course of development began to change. In keeping with the new environmental awareness sweeping the country, Marin County residents began to promote a vision of planned growth, one with a strong environmental ethic. This vision was supported by a new majority on the County Board of Supervisors with the 1972 election of Gary Giacomini, who represented West Marin. It was articulated by the county’s long-term planning department in a document romantically entitled Can the Last Place Last? (1971). Figure 1 shows how the three areas into which the County was divided for planning purposes follow natural topographical boundaries: there is an eastern urban corridor nearest to San Francisco Bay, a rural inland corridor separated from east Marin by hilly terrain and winding roads, and a coastal recreational corridor consisting of the Golden Gate National Recreation Area and the Point Reyes National Seashore. A newspaper summary of the document went to all county residents.

Three bold strokes for agriculture followed over a short number of years. First, the 1971 plan changed the county’s vision for
West Marin. The earlier 1967 plan included a city of 100,000 at Point Reyes Station and a residential development density of one or two houses per acre in West Marin, potentially disastrous for agriculture. The 1971 plan changed the zoning for agricultural lands in the inland rural and coastal corridors to A-60 (one house per 60 acres). Though 60 acres seems small for a viable dairy or ranching operation, it was deemed the largest zoning unit politically achievable at that time.

The second stroke was the passage of Proposition 20, a State of California initiative measure known as the California Coastal Act of 1972. Its strong pro-agriculture policies severely limited any conversion of agricultural lands in the coastal zone. Marin voters strongly supported Prop. 20 with the second largest percent vote of any county in the state (55 percent). Subsequently the California Coastal Act of 1976 was passed which mandated each coastal jurisdiction—city and county—to develop a Local Coastal Plan (LCP). After approval by the California State Coastal Commission, the LCP would be incorporated into its jurisdiction’s general plan. Marin County’s LCP was adopted in 1978; it is interesting to note that a number of other jurisdictions are still negotiating their LCPs.

Thirdly, in 1976, voters in Southern Marin voted to support a reliance on in-county water supplies rather than on water imported from neighboring Sonoma County’s Russian River. This provided another breather from the likelihood of any major development in water-short West Marin.

The ranchers’ confidence and trust in the future began to return, significantly aided by expressions of strong support for agriculture coming from county government and from groups comprising the environmental community. The county’s support went well beyond words as the following two examples illustrate. In 1973 a zero-discharge requirement was imposed by the state’s Regional Water Quality Control Board on West Marin dairies. The county assisted ranchers in waste-containment control by paying 25% of the cost of constructing their ponds. A second example occurred during the severe drought of 1976-77, when many dairies had inadequate water supplies for their operations. The county came to their aid by paying part of the cost of hauling water to farms. In that same year, environmental groups flocked to Sacramento to testify in support of an emergency milk price increase. Ranchers had never experienced such public support on their behalf, particularly from environmentalists.
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Figure 1: County Planning Areas, MALT Easements and Communities in Marin County

Table 1: Trends in Population and Agricultural Characteristics for Marin County, 1959-97

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<tbody>
<tr>
<td>Population</td>
<td>141,700</td>
<td>177,400</td>
<td>207,600</td>
<td>211,500</td>
<td>222,515</td>
<td>226,968</td>
<td>238,500</td>
<td>242,200</td>
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<tr>
<td>Number of Farms</td>
<td>377</td>
<td>289</td>
<td>263</td>
<td>250</td>
<td>274</td>
<td>285</td>
<td>260</td>
<td>276</td>
</tr>
<tr>
<td>Acres in Farms</td>
<td>227,450</td>
<td>172,885</td>
<td>175,030</td>
<td>148,893</td>
<td>165,935</td>
<td>167,590</td>
<td>168,879</td>
<td>149,663</td>
</tr>
<tr>
<td>Average Farm Acreage</td>
<td>603</td>
<td>598</td>
<td>666</td>
<td>596</td>
<td>606</td>
<td>588</td>
<td>650</td>
<td>542</td>
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<tr>
<td>% County in Farms</td>
<td>68</td>
<td>52</td>
<td>53</td>
<td>45</td>
<td>49.6</td>
<td>50</td>
<td>50.6</td>
<td>*</td>
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<tr>
<td>Number of Farms By Size:</td>
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<tr>
<td>0-499 acres</td>
<td>231</td>
<td>173</td>
<td>161</td>
<td>150</td>
<td>164</td>
<td>178</td>
<td>153</td>
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<tr>
<td>500-599</td>
<td>64</td>
<td>55</td>
<td>35</td>
<td>40</td>
<td>46</td>
<td>41</td>
<td>40</td>
<td>*</td>
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<tr>
<td>1,000 acres or more</td>
<td>82</td>
<td>61</td>
<td>67</td>
<td>60</td>
<td>64</td>
<td>66</td>
<td>67</td>
<td>*</td>
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Sources: U.S. Department Census of Agriculture; Marin County Planning Department.

*not yet available
The 1970s saw strong inflationary pressures on land values, particularly in East Marin County. There, houses that had sold for $25,000 in 1960 were going for $250,000 or more just ten years later. A 300-acre ranch in West Marin cost no more than a lot in the exclusive East Marin community of Belvedere. Many residents felt that it was only a matter of time before developers reduced the large ranches "over the hill" in West Marin to 60 acre rancholettes, destroying their agricultural viability, and individuals would buy ranches in West Marin rather than homes in the urban corridor.

The main issue for agriculture in the 1970s was how to establish a stable future. Many questions needed to be answered before practical plans could be pursued. If the agricultural industry is to survive, is there a minimum number for ranches? Is there a threshold below which failure is likely? The dairy industry requires sufficient production to make milk collection worthwhile for a creamery, and there must be enough dairy business to permit farm suppliers and farm equipment repair businesses to thrive. How many more farms could be lost before the industry's infrastructure would collapse? And if suburbia moved into farmland, would the conflicts that invariably arise over an assortment of issues drive out the remaining agriculturists? West Marin farm families in particular maintain the customs brought with them from Switzerland, Italy, and Portugal—their is a very tight community, both socially and culturally. What kinds and degrees of certainty are necessary to keep a community intact?

One way of halting the conversion of ag lands and securing a more certain future for ranching communities is to remove the development potential from the land. Some partial solutions—the Williamson Act and zoning restrictions, for example—offer temporary protection. The Williamson Act of 1965 reduced development pressure by lowering taxes on lands in county-designated agricultural preserves in return for a 10-year contract prohibiting land conversion. Ten years, though not permanence, can at least serve as a staying action. Zoning offers less protection since a single vote at any Board of Supervisors meeting could be sufficient to reverse an A-60 designation to A-1 or A-2. It was clear to Marin County activists that a more permanent solution must be sought.

The Search for Certainty

In 1978, the first steps were taken on the quest for certainty that led, two years later, to the founding of the Marin Agricultural
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Land Trust. That spring, the author—then the president of the Environmental Forum, a grass-roots group with a membership of about 100—worked with a dairyman’s wife and conservationist, Ellen Straus, to organize a series of visits to local ranches for Environmental Forum members. These were held at a different ranch each week and comprised a tour of the ranch conducted by the owner and a glimpse of the overall operation: what grew on the ranch, what the land was like, and what problems were encountered in working the land. Popular and well-attended, these tours offered environmental activists an opportunity to see the ranches first-hand, carry on discussions with the ranchers, build informal alliances, and gain greater understanding on both sides.

The success of this venture and the interest it aroused in the community set the author and Ellen Straus on a search for a realistic way to protect ag lands. After sifting through many sources of ideas and opinions that summer, we arrived at the San Francisco offices of The Trust for Public Land (TPL), a national organization devoted to land conservation. TPL staff members assured us that a land trust could be formed and could provide the certainty they sought: “A land trust that places conservation easements on the land is what you need and we can help you develop a program.”

That fall, TPL representatives came to Marin County to make a presentation to local officials regarding the nature of a land trust program, its benefits and limitations.1 Conservation easements, they explained, permit ranchers to be paid cash for their development rights, one of many rights that run with ownership of land. In return, ranchers give up their right to subdivide the property and it will be dedicated to agricultural use in perpetuity. For example, a rancher who owns a 300-acre ranch under A-60 zoning can subdivide the land into five 60-acre building sites. Once a conservation easement has been executed, however, those 300 acres cannot be further subdivided. They remain in a block, forever reserved for agricultural purposes. After the transaction is complete, the land trust holds title to the conservation easement, the rancher has received the cash, and the land remains on the tax rolls at its agricultural value. The latter is an important consideration for a county already half in state or federal ownership because it ensures tax revenues for continued support of schools, roads, and social services.

1 Present at this meeting were the supervisor from West Marin, Gary Giacomini; the chairman of the planning commission, Jerry Friedman; the president of the Farm Bureau, Bob Parks; the chairman of the Farm Bureau land use committee, Ralph Grossi; and the two citizens who initiated the effort, Ellen Straus, dairyman’s wife and conservationist, and Phyllis Faber, wetland biologist, teacher, and president of the Environmental Forum.
This first meeting was marked by interest mixed with some skepticism from the Marin County contingent. Over the next several months, for reasons to be discussed later, the interest grew into real support.

Protecting Land with a Land Trust

Local land trusts are proven, effective tools for acquiring and managing land or water resources. While they vary in geographic scale and the type of land they seek to preserve, they are usually private, community-oriented, nonprofit, tax-exempt organizations that seek to preserve resources through the acquiring of legal interest (development rights) on the land. These “conservation easements,” as they are usually called, preserve the resource or—in some cases—provide access to meet local open space and recreational needs. They can also provide long-term stewardship of important resources such as farmlands, park lands, or forests, and are recorded on land deeds. The land trust holds title to the conservation easement. [For further details on California land trusts, see Vink, Farmland Conservation in the Private Sector, in this collection.]

With its direct connection with a specific resource or known site, a local land trust can function as a community focal point to develop extensive public awareness of, and support for, the concept of better resource stewardship. Further, a local land trust can often maintain the tradition of private land ownership that is so important to small communities. Though not a substitute for public-sector resource management and land-use controls, the most vital role of agricultural land trusts may be that they can provide greater certainty than can be achieved through the zoning process since easements can be written in perpetuity and are recorded on land deeds.

Forming an Agricultural Land Trust

If timing is everything, then in 1978 the stars aligned themselves in favor of forming a land trust in Marin County. In that year, the County’s planning department was preparing the Local Coastal Plan for Marin County as mandated by Prop. 20. Under consideration was a plan to down-zone agricultural lands in the narrow coastal zone from A-60 to A-120 or A-160—effectively reducing the resale value of that property—while inland properties would remain at A-60. At the same time, the small group of county officials and farm bureau leaders who had met with TPL were seriously considering the notion of creating an agricultural land trust. After poring
over conservation easement case studies prepared by TPL which showed that ranchers could benefit long-term by selling their development rights, they concluded that establishing a voluntary land trust for all the ranches in Marin County would provide a more equitable, less conflictual alternative to trying to down-zone only the coastal ranches under the coastal planning process.

Land trusts can be formed under the auspices of local citizen groups, agencies, and/or governments. Land trust proponents in Marin County considered the options open to them, beginning with the existing Marin County Open Space District. Established in 1973 and governed by the Board of Supervisors, this body receives county tax money to purchase and maintain open space. It might have been a logical place for an agricultural land trust if not for two obstacles: First, the focus of the Open Space District is relatively narrow, operating primarily in East Marin where it functions to preserve ridge lines as corridors between urban centers. Second, those constructing the land trust felt it to be essential to form the organization independently of county government, historically mistrusted by ranchers, and see that it was governed in part by ranchers. This way, the distinction between open space and agriculture could be fully recognized and respected without the threat of government involvement that might confuse the two.

Accordingly, the Marin Agricultural Land Trust (MALT) emerged in July of 1980, with TPL’s encouragement and blessing, as the first fully dedicated agricultural land trust in the nation. Now a program was in place in Marin County that could protect the agricultural use of land in perpetuity. Those who helped craft MALT hoped this would be a major step forward for agriculture. The board of directors was carefully selected to represent the community as broadly as possible. Of the 15 seats on the board, ranchers occupied eight, the county supervisor from West Marin one, and environmental and business interests the remainder. The doors opened for business with no staff or money but with lots of hope (Hart, 1994).

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2 Original board members for MALT when the doors opened with the sector of the community each represents:
Ralph Gross, president of the Marin County Farm Bureau and dairy rancher; Willie LaFranchi, dairy rancher; Al Ponda, dairy rancher; Ellen Strauss, dairy rancher; Earl Dolcini, dairy rancher; John Zimmerman, beef rancher and veterinarian; Rod Martinelli, attorney (representing many members of the agricultural community)
Don Rubenstein, attorney (Coastal Conservancy with understanding of land trusts and easements); Phyllis Faber, environmentalist; Gary Giacomini, Supervisor, 4th District. A few months later, this body was joined by Crawford Cooley, rancher and businessman.
The MALT board developed a model conservation easement as a first step. This model does not attempt to address agricultural viability or such issues as appropriate parcel size for a given type of agriculture. Its intent is to spell out what may not take place on a conservation easement by, for example, prohibiting subdivision of parcels in perpetuity, placing limitations on building construction, and prohibiting degradation of resources. It allows for change by not specifying particular agricultural uses but requires the land to be reserved for some kind of ag use into the future. The MALT program can and does work for ranchers who want to expand or rearrange holdings to improve or diversify their operation. On occasion, it has facilitated the return of land previously sold to non-farmers to agricultural uses. The easement attaches to the land, not to the landowner.

MALT is a voluntary program, directed by the individual circumstances of a landowner. Briefly, the process for establishing a conservation easement is as follows. Landowners initiate the process by presenting an application to MALT. MALT arranges for an independent appraisal to be made of the current market value of a property. The board then weighs the proposed project against its programmatic goals and criteria, considering the following guidelines:

- Present agricultural and economic productivity of the property.
- Potential agricultural productivity of the land given its soils, topography, water resources, etc.
- Economically significant agricultural facilities on the property.
- Size of the property.
- Effect of conversion to non-agricultural use of the property on adjacent or nearby properties in agricultural use.
- Immediate threat that the property may be converted to non-agricultural use.

A Slow Beginning

Despite the enthusiasm of its founders, MALT did not immediately become a force for providing a secure future for Marin County agriculture. The program’s slow start can be attributed
MALT: The Land Trust Experience in Marin

primarily to two factors: the perceptions of the ranchers and a lack of sufficient funding.

Winning Over the Ranchers

Ranchers did not line up at MALT’s door at the outset. Many were concerned that selling development rights would limit their current and future options and some felt that it would reflect poorly on their reputation amongst peers if they entered into an agreement with MALT (“only failures would need the money”).

The first completed project did indeed involve a family that had considerable debt. Only when a well-respected rancher (and former board member) used the easement money both to resolve his sibling’s interest in the family ranch and to acquire an adjoining ranch, did the ranching community consider MALT other than an aid to failing farmers. From that point on, selling development rights became an acceptable option to most Marin County ranchers. By 1988, there were easements on over 11,000 acres, about nine percent of the 125,000 acres of private agricultural land, acquired either by purchase or by donation to MALT.

The funds that became available in 1988 through Proposition 70 gave the program a large boost and attracted many mainstream ranchers for the first time.

Funding Sources

The California Coastal Conservancy, created in 1976 as a companion agency for the California Coastal Commission, was interested in implementing a Coastal Act policy to preserve coastal agriculture. The Coastal Commission could deny a particular development on these lands if the findings were not satisfactory, but long-term protection was left to its sister agency, the Coastal Conservancy. In Marin County, the newly-formed MALT provided the Conservancy with an ideal mechanism for protecting agricultural land and, in this context, the Conservancy gave MALT its first major grant in 1984: $1 million for easement acquisition. This was matched by a $1 million grant in the same year from the Leonard and Beryl Buck Trust Fund, administered by the San Francisco Foundation. Also in 1984, the County Open Space District signed an agreement to make ten percent of their annual acquisition budget available to MALT for easement acquisitions. This agreement addressed the fact that open-space acquisitions were entirely focused in East Marin, yet taxes were collected countywide.
In 1988, California voters passed Proposition 70, a large park, wildlife and farmland preservation bond measure. Marin County received $15 million to preserve agricultural lands in the coastal zone and inland rural corridor. By signing an MOU (Resolution 88-298), the county empowered MALT to make grants for conservation easements totaling.

The funds provided by Prop. 70 money gave MALT’s image a significant boost and enhanced the potential certainty for agriculture. Ranchers from all over the County applied. Today the $15 million has been spent or committed and about 25,000 acres (about 22 percent of the total private farmland in the County) are protected by easements. There is now a waiting list of ranchers wanting to enter into easement contracts as soon as MALT has more funds available.

During the years of MALT’s operation, land prices have escalated dramatically. For example, in 1980, the average easement price was $450 per acre, about 40 percent of land market value. In 1998 the average price for easements is a $1000—still about 40 percent of land market value.

Questions Remaining to Be Answered

How Does the Public Benefit?

Much of the money used to acquire easements has been public funds, yet the benefits to the public do not include access to land under conservation. Most ranchers are generous about allowing people to make arrangements for visits or hikes on the land, but an unrestricted “open door” policy to ongoing agricultural operations would be risky for both landowners and visitors. Ranches are not parks; accidents can happen to people unaccustomed to the animals, equipment, and conventions—such as closing gates and staying out of barns—that are necessary to running a ranch. Given the growing likelihood of liability suits in our litigious society, MALT makes no effort to gain unrestricted access to land held as conservation easements.

MALT does acknowledge its responsibility to the public by making an effort to host special tours and to educate the public on the benefits of an easement program. Each spring and fall, a number of hikes and tours are scheduled on participating ranches, led by experts and by the ranchers themselves. Another benefit to the public includes retaining the continued use of the land for locally-available agricultural products and for visual open space. But does
MALT: The Land Trust Experience in Marin

Table 2: History of MALT Easement Acquisition Program

<table>
<thead>
<tr>
<th>Year</th>
<th>Acreage of Easements Acquired</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>844</td>
</tr>
<tr>
<td>1986</td>
<td>1,161</td>
</tr>
<tr>
<td>1987</td>
<td>468</td>
</tr>
<tr>
<td>1988</td>
<td>2,456</td>
</tr>
<tr>
<td>1989</td>
<td>2,047</td>
</tr>
<tr>
<td>1990</td>
<td>1,503</td>
</tr>
<tr>
<td>1991</td>
<td>1,720</td>
</tr>
<tr>
<td>1992</td>
<td>5,327</td>
</tr>
<tr>
<td>1993</td>
<td>3,202</td>
</tr>
<tr>
<td>1994</td>
<td>2,063</td>
</tr>
<tr>
<td>1995</td>
<td>0</td>
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<tr>
<td>1996</td>
<td>0</td>
</tr>
<tr>
<td>1997</td>
<td>0</td>
</tr>
<tr>
<td>1998</td>
<td>400*</td>
</tr>
<tr>
<td>TOTAL</td>
<td>21,191</td>
</tr>
</tbody>
</table>

*The MALT Board chose to retain the last $250,000 of Proposition 70 money from 1995-1997 in case of an emergency or highest-priority need. In 1998, just such a need arose and the remaining Proposition 70 funds were spent to acquire the 400 acres noted above.

the general public recognize the importance of agricultural land and the need to protect it? Does MALT’s responsibility extend beyond the acquisition and preservation of ag land to the involvement of the public at large?

How Is Success Defined?

How many acres must be protected in perpetuity before we can feel confident that Marin County’s agricultural future is secure? Ideally, there would be easements on all the agricultural land in the county, but that is unlikely to happen any time in the foreseeable future. Although the level of certainty will increase as the percentage of lands under easement increases, serious obstacles remain. Since 1980, the cost of buying development rights has more than doubled. At the same time, agriculture’s contribution to the county’s economy has decreased relative to the contributions of other industries. The presence of a stable board of supervisors has lulled the county into a sense of security; however, the defeat of a key supervi-
sor could portend an end to an era of political tranquility. At present, all five supervisors support MALT’s activities, but if zoning changes were to occur in Marin County, the success of the easement program could become far more critical.

Where Will the Money Come from?

MALT has demonstrated that there is a technique for protecting ag land in perpetuity and that the ranching community will work with the program, but will enough money be forthcoming and soon enough, particularly if land values keep increasing? Therefore, the people of the State of California and the Buck Trust have provided virtually all the money for easement acquisition; however, as these funds are exhausted, MALT—and other land trusts—will have the ongoing problem of developing new public and private partnerships.

Federal assistance may one day be forthcoming. In 1993, the Point Reyes National Seashore Farmland Protection Act (HR 1997; SB 3079) was introduced into Congress to expand the Point Reyes National Seashore to lands east of Tomales Bay. Instead of taking full fee control of the land in question as it has in the past, the Federal Government is looking into the acquisition of easements as a cost-effective alternative that better serves the public interest. This legislation by which MALT would acquire easements for the National Seashore will be reintroduced in the next Congress. The program, modeled on the MALT program, would be voluntary with the land remaining in the ranchers’ ownership and thus on the local tax roll. Easements restricting future subdivision would be held by the Seashore but otherwise the rancher would manage his land for agriculture. The local community benefits in several ways (a healthy agricultural community, taxable land, owner management as opposed to renters), while government achieves its goal of protecting agriculture and open space with a much smaller investment and few managerial costs.

Future large-scale funding from the state may not be an option. The most recent effort to secure assistance (the Park and Wildlife Bond Measure proposed in 1994) was unsuccessful, calling into question the utility of statewide propositions for these purposes in the future.

County-wide support is essential if this program is to succeed, yet two county measures that would have provided MALT with easement funds did not pass (Measure A in 1992 proposed a $25 county-wide tax for open space and agricultural land protection, and Measure A in 1995 proposed a quarter of a cent sales tax for
parks, open space, and agricultural lands). The voters of East Marin, where the bulk of the County’s population is located, will need to demonstrate their support for agriculture by voting for an income stream for MALT through a sales tax, a parcel tax, or a bond measure. With today’s increasingly complex issues, the shortage of funding for all programs, a high turnover of county residents, and the physical remoteness of ag lands from the majority of Marin voters, a measure to preserve Marin’s farm land is a challenge and may be difficult to pass.

Is the MALT Program Exportable?

In all likelihood it is. Our experience in Marin County has demonstrated that dedicated agricultural land trusts designed around the needs of landowners can provide sufficient incentive to make conservation easements a viable choice for agricultural interests. Three challenges must be met in establishing a program like MALT. One is developing a funding source—or combination of sources—to supply the money for purchasing conservation easements. Another is making the program credible and attractive to landowners. And the third is to show the public how the burden of developmental pressure on agricultural land will affect them in the long run. Obtaining their understanding and support requires an ongoing and extensive educational process. Unfortunately, people often become aware of a problem only after it has reached critical proportions and the time for problem-solving has already passed. It is the role of citizen action groups to put programs like MALT in place before it is too late to save the agricultural land in their communities.

The Success of Marin County Agriculture

Conservation easements are established in perpetuity but agriculture itself must be free to adapt to changing conditions. Marin County agriculture has changed considerably since the MALT program was founded in 1980. Since that time, coyote predation and poor prices have made the sheep industry less profitable, people have begun to eat less beef, and milk subsidies decreased. Dairies have increased their herd size to get needed cash but times have been very hard for them for the last ten years.

However, agriculture itself is not only surviving but thriving. Ranchers are investing in their operations, often changing their focus considerably. Grapes are replacing dairy cows on at least three ranches, for example, and high-quality wines are being produced.
(champagne on the coast and white wines inland). One dairy has been supplanted by a large olive orchard and press, and another is the first dairy west of the Mississippi to become organic, distributing its milk, butter, yogurt, and cheese regionally. In 1997, Marin County’s two dozen small organic vegetable farms grossed an all-time high of $3.1 million, a 60-percent increase over 1994. Fancy lettuces and specialty vegetables from West Marin are sold in most grocery stores now, even in the large chains. Farmer’s markets are thriving with all sorts of local produce for sale—fruit, vegetables, flowers, nursery products, honey, eggs, and dairy products. In many cases, these changes provide rewarding work for all generations of the family.

The fact that there is an easement program in place and available to ranchers has contributed greatly toward providing hope for the future of agriculture. The varied options now available to Marin County’s ranchers make it possible for them to remain in agriculture into the future.

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Chapter Eight

VARIATIONS IN LOCAL FARMLAND PROTECTION POLICY:
THE CENTRAL VALLEY AND THE NORTH BAY

Alvin D. Sokolow

County governments in the North Bay and Central Valley regions deal with farmland and open space protection in different ways. Although the North Bay counties produce far less of California’s agricultural commodities than the Central Valley, they are far more aggressive than the inland counties in restricting urban development on farmland and other open-space acres, especially in their use of conservation easements and urban growth boundaries. Underlying these policy differences are variations in local political circumstances between the two regions: in the North Bay, there is greater mobilization of land conservation coalitions, greater use of ballot measures to restrict urbanization, and stronger preservationist attitudes among residents. Within the Central Valley region, counties also differ in their priorities and policies of farmland protection—especially in the degree to which urban growth is directed to city areas, as intensive field research in seven counties indicates.

The Central Valley is California’s most prolific agricultural region. But the distinction of leading the state in farmland protection efforts is held by a few counties in another, smaller and less productive region—the San Francisco Bay Area. Comparing county-level programs between these two regions, and among individual counties in the Central Valley, illustrates how a common state-provided framework of land use powers is implemented differently depending on local circumstances.

More than the dominant force in California agriculture, the 17-county1 Central Valley is the most productive and diverse farming region in the world, growing more than 250 different commodities.

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1 Most accounts define the Central Valley as an 18-county region. For the purposes of this analysis, however, we assign Solano County to the Bay region. While the extreme eastern portion of Solano is an extension of the Central Valley, most of the county is commonly associated with the Bay region.
Stretching almost 400 miles from north to south, the Central Valley has 14.5 million acres in farmland, including almost 6 million acres—three-quarters of the state's total—in irrigated production. The region accounts for two-thirds of California's total agricultural market value—$15.8 billion of a total of $24.5 billion in 1996.

By contrast, the eight-county Bay Area contains only about 2.1 million agricultural acres. It generated $1.3 billion in farm market value in 1996, less than the production of any one of the top five Central Valley counties—Fresno, Tulare, Kern, Merced, and San Joaquin.

In important respects, however, certain Bay Area counties for some years have given much more emphasis than Central Valley jurisdictions to policies that attempt to arrest the conversion of farmland to urban uses. We demonstrate this difference by comparing the growth policies and tools of four North Bay counties—probably the most advanced in California in the use of innovative techniques—with those in a sample of seven Central Valley counties. (The map in Figure 1 identifies the 11 counties in this study.) For explanations of such policy differences, we look to the dynamics of local farmland politics and the economic characteristics and conservationist views of the populations of the two regions. Quite simply, the North Bay exhibits more political activism on behalf of farmland and open space preservation, and has a more affluent and conservation-oriented population, than the seven sample Central Valley counties.

We also examine in some detail policy and political variations among the inland agricultural counties. Regardless of the significant interregional differences, the seven Central Valley county governments do vary in major ways in how they approach the problem of farmland conversion. And as contrasted to the role of urban-based organized conservationists in promoting protection policies in the North Bay, the crucial political distinction among the inland counties involves the positions and activity of local Farm Bureaus.

We draw from a study of farmland policy in the Central Valley, supported in large part by the California Policy Seminar of the University of California. Data generated by this study include the results of extensive open-ended interviews with local government officials and other community leaders, case studies of policy development and implementation, planning documents, and newspaper reports of local issues.

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2 For a summary of the major findings of this research, see Sokolow, 1997. See Handel and Sokolow, 1995, for a review of farmland and open space policies in the four North Bay Counties.
Figure 1: North Bay and Sample Central Valley Counties

### Four North Bay Counties

<table>
<thead>
<tr>
<th>Metric</th>
<th>1960-95</th>
<th>1980-95</th>
<th>Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995 population (est.)</td>
<td></td>
<td>1.2 million</td>
<td>41.9%</td>
</tr>
<tr>
<td>Total farmland acres 1997</td>
<td></td>
<td>1.3 million</td>
<td>48.2%</td>
</tr>
<tr>
<td>Cropland acres 1997</td>
<td></td>
<td>456,000</td>
<td></td>
</tr>
<tr>
<td>Change in total farmland acres, 1959-97</td>
<td></td>
<td>-26.5%</td>
<td></td>
</tr>
</tbody>
</table>

### Seven Central Valley Counties

<table>
<thead>
<tr>
<th>Metric</th>
<th>1960-95</th>
<th>1980-95</th>
<th>Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995 population (est.)</td>
<td></td>
<td>2.9 million</td>
<td>58.3%</td>
</tr>
<tr>
<td>Total farmland acres 1997</td>
<td></td>
<td>8.4 million</td>
<td>55.0%</td>
</tr>
<tr>
<td>Cropland acres 1997</td>
<td></td>
<td>4.8 million</td>
<td></td>
</tr>
<tr>
<td>Change in total farmland acres, 1959-97</td>
<td></td>
<td>-15.6%</td>
<td></td>
</tr>
</tbody>
</table>

Sources: U.S. Census of Population, U.S. Census of Agriculture
Population and Farmland Trends

For both regions as for California generally, steady—rapid in some periods—population growth and declining farmland acres is the long-term pattern. However, the rates and timing of these trends in the two regions have differed considerably in the past 45 years. North Bay counties early in the this period experienced sharp population increases and farm acreage declines as the result of post World War II suburbanization. Only later did comparable trends come to the seven sample Central Valley counties.

As Figures 2 and 3 indicate, the North Bay counties had their sharpest population increases (67.6%) and farmland losses (26.0%) in the first two decades of this period, 1950s and 60s. Since 1980, the rate of population increase has declined while the changes in farmland acres have almost leveled off.

Population increases for the seven Central Valley counties have been more rapid since 1980 (58.3%) than in earlier years. Total

Figure 2: Percent Population Change by Decade in the Central Valley and North Bay Counties

![Population Change by Decade Graph](image)

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Figure 3: Percent Farmland Change by Decade in North Bay and Central Valley Counties

![Graph showing percent farmland change by decade in North Bay and Central Valley Counties]

Source: U.S. Census of Agriculture.

Farmland acreage for this group of counties has fluctuated, increasing in 1950-59 and sharply declining later. Cropland acres in the Central Valley, not shown in Figure 3, showed a slightly different pattern. They increased through the 1970s because of the relocation of fruit and vegetable production from urbanizing coastal areas and the availability of new water supplies. But limited water and increasing urbanization have since reduced cropland acres in the region.

Farmland Protection Policy: Easements and Other Tools

North Bay and Central Valley counties apply to the goal of farmland protection a common set of land use and related tools that state law makes available to all city and county governments (Sokolow and Spezia, 1993). While some are specific to farmland protection, most are generic regulatory and planning mechanisms that pertain to the larger purpose of managing urban growth. Most widely-used are these tools:

- **General Plan Language.** Farmland protection objectives are usually outlined in the land use or conservation elements of the general
plans that all California counties and cities are required to adopt.

• *Agricultural Zoning*. Key land use restrictions within agricultural zones are minimum parcel sizes (that serve to protect commercial farming), homesite limitations, and allowed uses.

• *Williamson Act Contracts*. Most counties participate in this voluntary program in which farmland owners under 10-year renewable contracts agree to forego development in return for reduced property taxes.

• *Right to Farm Ordinances*. By requiring that prospective home buyers in agricultural areas be notified of the negative effects of nearby farming operations, the ordinances are intended to reduce farm-urban tensions.

• *CEQA Review*. Development proposals, including projects that are likely to convert farmland to other uses, are required to undergo this environmental impact review, including the examination of possible mitigations.

• *LAFCO Review*. As a control on city growth plans, local agency formation commissions in each county approve municipal annexations and establish city spheres of influence for long-term expansion.

Since general plans, CEQA and LAFCO reviews are mandated by the state, all of the 11 sample counties obviously employ these tools. Agricultural zoning also is a universal technique. In this group of counties, only Sutter does not participate in the Williamson Act and the only counties without right to farm ordinances are Kern and Marin.

Where Central Valley counties primarily differ from North Bay governments is in a lesser use of policy techniques that promise more permanent protection to farmland than the standard measures listed above. In particular, the Bay Area counties are much more active users of conservation easements, created through public purchase or other acquisition of the development rights on farm parcels and other open space lands (*Vink, Farmland Conservation in the Private Sector*, this collection). Parcels with such restrictions essentially have their agricultural or other resource uses locked in, and thus protected from urbanization, for perpetuity (*Land Trust Alliance, 1993*). Most easements are acquired and managed by non-profit land trusts, with the support of county governments and other local agencies. They have been accumulating in the Bay Area for
two decades. In that time more than 60,000 acres of farmland and other open space have been put into easements or protected ownership just in the four North Bay counties—Marin, Napa, Sonoma and Solano (Handel and Sokolow, 1995).

Easements are still relatively rare on the much larger agricultural acreage of the Central Valley, where agricultural and other organizations view them cautiously because of their permanent nature. Local land trusts are organized in several counties in the region, but they appear mostly to be inactive groups. Some signs, however, point to growing interest in this compensatory technique. One is the use of development mitigations in Kern and other counties to comply with federal and state endangered species regulations by paying for easements on habitat land. More specific to farmland protection, several easements on agricultural parcels were established in Yolo County and the western or Central Valley portion of Solano County, in 1995 and 1996, respectively. About 1200 acres of farmland easements acquired by the Yolo Land Trust since 1996 are the result of development mitigations by the nearby city of Davis. And in eastern Solano County, the cities of Dixon and Vacaville initiated the process that led in 1995 to a 1,000-acre easement on productive farmland along Interstate 80, as means of establishing an open space buffer between the two growing municipalities.

These were ad hoc actions, however, that contrast with the more systematic and substantial farmland easement programs in place in the North Bay counties. Sonoma County’s new program is the most ambitious of its kind in California. With a quarter-cent sales tax approved by voters in 1990 for a 20 year period, the Sonoma County Agricultural Preservation and Open Space District now generates about $11 million a year, 26,000 acres of easement since 1991.

As compared to the Central Valley, Bay Area counties also have firmer policies about the confinement of urban development as a means of protecting agricultural and other resources. A major form of this technique are the urban growth boundaries (UGBs) that many Bay Area cities, including almost all jurisdictions in Sonoma County, have adopted in recent years. UGBs serve to moderate and phase in the expansion of cities. Another approach is Solano County’s Measure A that, since 1984, has virtually prohibited new urban development outside the county’s cities. Policies in this region, more than in the Central Valley, also emphasize the designation of large rural areas for agricultural and other open space purposes. For example, Marin County in 1973 identified an inland rural corridor for agricultural and municipal watershed uses (Faber, Protecting the Resource With a Land Trust, this collection) and Napa in 1968 placed
most of its grape-growing valley into an agricultural preserve (Eisele, Twenty-five Years of Farmland Protection in Napa County, this collection).

Policy Variations in the Central Valley

While the interregional contrasts are striking, there are also significant differences just among Central Valley local governments in how they deal with the pressures of urbanization on farmland. Some counties in the inland region give more priority than others to farmland protection efforts and policy approaches to the task vary considerably. Table 1 demonstrates such variations, summarizing the policy emphases of the seven county governments as seen in their general plans and growth practices in the mid 1990s.

Whether or not counties have specific strategies for locating urban growth is the key difference in this policy comparison. Four counties apply relatively firm limits to the location of urban development within their unincorporated areas. The other three counties use much less of a geographic focus in reviewing and approving development.

To the Cities

Specifically, Fresno, Stanislaus, Tulare and Yolo counties try to direct new growth to cities. This is a deliberate strategy that substitutes municipal expansion for significant urbanization in county-controlled areas. Only in part is a city-directed policy motivated by a concern for protecting farmland. It also fits in with a compact, urban-centered planning orientation that melds with air quality and transportation goals and with the efforts of some county governments to avoid the net costs of serving urban populations.

Directing growth to the cities does not by itself hold the line on farmland conversion, since cities also consume farm acres as they take in increased populations. Most Central Valley municipalities aggressively annex surrounding land. As compared to county-approved development, however, city expansion makes it more likely that new growth will proceed in a compact fashion, building out from existing urban areas and converting fewer acres in relation to houses constructed and residents added.

Kern, San Joaquin and Sutter counties do not direct growth to their cities as a deliberate policy. They are relatively tolerant of development, especially large-lot rural residences, in unincorporated areas. Locational strategies are not entirely absent in these counties,
VARIATIONS IN LOCAL FARMLAND PROTECTION

since all three (along with Stanislaus) approved (at least temporarily) in the early 1990s new town developments in areas away from the valley floor. Approval of these large and self-contained communities was justified in part by the potential of diverting growth from better agricultural soils, although several of the new towns would contain significant amounts of cropland and their approval was not directly linked to growth restrictions elsewhere.

Even the counties with city-directed policies do not entirely disallow development in unincorporated areas. Distinctions are made between the more "productive" prime or irrigated cropland and other agricultural lands, primarily grazing and dryland crop acres. Tulare County, for example, encourages new development in

Table 1: Farmland Policy Emphases by Seven Central Valley Governments

<table>
<thead>
<tr>
<th>County</th>
<th>Policy Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresno County</td>
<td>Direct urban development to cities. Limit rural residential development to parcels outside nonprime agricultural areas.</td>
</tr>
<tr>
<td>Kern County</td>
<td>As a resource to be protected, farmland is given approximately equal weight to oil and minerals. Allow development in unincorporated housing options. Emphasis on landowners' property rights.</td>
</tr>
<tr>
<td>San Joaquin County</td>
<td>Jobs and housing outweigh farmland protection as planning goals; a diminished economic role for local agriculture is projected for the future. No firm policy for directing urban growth to cities. Allow rural residential development.</td>
</tr>
<tr>
<td>Stanislaus County</td>
<td>Direct urban development to cities and to remote areas away from productive soils on valley floor. Allow development in areas with public infrastructure north of Modesto. Limit development in unincorporated areas elsewhere.</td>
</tr>
<tr>
<td>Sutter County</td>
<td>Allow development, including large lot residences, in unincorporated areas. No policy of directing growth to cities. Emphasis on landowners' property rights.</td>
</tr>
<tr>
<td>Tulare County</td>
<td>Farmland protection is the principal land use priority. Direct urban development to cities and to less productive soils in foothills. Limit rural residential development in unincorporated valley areas.</td>
</tr>
<tr>
<td>Yolo County</td>
<td>Farmland protection and open space preservation is the principal land use priority. Direct urbanization to cities; allow some development in unincorporated communities with economic needs. Limit severely rural residential development in other unincorporated and primarily to farm family members and employers.</td>
</tr>
</tbody>
</table>

its foothills, where Class IV or poorer soils are prevalent. As an economic development measure, Yolo and other counties also favor moderate development in their small, unincorporated population centers that have some public sewer and water capacity to handle more residents.

**County-City Agreements**

In support of general policies of directing growth to municipal areas, Fresno, Stanislaus, Yolo and Tulare counties have referral agreements with their cities. The agreements allow a city to control development proposals that come to county government, but are located in the unincorporated fringes near the city’s borders. Generally this means giving the city the option of annexing the property, applying city standards in anticipation of future development, or merely advising the county on appropriate actions. The area of city control falls either within the LAFCO-approved sphere of influence or within a given distance from the city’s borders.

For Fresno, Stanislaus and Yolo county governments, the referral policies are given teeth by revenue-sharing arrangements with their cities—an intermingling of land use with fiscal considerations. In effect, the counties forego the opportunity to approve development in certain areas, thus reducing possible competition with city growth actions, in return for receiving some of the revenue benefits of city expansion. The product of recent county-city negotiations that usually followed intergovernmental conflict over land use and finances, the agreements confirm the counties’ city-directed policies that have been in place for some years. All such arrangements involved a renegotiation of the property tax splits with county government relating to municipal annexations, but they include other forms of revenue as well (Sokolow, 1993).

**Unique Policies**

Formal policies in two Central Valley counties, Tulare and Stanislaus, stand out as relatively serious efforts to control farmland conversions. They represent entirely different policy approaches—one focused on a precise micro-technique for dealing with farmland conversions and the other broadly encompassing a number of agriculture-related considerations.

Tulare’s Rural Valley Lands policy, adopted as part of the general plan in the early 1970s, features a quantitative method for evaluating the agricultural merit of parcels proposed for rezoning to urban uses. No other California local government has regularly
employed a comparable system for applying a precise set of stand-
dards to the review of proposed farmland conversions. The tech-
tique offers a degree of objectivity that contrasts with the usual
subjective processes by which governing boards and planning
commissions make decisions about conversion proposals. Each
parcel proposed for rezoning within the western third or Valley
portion of the county is evaluated according to 13 different factors—
including soil capability, parcel size, existing use, sizes and uses of
surrounding parcels, ground water permeability, and access to urban
services. Depending on the cumulative score, a proposal is rejected
outright or may be considered for rezoning.

The Tulare point system clearly has reduced over the years
the volume of conversion proposals within unincorporated areas,
probably shifting more development than otherwise would be
possible to the cities and their fringe areas. During the eight year
period of 1986-93, the county received only 30 such proposals
totaling 353 acres, and approved almost three-fourths of this acreage
for rezoning.

Stanislaus is one of at least five California counties that have
optional agricultural elements in their general plans. The Stanislaus
element, adopted in 1992, is a comprehensive document that covers
three major topics—enhancing the economic viability of local
farming, preserving agricultural lands, and protecting the natural
resources (air, water, soil) that sustain the industry. Among its most
significant provisions, the element calls for a narrower application of
the “agriculture-related” criterion when the county reviews propos-
als to locate commercial and industrial uses in farming areas, buffers
and other measures to separate farms from urban development, and
examination of the cumulative impacts of particular projects. Be-
cause many Central Valley cities are located in the midst of produc-
tive agriculture, the plan also challenges the conventional principle
that urban growth should usually proceed outward from existing
cities.

The Political Roots of Farmland Policy: Urban
Mobilization and Ballot Box Measures

Behind the formal policies of farmland protection in indi-
vidual communities are the informal operations of local politics.
New policies of major substance do not arise solely out of the official
acts of elected officials and their bureaucracies, but are the product
as well of citizen mobilization and electoral change. Variations in
local political scenarios help explain the policy differences between
the North Bay and Central Valley counties.
In the North Bay advocacy of strong farmland and open space policies originated primarily among urban residents, including post World War II newcomers to the region and relatively affluent and conservation-minded residents (Handel and Sokolow, 1995). They formed the organizations that pressured boards of supervisors for stronger policies, such as higher minimum parcel sizes in agricultural zones, and they promoted ballot box measures to limit growth. Local farm bureaus and other organized agricultural interests were opposed to protection efforts or sharply split about the matter, or joined the movement at late stages, although some individual farmers were early and prominent allies of the urban advocates, as the Marin and Napa case studies in this collection suggest. The details of the political story vary slightly from county to county. In Marin the open space advocacy of the 1960s and 70s can be traced to a strong interest among leading citizens prior to World War II in setting aside land for parks and other public preserves (Faber, Protecting the Resource With a Land Trust, this collection). Critical support for growth-control efforts in Napa County came from vintners and grape-growers, concerned about protecting a very profitable and expanding wine industry (Eisele, Twenty-Five Areas of Farmland Protection in Napa County, this collection). A common rallying point for conservation advocates in all four North Bay counties was the perceived threat of continued population influx outward from San Francisco and other core cities of the Bay Area.

Some of the same political elements can be found in the Central Valley, but to a much lesser degree. Avoidance of the Los Angeles brand of urban sprawl is frequently referred to by community leaders in inland agricultural areas as a general planning objective. But the single focus of a more immediate and closer urbanization threat, such as San Francisco provides for the North Bay, is absent for most of the Central Valley. And even where such growth is present, as in the Stockton and Modesto areas of the northern San Joaquin Valley affected by population spillover from the Bay Area, many local leaders see the urbanization as more economic opportunity than negative impact on quality of life and the environment.

Central Valley counties have not experienced the degree of urban mobilization on behalf of farmland and open space protection that characterizes successful policy innovations in the North Bay. The most important vehicle used by North Bay conservationists to achieve their policy objectives has been the ballot box, the election of friendly policy makers (members of county boards of supervisors) in some cases, but especially the enactment of legislation through initiative and referendum. Table 2 notes the frequency of ballot
measures—most of them limiting growth as approved—in recent years dealing with farmland protection and related growth policies in the North Bay. Each of the four counties currently has major protection policies that originated with voter approved ballot box measures beginning in the early 1970s. They include growth limiting measures in each county, and tax increases in Sonoma and Marin to fund conservation easement programs.

Most Central Valley counties, by contrast, do not have such voter-approved policies. In fact, few of the 17 counties in this inland region have ever had comparable proposals placed on their ballots. In only three of the seven sample Central Valley counties, as Table 3 indicates, have growth control proposals appeared on countywide ballots, and they all were defeated. (While the informa-

Table 2: Farmland-Related Measures on Countywide Ballots in Four North Bay Counties, 1972-98

<table>
<thead>
<tr>
<th>County/Date</th>
<th>Proposal</th>
<th>Result/Yes (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marin Nov. 1972</td>
<td>Measure A: Property tax for open space district.</td>
<td>P/NA</td>
</tr>
<tr>
<td>June 1992</td>
<td>Measure A: Parcel tax to fund open space acquisitions and farmland easements.</td>
<td>D/61%*</td>
</tr>
<tr>
<td>Nov. 1992</td>
<td>Measure B: Require countywide vote to convert farmland to urban use (initiative).</td>
<td>D/37.2%</td>
</tr>
<tr>
<td>Nov. 1996</td>
<td>Measure A: One-quarter cent sales tax to fund parks and open space acquisition.</td>
<td>D/57.5%*</td>
</tr>
<tr>
<td>Napa Nov. 1980</td>
<td>Measure A: Limits residential development in unincorporated areas to 1% population growth (initiative).</td>
<td>P/NA</td>
</tr>
<tr>
<td>Nov. 1990</td>
<td>Measure J: Retains agricultural designations in existing general plan through 2020 and requires popular vote to develop in these areas (initiative).</td>
<td>D/33%</td>
</tr>
<tr>
<td>Nov. 1992</td>
<td>Measure N: Creates Regional Open Space District.</td>
<td>D/29%</td>
</tr>
<tr>
<td>Mar. 1996</td>
<td>Measure W: Development initiated approval for large residential development - voter approval required under Measure J (initiative).</td>
<td>D/16.3%</td>
</tr>
<tr>
<td>Solano June 1984</td>
<td>Measure A: Prohibits large-scale residential development in unincorporated areas (initiative).</td>
<td>P/50.3%</td>
</tr>
<tr>
<td>Sonoma Nov. 1984</td>
<td>Measure C: Establishes ag production zones and calls for an easement purchase program (initiative).</td>
<td>D/35%</td>
</tr>
<tr>
<td>Nov. 1990</td>
<td>Measure A: Organizes Agricultural Preservation and Open Space District (initiative).</td>
<td>P/70%</td>
</tr>
<tr>
<td>Mar. 1996</td>
<td>Measure C: Quarter-cent sales tax increase to fund easement acquisitions of district (initiative).</td>
<td>P/55%</td>
</tr>
<tr>
<td>Nov. 1998</td>
<td>Measure D: Creates 20-year urban growth boundary.</td>
<td>P/70%</td>
</tr>
</tbody>
</table>

P=Passed, D=Defeated
*required 2/3 votes for approval

*May not include all countywide ballot proposals during the period and does not include city measures.

Source: Newspaper accounts.
tion in Table 2 covers only the time period since 1990, we have not been able to identify any growth-related ballot proposals on ballots of the seven counties in prior years.) And no Central Valley community has yet to take to its voters a tax increase proposal for funding a program of agricultural easements or other open space acquisition, as both Sonoma and Marin counties have done.

Few Central Valley communities have the kinds of organized conservation interests that have been critical to the policy advances in the North Bay counties. Certainly, there is no advocacy group in the Central Valley with a regional sweep and open space agenda comparable to that of the Greenbelt Alliance, an aggressive organization with both a professional staff and a corps of volunteers that covers the entire San Francisco Bay area.

To be sure, there are pockets of environmental activism scattered throughout the Central Valley. Chapters of the Sierra Club and other mainstream environmental organizations abound and ad

Table 3: Farmland-Related Measures on Countywide Ballots in Seven Central Valley Counties, 1990-98

<table>
<thead>
<tr>
<th>County/Date</th>
<th>Proposal</th>
<th>Result/Yes (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresno</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>Kern</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>San Joaquin</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>Stanislaus</td>
<td>Measure F: 20-year moratorium on farmland conversions in unincorporated areas (initiative).</td>
<td>D/35.6%</td>
</tr>
<tr>
<td>Nov. 1992</td>
<td>Measure C: Requires vote on development projects in South Sutter (initiative).</td>
<td>D/36.0%</td>
</tr>
<tr>
<td>Sutter</td>
<td>Measure D: Counter Measure C (initiative).</td>
<td>D/38.7%</td>
</tr>
<tr>
<td>May, 1991</td>
<td>Measure M: Confirm 1992 approval of South Sutter new town development by Board of Supervisors (referendum).</td>
<td>D/37.4%</td>
</tr>
<tr>
<td>June, 1993</td>
<td>Measure P: Incorporation of city in area of new town development (referendum).</td>
<td>D/45.9%</td>
</tr>
<tr>
<td>Tulare</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>Yolo</td>
<td>Measure G: Prohibits development in unincorporated areas and locks in current land designations through 2010 (Rural Lands Preservation Initiative).</td>
<td>D/39.7%</td>
</tr>
</tbody>
</table>

P=Passed, D=Defeated

*Does not include measures on city ballots.

*Three other measures on the same ballot, with similar proposals, were also defeated with approximately 37 percent approvals.

Source: Newspaper articles, interviews.
VARIA TIONS IN LOCAL FARMLAND PROTECTION

hoc groups spring up to fight particular issues. But relatively little of this energy is directed on an ongoing basis to farmland or open space issues. Local Sierra Club chapters in the region, for example, are primarily concerned with other environmental matters—princi-

pally habitat and stream protection, endangered species, and public lands in the Sierra Nevada. A major exception is the work of the American Farmland Trust, the national organization that works almost exclusively on farmland preservation. With Davis and Visalia field offices in the region, AFT has a visible presence throughout the Valley in promoting the cause of farmland protection and in providing technical assistance to local governments and citizen groups. Its recent report that projected the loss of more than one million acres of Central Valley farmland by the year 2040, assuming the continuation of current land use trends, has heightened interest in preservation efforts in the region (American Farmland Trust, 1995). But AFT is not a large membership organization, and hence its impact on the political front in individual counties is limited.

Two of the sample counties in the early 1990s had aggressive environmental groups concentrated on farmland issues. In Yolo County, the Yolo, chapter of the Sierra Club operated in an unusual cooperation with the local Farm Bureau to develop mitigation policies for farmland conversions, improve the county’s administra-
tion of the Williamson Act, and map local crop and habitat patterns. In San Joaquin County, the Land Utilization Alliance—an organiza-
tion of small farmers and environmentalists, with some members in nearby counties—was a frequent critic of county and city growth policies.

A more recent set of events in Fresno County suggests the possibility of coalition-building in Central Valley communities on behalf of farmland protection and wise land use policies. Since 1996 an unlikely alliance of agricultural, home building, business and environmental interests have promoted higher densities, for the city of Fresno and other municipalities. Its proposals were summarized in a 1998 report, A Landscape of Choice. Organized as the Growth Alternatives Alliance, the represented groups are the Building Industry Association of the San Joaquin Valley, Fresno County Farm Bureau, Fresno Chamber of Commerce, American Farmland Trust, and Fresno Business Council.

Organized Agriculture and Farmland Politics:
Farm Bureau Roles in the Central Valley

With the limited presence of active conservation groups, how do farmland policy efforts get supported and enacted in Central
Valley counties? Perhaps more significant than any other political factor in determining the policy approach of a county in this region is the role of the local Farm Bureau and other organized agricultural interests. Where county governments place a high priority on farmland protection, either in the creation of new policies or in the review and disposal of specific development projects, the initiative or support of local bureaus can be detected. Where county governments are passive or less vigorous in this area, much of the explanation can be attributed to the ambivalence or outright opposition of local bureaus to protection efforts.

We see this influence in the adoption by six of the seven counties of right to farm ordinances in the late 1980s and early 1990s, as a result of local bureau instigation. The ordinances, however, were not as controversial nor as far-reaching as other land use issues participated in by some bureaus. Impacts on county policies and actions have been most evident in Tulare and Yolo, the two counties with the strongest protection programs in the Central Valley. It is no coincidence that the Tulare and Yolo bureaus also have been the most consistent and unwavering of farm groups in the region in their support for such policies, serving as the principal advocates for farmland protection in their respective counties.

The adoption in the early 1970s of Tulare County’s innovative Rural Valley Lands Plan, with its point system for evaluating rezoning proposals, was possible only with the support of local agricultural interests, especially dairy operators. Since that time the Tulare Farm Bureau has pushed county officials several times to refine the RVLP and has worked with LAFCO to establish firmer standards for annexation and spheres of influence. The Yolo Farm Bureau has sought a farmland easement program for its county and has been a prime mover in strengthening Williamson Act standards and revising LAFCO procedures. Both bureaus regularly monitor county (and, at times, city) planning and land use decisions, often issuing critical comments.

For most local farm bureaus in the Central Valley, support for specific farmland protection policies fluctuates and is divided. Internal divisions usually appear along preservation-property rights lines, with many bureau members in a county reluctant to support regulatory measures for fear of restricting their future landowner options. Changes in local bureau leadership from year to year sometimes produce shifts in policy direction.

Further Explanations: Population Characteristics

At the bottom of these interregional policy and political
VARIATIONS IN LOCAL FARMLAND PROTECTION

differences are two distinct populations. The North Bay in large part is a highly suburban extension of the San Francisco area, with a large number of upscale residential communities populated by professionals and business elites. Far less affluent and white collar in the aggregate, residents of the seven sample Central Valley counties—as in other parts of this inland region—live in a more diverse set of communities, including relatively big cities (Fresno, Stockton, Bakersfield, Modesto), smaller bedroom cities (Tracy, Manteca, Patterson), and rural incorporated and unincorporated farm worker towns (Firebaugh, Huron, Orange Cove, Cutler).

Income levels differ considerably between the two regions. In 1994, per capita income in the North Bay counties averaged $26,000, about 50 percent higher than the $17,000 average for the Central Valley group. With a per capita income of $38,000, Marin County tops the state; Tulare County, at the low end of the Central Valley group at $15,000, ranks 50th among California’s 58 counties. Unemployment numbers confirm this economic contrast. The seven

| Table 4: Voter Support for Conservation Propositions on Statewide California Ballots, by Region |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|
| San Joaquin Valley Region; 8 Counties | 55.6% | 40.1% | 22.4% | 28.9% | 27.4% |
| Sacramento Valley Region; 8 Counties | 62.4 | 42.2 | 29.5 | 31.5 | 31.7 |
| Bay Area 8 Counties | 70.1 | 56.1 | 43.0 | 51.6 | 45.3 |
| STATE | 65.1% | 52.4% | 35.6% | 43.2% | 34.9% |

Details of Ballot Measures

- **Proposition 70**: $776 million bond act for wildlife, coastal and parkland conservation.
- **Proposition 117**: Mountain lion protection and habitat conservation fund.
- **Proposition 128**: “Big Green” initiative to increase regulation of timber harvesting, pesticide use, air and water pollution, and off-shore oil drilling; $300 million to purchase old growth redwoods.
- **Proposition 180**: $2 billion bond act for acquisition of park, wildlife, and forest lands and for farmland easements.
- **Proposition 181**: $1 billion bond act for inter-city and commuter rail transit.

Counties in Regions

- **San Joaquin Valley**: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, Kern.
- **Sacramento Valley**: Yolo, Sacramento, Sutter, Yuba, Colusa, Glenn, Tehama, Butte.
- **Bay Area**: San Francisco, Sonoma, Marin, Napa, Solano, Contra Costa, Alameda, Santa Clara.
Central Valley counties had an average unemployment rate of 13.3 percent in 1994, a reflection of the region's large number of underemployed farm workers. The rate was only 6.4 percent for the North Bay counties.

Support for conservation causes also varies between the two groups of counties. Table 4 compares voter support in the regions where the counties are located for five recent statewide ballot propositions dealing with conservation issues; three were proposed bond issues for land acquisitions, conservation easements, and rail transit, while the other two were combined regulatory and funding measures. Bay area voters consistently supported the proposals at much higher levels than voters in the two Central Valley regions. And Central Valley voters consistently recorded less support for these measures than voters statewide.

The implication is that Central Valley populations are relatively conservative on a range of conservation issues and relatively cautious about spending public funds on such programs, a pattern that probably affects attitudes and support for local farmland protection policies.

Conclusions

The North Bay and Central Valley regions represent quite different approaches to the problem of preserving farmland in the face of rapid urbanization. While local governments in both regions operate under the same set of planning and land use tools that are made available by state law to all communities in California, North Bay counties are more aggressive than inland counties in applying public tools to contain urban spread. The major policy difference is in the use of easements to permanently protect farmland and other open space, a technique widely used in each of the four North Bay counties for the past 20 years but just now making a limited appearance in the Central Valley.

North Bay successes with conservation easements are certainly a useful lesson for other regions of California. But it is doubtful that it and other policy lessons from the North Bay can be translated easily and quickly into effective programs in the Central

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*A 1988 statewide survey of growth control measures enacted by counties and cities, including policies established by governing board actions as well as by the ballot, found that Central Valley and other inland governments (with the exception of cities in the Sacramento Valley and governments in the Lake Tahoe region) were far less likely to have such policies than coastal jurisdictions (Glickfeld and Levine, 1992).*
VARIATIONS IN LOCAL FARMLAND PROTECTION

Valley. The reason is that the inland counties generally lack the political conditions that created the North Bay policies—primarily an engaged and organized conservation constituency, successful at the ballot box and willing in some cases to support public funding for easement acquisitions. Implicit in this regional political difference is a distinction in the perceived value of farmland. North Bay citizens in large part view their remaining farmland acres as an amenity, a form of open space that adds to their quality of life by providing a scenic antidote to urban congestion. By contrast, the prevailing Central Valley perspective is to consider the value of the region’s vast farmland expanses primarily as an industrial resource—an input, along with water, labor and management expertise, to a major economic enterprise. Different visual images undoubtedly contribute to these perceptions. Farmland in the North Bay is visually an attractive and finite resource, mostly contained within small, green valleys ringed by soft hills and replenished by ample rain and coastal breezes. The view from most locations in the Central Valley suffers aesthetically by comparison—seemingly endless agricultural acres, stretching to the horizon and baked into yellow and brown hues by the summer sun.

It would be erroneous, however, to picture Central Valley communities as insensitive to the farmland conversion problem. Local governments in this region are not unaware of the range of policy options for farmland protection; some have adopted far-reaching policies and often reject specific development proposals that threaten agriculture. Whether they can be pushed further in this direction by local circumstances is the critical question for the future.

References


California Farmland & Urban Pressures


Chapter Nine

URBANIZATION OF THE RESOURCE LANDSCAPE IN THE NORTHERN SACRAMENTO VALLEY

Mark Radabaugh

The relationship between urbanization and five land-use categories (urban, unincorporated communities, rural residential, irrigated agriculture, and other resource land) in the Northern Sacramento Valley region is examined in this chapter. Population projections for Butte, Colusa, Glenn, Tehama, and Shasta counties are correlated with city and county general plan requirements to estimate the spread of urban growth in the region by 2010 and by 2040, given the continuation of the region’s low-density land-use patterns. A highlight of the analysis is a critical evaluation of current land-use planning practices in California and suggestions for changes that could provide more aggressive protection for agricultural and other rural lands.

In California there is an acute need to gain a better understanding of the consequences of current land-use planning for the state’s geographic regions and sub-regions. Local land-use planning tends to focus primarily upon individual urban communities, often without recognizing that policy decisions have a critical impact on larger regions as well. This paper will assess the effect of land-use planning on one such non-metropolitan region.

The far northern tier of California’s Central Valley (Figure 1) includes five counties—Butte, Colusa, Glenn, Tehama and Shasta—and is set off from the rest of the Valley by the Sutter Buttes natural formation. This five-county region is loosely interconnected by common air and watersheds, water supply characteristics, land uses, linked commutersheds and economies, and relative distance from the state’s major metropolitan centers. As compared to their southerly neighbors in other parts of the Central Valley, these counties are a unique region with generally less urban population, less intensely managed natural resources and agricultural practices, less overall agricultural acreage and output, and generally more ample local
water supplies. Like the rest of California, this region is expected at least to double in population over the next 40 years.

But California provides no common institutional structure to address the impacts of this population increase in this or other similar regions. Cities and counties in California can adopt land-use plans without significant regional coordination or collaboration. Again, like the rest of California, this region sorely needs a comprehensive vision for its future, one developed through a well-coordinated collaborative process.

The following pages provide a snapshot of current trends in
Urbanization of the Resource Landscape

the northern Sacramento Valley region’s land-use planning. This snapshot will provide the basis for projecting land-use changes in 2010. A still longer-term planning perspective will examine what might be possible in 2040 if some of today’s planning practices were changed to foster more coordination and collaboration over regional planning issues, which could produce more efficient urban form and better natural resource protection.

This region still has planning options it can pursue if it understands them correctly and is determined to act upon them.

The Upper Valley Setting

The northern Sacramento Valley is wedged between California’s northern Coast Range and the southern Cascade-Northern Sierra Nevada mountain complex. The valley floor is surrounded by foothills and mountain uplands that total about seven percent of the state’s land area. The cities of Chico and Redding serve as the region’s major employment centers, offering jobs primarily in the service and retail sectors. Agriculture and timber are key base industries and construction is the second or third leading industry in many communities.

This region continues to see a smaller numerical population increase than Central Valley counties to the south. Its population growth is influenced by the greater distance from California’s major urban centers and markets, less quality agricultural land, and a less diversified economic output. Still, the growth of this region’s population, and how it is accommodated, is of critical importance to the Central Valley and to all of California’s water quality future: this is the area that produces and stores most of the surface water runoff that supports the state’s two major water supply projects, the federal Central Valley Project and the State Water Project.

Although most of the region’s land area is still devoted to resource uses and production, economic pressure from the faster-growing counties to the south will fuel high rates of northward population migration over the long term. How these northern counties and their constituent cities prepare themselves to accommodate new population will determine the region’s livability.

The Need for Coordinated Planning

In a recent speech to Western governors, Oregon’s John Kitzhaber characterized the challenge that increasing population places on our natural resource base with the following observation:
As our population increases, as we become more ethnically and culturally diverse, as growth begins to alter our landscape and bring into question the limits of our resources — we are facing new challenges in knowing who we are as westerners.1

Governor Kitzhaber’s comments on the relationship between population growth, culture, and limits to our resource base strike to the heart of this, California’s most under-addressed issue.2 California is environmentally and culturally one of the most complex places on earth, yet its diverse regions are governed under a one-size-fits-all institutional system, particularly where land-use planning is concerned. Each local government stands alone, a monument to California’s strong home-rule philosophy, unless coordination of programs with other jurisdictions is explicitly required. Only when certain federal programs—the Clean Air Act or federal transportation policy, for example—demand regional cooperation does this change, and this federal link affects local-level land-use decisions only indirectly.

At present, there is little incentive for either the public or private sectors to act in anything but their own self-interest or to measure the impact of their actions on the regional community. As a result, local government land-use decisions and practices are a series of independent actions executed by California’s counties and cities that affect each other’s regional growth, economic development, housing supply and affordable housing, air and water quality, transportation, public facilities and services, species habitat and


2A full-page advertisement, placed in several major newspapers before the November 1998 election, stated: “...We have no statewide policies or principles to deal with the consequences of this growth. Poorly planned, sprawling development threatens us all—urban, suburban, and rural residents alike. No matter who wins on November 3, without leadership and foresight from our next governor and new legislature, there will be no winners in California’s future.” This near-desperate political ad, sponsored by the California Futures Network, contained 106 signatures of statewide leaders, including state legislators, mayors and city council members, citizen group activist, farmers and business persons, educators, and land use planners. The ad called for the new governor to lead and endorse Smart Growth Principles for sustainable land use in the state, including 1) more responsible land use planning, 2) promotion of livable communities, 3) more efficient transportation and affordable housing opportunities, 4) fresh ways to plan open space and protection of the natural environment, and 5) improved ways to protect agricultural and forest lands. Sacramento Bee, October 21, 1998, p. A13.
The 2040 Population Projection and Public Policy Shortfall

The California Department of Finance (1993) predicts that there will be 63.4 million Californians by 2040. This reality-jarring projection has helped to intensify regional debate on the relationships between farmland loss and urbanization in the Central Valley, and on ecosystem impacts in the Sierra Nevada. The most urgent question, however, is how the state can simultaneously maintain a productive natural resource base and a high quality of life under such demographic and land consumption pressures.

This is the time for California's cities, counties, and regional governments to prepare practical institutional responses to the anticipated population pressure in order to be able to maintain a reasonable quality of life in 2040. At present, however, local governments typically plan no farther than 20 years ahead when they update their general plans. What's more, general plans are often skewed by such short-term investment decisions as local capital improvement plans and private development interests whose time frames rarely exceed five years. Although state and local governments do not make 40-to-50-year multi-generational population projections as a standard practice today, there is a growing awareness of the strategic value that such projections could contribute to public policy discussions on land use and resource management. After all, most public investment decisions impact the built environment for much longer than 20 years. Transportation plans and waste water and drinking water facilities are intended to serve a number of generations; most quality buildings are constructed to last at least as long.

Scope of the Report

This report contends that each city and county in the northern Sacramento Valley region needs to enhance its level of regional coordination and to plan for more compact and efficient urbanization if it is to address the impacts of long-term population growth. This analysis of the region and its preparedness for population growth in the next several decades begins by identifying five basic

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3The American Farmland Trust (1995) and the Sierra Nevada Ecosystem Project (1996) reports focused on the Central Valley and Sierra Nevada regions, respectively. Both deal with population growth impacts on natural resources and use the 2040 forecast.
Table 1: Description of Land Use Categories Derived from County and City General Plans, 1995

**Urban.** Urban is land within city spheres of influence in 1995.

**Unincorporated Communities.** While located outside existing cities and their urban areas, unincorporated communities are defined by existence of water and/or sewer systems which serve or are capable of serving residential lot sizes of one acre and less. Special district boundaries or county service areas generally define the extent of unincorporated communities.

**Rural Residential.** Rural residential land involves parcels larger than one acre located outside of urban and unincorporated communities whose primary use is residential, where such practices are allowed by a county's general plan. Rural residential land includes lands in counties which allow small-lot agricultural designations of less than 20-acre parcels.

**Irrigated Agriculture.** Irrigated agricultural lands are those identified in a county's general plan which was in effect during 1995.

**Other Resource Land.** Other resource lands include private lands designated for non-irrigated agriculture such as grazing, timber, open space, sensitive habitat, or mining. Publicly-owned resource land is also part of this category, but is identified separately in Table 3. Public lands are assumed to play no significant role in the region's population growth.

land-use categories found in the region's county and city general plans (see Table 1).

With the state's 2040 projection as the baseline for each county, these categories are used to assess long-term population growth impacts on the region in 2010 and 2040. A review of local trends and general plan policies provides an estimate of the 2010 population for each of these land-use types. Potential 2040 impacts are harder to assess due to the lack of existing policy; however, critical observations can still be made about how the region might better manage growth in its urban, rural residential, and resource landscapes. After examining trends and their consequences, the report concludes by noting some of the issues that must be considered if California is to meet the challenges presented by future population growth in this and other regions.

**Population and Land Use in the Northern Sacramento Valley**

Located at the water resource-rich end of the 500-mile-long
## Urbanization of the Resource Landscape

Table 2: Leading Crop Types, Acreage and Value in Northern Sacramento Valley Counties

<table>
<thead>
<tr>
<th>County</th>
<th>Market Value ($millions)</th>
<th>Acres Harvested (thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Rice</td>
<td>$88.7</td>
<td>98.5</td>
</tr>
<tr>
<td>2. Almonds</td>
<td>86.8</td>
<td>31.8</td>
</tr>
<tr>
<td>3. Walnuts</td>
<td>33.6</td>
<td>15.5</td>
</tr>
<tr>
<td>4. Prunes</td>
<td>21.8</td>
<td>11.1</td>
</tr>
<tr>
<td>5. Kiwifruit</td>
<td>13.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Colusa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Rice</td>
<td>112.9</td>
<td>141.5</td>
</tr>
<tr>
<td>2. Processing Tomatoes</td>
<td>45.5</td>
<td>24.9</td>
</tr>
<tr>
<td>3. Almonds</td>
<td>40.3</td>
<td>19.2</td>
</tr>
<tr>
<td>4. Wheat</td>
<td>11.1</td>
<td>34.4</td>
</tr>
<tr>
<td>5. Prunes</td>
<td>6.1</td>
<td>4.1</td>
</tr>
<tr>
<td>Glenn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Rice</td>
<td>75.8</td>
<td>85.8</td>
</tr>
<tr>
<td>2. Milk</td>
<td>38.6</td>
<td>NA</td>
</tr>
<tr>
<td>3. Almonds</td>
<td>32.6</td>
<td>17.8</td>
</tr>
<tr>
<td>4. Prunes</td>
<td>13.3</td>
<td>8.2</td>
</tr>
<tr>
<td>5. Cattle</td>
<td>11.8</td>
<td>NA</td>
</tr>
<tr>
<td>Shasta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Cattle</td>
<td>14.9</td>
<td>NA</td>
</tr>
<tr>
<td>2. Strawberry plants</td>
<td>7.1</td>
<td>0.4</td>
</tr>
<tr>
<td>3. Pasture</td>
<td>6.4</td>
<td>0.5</td>
</tr>
<tr>
<td>4. Hay, other</td>
<td>5.9</td>
<td>18.8</td>
</tr>
<tr>
<td>5. Hay, alfalfa</td>
<td>3.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Tehama</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Walnuts</td>
<td>23.6</td>
<td>11.3</td>
</tr>
<tr>
<td>2. Prunes</td>
<td>20.2</td>
<td>9.4</td>
</tr>
<tr>
<td>3. Almonds</td>
<td>15.1</td>
<td>6.3</td>
</tr>
<tr>
<td>4. Cattle</td>
<td>12.2</td>
<td>NA</td>
</tr>
<tr>
<td>5. Milk</td>
<td>10.6</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: County agricultural commissioner reports.
Central Valley, the northern Sacramento Valley region is the most rural and least populated portion of California’s inland agricultural heartland. Both population and agricultural intensity and scale are less than those of the San Joaquin and southern Sacramento Valleys, as measured by crop diversity, total production, and economic value. Table 2 provides a summary of leading crops types by value and by acreage for each of the five counties.

Slightly less than a half million people currently reside in the five counties, about 70 percent in the region’s 14 incorporated cities. Between 1990 and 1997, the region grew by an estimated 52,000 persons—a 12.5 percent increase compared to 9.9 percent for the state as a whole during this period.

In recent decades, however, this region’s population has grown more slowly than that of the San Joaquin Valley, the southern Sacramento Valley, or the urban coastal regions. Even so, state

Table 3: Summary of General Plan Land Uses and Oak Woodlands by County in the Northern Sacramento Valley (in acres)

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Butte County</th>
<th>Colusa County</th>
<th>Glenn County</th>
<th>Shasta County</th>
<th>Tehama County</th>
<th>5-County Total</th>
<th>5-County Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource (1)</td>
<td>799,442</td>
<td>606,400</td>
<td>608,800</td>
<td>1,077,732</td>
<td>1,325,660</td>
<td>4,417,237</td>
<td>63.60%</td>
</tr>
<tr>
<td>Farmland</td>
<td>301,653</td>
<td>419,100</td>
<td>287,392</td>
<td>71,371</td>
<td>284,383</td>
<td>1,363,899</td>
<td>19.60</td>
</tr>
<tr>
<td>Timber</td>
<td>334,456</td>
<td>4,200</td>
<td>30,000</td>
<td>695,921</td>
<td>245,000</td>
<td>1,309,577</td>
<td>18.80</td>
</tr>
<tr>
<td>Grazing</td>
<td>163,333</td>
<td>183,100</td>
<td>274,438</td>
<td>151,123</td>
<td>789,521</td>
<td>1,551,515</td>
<td>22.50</td>
</tr>
<tr>
<td>Rural Residential</td>
<td>170,483</td>
<td>1,500</td>
<td>2,263</td>
<td>274,481</td>
<td>57,820</td>
<td>506,820</td>
<td>7.30</td>
</tr>
<tr>
<td>Public Lands</td>
<td>177,66</td>
<td>11,420</td>
<td>214,919</td>
<td>958,044</td>
<td>510,600</td>
<td>1,815,529</td>
<td>26.10</td>
</tr>
<tr>
<td>County Urban (2)</td>
<td>554,52</td>
<td>157,00</td>
<td>124,33</td>
<td>331,80</td>
<td>90,60</td>
<td>1,260,25</td>
<td>1.80</td>
</tr>
<tr>
<td>1990 City Incorporated</td>
<td>344,32</td>
<td>361,7</td>
<td>30,54</td>
<td>366,91</td>
<td>6512</td>
<td>843,060</td>
<td>1.20</td>
</tr>
<tr>
<td>County Total</td>
<td>1,077,775</td>
<td>741,167</td>
<td>840,669</td>
<td>2,380,123</td>
<td>1,909,652</td>
<td>6,949,641</td>
<td>100.00%</td>
</tr>
<tr>
<td>Oak Woodlands</td>
<td>230,000</td>
<td>149,000</td>
<td>133,000</td>
<td>287,000</td>
<td>633,000</td>
<td>1,432,000</td>
<td>20.60</td>
</tr>
</tbody>
</table>

(1) Some counties have resource designations in addition to farmland, timber and grazing and these are included as part of Table 3’s resource land total. All resource land in Table 3 is in private ownership.
(2) County urban lands include unincorporated urban land within city spheres of influence and unincorporated communities.

Sources: Compiled from city and county general plans, Census data and planning staff interviews. Oak woodland data from California Department of Forestry and Fire Protection (1993). Resource lands also include other private resource lands designated for habitat, open space, watershed and mineral production.

*The author maintains that California’s growth rates are not as important as the size of the numbers. Although the statewide and northern Sacramento Valley projections represent a nearly doubling of the population in 45 years, the critical question is how the 31.3 million new Californian will be accommodated without causing highly negative social, economic and environmental consequences.*
projections call for the northern region’s population to double to nearly one million persons by 2040. More importantly, the pattern of low-density urban and rural residential settlement presently reinforced by most of the region’s city and county general plans makes it likely that future population growth will impact a larger land area in relation to population in the northern Sacramento Valley than in other regions of the state.

Table 3 provides a summary of planned land uses which result from aggregating the region’s 22 city and county general plans.

Urban and rural residentially-committed lands account for 10.3 percent of the 6.95-million-acre region. Urban land-use efficiency, as represented by residential population density, averages just less than 2.9 persons per (gross) residential acre, compared to 4.7 persons per residential acre in the southern Sacramento Valley and 4.8 persons per acre in the San Joaquin Valley (Sokolow, 1996).

From a spatial perspective, however, most of the region’s current and future residential commitment is concentrated within the half million acres of low-density rural residential land in Butte, Shasta, and Tehama counties. It is worth noting that the general plan location of rural residential use seems to coincide with much of the northern Sacramento Valley’s oak woodland landscape in these counties (Table 3). To what extent these oak woodlands are at risk from rural residential development is unknown at this time.5

Almost all land classified as farmland in Table 3 is irrigated. Most of the region’s designated grazing land is located between the irrigated valley floor and timber-producing uplands, which includes a significant amount of the region’s oak woodland landscape.

Estimating Future Population Growth

The arguments in this paper depend upon a relatively reliable estimation of the northern Sacramento Valley’s future population. To establish the necessary baseline figures, Table 4 provides a 1995 estimate of the region’s population in the five land-use categories. Over three-quarters of the people resided in urban settings and just over 6 percent lived on resource lands. Most of the rural residential population (about 18 percent of the whole) occupied the 502,000 acres of rural residential land in Butte, Shasta, and

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5For purposes of this paper, “oak woodlands” are the same as “hardwood range,” although oak woodland is the preferred term because it connotes landscape values while hardwood range renders more an impression of economic utility.
Table 4: Summary of 1995 Population Estimates by Land Use Category in the Northern Sacramento Valley

<table>
<thead>
<tr>
<th>County</th>
<th>Within City Spheres</th>
<th>Unincorp. Community or Town (1)</th>
<th>Irrigated Farmlands (2)</th>
<th>Other Resource Land (3)</th>
<th>Rural Residential</th>
<th>County Total (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td>169,000</td>
<td>3,850</td>
<td>6,700</td>
<td>2,500</td>
<td>22,400</td>
<td>204,450</td>
</tr>
<tr>
<td></td>
<td>82.70%</td>
<td>1.90</td>
<td>3.30</td>
<td>1.20</td>
<td>10.90</td>
<td></td>
</tr>
<tr>
<td>Colusa</td>
<td>9,400</td>
<td>4,800</td>
<td>3,100</td>
<td>200</td>
<td>500</td>
<td>18,000</td>
</tr>
<tr>
<td></td>
<td>52.20%</td>
<td>26.70</td>
<td>17.20</td>
<td>1.10</td>
<td>2.70</td>
<td></td>
</tr>
<tr>
<td>Glenn</td>
<td>15,000</td>
<td>2,800</td>
<td>4,000</td>
<td>700</td>
<td>4,600</td>
<td>27,100</td>
</tr>
<tr>
<td></td>
<td>55.30%</td>
<td>10.30</td>
<td>14.80</td>
<td>2.60</td>
<td>17.00</td>
<td></td>
</tr>
<tr>
<td>Shasta</td>
<td>106,500</td>
<td>13,400</td>
<td>2,400</td>
<td>4,300</td>
<td>39,500</td>
<td>166,100</td>
</tr>
<tr>
<td></td>
<td>64.10%</td>
<td>8.10</td>
<td>1.40</td>
<td>2.60</td>
<td>23.80</td>
<td></td>
</tr>
<tr>
<td>Tehama</td>
<td>26,000</td>
<td>4,500</td>
<td>3,900</td>
<td>2,000</td>
<td>18,300</td>
<td>54,700</td>
</tr>
<tr>
<td></td>
<td>47.50%</td>
<td>8.20</td>
<td>7.10</td>
<td>3.70</td>
<td>33.50</td>
<td></td>
</tr>
<tr>
<td>5-County Total</td>
<td>325,900</td>
<td>29,350</td>
<td>20,100</td>
<td>9,700</td>
<td>85,300</td>
<td>470,350</td>
</tr>
<tr>
<td>5-County Percent</td>
<td>69.30%</td>
<td>6.20</td>
<td>4.30</td>
<td>2.10</td>
<td>18.10</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

(1) Included as part of “county urban” in Table 3.  
(2) Same as “farmland” in Table 3.  
(3) Includes all resource land except irrigated farmland.  
(4) Equal to estimate found in Department of Finance.


Tehama counties—often in clusters of two-to-ten-acre parcels, one of the least efficient forms of land utilization (Standiford, 1996). Without mandating a specific planning time frame, the state requires that city and county general plans maintain a developable land-use inventory to accommodate long-term population growth. The local governments in this region, like most cities and counties around the state, presently have general plans which provide

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6 Rural residential land use is considered inefficient for the following general reasons.  
(1) Average parcel utilization and size reduce wildlife habitat value and grazing and agricultural efficiency.  
(2) Parcels are served by on-site water and sewer and, when on smaller parcels, tend to stretch water supply and quality limits.  
(3) Low density lots require that protective services (sheriff and fire) plan and patrol over large areas which dilutes response time and manpower efficiency.  
(4) While rural residential development causes under-utilization of resources, it rarely provides enough long-term tax revenue to pay for protective services, road maintenance, environmental monitoring or planning.  
(5) Rural residential residents rarely are able to make enough income from the property to support its cost and must commute to other locations, usually nearby cities, to gain income. This sort of commuter pattern not only puts added economic pressure on surrounding resource producing lands, but it lead to increased impacts on county road systems, and inefficient transportation energy use, and contributes to regional air quality problems.

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Urbanization of the Resource Landscape

guidance for development patterns up to 20 years into the future, but
never further. For the purposes of this paper, we will assume that
the region’s 1995 general plans provide a reasonably good under-
standing of how new population will be accommodated, at least up
to the year 2010.

State population projections for 2010 and then for 2040 have
been used to develop the assessment of population and land-use
trends for each county used here. A trend assessment for 2010—
based on a review of population data since 1970, together with the
understanding that current general plans have the capacity to
accommodate state-projected growth until at least 2010 (Radabaugh,
1995)—leads us to expect population increases in the region to follow
patterns already established.

Beyond 2010, the reliability of general plans for allocating
population by land-use type in the region decreases sharply. By
then, most of the region’s city plans are either near build-out or have
time frames that have expired or are otherwise outdated. After
2010, most of these communities will need to face complex issues of
urban efficiency, urban expansion, and natural resource policy
questions. This presents the region with opportunities as well as
difficulties. If concerted action occurs within the next ten years, well
before the onslaught of new general plan updates, the cities and
counties could explore alternative ways of allocating population and
begin to redefine the direction of the region’s overall land-use policy.

2010 Assessment

We assessed each county’s population growth pattern,
together with its city and county general plans, to attribute the 2010
population forecast with each basic land-use type (Radabaugh, 1995).

Comparing the 2010 projections in Table 5 with the 1995
population figures in Table 4, we see that the population within the
region’s city spheres will account for an increasing percentage of
growth through 2010 while the percentages in all other land-use
types decreases. (Note, however, that the overall regional popu-
lation growth is large enough to increase the population in each land-
use category.) In 2010, Butte County will still be the region’s most
urbanized county, while Tehama will be the least largely due to its

\footnote{The State’s general plan requirements are contained in Government Code Section 65300
et. seq. Under these requirements, cities and counties must adopt and maintain compre-
prehensive, long-term general plans for the physical development of their jurisdictions and
land outside a city’s boundary related to its planning. While no statutory time frame is
designated, most general plans include a 20 year time frame as a matter of standard
planning practice.}
Table 5: Summary of 2010 Population Projection by Land Use Category in the Northern Sacramento Valley

<table>
<thead>
<tr>
<th>County</th>
<th>Within City Spheres</th>
<th>Unincorp. Community or Town (1)</th>
<th>Irrigated Farmlands (2)</th>
<th>Other Resource Land (3)</th>
<th>Rural Residential</th>
<th>County Total (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td>229,150</td>
<td>5,400</td>
<td>7,550</td>
<td>2,700</td>
<td>24,800</td>
<td>269,600</td>
</tr>
<tr>
<td></td>
<td>85.00%</td>
<td>2.00</td>
<td>1.00</td>
<td>3.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colusa</td>
<td>15,000</td>
<td>6,800</td>
<td>3,400</td>
<td>400</td>
<td>800</td>
<td>26,400</td>
</tr>
<tr>
<td></td>
<td>56.80%</td>
<td>25.80</td>
<td>15.80</td>
<td>3.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glenn</td>
<td>23,000</td>
<td>3,400</td>
<td>4,400</td>
<td>900</td>
<td>6,300</td>
<td>38,400</td>
</tr>
<tr>
<td></td>
<td>59.90%</td>
<td>9.90</td>
<td>2.30</td>
<td>16.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shasta</td>
<td>162,100</td>
<td>17,400</td>
<td>2,500</td>
<td>5,100</td>
<td>44,500</td>
<td>231,600</td>
</tr>
<tr>
<td></td>
<td>70.00%</td>
<td>7.50</td>
<td>2.20</td>
<td>19.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tehama</td>
<td>33,650</td>
<td>6,200</td>
<td>5,000</td>
<td>2,500</td>
<td>25,600</td>
<td>72,900</td>
</tr>
<tr>
<td></td>
<td>46.20%</td>
<td>8.50</td>
<td>3.40</td>
<td>35.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-County Total</td>
<td>462,900</td>
<td>39,600</td>
<td>22,850</td>
<td>12,000</td>
<td>102,000</td>
<td>639,950</td>
</tr>
<tr>
<td>5-County Percent</td>
<td>72.40%</td>
<td>6.20</td>
<td>3.60</td>
<td>1.90</td>
<td>15.90%</td>
<td>106.00</td>
</tr>
</tbody>
</table>

(1) Included as part of “county urban” in Table 3.
(2) Same as “farmland” in Table 3.
(3) Includes all resource land except irrigated farmland.
(4) Equal to state projection found in California Department of Finance, 1993.


relatively higher rate of rural residential development and growth.

The following discussion examines the impact of the region’s population growth county by county.

**Butte County.** In 1995, an estimated 82.6 percent of Butte County’s population resided within its five city sphere-of-influence planning areas. The Chico sphere accounted for 44 percent of the county’s 1995 population but only slightly over half that population lived within the incorporated city limits. Population growth in Butte County’s urban areas has steadily increased relative to non-urban areas since the mid-1970s.

While Butte County has the region’s largest urban area population, the population of its unincorporated communities is the smallest in the five-county region, due to limited provision of community water and sewers in unincorporated areas. At the same time, Butte County has the second largest inventory of rural residential land and population (following Shasta County; see Tables 3 and 4), found mainly in the oak woodland and the mixed forest landscapes of the northern Sierra foothills east of the Sacramento Valley floor.
Urbanization of the Resource Landscape

Projections show that the Chico area will absorb an increasingly large portion of Butte County’s population growth through approximately 2015. Growth in the Oroville and Gridley areas will be close to the state’s projected countywide rate, while growth rates in the Paradise and Biggs urban areas is expected to be lower. The rural residential population has grown more slowly in recent years and is expected to be significantly below the countywide growth rate, except in a pocket of existing rural residentially-designated prime agricultural lands near Durham just south of Chico.

**Colusa County.** Population settlement and growth patterns in Colusa County are largely confined to existing incorporated cities and unincorporated communities. Main areas for new growth are located in these existing centers and along portions of Interstate 5 where growth related to potential future value-added agricultural industry has been defined by the county’s general plan. Population increases in the county’s western foothills and oak woodlands will be limited by water availability and quality problems during severe drought cycles.

**Glenn County.** Glenn County’s principal population growth is projected to occur within its two city spheres. Population increases will occur very slowly in resource land areas (agriculture, oak woodland, and other grazing land). The county general plan has set urban limit lines congruent with its cities and unincorporated communities. Rural residential population is typically found on the Sacramento Valley agricultural floor and includes a significant number of small farm operations. The growth in these rural residential areas is expected to remain below the state’s county population projections through approximately 2010.

**Shasta County.** Redding has the region’s largest incorporated population; in 1995 its sphere contained approximately 52.2 percent of the county’s population. Its growth rate in the mid 1980s reached as high as six percent, although this has slowed significantly in the last few years. When the City of Shasta Lake incorporated in 1993, Shasta County’s unincorporated population dropped nearly to mid 1980s levels. Growth continues at rates less than the county average in unincorporated communities and in the extensive rural residential lands surrounding Redding.

The availability of water and sewer services to Shasta County’s unincorporated communities varies widely. Most of the county’s unincorporated growth has taken place on its rural residential lands, which are the most extensive of the region. Unincorporated population growth, although presently much slower than in past decades, occurs fairly evenly throughout the western portions of the county within commuting distances of Redding.
The City of Redding is expected to account for increasing portions of Shasta County's overall population growth, while growth in the cities of Anderson and Shasta Lake will be comparable to that of the county's unincorporated areas. (The only unincorporated area likely to experience slightly more rapid growth is Cottonwood and its environs, if proposed developments in northern Tehama County along Interstate 5 are eventually constructed.) In general, population growth in the county's rural residential inventory will be near or slightly less than the overall unincorporated growth rate. Over the longer term, rural residential growth rates will likely lessen as buildout on choice, easy-to-serve parcels is completed and the county develops better accounting procedures to capture rural residential service costs.

**Tehama County.** In Tehama County, the unincorporated community and rural residential population is expected to increase more than the population within city sphere planning areas, while growth on resource lands is expected to increase slowly. Most of the county's rural residential land is located in older agricultural areas where soil capability is more limited, as well as on oak woodlands and other grazing lands (particularly in the vicinity of Interstate 5 between Red Bluff and Shasta County). During the 1990s, the county redesignated slightly over 10,000 acres of oak woodland and grazing land to rural residential uses in this north area.

**A More Urban Population in 2010**

Table 6 compares population trends and projections for each of the region's land-use categories from 1995 to 2010. Overall, the region's population is projected to increase in all land-use categories, although the increase will be proportionately greater in city sphere planning areas. As noted above and in Table 5, only the Tehama County projection runs counter to the region's trend towards increased urbanization.

Even though the percentage of rural residential population decreases in 2010, its net increase of 16,700 could represent a loss of 35,000 to 70,000 acres of oak woodland, related foothill and upland resource land, and wildlife habitat (assuming an average of five to ten acres of habitat impact per new parcel). Most of this loss would be expected to occur in Shasta and Tehama counties.

**2040 Assessment**

Continuing the 1995 - 2010 trend line analysis past 2010 is considered too unreliable, given general plan and land-use policy
Urbanization of the Resource Landscape

uncertainties. However, based on 1995 - 2010 trends, population growth beyond 2010 would increasingly be directed to the region's urban areas, while population growth in rural residential lands would still be significant in terms of spatial impact on wildlife habitat quality and loss of seasonal range for grazing. The potential impact on agricultural and other resource land is harder to assess without a better understanding of future land-use policy decisions in the region.

In looking ahead to 2040, the final year of the state's long-range forecast, we note that the region's urban areas are differentially capable of absorbing increased population within their current spheres. While some communities will be able to accommodate growth within currently defined boundaries, others will need to expand or to rethink methods for dealing with density, infill and urban redevelopment. There is considerable capacity for more compact and efficient urban form here since this region's urban development is the least dense and least efficient in the entire Central Valley region (Sokolow, 1996).

We can start by asking how well long-term population growth could be accommodated if it were allocated only within the region's city spheres of influence. Table 7 shows that the region's

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Within Urban Spheres</td>
<td>325,900</td>
<td>69%</td>
<td>462,900</td>
<td>72.4%</td>
</tr>
<tr>
<td>Unincorporated Communities</td>
<td>29,350</td>
<td>6</td>
<td>39,600</td>
<td>6.2</td>
</tr>
<tr>
<td>Irrigated Farmland</td>
<td>20,100</td>
<td>4</td>
<td>22,850</td>
<td>3.6</td>
</tr>
<tr>
<td>Other Resource Lands</td>
<td>9,700</td>
<td>2</td>
<td>12,000</td>
<td>1.9</td>
</tr>
<tr>
<td>Rural Residential</td>
<td>85,300</td>
<td>18</td>
<td>102,000</td>
<td>15.9</td>
</tr>
<tr>
<td>5 - County Total</td>
<td>470,350*</td>
<td>100%</td>
<td>639,350*</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Equal to state projection found in California Department of Finance, 1993.

1995 urban spheres based on planned densities could accommodate 688,200 persons, or 71.9 percent of the 2040 projection for the region. Noting that the region’s 1995 non-urban population was 144,450 (from Table 4), and assuming that its projected 2010 non-urban population of 176,100 (from Table 5) could be stretched out through 2040, then the region’s 1995 urban sphere holding capacity could accommodate all but 92,600 of the five-county 2040 projections. Moderating future non-urban population growth, as this scenario suggests, obviously would require increased land-use efficiencies.

In Table 7, the key column is the estimated buildout of the region’s spheres of influence in 1995. As mentioned earlier, cities in the region have assumed very low densities for their urban growth and buildout. This leaves considerable buildable capacity beyond the 1995 estimates in most of these cities—if there were greater emphasis on increasing density and creating more efficient urban designs with attention to transportation and public facilities. An ideal land-use planning system could develop more urban sphere holding capacity in the region without expanding onto resource lands. The rate of population increase on rural residential lands—already a costly land-use pattern for counties—could be reduced, particularly if counties were able to give their undeveloped rural residential inventories resource-lands status.

For example, the region’s incorporated cities cover 84,306

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Butte</td>
<td>183,900</td>
<td>394,500</td>
<td>272,200</td>
<td>40,500</td>
<td>-81,700</td>
</tr>
<tr>
<td>Colusa</td>
<td>16,400</td>
<td>49,100</td>
<td>20,000</td>
<td>11,400</td>
<td>-17,700</td>
</tr>
<tr>
<td>Glenn</td>
<td>25,000</td>
<td>69,800</td>
<td>20,000</td>
<td>15,400</td>
<td>-34,400</td>
</tr>
<tr>
<td>Shasta</td>
<td>148,800</td>
<td>337,700</td>
<td>316,000</td>
<td>69,500</td>
<td>47,800</td>
</tr>
<tr>
<td>Tehama</td>
<td>50,100</td>
<td>105,800</td>
<td>59,900</td>
<td>39,500</td>
<td>-6,600</td>
</tr>
<tr>
<td>5-County Total</td>
<td>424,200</td>
<td>956,900</td>
<td>688,200</td>
<td>176,100</td>
<td>-92,600</td>
</tr>
</tbody>
</table>

(1) California Department of Finance, 1993.
(2) Radabaugh, 1995.
(3) From Table 4.
(4) (2040 population) minus (1995 sphere buildout) minus (non-sphere population in 2010) equals (potential 2040 sphere deficit).


176
acres compared to unincorporated urban and community lands totaling 126,025 acres (Table 3). Assuming 2.4 persons per dwelling unit, the region’s 2040 sphere deficit requires approximately 38,590 additional dwelling units. If each of the region’s cities increased its average 1995 density by only one-half dwelling unit per gross acre, then all of the 92,600 persons could be absorbed within 1990 city limits. If these 38,590 units were equally allocated throughout all of 1995’s approximately 210,300 urban and community acres in the region, the overall density increase would be only one dwelling unit for every five urban acres.

Table 7 presents some other interesting points. The potential 2040 sphere deficit has an opposite effect on the region’s two largest counties, Butte and Shasta. Butte County’s shortfall of 81,700 persons suggests that its cities will need to alter their internal growth policies or will suffer the loss of further agricultural and range land, together with continued pressure on rural residentially-designated lands. Shasta County, by contrast, has a large urban land surplus (based on buildout of its 1995 spheres) due primarily to the City of Redding’s huge sphere. In other words, Shasta County appears to need no further urban expansion to accommodate its projected 2040 population.

Another conclusion that can be drawn from Table 7 is that the region could benefit if sets of local governments developed coordinated plans for allocating population growth. For example, while Butte and Glenn counties had the greatest sphere deficits, they are also tangibly related by their approximate geography and economy.

In Butte County, Chico’s size may ultimately be limited by resource land considerations to the east and west and policy concerns to the north and south. Paradise’s ability to absorb significant future growth will certainly be limited if no sewer system is built in the community. Meanwhile, nearby Glenn County might benefit from the reallocation of some of Butte County’s projected growth under a comprehensive planning accord between the two counties. Admittedly, this is a complex idea and would involve lengthy planning and political processes, but this sort of discussion would be consistent with the need to deal with the region’s future population growth on an increasingly coordinated and regional basis.

Reviewing Table 7 with Table 3 seems to indicate that Colusa County may be able to absorb its 2040 forecast without impacting city spheres or the county’s resource land base. If Colusa County resolved the combined sphere deficits of all its cities by locating its post-2010 population on the 19,300 acres of urban-designated land, then its gross urban density would be less than one dwelling unit per
acre. On the other hand, the county’s 17,700-person sphere deficit could be located entirely within the 1990 limits of its cities at a gross density of only 4.3 dwelling units per acre.

While Tehama County’s sphere deficit is the smallest (a 6,600-person shortfall), this figure is somewhat misleading given the county’s projected ability to protect resource lands. As noted earlier, Tehama County is the region’s only jurisdiction whose rural residential population is projected to increase at a higher rate than in its urban spheres. The 2040 assessment for Tehama County suggests that the county’s extensive rural residential population growth before 2010 is at least partly accountable for its near neutral sphere deficit. On the other hand, if all Tehama County growth between 2010 and 2040 were to be directed into its existing urban designations, the result would have little impact on the county’s current urban density or area.

**Prospects for the Region**

The north Sacramento Valley’s projected population doubling is likely to consume agricultural land at high rates unless cities and counties coordinate their planning activities before 2010. Similarly, without a regionally-coordinated planning effort stressing more efficient urban land use, buildout of the region’s huge inventory of rural residential land will continue, impacting the oak woodland landscape surrounding the Sacramento Valley floor.

Unless these trends are halted and given new direction, the result in 2040 will be a region of just under a million people that feels and looks very filled up. Not only will agricultural and oak woodland landscapes be affected, but air and water quality will worsen, regional and local transportation networks will be stressed, and local government budgets will be pressured to provide more services to the low-density urban and residential development.

Minor increases in currently planned densities could go far to meet the projected population demand and to avoid significant loss of agricultural land. The three largest counties—Butte, Shasta and Tehama—could successfully limit further large-scale development if they protected their rural residential reserves by large-lot zoning these areas for habitat, grazing, and water quality protection. There is no question that the region’s cities and unincorporated communities have ample land to accommodate any growth that counties direct away from rural residential areas.
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Conclusions: Changes in the California Planning System

California’s current land-use planning system provides local governments with a number of practical tools, but the state’s planning law is silent to several other interrelated planning principles. The northern Sacramento Valley’s hope of increasing urban land use efficiency and protecting its resource lands in the face of the 2040 population forecast would be greatly enhanced if the state’s planning system contained the following powerful mechanisms:

1. *Clear demonstration of land needs based on population and employment forecasts.* California’s system of planning does not require cities and counties to demonstrate in specific terms why the amount of land claimed in either public or private land-use proposals is needed. General plans are not bound or guided by any standard or control for the assumptions they use in making inventory and needs assessments. For example, cities and counties are free to design their own assumption about residential density and commercial/industrial land needs. Some local governments estimate 15-year needs, others use 20 years, and still others include up to 25 percent additional land needs so as to reduce so-called “market pressure” on land. General plans often are the result of a political consensus that incorporates overly-speculative data and policy into the land needs analysis.

2. *Required intergovernmental coordination of population and employment projections, planning data and assumptions, land needs assessments and land use policies.* State planning law encourages consultation among jurisdictions, but does not require technical data and assumptions used as the basis for general plans to be coordinated between communities, except where required by federal involvement. Nor is there a requirement to coordinate general plan land needs analysis with the state’s population projection. For example, adjacent cities and a county can all use different population projections, and often the combined city and county general plan projections will exceed the state’s projection for the county. Such “double counting” can cause speculation in general plan land needs which works against efficient land use and can, at the same time, misguide state and regional investment strategies.

3. *Require that urbanization be compact and efficient.* Compact and efficient urban form, while given lip service, is not a specific requirement found in California state planning law. This planning void makes it even more difficult for city planners to develop quality urban plans and public investment strategies. As a result, transit service efficiency declines while per capita costs rise.
Public facilities, including transportation facilities, must lay and maintain more pipe and asphalt between each house and business. Residential subdivisions become more segregated from community fabric and character, while support for integrated neighborhood centers falters. Unless there is explicit planning law support for compact and efficient urban form, a city’s attempt to construct itself around the basic urban building blocks of neighborhood and community centers becomes very difficult, if not impossible.

4. Require limits defining where and when rural residential and other unincorporated development is permitted. Unless a state planning system controls urban development in unincorporated areas and regulates the economic and environmental impacts of rural residential development, attempts to achieve compact and efficient urban form and to protect resource lands will be limited. Political and economic support for compact, efficient urban form is nearly impossible to develop in small- and medium-sized cities, such as those in the northern Sacramento Valley, when counties are allowed to open up thousands of acres to low-density residential development.

References


Urbanization of the Resource Landscape


Chapter Ten

LAND MARKETS AND PLANNING BOUNDARIES AT THE URBAN EDGE: VENTURA COUNTY PATTERNS

Michal C. Moore

Ventura County furnishes the setting for this study of planning policies and land-market behavior affecting farmland conversion in and around urban fringes. How do city sphere of influence and greenbelt boundaries affect the values of farmland around five of the county’s cities? Informed by sales information for a large number of parcels and assisted by the mapping capacity of Geographic Information Systems (GIS) technology, this analysis reveals that market speculation increases land values in anticipation of general plan policies that would extend urbanization—despite protective zones established by local government to limit speculative pressure on farmland near urban areas.

The nature of the role agricultural land plays in influencing planning policy in California varies according to the communities it surrounds. In some communities it provides a bank of land for urban expansion, in others it serves to define or constrain the urban boundary. For others, agricultural land mainly provides a visual and pastoral link to a slower pace of life (the antidote to urban demands,) open space, and a sense of rural values. Still others see it as an important source of income for the community at large.

Conflicts can emerge, however, between a community’s desire to maintain agriculture for whatever reason and its need for economic growth. The planning system seeks to integrate all of these concerns into policies which reflect community values and expectations, using traditional tools such as zoning and general or specific plans, sometimes augmented by other techniques (e.g., mitigation, the dedication of special easements). In the last two decades, multiple layers of governmental control or approval that endeavor to coordinate public policy with their own organizational objectives and perspectives—Air Pollution Control Districts and LAFCOs (Local Agency Formation Commissions), for example—have emerged in California to complicate planning efforts.
All of this planning is done in the context of private investment decisions in the land market where public planners, decision-makers, investors, speculators, land owners, and future developers interact to influence and participate in controlling land development. Expanding communities often find that their only option is to consume or convert agricultural land at their margins. As a consequence, agriculture has become a "transitional" use on the edges of many California cities. This transitional characteristic may not always be anticipated in the policies adopted by communities.

This paper examines the role of planning policies in influencing land market activity and decisions in Ventura County, California. This area offers an excellent opportunity to examine agricultural land sale values at the periphery of five cities in a highly productive agricultural area subject to tremendous growth pressure from the neighboring Los Angeles area. The public policy objective of these cities is to maintain the viability of agriculture included in the community general plan (the instrument that defines the public vision of that community's future development). To assess the effects of such policy on land market behavior, we examine farmland sales values in the context of two important planning boundaries: adopted sphere of influence boundaries and designated greenbelts.

**Land Market Context**

The planning process is faced with a fundamental dilemma when dealing with the land market. As the banker's adage, "You can't push on a string," illustrates the inability to order or direct market investment, so the planning process is limited in its ability to control land-use changes.

The land market may not cooperate when planning policies seek to maintain a long-term use such as agriculture. The tendency of the market instead is to seek opportunities to acquire land at low agricultural prices through speculative purchases with the hope of capitalizing on the unearned increment through changes in land-use allowances or in general plan policies. Because traditional planning tools are not linked to market behavior or designed to take this influence into account, planning policies may prove ultimately ineffective for protecting farmland or maintaining agricultural support industries.

When agricultural land values are set high by speculative land market activity, agricultural support industries can be driven out and agricultural patterns or horticultural systems can be forced to change. The net effect: diminished health and resilience of the overall industry with wholesale, often subtle, changes occurring in
the landscape. Few planners and community residents dedicated to saving agricultural land anticipate this outcome; most, in fact, trust that the planning tools used to maintain agricultural land—through buffers or general plan restrictions—will work as expected.

As we shall see, the existence of clear public policies and of sphere boundaries and greenbelt designations, however tenaciously maintained, cannot necessarily counteract the effects of land market activity. Market bids for agricultural land are forcing changes in practice not anticipated in the planning process, and this may forecast pressure to modify planning policies and boundaries in the future.

Planning Policy and Land Markets

Public planning policies reflect a community’s view of itself over the life span of the guiding planning document, providing the context within which land development occurs. Ideally, general plan policies that specifically designate an area as permanently agricultural signal the land market and the public in general that this type of land should be treated as serving its “highest and best” use.

In reality, however, it is the private sector which actually decides whether and when to invest in the development of land parcels and also determines the level and type of investment to be made. And most commercial, industrial, and residential expansion does take place at the outer edge of the city on land already serving other uses, primarily cropland, rangeland, or open-space buffers between developed areas and the less expensive land beyond city boundaries. This land is cheaper on a unit basis than similar parcels within existing city boundaries simply because its “highest and best use” will produce less rent than the more urbanized parcel.

Such conditions prevail in transitional or edge zones, especially at the urban/rural boundary. The speculative sale process may involve a series of “strategic bids” for areas deemed most susceptible to changes within the controlling land use regulations. Anticipation of future bids may in turn presage requests for altering the basic land use plans, possibly precipitating changes in the plans themselves. Here, the sale of agricultural properties may act as a precursor to change, not only in patterns of future settlement but in crop distribution and intensity as well.

How well public planning policies protect land for agriculture depends at least in part on how effectively the policies are executed. For instance, land used for agriculture may not be formally classified or designated for future development, but may still draw speculative bids from land market developers attempting to
capture future values. This may bring pressure to bear on planners to modify allowable uses in the general plan. If planners are able to resist the pressure, the policies remain intact.

The development potential for any parcel currently in agricultural use could be schematically described by the continuum shown in Figure 1 below.

Figure 1: Illustrative Range of Development Conversion

Figure 1 shows how land markets reflect current as well as future (or speculative) patterns, in terms of the range of expectations from less to more intensive uses. A buyer could base a bid for new land on expectations ranging from continuing the current agricultural operation (the lowest rent return) to betting on future urban uses. By bidding below the expected future value, the buyer hopes to capture an unearned speculative increment of value if permission to develop at a higher density can be obtained. From left to right, the range of conversion opportunities might include:

1. Land purchase to continue or expand an existing agricultural operation, often made by an adjacent property owner to consolidate holdings or by corporations seeking to expand operations.

2. Purchase to intensify agricultural operations, where management techniques (multiple cropping; a change of crop, irrigation, or chemical application) could yield greater per-acre returns if larger or more contiguous parcels could be obtained. More intense applications here include the development of greenhouses or processing plants.

3. Speculative purchase with the intention of applying for more intense allowable use of the land, based on the expectation that, within a given time frame, land-use restrictions will be relaxed so as to permit an application for higher-intensity land use. Lands immediately adjacent to sphere-of-influence boundaries, major road intersections, and public rights of way fall into this category.
Land Markets and Planning Boundaries

4. Purchase of lands known to be in the path of future urban expansion as indicated in general plans. They may be located outside city boundaries but still within the sphere of influence, and thus likely to be annexed within the foreseeable future. These properties will inevitably experience development some day, but considerable effort and expense will be required to reclassify them for future urban development within the general plan. Land prices will reflect the potential but as yet unrealized urban classification.

5. Land where location does not currently favor development or where access presents a problem, and hence is often subject to the forces suggested by the continuum of Figure 1. Agricultural land is often located in these areas, typically in isolated pockets where ownership hasn’t changed for a long time. Prices for these parcels tend to reflect their unsuitability for urban use while, at the same time, the proximity of urban land use diminishes their agricultural value.

Working Assumptions

State law requires California city and county governments to adopt comprehensive plans with land-use and other future-oriented elements. In principle, local jurisdictions use these general plans to implement their community goals and policies. How closely patterns of investment encouraged by planning policies actually conform to general plan elements is one measure of the plans’ effectiveness. Since land sale prices indicate the land market’s preferences for available supplies of land, the Ventura County study correlates average land sale prices at various locations radiating outward from city center to boundary with rates of growth for each city, using data available from the County Assessor’s Office from the 1994 and 1995 tax rolls.

Further, to gauge how well a city’s planning policies preserve surrounding agricultural land, we assess how readily requests for new development or for annexing new territory are granted. Another way is to see whether average land prices differ within spheres of influence and designated greenbelts and, if so, whether the difference is greater around cities with higher internal rates of growth.

Case Study Background

Ventura County is the twelfth most productive agricultural county in the State of California, with a 1996 farm market value of more than $800 million. The microclimate and soils support a
diverse range of crops from specialty fruits and nuts to double and triple row-cropped vegetables (Table 1). The county ranked first in the state in 1996 in the production value of lemons and celery, and was among the top five leaders in oranges, strawberries, broccoli, bell peppers, beans, and spinach.

The Ventura County study upon which this report is based was conducted between 1994 and 1995. Each of the five cities selected—Camarillo, Fillmore, Oxnard, Santa Paula, and Ventura—is more or less surrounded by agricultural land and each has acknowledged the need to conserve this valuable resource in its general plan policies, either as a factor in the economic health of the city or as a buffer to future growth pressures—or both.

Table 1: Major Crops by Acreage, Ventura County, 1996

<table>
<thead>
<tr>
<th>Crops</th>
<th>Acreage</th>
<th>Percentage of Total Ag Acres in County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fruits and Nuts</td>
<td>104,211</td>
<td>17.70%</td>
</tr>
<tr>
<td>Total Vegetables</td>
<td>34,117</td>
<td>9.80</td>
</tr>
<tr>
<td>Grazing</td>
<td>210,430</td>
<td>59.90</td>
</tr>
<tr>
<td>Grains/Hay</td>
<td>2,795</td>
<td>0.80</td>
</tr>
</tbody>
</table>

*Total Acreage County Wide 351,553

*Does not add to 100% due to exclusion of minor crops

Source: Ventura County Agricultural Commissioner.

The study area of nearly 300 square miles includes the majority of farmland in the county, primarily on the Oxnard Plain and focusing on five key cities. Approximately 59 percent of overall production is represented by fruit and nut crops, 39 percent by vegetable crops, and the balance by field crops. In terms of production returns and wages for workers, agriculture contributes over $700 million annually to the local economy.

The area map shown in Figure 2 puts the region and its cities in context, with the Los Angeles area lying immediately east of the map site.

In order to protect their agricultural resources, the county and each of the incorporated cities have adopted restrictive planning policies. Each utilizes zoning designations that discourage conversion of agricultural land to higher-intensity urban uses. The county's Local Agency Formation Commission (LAFCO) also follows a farmland protection policy in its review and control of city efforts to
expand through annexations and changes in spheres of influence. State law requires LAFCOs to designate a sphere for each city as a future growth boundaries, generally allowing about 20 years of expansion. Designated greenbelts\(^1\) and Land Conservation Agreements (LCAs) made under the Williamson Act provide further protection.\(^2\)

But the land market pressures on this area are fierce, driven by its proximity to the Los Angeles area and fueled by its temperate climate, coastal access, and pleasant semi-rural atmosphere. In the

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\(^1\)Designated greenbelts typically have three signatories: the county and two cities. They are designed as much to target and designate those agricultural zones deemed worth of protection as to act as a buffer to neighboring city expansion. The agreements are not binding in the sense that there is no penalty for termination or modification.

\(^2\)A significant number of the total parcels (although a declining portion of total acreage) are protected under the Williamson Act.
1990s, population and housing units in most of the county’s jurisdictions have increased at annual rates of between one and two percent, similar to statewide averages but below the high growth rate of the 1980s. New growth typically occurs through annexing and developing agricultural land adjacent to cities rather than through infill and redevelopment of existing urban areas. Population and housing unit changes are shown in Tables 2 to 4.

Table 2: Population Change in Ventura County and Major Cities

<table>
<thead>
<tr>
<th></th>
<th>County Total</th>
<th>Ventura</th>
<th>Camarillo</th>
<th>Santa Paula</th>
<th>Fillmore</th>
<th>Oxnard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995 (est.)</td>
<td>720,508</td>
<td>100,677</td>
<td>58,472</td>
<td>27,093</td>
<td>12,872</td>
<td>154,558</td>
</tr>
<tr>
<td>1990</td>
<td>669,016</td>
<td>92,575</td>
<td>52,303</td>
<td>25,062</td>
<td>11,992</td>
<td>142,216</td>
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<tr>
<td>1980</td>
<td>529,174</td>
<td>74,393</td>
<td>37,797</td>
<td>20,552</td>
<td>9,602</td>
<td>108,195</td>
</tr>
</tbody>
</table>

*includes both incorporated and unincorporated areas
Sources: U.S. Census of Population and California Department of Finance.

Table 3: Dwelling Units in Ventura County and Major Cities

<table>
<thead>
<tr>
<th></th>
<th>County Total</th>
<th>Ventura</th>
<th>Camarillo</th>
<th>Santa Paula</th>
<th>Fillmore</th>
<th>Oxnard</th>
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<tr>
<td>1995</td>
<td>239,634</td>
<td>38,758</td>
<td>20,146</td>
<td>8,434</td>
<td>3,670</td>
<td>43,032</td>
</tr>
<tr>
<td>1990</td>
<td>227,184</td>
<td>37,485</td>
<td>18,648</td>
<td>8,066</td>
<td>3,522</td>
<td>40,790</td>
</tr>
<tr>
<td>1980</td>
<td>183,384</td>
<td>30,412</td>
<td>14,234</td>
<td>7,172</td>
<td>3,039</td>
<td>35,087</td>
</tr>
</tbody>
</table>

*includes the residents of both incorporated and unincorporated areas
Sources: USGS and M.C. Moore, E.S. McNeil.

Table 4: Annual Rates of Change Population and Dwelling Units (DU)

<table>
<thead>
<tr>
<th></th>
<th>County Total</th>
<th>Ventura</th>
<th>Camarillo</th>
<th>Santa Paula</th>
<th>Fillmore</th>
<th>Oxnard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pop 1990 - 1995</td>
<td>1.50%</td>
<td>1.80%</td>
<td>2.40%</td>
<td>1.60%</td>
<td>1.50%</td>
<td>1.70%</td>
</tr>
<tr>
<td>Pop 1980 - 1990</td>
<td>2.60%</td>
<td>2.40%</td>
<td>3.30%</td>
<td>2.20%</td>
<td>2.50%</td>
<td>3.10</td>
</tr>
<tr>
<td>DU 1990 - 1995</td>
<td>1.10%</td>
<td>0.70%</td>
<td>1.60%</td>
<td>0.90%</td>
<td>0.80%</td>
<td>1.10%</td>
</tr>
<tr>
<td>DU 1980 - 1990</td>
<td>2.40%</td>
<td>2.30%</td>
<td>3.10%</td>
<td>1.20%</td>
<td>1.60%</td>
<td>1.60%</td>
</tr>
</tbody>
</table>

*includes both incorporated and unincorporated areas
Source: California Department of Finance.
Study Data

In order to investigate how effectively planning policies influence land market activity in Ventura County, this study examines per-acre land market prices at various points within the study area. We compare average parcel sale prices collected since 1975 at various locations radiating outward from the city center in relation to the sphere of influence line. Prices around each of the five cities are further correlated with growth rates for each city.

A second set of comparisons concerns price values within designated greenbelts. Here the study asks whether a price gradient or differential\(^3\) exists. Greenbelts are intended to provide assurance to landowners that their property will not be subject to urban influences (primarily as the result of bids for urban type uses but also in terms of negative impacts to agricultural operations). If greenbelts are effective, we should find that like properties near the outer edge of a greenbelt are priced similarly to those closer to the interior, adjusting for soil or microclimate differences. The question is whether or not any gradient in land prices within protected greenbelt areas can be discerned and, if so, whether it is positively related to proximity to those cities with higher internal rates of growth.

Covering the five cities and five designated greenbelt areas, the study area includes a full range of parcel sizes as well as crop types. A geographical cross section of parcel sales data was generated for each city: Radiating outward from the urban center as shown in Figure 3, this included data for parcels:

- inside the city's incorporated limits,
- through the unincorporated portion of the sphere of influence,
- through any adjacent greenbelt, and
- beyond the sphere of influence in the county's rural areas.

The study relied on publicly available data, mainly information on parcel sales since 1975 from the Assessor's office, verified by

\(^3\)A price differential or gradient, in this context, refers to the rise or fall of prices as we proceed from the boundary to the center or out toward another boundary. In other words, prices do not remain level after being adjusted for crop or microclimate differences. For example, your citrus grove, which is producing the same as mine, might sell for less just because I am in the path of growth. Conversely, mine might sell for less regardless of its position vis-a-vis growth if urban proximity (vandalism and the like) is reducing the value of my crops and consequently of my land.
field checks and interviews with selected landowners. Spatial relationships developed with GIS (Geographic Information System) mapping used location and distance from boundary lines in the spheres of influence and the greenbelt zones to create value and price relationships. Each parcel was separately identified using an Assessor's Parcel Number (APN), which made it possible to download information unique to each parcel from several informational databases within existing county records. Finally, each parcel was coded to display proximity to key sphere of influence boundaries, proximity to any given city, and spatial relationship to greenbelt boundaries (if located in such a zone).

The basic information for each parcel included:

4 Other data included records from county planning, public works and agricultural commissioner's departments, local University of California farm advisors, and public map sources such as the U.S. Geological Survey.

5 This acted as a proxy for the tendency of any of the cities to grant new development proposals. This measure took into account population and housing growth rates, changes in income and annual property sales rates of agricultural land. The result was a relative scale ranging from most flexible to most restrictive in city development review practices.
Land Markets and Planning Boundaries

- Assessor's Parcel Number
- Agricultural Site Use Code
- Acreage
- Most Recent Date Sold
- Recorded Sales Price in Dollars per Acre

From the nearly 15,000 parcels in the data base, the study was narrowed down to 3,000 parcels engaged in productive agriculture (parcels of five acres or more where complete data could be found for each parcel).

The parcels were divided into four categories for comparison:

1. those totally within incorporated city boundaries,
2. those within adopted spheres of influence but outside city limits,
3. those outside the sphere of influence within an arbitrary buffer zone of approximately 1/4 mile, and
4. those within designated greenbelts

Data were also collected and compared on the basis of primary agricultural use code and by enrollment in the Williamson Act program.

Sphere of Influence Relationships

The sphere of influence boundary serves generally as the future urban growth line for a city. Within this area, prices typically reflect the expectation that urban development will actually take place within the planning horizon established by LAFCO (usually about 20 years).

When the mean price of all parcels—adjusted for crop type

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6 The selection process was as follows: of the 15,000 total separate parcels (many of zoned residential), 8,000 parcels had some type of agricultural zoning, ranging from restricted agriculture to residential agriculture (a zone which allows fundamentally residential uses as low as 1/4 acre). Forty-two percent of all parcels included in the study zone were less than one acre in size and were excluded from this analysis. Sixteen percent were either 1-4.9 acres in size or owned by public agencies and were excluded from the analysis. The remaining 42 percent, parcels over five acres were selected for analysis.

7 For all practical purposes, no parcels within existing city boundaries are enrolled in the LCA program, although the rolls produced minor instances of parcels still classified as such. I assume this to be a recordkeeping lag.
and city proximity—is compared, a very clear gradation in price differential emerges for the cities overall as we move outward from the city core where land values are highest (Figure 4). This is expected since urban land prices command higher premiums than those in rural areas.

This gradation in values generally illustrates that sphere of influence boundaries appear to function as they were designed. They do not, however, appear to confine speculation based on urban conversion values to the area immediately within the sphere. (This is significant, since land immediately beyond the sphere boundary should not be eligible for urban development for at the duration of the current sphere boundary, which could be 20 years.

However, the prices of properties adjacent to but outside the sphere boundaries of some cities exhibited urban level prices rather than the rural prices we expected. Thus, where we expected a dramatic drop in value just beyond the sphere of influence boundary (i.e., where rural values should prevail), prices closer to those inside the sphere of influence appeared. This, however, was not universal, occurring only in proximity to those cities where high growth rates of population and dwelling units were occurring.
Land Markets and Planning Boundaries

Differences Among Cities

Some urban conversion will presumably take place in the future at the periphery of the five cities in the study area. These variations generally coincide with differences in annual population growth rates shown in Table 5. The relatively low parcel prices for Santa Paula and Fillmore are associated with low population growth, while Oxnard and El Camarillo had both relatively high land values and population increases. Figure 5 notes a big variation among the five city areas in the per acre prices of parcels within spheres, but outside city boundaries.

Table 5: Average Rates of Annual Population Growth By City

<table>
<thead>
<tr>
<th></th>
<th>County</th>
<th>Ventura</th>
<th>Camarillo</th>
<th>Oxnard</th>
<th>Fillmore</th>
<th>Santa Paula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975-1995</td>
<td>7%</td>
<td>6%</td>
<td>5%</td>
<td>7%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>average post 1989</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>average pre 1989*</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

*1989 was the last revision date of most of the communities' general plans.

Ventura is the exception. Planners in the area suggested that this city's low parcel prices despite high population growth before 1989 implied that market demand was being met within the Ventura sphere of influence. The county's low average price per acre for land outside spheres of influence (Figure 5) is assumed to reflect the true value of land used only for agricultural purposes, so, since planning rules do not allow development in unincorporated areas, this is taken to be the floor value for undeveloped land.

When all locational relationships are taken into account, it appears that sphere of influence boundaries are perceived as a barrier to future urban expansion only in some cities. Price differentials identified outward from city boundaries were not uniform from city to city; greater price volatility appeared in the vicinity of cities with higher population growth rates. Figure 6 compares per-acre prices among the five cities for three areas: (1) within the sphere of influence but outside city boundaries, (2) adjacent to but outside sphere boundaries, and (3) outside sphere boundaries by more than one parcel.

The highest values among the five city areas occur within the sphere boundaries, with the exception of Ventura. Santa Paula and Fillmore reflect the county baseline and show little bid pressure
Figure 5: Mean Per Acre Parcel Prices Within Sphere But Outside City Boundaries

*average of all parcels located in county unincorporated areas outside city sphere of influence

Figure 6: Mean Per Acre Parcel Prices With Sphere of Influence Relationships

*average of all parcels located in county unincorporated areas outside city sphere of influence

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Land Markets and Planning Boundaries

for parcels immediately outside the sphere. Ventura, Camarillo, and Oxnard show higher than average prices (for all crop types and acreage ranges) throughout their influence areas.

Around the City of Ventura, land prices are higher outside than immediately inside the sphere. This may follow from a market perception that the sphere of influence in this case is stable and that urban uses will not be allowed to expand and impact agriculture negatively in the rural areas. Any negative differential with outlying parcels in the county territory is presumed to reflect negative impacts of urban proximity on farming operations.

For the cities generally, areas more than one parcel removed from the outer sphere of influence boundary still appear to respond to the influence of urban proximity. One reason for the higher land values associated with the high-growth cities may be that locally-marketed high-value-added products, such as celery or strawberries, grown in these outlying areas increase their worth. Average values adjusted by crop type for land surrounding Santa Paula and Fillmore resemble those found in the greater county area (e.g., floor values), reinforcing the notion that growth pressures for these two cities are less than those experienced by Camarillo and Oxnard.

Modification of Sphere Boundaries

Sphere of influence boundaries, established for each city by LAFCO, anticipate growth demands over a period of approximately 20 years and assume a gradual phasing-in of public service expansion to accommodate population growth over time. The Ventura LAFCO typically reviews these boundaries in conjunction with individual cities every five years to see how well they reflect current public policies and changes them at the request of cities, usually when general plans are updated.

In Ventura County, sphere of influence boundaries have remained relatively constant since the early 1980s (excluding minor adjustments such as the elimination of islands). The Ventura LAFCO has been among the most stringent in the state in maintaining existing boundaries and denying encroachment on agricultural lands. In addition, since 1994, development near the City of Ventura has been constrained by a voter-approved initiative known as SOAR (Save Our Agricultural Resources) which requires any land use change proposed for unincorporated areas to go back to the ballot box for approval. As a consequence, changes in land use have occurred primarily within incorporated city boundaries and in annexed lands inside the sphere of influence. In 1998, voters in the cities of Camarillo, Fillmore and Oxnard passed similar ordinances.
to mandate voter approval before proposed development can be authorized.

To learn whether local government policies protective of farmland could be maintained despite severe economic pressure to develop conveniently located land at attractive prices, this study sought evidence of attempts to breach local defenses. Two major avenues of investigation presented themselves:

(1) Since existing sphere of influence boundaries must be altered before developers can hope to gain access to the less expensive agricultural lands beyond, the study looked for signs of more speculation around those cities which have higher growth pressures, as seen in lower differentials between parcels within the sphere of influence and those outside and immediately adjacent to it.

(2) If sphere boundaries are not taken seriously by developers, we should find little variation in sales values between the urban core and incorporated areas, and they should exceed agricultural values by a considerable amount.

As Table 6 below indicates, land prices around all five cities decline from within to outside and adjacent to the sphere boundary, but this difference is markedly less for Oxnard and Camarillo—cities with higher rates of growth—than for Fillmore and Santa Paula. In Ventura, where the SOAR initiative limited growth after 1994 (the period following the data collection), parcel prices outside the sphere are anecdotally reported to have fallen following the passage of the initiative.

Comparing price differentials in the entire period 1975 to 1995 with prices in the post-1988 period (Table 7) shows generally higher price levels in the post-1988 period (except in the Fillmore and Ventura areas), reflecting higher demand and population. Strict

Table 6: Per-acre Parcel Price Differences Inside and Outside/Adjacent to Sphere of Influence Boundaries, 1975 -1995

<table>
<thead>
<tr>
<th>City</th>
<th>Inside</th>
<th>Outside/Adjacent</th>
<th>Difference</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventura*</td>
<td>$15,469</td>
<td>$10,137</td>
<td>-$5,332</td>
<td>-34</td>
</tr>
<tr>
<td>Camarillo</td>
<td>18,157</td>
<td>10,085</td>
<td>-$8,072</td>
<td>-44</td>
</tr>
<tr>
<td>Oxnard</td>
<td>27,333</td>
<td>20,520</td>
<td>-$6,813</td>
<td>-25</td>
</tr>
<tr>
<td>Fillmore</td>
<td>15,477</td>
<td>3,008</td>
<td>-$10,469</td>
<td>-78</td>
</tr>
<tr>
<td>Santa Paula</td>
<td>28,313</td>
<td>6,989</td>
<td>-$21,324</td>
<td>-75</td>
</tr>
</tbody>
</table>

* Ventura's data reflects sales prior to limits imposed by SOAR.
enforcement of the sphere areas began to constrain available supplies of land, causing the price of land used for new housing to rise, which in turn bid up the price of remaining open parcels. As shown in Table 6, the differences in price per acre are relatively small near the cities with the highest population growth rate.

The data do not directly correlate number of sales and land prices near those cities with higher rates of growth. For instance, more frequent land sales were found around Santa Paula and Fillmore than around the other cities, yet land prices there were not driven up by speculative activity as they were in the higher-growth areas. This suggests that agricultural properties in the vicinity of Santa Paula and Fillmore seem to change hands more often but without the premium that is attached by future conversion potential. Thus they reflect sale for agricultural purposes; consequently, speculation from urban-type uses appears to be diminished or absent.

Table 7: Change in Mean Per Acre Parcel Prices by Time Period

<table>
<thead>
<tr>
<th>City</th>
<th>All Prices, 1975-1995</th>
<th>Prices Post 1989*</th>
<th>% Change Value</th>
<th>% of Observations Post 89</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Paula</td>
<td>$6,989</td>
<td>$7,771</td>
<td>11.19%</td>
<td>53.33%</td>
</tr>
<tr>
<td>Fillmore</td>
<td>3,008</td>
<td>2,404</td>
<td>-20.08</td>
<td>72.73</td>
</tr>
<tr>
<td>Oxnard</td>
<td>20,520</td>
<td>24,383</td>
<td>18.83</td>
<td>26.37</td>
</tr>
<tr>
<td>Camarillo</td>
<td>10,085</td>
<td>10,102</td>
<td>0.17</td>
<td>15.63</td>
</tr>
<tr>
<td>Ventura</td>
<td>10,137</td>
<td>7,504</td>
<td>-25.97</td>
<td>8.75</td>
</tr>
</tbody>
</table>

*to 1995

In summary, we can make the following observations about sphere of influence effects on land values in and around the five Ventura County cities:

- For each city (but Ventura), parcel sale values fall as expected moving away from the urban area;
- values within each sphere area seem to represent urban conversion potential;
- values fall less next to cities with higher rates of growth;
higher rates of parcel turnovers (sales), combined with a lower pricing differential, seem to be found near cities with higher rates of growth.

**Greenbelt Relationships**

For many years, local governments in Ventura County have designated greenbelts composed of farmland to serve as buffers between nearby growing cities, or community separators to provide permanent open space. Given this clear indication of long-term public policy, we should expect that land prices within greenbelts—adjusting for variables such as climate, land quality, slope, and access to water and infrastructure—would be relatively uniform. The existence of land price differentials within designated greenbelts, especially if the degree of difference increases near those cities with more rapid growth rates, may imply that the market perceives the greenbelt boundaries around certain cities as being more accessible to modification.

The study considers five designated greenbelts associated with one or more cities: those between Santa Paula and Fillmore, between Oxnard and Camarillo, between Ventura and Santa Paula, the Tierra Rejada greenbelt near Moorpark, and the Santa Rosa Valley greenbelt closest to Camarillo. To examine the potential effect of planning policies on land prices, the study looked at price differences for parcels at the following locations within the greenbelt:

1. parcels at the outer edge of the greenbelt,
2. those removed from the edge by the space of one parcel, and
3. those removed from the edge by the space of more than one parcel.

In fact, parcel prices do vary across the greenbelts in the study, but not in a uniform pattern. Higher average values are found near the faster growing cities, and there is also a clear differential between the outer boundary and the core. Figure 7 shows the first of these relationships, in which average per-acre land values within greenbelts depend upon the closest city.

Table 8 and Figure 8 show per-acre land values according to greenbelt and by the location of parcels within the greenbelt, illustrating that the greatest variation or differential is occurring near high growth cities, a phenomenon that can be associated with land market expectations that boundaries are much more likely to be modified in these areas.

The following relationships emerged:
Oxnard/Camarillo greenbelt: The highest overall land prices within a greenbelt occur in the one located between Oxnard and Camarillo, the cities with the highest growth rates in the sample. Parcels nearest Camarillo are only slightly more expensive than those at the outer edge, but they are much higher-priced than parcels in any of the other designated greenbelts in the study. Anomalously, prices in the center where parcels are most protected, are lower than those at the edge, a probable reflection of soil or natural restrictions.

Table 8: Per Acre Values by Greenbelt and by Spatial Location

<table>
<thead>
<tr>
<th>Greenbelt</th>
<th>Outer parcel</th>
<th>1 Removed</th>
<th>&gt;1 Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Rosa Valley Grnbelt</td>
<td>$5,126</td>
<td>$11,630</td>
<td>$6,386</td>
</tr>
<tr>
<td>Tierra Rejada Greenbelt</td>
<td>8,204</td>
<td>8,081</td>
<td>11,674</td>
</tr>
<tr>
<td>Ventura /Santa Paula</td>
<td>5,906</td>
<td>8,975</td>
<td>9,284</td>
</tr>
<tr>
<td>Oxnard /Camarillo</td>
<td>14,780</td>
<td>15,538</td>
<td>12,866</td>
</tr>
<tr>
<td>Santa Paula /Fillmore</td>
<td>4,197</td>
<td>4,879</td>
<td>7,876</td>
</tr>
<tr>
<td>Mean</td>
<td>$7,643</td>
<td>$9,821</td>
<td>$9,617</td>
</tr>
</tbody>
</table>

Source: Ventura County Assessor’s Office, Michal C. Moore.
Ventura/Santa Paula greenbelt: Prices are lowest at the outer edge of the greenbelt and increase toward the center illustrating the expected urban relationship impact on edge parcels.

Santa Paula/Fillmore greenbelt: Price behavior in this greenbelt is similar to the gradation of prices found on the other side of Santa Paula nearer to Ventura with a gradient from low to high prices moving from the outer to inner areas.

Tierra Rejada greenbelt: This greenbelt is located closest to the Los Angeles area and the rapidly-growing cities east of the study area. It follows the same general pattern as the Oxnard/Camarillo greenbelt with lower priced parcels at the outer edge probably reflecting the close proximity of the urbanized area.

Santa Rosa Valley greenbelt: Price behavior differs from the general pattern in that parcels in the core show decreased price levels relative to those immediately removed from the outer edge. This is most likely due to soil conditions in the interior.

Land prices within greenbelts exhibit gradients that were unexpected because price levels were assumed to be similar across the greenbelts given the protective nature of this designation. Generally land prices are relatively lower closer to urban boundaries, probably illustrating the negative impacts from urban proximity. This is not true in the case of the Tierra Rejada Greenbelt next to the City of Moorpark, where speculative bids appear to anticipate conversion of some of the outlying parcels.
Land Markets and Planning Boundaries

When price levels are averaged for entire greenbelts, differences appear based on proximity to cities. For instance, average greenbelt land prices near the high growth cities of Oxnard and Camarillo are higher (within the entire greenbelt) than other greenbelts, adjusted for differences in crops and soils. Given the annexation history of these cities, this appears to indicate market anticipation of future development potential in these areas.

The combination of the price gradients across greenbelt boundaries and price differentials between greenbelts puts in question the market influence from designating land in protected categories such as greenbelts. Although unstated in policies establishing greenbelts, any buffering effect from designating land in greenbelt appears to be minimized in proximity to urban areas.

Conclusions

This research has provided reason to conclude that two important tools in the planning process, sphere of influence boundaries and designated greenbelts, do not always provide the degree of protection intended by public planners and the communities they serve. While preserving agricultural land in the short run, these tools may actually serve only to place it in holding zones until market pressure is sufficient to convince decision-makers that conversion is appropriate. For some, slowing growth is a worthy goal in its own right, but this is not sufficient for communities dedicated to maintaining the viability of their agricultural resources.

The greatest danger lies in the false sense of security planners and the public may have once these tools are in place. Believing in the “permanence” of designated agricultural or open space lands thus protected, they may not observe or recognize the growing interest of developers and speculators. They may also be unaware of gradual changes taking place within the agricultural industry itself, based on fundamental shifts in costs and productivity and on changes in land prices. By the time market pressures become visible to the unsuspecting community, the damage to the industry may be irreversible.

For example, agricultural practices may change in anticipation of higher speculative land bids. Urban encroachment can drive management costs higher and reduce net yields, causing agricultural investment to shift to more remote areas, sequentially replacing existing agriculture with less desirable alternatives. Simultaneously, support industries such as packing houses and equipment sales may be driven out of an area, increasing costs for the agricultural activities that remain. Since agriculture typically exists on slimmer
marginal returns than other business ventures, land price increases and the influence of speculative bids can ultimately destroy local agricultural operations.

Another conclusion suggested by research in the Ventura County area is that perception of the rigor and consistent application of land-use plans can vary city to city, despite consistent statewide and county definitions of the terms and conditions regarding land use within spheres of influence boundaries and designated greenbelts. In fact, the emergence of clear land price differentials within sphere of influence boundaries seems to indicate that planning policy signals can sometimes be interpreted in the opposite manner intended by planners.

Similarly, placing agricultural land in designated greenbelts does not appear to limit price rises associated with speculation and development or speculative influenced bids in this study area. Urban externalities continue to affect land resale prices and the market appears to be getting signals that land in certain greenbelts and in certain locations within all greenbelts may be available for development or other use potential beyond strictly agricultural uses. As higher prices translate into lower rent for existing or future agricultural uses, pressure increases for change of land-use classifications.

This study does not suggest that planning tools do not work or are not effective. Certainly, for most of the cities in the study area, growth has been relatively concentrated. It has taken place within cities or in territory annexed from the spheres of influence during the approximately 20 years since their general plan updates.

It does point out, however, that land market forces may not always be directed or constrained by planning policies. Parcel sales, especially those beyond the so-called growth boundaries, suggest the market is anticipating change and possibly a rollback of the restrictions that have limited growth opportunities. Land values have escalated, often beyond levels that can be sustained through agricultural rents. If indeed this relates closely to the degree to which individual cities are willing to accommodate expansion, it may be possible to anticipate renewed market pressure to modify growth-limiting policies in predictable locations.

In California, urban growth must be treated as inevitable. If we are to preserve our agricultural heritage, it is vital that we reexamine the effectiveness of the planning tools used in good faith by local communities. Alternatives must be developed which take market forces into account in order to devise systems that can sustain and insulate viable agricultural zones. The ultimate victim of our failure to take positive action may be the agricultural industry itself.
Author and Editor Biographies

Volker Eisele, born and raised in Germany, has been a grape grower and vintner of note in the Napa Valley for the past 26 years. He has been active in Napa County local politics for most of this period and counts among his primary achievements the successful shepherding of Napa County’s Measure J all the way to the California Supreme Court. He is director and has served as president of the Napa County Farm Bureau, the Napa Valley Grape Growers Association, and the Greenbelt Alliance, and also is a director of the California Association of Wine Grape Growers.

Phyllis M. Faber is a co-founder of the Marin Agricultural Land Trust. As a former member of the California Coastal Commission, she has long been involved in coastal land use issues. Ms Faber is also a biologist specializing in restoring wetlands, an author, and publisher of botanical books.

Mary Handel has been involved in agriculture and land-use issues for the past 20 years. A grape grower in San Joaquin County, she later served as Executive Director of the Napa County Farm Bureau and of the Napa Valley Grape Growers Association. She was active on the Napa County Planning Commission while completing her MS in Community Development at UC Davis (Master’s thesis on urban/agricultural conflict), then ran her own land-use research and consulting firm, and is currently attending the UC Davis School of Law.

Cathy Lemp has been a technical writer in various fields for nearly three decades. She encountered this collection while working across the hall from Al Sokolow as a Post-Graduate Researcher, having returned to school at a venerable age. Her real life is spent on a small ranch near Sonora.
Albert G. Medvitz began ranching sheep and farming small grains 12 years ago near Rio Vista, California, from where he writes about agricultural issues. Before ranching he taught the physical sciences and international education and development at Boston University. He has been a science and education adviser and organizational development consultant to several international education and development organizations, including the United Nations, and currently is a member of the board of the California Farm Bureau Federation.

Michal C. Moore is a resource economist whose work focuses on the fiscal and economic impacts of land-use decisions. Twice elected Monterey County supervisor, he has also served at the State level as Director of Economic Research in the Department of Commerce and as Special Assistant for Local Government Affairs to Governor Deukmejian. Currently he is a Commissioner and Economist Member, California Energy Commission; does contract fiscal consulting for California county and city governments; lectures at the Department of City and Regional Planning, California Polytechnic State University, San Luis Obispo; and is obtaining his PhD from the Department of Land Economy at the University of Cambridge, United Kingdom.

Mark Radabaugh has had 20 years of county and state planning experience in California, primarily in county governments in northern and Central California. In 1996, he joined the Oregon Department of Land Conservation and Development (DLCD), which oversees Oregon’s statewide land-use planning program. He presently works with cities, counties, and government councils in the six-county Willamette Valley region, representing DLCD in assisting local governments and state agencies to coordinate land use and urban livability issues.

Morton Rothstein is Emeritus Professor of History at UC Davis. He is the author of numerous articles on agricultural and business history and co-editor of the books Outstanding in His Field: Essays in Honor of Wayne D. Rasmussen and Quantitative Studies in Agrarian History. A noted agricultural historian, Dr. Rothstein has served as president of the Agricultural History Society and the Business History Conference, and was editor of Agricultural History for 10 years.
Biographies

Steve Sanders is Executive Director of the California Futures Network, a statewide coalition of business, labor, agricultural, environmental, social justice, urban, and local government organizations promoting sustainable land use in California. An urban planner by profession, Sanders served as a staff consultant in the California Legislature from 1988 to 1998, including positions as Senior Consultant with the Senate Office of Research and Chief of Staff to former Assemblymember Michael Sweeney.

Alvin D. Sokolow is Public Policy Specialist with the University of California Cooperative Extension, and associate chair of the Department of Human and Community Development at UC Davis. His research and extension activities focus on community governance issues, especially farmland and land use policy in California and local government finance and organization. As associate director for rural-urban issues of the UC Agricultural Issues Center, he edits the Center's research report series on California farmland and open space policy.

Erik Vink is California Policy Director of the American Farmland Trust and has been with the organization's California field office since 1990. He provides assistance to local governments on their planning and zoning efforts to protect farmland and coordinates the organization's policy initiatives in the California legislature. During his tenure with AFT, he has helped more than 30 counties throughout California develop farmland conservation policies and programs.