Retaining California’s Coastal Agricultural Land
Through Economic Incentives, Regulation, and Purchase

GAIL OSHERENKO
JEFF ONSTED
KEITH CLARKE
NOËLLE BOUCQUEY
KRISTIN N. HART
ABOUT THE AUTHORS

Dr. Keith Clarke is Professor of Geography at the University of California, Santa Barbara (UCSB); Gail Osherenko is Project Scientist in the Marine Science Institute at UCSB; Dr. Jeff Onsted received his doctoral degree from UCSB’s Geography Department in 2007 and is an Assistant Professor of Environmental Studies at Florida International University; Noëlle Boucquey graduated in 2005 with a B.A. in Environmental Studies from UCSB and is currently a PhD student at the Nicholas School of Environmental and Earth Sciences at Duke University; Kristin N. Hart graduated from UCSB in 2006 with a B.A. in Environmental Studies and Geography as well as a minor in Geological Sciences.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge support from the University of Southern California Sea Grant Program as well as from the University of California, Santa Barbara's Marine Science Institute and Department of Geography. The authors are grateful for student research assistance from Elia Machado, Sarah Aminzadeh, and Dominique Monie. UCSB Professor Dan Montello, a highly respected author of textbooks on research methods, vetted the survey instruments discussed in Part III. We also want to thank the distinguished members of the external review committee: Dave Davis, Executive Director, Community Environmental Council, Santa Barbara; William Fulton, President of Solimar Research Group, Ventura, and a Senior Scholar at the School of Policy, Planning, and Development at the University of Southern California; Mark Massara, Director of Coastal Programs, Sierra Club California; and Paul Wack, Professor of City and Regional Planning at California Polytechnic State University, San Luis Obispo. In addition, Mike Lundberg (Gaviota Coast Conservancy), Dianne M. Black (Santa Barbara County Planning Department), Nancy B. Francis (Ventura County Planning Division), and Anne Wells (City of Goleta) read and commented on sections of the report. We wish to acknowledge and thank all those who provided interviews or participated in the survey, some of whom are quoted in this report while others remain anonymous.

We held two focus group meetings, one in Ventura and one in Santa Barbara, to obtain feedback on the GIS data and modeling and analysis, and are grateful for the feedback at those meetings from Dave Davis, Nancy Francis, William Fulton, Linda Krop (Senior Staff Attorney, Environmental Defense Center, Santa Barbara), David Lackie (Santa Barbara County Planning Dept.), Andy Mills (California Ranchland Trust), Gary Timm (California Coastal Commission, District Manager, Ventura). We thank Liz Fuch and the Coastal Commission for assistance in obtaining files and JDL mapping for assistance in map preparation.

This publication has been produced with support from the University of Southern California Sea Grant Program, part of the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, under grant number NA16RG2256, and the California State Resources Agency. The views expressed herein do not necessarily reflect the views of the NOAA or any of its sub-agencies. The U.S. Government is authorized to reproduce and distribute copies for governmental purposes.
## TABLE OF CONTENTS

About the Authors ........................................................................................................... [i]

Acknowledgements ........................................................................................................... [i]

Part 1: Introduction ......................................................................................................... [1]
1.0 Problems and research questions .............................................................................. [1]
1.1 Building on past modeling ....................................................................................... [3]
1.2 Methods .................................................................................................................... [3]
1.3 Related research ....................................................................................................... [4]

Part 2: California policy approaches to agricultural land preservation ....................... [6]
2.0 Introduction ............................................................................................................... [6]
2.1 Synopsis of the current state of agriculture in California ......................................... [9]
2.2 The Economic incentive approach .......................................................................... [9]
  2.2.0 Overview ............................................................................................................. [9]
  2.2.1 Judicial influence .............................................................................................. [11]
  2.2.2 Williamson Act criticism .................................................................................. [12]
  2.2.3 Analysis ............................................................................................................. [13]
2.3 The Regulatory Approach ......................................................................................... [13]
  2.3.0 Overview ............................................................................................................. [13]
  2.3.1 Judicial influence .............................................................................................. [16]
  2.3.2 Coastal Act criticism ......................................................................................... [17]
  2.3.3 Analysis ............................................................................................................. [18]
2.4 The Purchase Approach ............................................................................................ [18]
  2.4.0 Overview ............................................................................................................. [18]
  2.4.1 Purchase Approach commentary ...................................................................... [19]
  2.4.2 Analysis ............................................................................................................. [21]
2.5 Regulatory approaches in Santa Barbara and Ventura Counties ............................... [25]
  2.5.0 Santa Barbara County ......................................................................................... [25]
  2.5.1 Goleta Valley ...................................................................................................... [27]
  2.5.2 Carpinteria ......................................................................................................... [30]
  2.5.3 The Gaviota Coast ............................................................................................. [37]
  2.5.4 City of Santa Maria ............................................................................................ [40]
  2.5.5 Cities and County of Ventura ............................................................................ [41]
  Ventura in the 1980s .................................................................................................... [43]
  Ahmanson Ranch protected through purchase ........................................................ [44]

Part 3. Landowners’ views, values and motivations ......................................................... [46]
3.0 Survey of landowners ............................................................................................... [46]
3.1 Values toward the land ............................................................................................ [47]

Part 4. Modeling results ................................................................................................. [49]
4.0 Introduction..........................................................................................................................[49]
4.1 Examining the past.............................................................................................................[50]
4.2 Santa Barbara County .......................................................................................................[50]
4.3 Communities of Santa Barbara County ..............................................................................[54]
  4.3.1 Santa Maria Valley (Guadalupe, Santa Maria).................................................................[54]
  4.3.2 Cuyama Valley (Outside the Coastal Zone).................................................................[54]
  4.3.3 Santa Ynez Valley (Buellton, Solvang) .........................................................................[54]
  4.3.4 South Coast (Carpinteria Valley, Goleta, Santa Barbara) ...........................................[55]
  4.3.5 Lompoc Valley ............................................................................................................[56]
4.4 Ventura County natural constraints ................................................................................[56]
  4.4.1 Ventura and Oxnard .....................................................................................................[56]
  4.4.2 Camarillo ....................................................................................................................[57]
  4.4.3 Thousand Oaks, Simi Valley, and Moorpark ...............................................................[57]
  4.4.4 Fillmore ......................................................................................................................[58]
  4.4.5 Santa Paula ................................................................................................................[58]
  4.4.6 Ojai ............................................................................................................................[58]
  4.4.7 Non-urban land use change .......................................................................................[58]
4.5 Urban Forecasting ............................................................................................................[58]
  4.5.1 Santa Barbara County ..................................................................................................[61]
    Santa Maria Valley ............................................................................................................[61]
    Cuyama Valley ................................................................................................................[61]
    Los Alamos ......................................................................................................................[62]
    Lompoc Valley .................................................................................................................[62]
  4.5.2 Non-urban land use change .......................................................................................[62]
  4.5.3 Ventura County ..........................................................................................................[63]
  4.5.4 Ventura communities .................................................................................................[66]
    Ventura and Oxnard .........................................................................................................[66]
    Thousand Oaks, Simi Valley, and Moorpark .................................................................[67]
    Fillmore ..........................................................................................................................[67]
    Santa Paula ......................................................................................................................[67]
    Ojai ....................................................................................................................................[67]
  Land Use change ................................................................................................................[67]
Part 5. Summary of findings ..................................................................................................[68]
5.0 Conclusions ......................................................................................................................[68]
  5.1 Policy implications and recommendations .....................................................................[69]
  5.2 Recommendations for future research ...........................................................................[71]
Appendix ..................................................................................................................................[72]
FIGURES:

Figure 1. Timeline of key legislative events establishing the different approaches to agricultural land preservation in California. .................................................................[8]

Figure 2. A brief overview of the three approaches to agricultural land preservation in California ...........................................................................................................[8]

Figure 3. The Economic Incentive Approach in writing: key language from the Williamson Act ...........................................................................................................[11]

Figure 4. The Regulatory Approach: key language from the CA. Coastal Act ..........[15]

Figure 5. The Purchase Approach in Writing: key language from the Coastal Act and the Farmland Conservancy Program Act .........................................................[20]

Figure 6. Purposes of the Agricultural Zones in Santa Barbara County ...............[25]

Figure 7. Comprehensive Plan policies and reality: Excerpts on Agriculture from the 1982 Santa Barbara Comprehensive Plan with comments ......................................[28]

Figure 8. Excerpts from the Ventura County Non-Coastal Zoning Ordinance .......[45]

Figure 9. FMMP Definitions of Important Farmland Categories ..........................[53]

TABLES:

Table 1. Scenario Descriptionzs .............................................................................[49]

Table 2. Comparison of agricultural land lost before and after implementation of the Coastal Act ...................................................................................................................[51]

MAPS

Map 1. Santa Barbara County Overview Map (2.5.0) .................................................[23]

Map 2. Santa Barbara County Conservation Easements (2.4.2) ...............................[23]

Map 3. Gaviota Coast and Santa Ynez Valley Conservation Easements (2.4.2) ..........[24]

Map 4. Southern Santa Barbara County Conservation Easements (2.4.2) .................[24]

Map 5. Goleta Valley Area Overview Map (2.5.1) ...................................................[27]

Map 6. Carpinteria Valley Area Overview Map (2.5.2) ............................................[30]

Map 7A-E. Carpinteria Valley Land Use Time Sequence Map Series (2.2.5) ..............[31]

Map 8A-J. Carpinteria Valley Land Use Time Sequence Map Series (1984-2002) (2.5.2) ....[34]

Map 9. Southern Gaviota Coast Area Overview Map (2.5.3) ...................................[37]

Map 10. Santa Maria Area Overview Map (2.5.4) ....................................................[40]

Map 11. Ventura County Overview Map (2.5.5) .....................................................[41]
PART 1

Introduction

Problems and research questions

The urbanization of the coast presents a serious challenge to those who would preserve the quality of life for coastal dwellers and visitors, protect sensitive coastal habitats, prevent pollution of beaches and ocean, and meet the other objectives of coastal zone management programs. California has had a coastal governance system in place for over thirty years with little systematic review of the effectiveness of the system in achieving legislative goals. This project employed a systematic methodology to evaluate the effectiveness of the California Coastal Zone Management Program (CZMP) in protecting farmland and to compare this regulatory approach for protecting agricultural land to other tools, namely economic incentives and purchase of conservation easements.

The California Coastal Act of 1976 identified retention of important farm- and rangeland as one of the top three priorities for land use in the coastal zone. The legislature must not have regarded the economic incentives of the Williamson Act (adopted in 1965) as sufficient to prevent conversion of valuable agricultural land within the coastal zone, since the 1976 Coastal Act employed regulatory provisions designed to minimize conversion of coastal agricultural lands. California’s federally approved coastal zone management plan gave the statewide Coastal Commission significant authority to regulate development in the interest of all the state’s citizens while allowing cities and counties to exercise authority in line with state standards.

In 1976, the California legislature declared “that the agricultural lands located within the coastal zone contribute substantially to the state and national food supply and are a vital part of the state’s economy,” and these lands “should be protected from intrusion of nonagricultural uses, except where conversion to urban or other uses is in the long-term public interest.” The legislature understood that the rate of population growth in coastal communities coupled with the patterns of development that foster sprawl threatened conversion of agricultural land in the coastal zone. In 2007, thirty-one years after enactment of the Coastal Act, California’s coastal zone retains important farm- and rangeland. Farms in the coastal zone still make use of unique soil and climate conditions to produce high value crops, provide fresh and healthy produce to local markets, and reduce the pressure of urbanization on coastal and marine ecosystems.

In addition to the Williamson Act incentive system and the Coastal Act’s regulatory provisions, the state law assigned responsibility to the Coastal Conservancy for purchasing property rights in order to implement a program of agricultural protection, area restoration, and resource enhancement in the coastal zone. Private agricultural lands are included in the lands of “special significance” that may be selected by the Conservancy as appropriate for land trades. Further, the Conservancy “may acquire fee title, development rights, easements, or other interests in land located in the coastal zone in order to prevent loss of agricultural land to other uses and to assemble agricultural lands into parcels of adequate size permitting continued agricultural production.”

[1] The California CZMP is operated by three lead agencies: the California Coastal Commission, the California Coastal Conservancy, and the San Francisco Bay Conservation and Development Commission (BCDC). Their programs and activities combined compose the state’s federal Coastal Zone Management Program (for purposes of the federal Coastal Zone Management Act of 1972). These agencies provide the framework for the California coastal regime, a social institution that sets the rules of California coastal management, defines social practices, assigns roles, and guides interactions among the occupants of these roles.

[5] Ca. PRC, Sec. 31104.3.
Current trends in planning aim to protect agricultural land in rural areas but pose threats to agricultural lands within and adjacent to urban boundaries. Under the New Urbanism and Smart Growth planning approaches, the trend in development is away from sprawl and toward higher density cluster housing that will minimize commuter traffic and create communities that provide jobs, shops, and recreation in more concentrated areas. This would require a dramatic shift away from \( \frac{1}{2} \) or 1 acre zoning to densities of 40 or more units per acre. While high-density zoning is seen as enhancing opportunities to preserve open space and agricultural land outside of urban boundaries, remaining agricultural parcels in and adjacent to urban areas may become prime candidates for conversion. Current residents who value low-density suburban and rural lifestyles often vehemently resist efforts to create high-density development. Conflicting policies and overlapping state and federal jurisdictions increase the difficulty of shifting to development strategies that limit growth to urban areas. Such conflict poses challenges to the protection of rural and agricultural areas and to upland parts of the watershed, strategies recommended in the Pew Ocean Report.

Planners are also realizing that coastal land management should take place at the watershed level. California’s Coastal Commission does not have jurisdiction over upland development and land use outside the coastal zone. Politically defined boundaries can undermine the protection of marine, estuarine, and coastal ecosystems affected by development outside the coastal zone. Statewide coastal policies and regulations influence land use decisions countywide, not only in the coastal zone. We explored the influence of the CZMP on local land use decisions in order to understand the dynamics of land use management in Santa Barbara and Ventura Counties.

The coastal counties of Santa Barbara and Ventura, with land both inside and outside California’s coastal zone boundary, provided a unique opportunity to study and evaluate existing legal and economic mechanisms designed to prevent loss of agricultural lands. California employs a complex of economic, regulatory and legal tools to protect agricultural land: regulatory restrictions (command and control mechanisms), tax incentives, and purchase of property rights. Each of these policy instruments helps to preventing the conversion of agricultural land. The research we initiated in 2003 sought to understand the interplay among these three approaches to agricultural land retention. Specifically, we sought answers to the following questions:

1. Have the regulatory mechanisms of California’s Coastal Act resulted in increased rates of retention of agricultural land inside the coastal zone?
2. Have the regulatory mechanisms of the Coastal Act affected agricultural land retention in areas outside the coastal zone not subject to the same stringent provisions?
3. Are regulatory mechanisms of the Coastal Act and local ordinances more effective in retaining agricultural land than the Williamson Act’s incentive system (voluntary contracts between counties and landowners that provide tax reductions for 10 and 20 year agreements not to convert farm- and agricultural land)?
4. How do the different institutional mechanisms interact? Taken together do they protect agricultural land against the socio-economic drivers of conversion such as rising land values and loss of agricultural infrastructure to support a farm economy?
5. What are the conditions that constrain effectiveness of each of these mechanisms for retaining agricultural land?
6. Using mapping and modeling, what would different future scenarios look like if Coastal Act or Williamson Act provisions were removed?
7. Given what can be learned about the study area and its context, what changes in the coastal institutions (management, policies and practices) would be needed to prevent the loss of remaining agricultural land in coastal counties? Do these local recommendations have regional or statewide utility?

To address these issues we studied the dynamics of agricultural land conversion in two of California’s coastal counties and examined the role of local (county and city) and state decisions on agricultural land conversion and retention. We sought to determine the relative importance of incentive based institutions, regulatory tools, and purchase of property rights in retaining agricultural land. We created GIS maps showing past changes and used these to model scenarios of possible futures for agricultural land in these two counties. Based on these maps, modeled scenarios for the future, review of relevant literature, in depth interviews and a survey of landowners, we offer recommendations to improve the effectiveness of the institutions that determine land use in California’s coastal counties. While important to the coastal areas, the findings are also useful to inform policy decisions for California’s Central Valley, an agricultural area where population is expected to triple by 2040 (Bradshaw, et al. 1998).

Building on past modeling

A team in the Department of Geography at UCSB, headed by Professor Keith Clarke, developed an urban growth and land use change model (SLEUTH) that has been applied in many different parts of the world. Many applications, however, did not analyze the policy drivers of land use change nor study how local and state decisions have affected land use. This application of SLEUTH uses extensive data sets created for the two test counties and links the discernable land use changes over a 30 year period to changes in laws, regulations, land use plans, zoning, and land use decisions of local, state, and federal agencies. Coupling GIS and modeling methods with study of local and state land use decisions, we have calibrated the model to project the future in more meaningful ways. For instance, the Excluded Layer of the SLEUTH model considers certain areas off limits to development. The agricultural lands are considered only by the users choice (i.e., the user decides if they are 50% protected, 100%, etc.). This research enabled us to use the Coastal Zone and the Williamson Act to create a more complex Excluded Layer that integrates the conclusions garnered from this research. The GIS data were previously complete for the Southern part of Santa Barbara County only (with the exception of newer land use data (post-1984) and current Williamson Act data. To this, we added land use data for the Northern part of Santa Barbara County and for Ventura County as well as older Williamson Act histories for both counties.

SLEUTH has already been explored as a means to forecast land use changes and their environmental consequences, for example by the EPA, in Brazil, and in micrometeorology. Other SLEUTH forecasts for Santa Barbara’s South Coast are among the most detailed SLEUTH applications to date and at the highest levels of spatial and attribute resolution.

Methods

This study of land use change employed a collaborative approach that integrates social science with complex spatial analysis techniques and enhances quantitative data with qualitative data. We used existing spatial datasets (e.g. GIS parcel layers, historical aerial photography, remote sensing) to develop an understanding of the land use change history in Santa Barbara and Ventura counties and integrated this with a historical study of coastal and agricultural land use policies, structured interviews, and a survey of agricultural landowners. The overriding challenge of this project has been to find ways to determine how much agricultural land would remain in the absence of the Coastal Zone Management Planrogram and/or the Williamson Act? Would urbanization have spread more extensively beyond the urban/rural boundaries established in current county maps and land use plans?


We employed three methods to respond to the challenge:

A. Built a GIS database of the study area to conduct an analysis of agricultural land conversion from two decades prior to creation of the CZMP (1945 for Ventura, 1954 for Santa Barbara) to the present. We used this to compare conversion rates prior to establishment of the CZMP, following creation of the Coastal Commission in 1976, after certification of local coastal programs (in the early 1980s). The analysis relied on aerial photography for the pre-1984 land use classifications and the Farmland Monitoring and Mapping Program (FMMP) for the post 1984 land use, as well as other existing datasets (e.g. US Census, FRAP/CDF, DWR land use data, and NOAA). We analyzed patterns, rates and trends of agricultural land use transitions over time and space (e.g. inside and outside the coastal zone), investigating the conversion phenomenon qualitatively (e.g., land transition information) and quantitatively (e.g., area converted). This geographical analysis required deriving quantitative descriptive measures of the observed changes and driving factors (e.g., probabilities derived from observed phenomena regarding likelihoods of parcels converting given their regime as well as proximity to urban areas) of land use change for each one of the time periods. Tools for this step included ArcGIS and analytical packages bundled in ArcToolbox as well as Excel.

B. Simulated different land use scenarios and generated forecasts. Once we assembled the data, we calibrated the SLEUTH model with the historically known Excluded layers existing in Santa Barbara and Ventura Counties. We used the data gathered in our GIS analysis to run the SLEUTH model to simulate land use conversion scenarios with various combinations of policy restrictions controls, and explored the different scenarios.

C. Formulated, disseminated, collected, and interpreted surveys and questionnaires to both landowners and institutions. We hoped to ground our more deterministic modeling in a human framework so that possible important pieces of our modeling could be checked and so that we could flesh out the story of land use change. As will be explained in Part 3 of this report, we were only able to collect a small sampling of completed surveys (13 in all), and thus have used these to further explain landowner motivation and behavior, as well as to enhance information from the literature survey and interviews with landowners, land planners, and others knowledgeable about land use in the study area.

Related research

Past evaluations and reports have provided considerable time-sequenced data and information on the evolution of the California coastal regime, but they have not provided the systematic and independent evaluation of the coastal regime. The state and federal authorities have conducted these periodic evaluations of the CZMP and related acts at roughly 5-year intervals. Mandated by law, they provide summaries of activities over relatively short spans between evaluations, highlight issues relevant at the time, and recommend specific amendments to the legal framework, changes in implementation or enforcement, and allocation of funding. In the 1990s, those concerned with the decline in quality and quantity of ocean resources focused renewed attention on the need to understand the interaction of land and ocean and the impact of pollution and land use decisions (made both in the coastal zone and areas further inland) on marine life. California issued a substantial report in 1997 entitled California’s Ocean Resources: An Agenda for the Future that summarized a number of statutes and agency roles, analyzed major ocean resource management issues, and provided policy relevant recommendations. That report did not examine in any depth the impacts of the California coastal regime. It does, however, include useful data, and it highlights critical issues.

[10] The GIS data is available on the internet through the Alexandria Digital Library at UCSB and the ESRI Geography Network.
The Coastal Commission has completed three studies of cumulative impact in the coastal zone under the Regional Cumulative Assessment Project (ReCAP); one of these overlaps a small portion of our study area in Ventura but does not focus on agricultural land conversion. These contain useful information showing changes over time.

The use of Remote Sensing (RS) and GIS for coastal applications and management dates from the 1960s and constitutes an increasing trend that is gaining wider acceptance among scientists and stakeholders. Decision-makers have recognized the value of these technologies to scientifically ground their decisions and are adopting them to increase the efficiency of coastal area management. Coastal GIS-RS research includes a wide range of applications (e.g., water quality assessments, oil spill remediation, coastal hazards, and open space conservation). Literature regarding integrated coastal agricultural lands monitoring, specifically in relation to coastal management policies, is limited and focuses on non-agricultural objectives of coastal protection such as protection of estuaries and wetlands.

Several land use and land cover change programs such as NASA's Land Cover Land Use Change Program (LCLUC) and the NOAA Coastal Change Analysis Program (C-CAP) are currently in place. The C-CAP uses satellite imagery, aerial photography, and fieldwork to track land cover change along the nation’s coastal zone. Also, extensive research in understanding urban dynamics has culminated in the development of land use change models such as the Keith Clarke’s SLEUTH model, which covers our study area.

[12] Regional Cumulative Assessment Project (ReCAP), http://www.coastal.ca.gov/recap/rcstop.html. The assessment for the Santa Monica Mountains/Malibu includes part of Ventura County.
PART 2

CALIFORNIA POLICY APPROACHES TO AGRICULTURAL LAND PRESERVATION

Introduction

Agriculture has been and is now many times more sophisticated a venture than space travel could ever become . . . partly because it comes out of living nature and is therefore complex, and partly because more human minds have worked on ways to generate an assured food supply than on any other task.

Wes Jackson, Altars of Unhewn Stone

Since the early 1960s “human minds” began not only to ponder ways of generating food, but also, ways to maintain the land necessary for its generation in the face of increasing population and development pressures. The first significant “wake up” call for Californians arrived after the Second World War when in a span of about twenty years the state lost over 1 million acres of prime agricultural land because of encroaching urban sprawl. In the 1960s and ’70s, concern over shaping and directing growth to avoid urban sprawl and protect agricultural land and open space led to increased state efforts to prevent conversion of agricultural land. Legislation included three types of policy tools: voluntary economic incentives (under the Williamson Act), state regulation (in the the coastal zone under the Coastal Act), and acquisition of agricultural land or an interest (e.g. development easement) in agricultural land (through creation of the Coastal Conservancy). A combination of approaches by the state aimed to influence local planning decisions, as well as the behavior of individual landowners.

In the past, policy regarding agricultural land retention and conversion had been exclusively the province of local governments, counties and cities, authorized under state law to adopt general plans and implement them through zoning ordinances. In 1963, the California legislature authorized creation of Local Area Formation Commissions (LAFCOs) in order to discourage urban sprawl, encourage orderly formation and expansion of local government, and guide development away from agriculture and open space resources. Eventually, each county, except San Francisco, created a LAFCO. These effectively became growth planning agencies when the Legislature in 1971 directed them to prepare and adopt a “sphere of influence” for each city and special district. Future annexations by cities would be drawn from the spheres of influence adopted by the relevant LAFCO. Santa Barbara County’s LAFCO is made up of 2 County Supervisors, 2 city officials, 2 special district members, and 1 public member. In the view of some critics, LAFCOs city and county representatives work collaboratively and tend to approve most annexations proposed by member cities. Given their composition, LAFCOs may be heavily influenced by local politics. Despite strong LAFCO policies to protect prime agricultural land, in Santa Barbara County, agricultural land, including prime agricultural land, has been converted to residential and commercial development in urbanized parts of the County’s unincorporated areas (e.g. adjacent to Goleta and Santa Maria and in the unincorporated community of Orcutt).

In 1965, the California Legislature passed the economic incentive-based Land Conservation Act of 1965, also known as the Williamson Act. Under the Williamson Act, farmers with a minimum of 100 acres of agricultural land may contract with participating counties to leave their land undeveloped for a period of ten years in exchange for reduced property tax assessments. The Williamson Act contracts roll over each year unless the landowner opts to begin withdrawal. The withdrawal process occurs over a nine-year period with gradually increasing taxes, unless the county allows for immediate cancellation, which usually includes a hefty penalty payment.

Five years later, when California voters passed an initiative to protect coastal land, they endorsed a regulatory approach to protecting agricultural and other open space on the coast. Frustrated by the inaction of the legislature in the face of public concern over the Northern California Sea Ranch coastal housing development, along with loss of wetlands, habitat, beach access, and open space, the voters approved Proposition 20, The California Coastal Zone Conservation Act in November 1972. Among its priority goals, Proposition 20 aimed to protect coastal agriculture and prevent scattered developments that were carving up agricultural land and producing urban and suburban sprawl. Proposition 20 created a statewide Coastal Zone Commission and six regional commissions to review development in the coastal zone, including lot splits, which required a coastal permit. The 1972 initiative also required the Commission to prepare and submit to the legislature a Coastal Plan, which was intended to serve as the basis for a permanent and legislatively adopted Coastal Act. The authors of Proposition 20 included a “sunset clause” under which the initiative would terminate at the end of 1976, and they correctly calculated that this would put pressure on the legislature to adopt a law to carry out the Coastal Plan. While the legislature did not simply enact the Coastal Plan in its entirety, it did base the California Coastal Act, passed in 1976, on that original plan.

Since Coastal Act jurisdiction only extends as far as the politically determined coastal zone boundary, this state regulatory approach has only been tried and tested within the narrow band of the coastal zone (ranging from approximately 1,000 yards inland from the mean high tide line to as much as 5 miles inland (in coastal estuarine, habitat, and recreational areas). The final approach to agricultural land preservation addressed here, the outright purchase of lands or easements, has its origins in both the state Coastal Conservancy (established in conjunction with the Coastal Act) and in the Farmland Conservancy Program Act of 1995. Both programs provide funds for the permanent protection of agricultural land through easement acquisition.

---

[21] The Act became effective the day after the vote on November 8, 1972.
[22] Phyllis Faber, “Has the Coastal Act Worked?” California Coast and Ocean 12.4 (1997), California Coastal Act, California Public Resources Code, (Deering’s California Codes Annotated, 2004), § 30000 et seq.
### Approach

**Law(s):**
- California Land Conservation Act (Williamson Act) [1965]
- California Coastal Act [1976]
- Farmland Conservancy Program Act [1995]
- Coastal Act [2002]

**Key Agencies & Players:**
- CA Dept. of Conservation
- Counties/Cities
- The landowner
- CA Coastal Commission
- Counties
- CA Dept. of Conservation
- Coastal Conservancy
- Private Land Trusts

**Benefits:**
- Reduces property taxes
- Reduces burden on counties to provide services
- Limits allowable agricultural land conversions
- Requires Local Coastal Plans (LCP)
- Land preserved in perpetuity
- Reduces property taxes

**Drawbacks:**
- Voluntary agreements
- Not adequate when development pressure is high
- Costs State money/Subvention payments from State insufficient to offset lost local tax revenue
- Only applies in the coastal zone
- Expensive
- Voluntary
- Difficult to implement on a widespread basis

---

**Figure 1:** Timeline of key legislative events establishing the different approaches to agricultural land preservation in California.

1965: Williamon Act installs a program for voluntary agricultural land preservation [Cal Gov Code § 51220]

1976: California Coastal Act establishes the State’s interest in maintaining agriculture in the coastal zone & creates the Coastal Conservancy. [Cal Pub Resources Code § 30001]

1982: Coastal Act Amendment allows Coastal Conservancy to give grants to outside agencies seeking to preserve agricultural land in the coastal zone [Cal Pub Resources Code § 31156]

1995: Farmland Conservancy Program Act provides more funds for agricultural land preservation [Cal Pub Resources Code § 10201]

2000: Farmland Security Zone program allows farmers to place their Williamson Act lands under contract for 20 years instead of 10. [Cal Gov Code § 51926]

2002: Coastal Act amended to give Coastal Conservancy $600,000 per year to spend on agricultural land preservation. [Cal Pub Resources Code § 31150.1 amendment]

**Figure 2:** A brief overview of the three approaches to agricultural land preservation in California.

---

### Economic Incentive
- California Land Conservation Act (Williamson Act) [1966]
- California Coastal Act [1976]
- Farmland Conservancy Program Act [1995]
- Coastal Act [2002]

### Regulation
- California Coastal Act [1976]
- Coastal Act [2002]
- Farmland Conservancy Program Act [1995]

### Purchase
- Farmland Conservancy Program Act [1995]
- Coastal Act [2002]
- CA Dept. of Conservation
- Coastal Conservancy
- Private Land Trusts
The Williamson Act, the Coastal Act, and the California Farmland Conservancy Program (CFCP), together with the Coastal Conservancy, provide three distinct methods of agricultural land preservation in California: economic incentive, regulation, and outright purchase of property or property rights. In this section, we examine each of these methods in greater detail in order to ascertain their strengths and weaknesses and understand their implementation inside and outside of the coastal zone. This section examines the language of the codes as well as the influences of judicial decisions, agency policies, and professional criticism. Each of these approaches interacts with the others, creating new questions and issues to be analyzed further in the study.

### Synopsis of the current state of agriculture in California

California is a state of crucial but threatened agricultural output. It is currently ranked number one among US states in terms of agricultural production, generating over $25 billion in revenue during the last Census. This measure of success, however, masks the seriousness of the fact that a net 11.5 million acres of prime farmland have been lost since 1965, when the legislature passed the first significant agricultural land protection measure – the Williamson Act. With a population of 36 million that is expected to increase by another 26 million by 2040, it is no wonder that California contains three of the nation’s top 20 most threatened farming regions (with the central coast ranking as number 15). The gravity of this situation makes it prudent to conduct any study, however small, that may shed light on the most effective approaches to preserving the agricultural lands that do remain. While this particular project focuses on coastal agricultural lands, the results apply to any agricultural areas with intense development pressures.

### Economic incentive approach

#### 2.2.0 Overview

The major embodiment of the economic incentive approach to agricultural land preservation is the Williamson Act program. According to Alvin Sokolow of UC Davis, the Williamson Act has provided a way since 1965 for farmers to stay in the agricultural business in the face of continually increasing pressure to convert their lands to other uses. As explained in the introduction, under the Williamson Act, landowners enter into a special contract with their local county government agreeing to keep the land in agriculture for ten years. The County then assesses the land at agricultural land use values, rather than market property values. The contracts are automatically renewed each year (even if the ownership changes) until the landowner files a notice of non-renewal, at which point a nine-year withdrawal phase begins, with land taxes rising proportionately.

The Williamson Act theoretically provides benefits for all parties involved. The farmers benefit by not having to pay potentially devastating land taxes, and the counties receive subventions from the state to partially cover lost property tax revenues. Also, counties remain free of the planning and public service headaches that arise with developments requiring utilities, schools, fire stations and other special districts and services. The less farmland that gets transformed into housing developments, the less local governments must expend in time, energy, and money. Over forty

---

[27] The gross was actually higher but some new prime farmland was settled, and the net loss was somewhat mitigated.
[29] The American Farmland Trust.
studies have found that having farmland nearby actually saves communities money. By 1990, these benefits were appealing enough to the parties involved that approximately half the state’s agricultural land was under Williamson Act contract, a figure that remains accurate today.

These numbers can be misleading, however, since they suggest stasis in Williamson Act lands. In fact, lands surrounding urban areas tend to leave the Williamson Act and, therefore, allow the urban footprint to expand. This, in turn, puts pressure on new lands to leave the Williamson Act and the cycle continues. Acres have remained relatively constant due to new enrollments in more remote areas; however, these areas will eventually be completely tapped. When that happens, there will be a constant decline in Williamson Act acreage that will not end until development does. Underscoring all of this is the undeniable and discouraging fact that prime farmland is most likely to leave the Williamson Act and/or most likely to be developed since it tends to be closer to urban areas than ranch lands. Nevertheless, the Williamson Act does reduce leapfrog development and, as the modeling will show, slows development.

In spite of its benefits, the Williamson Act has not always attained its goals. As previously mentioned, California continues to lose thousands of acres of prime farmland each year. In spite of the hope that the Williamson Act would slow urban sprawl across especially threatened prime farmland, acreage enrolled in contracts has consistently been low near urban boundaries and highest in remote, non-prime land areas. This trend has been disappointing for those who had counted on the Williamson Act to safeguard the most productive soil.

Tax policy has had a significant effect both on participation in the Williamson Act and on growth trends more generally. The 1978 passage of Proposition 13 limited the allowable property tax rate throughout California to 1% of fair market value. Additionally, the growth in taxable value for each parcel is limited to 2% per year until it is sold or there is a significant change in use or improvement value. This not only reduces the amount of tax local governments may collect and use to provide municipal services, it also reduces the value of the tax reduction provided under Williamson Act contracts, particularly for properties with higher fair market value located within and close to urban boundaries. This reduces the incentive for farmers with lands most threatened by development to enter into Williamson Act contracts. However, the tremendous reduction in contracted lands never materialized as many naysayers of Proposition 13 predicted it would. Scholars explained that though farmers faced a decreased comparative advantage enjoyed before the passage of the Proposition, most farmers still found enrollment to be more in their interest than non-enrollment.

[38] to the Santa Barbara LAFCO, September 1, 2005 (A.7), available at http://www.sblafco.org/docs/09-01-05/Item08_MSRs_and_SOI_Updates-Santa_Barbara-Goleta_Valley.pdf (viewed 2.10.08).
2.2.1 Judicial influence

Although the Williamson Act has appeared in four major court cases and dozens of other judicial proceedings, there is one case that had a particularly significant impact on the Act’s implementation.\textsuperscript{40} \textit{Sierra Club v. Hayward}, by upholding a strict interpretation of the Act’s cancellation provisions, preserved the legislature’s intent that development of Williamson Act lands remain a slow, controlled process.\textsuperscript{41}

The case revolved around a ranch that contained land under Williamson Act contract located along the edge of the City of Hayward. The landowners had petitioned the city for cancellation of part of their contract in anticipation of allowing developers to construct a residential subdivision on the property. The city approved the petition, citing the “relatively small” area under discussion, the contiguity of the development to prior developments, and the offer of open space to benefit the city. The Sierra Club repeatedly appealed this decision on the grounds that it violated the cancellation procedures as specified in the California Government Code §51282. The case reached the California Supreme Court, which found that the city had not adequately proven that all cancellation requirements had been met. Hayward had not provided enough evidence that: (1) cancellation was “not inconsistent” with the purposes of the Act, (2) cancellation was “in the public interest,” (3) there was “no proximate, non-contracted land suitable for the use to which it is proposed the contracted land be put,” or (4) that there was no “reasonable or comparable agricultural use to which the land [might] be put.”\textsuperscript{42} Although the city had provided some superficial reasoning for its decision, the evidence was insufficient in the eyes of the court to justify an outright cancellation of the Williamson Act contract.

The people of California did not immediately accept the court’s strict interpretation of the cancellation procedures of the Williamson Act. Some landowners and legislators felt that such an interpretation would deter people from entering into Williamson Act contracts. In response, the legislature passed AB 2074 which allowed for a short period of less stringent cancellation requirements for

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure3.png}
\caption{The Economic Incentive Approach in Writing: Key Language From the Williamson Act.}
\end{figure}

\textsuperscript{[41]} Sierra Club v. City of Hayward, 28 Cal 3d 840 (1981).
\textsuperscript{[42]} Sierra Club v. City of Hayward, at 854-863
those who wished to be released from their contract because they had misunderstood the law.\footnote{The legislature also clarified the language of the Act, requiring cities or counties to provide evidence for either the “public interest” or the “consistency” requirements of the cancellation policy, but not both. The legislature added new conditions to each finding, however, so as not to weaken the cancellation policy as a whole. Overall, the court’s actions reinforced the legislative history showing that “cancellation provisions were included [in the Act(s)] a means of dealing with strictly emergency situations where the public interest no longer dictates that the contract be continued...”\

2.2.2 Williamson Act criticism

As a major institutional tool aimed at agricultural land preservation, the Williamson Act has attracted a variety of scholarly criticism. The state’s own evaluations also echo most of this criticism. The most widely-expressed disparagement is that the tax benefits offered by the Act are inadequate to protect prime farmland, especially near urban fringe areas. As John Dean points out in “A Panacea That Wasn’t,” the most productive parcels of land have the highest values under Williamson Act assessment procedures, and thus the lowest comparative tax advantage.\footnote{This is true since lands are assessed by farm income, and the most fertile lands produce the highest incomes. These fertile lands, however, are often the most valuable in terms of market worth due to their frequent proximity to urban areas as well as their flat, well-drained and easily developed soils. In addition to the relatively small tax advantages gained by highly productive farmland, development of the land often offers several times the profits made through farming. As mentioned before, Prime Farmland tends to be closest to urban areas, further compounding the threats. Unless farmers are highly motivated to remain in farming, it is economically rational for “fringe” farmers to sell out. This is a significant and widely recognized failing of the Act, but solutions remain elusive.} Another major criticism of the Williamson Act addresses its design and administration. John Dresslar maintained that the Act’s decentralized approach to its administration is entirely inadequate.\footnote{He urged the legislature to “act decisively to preserve California’s remaining farm and range land” and lamented that “the primary cause of California’s failure to halt wasteful urban sprawl is its reliance upon local regulation.” Dean agreed, opining that “many of the Williamson Act’s failings may be traced to a complete lack of state guidance and coordination.” Both suggested stronger state guidance for the program, and Dresslar proposed that the state form an agricultural land use agency with a mandate to create long-term plans for statewide agricultural land preservation. While both of these authors wrote their articles in the 1970s and the Williamson Act has further matured since then, their points are still valid as the Act has never undergone any significant structural changes in regard to state versus local administration. The state Department of Conservation, Division of Land Resource Protection, however, now performs some of the tasks suggested by Dresslar.}

In a 1990 review of the Williamson Act program, the California Resources Agency provided its own critique. Sokolow, the primary author, found that while the Act was “effective in protecting the economic viability of California agriculture,” it did not “substantially reduce the conversion” of agricultural lands across the state.\footnote{In other words, the Williamson Act helped keep farmers from going out of business, but did not necessarily prevent them from selling their land for other reasons.}
There is no way to accurately gauge, of course, how patterns of agricultural land conversions might have differed had the Williamson Act never existed. The state study does offer, however, several personal anecdotes from ranchers and farmers who testify that without the Williamson Act they could not have kept their operations alive.

2.2.3 Analysis

As an economic incentive approach to the preservation of agricultural land, the Williamson Act has demonstrated usefulness and longevity. Still functioning after forty years, it is appreciated by landowners and admired by other states. Despite its original ideas and economic benefits, though, the Act cannot stand alone as a method of agricultural land preservation. Its voluntary nature and inability to withstand intense development pressures mean that additional approaches to agricultural land preservation must be considered, especially if the protection of Prime Farmland is considered a priority.

2.3 Regulatory approach

2.3.0 Overview

The California Coastal Act is the state law that most embodies a regulatory approach to agricultural land preservation. Any understanding of the Coastal Act’s regulations and the Coastal Commission’s functioning requires some knowledge of the legislative history of the Act. As stated above, the 1976 Coastal Act was preceded by Proposition 20 in 1972—a statement by the people of California that their coastline was a valuable public resource. Proposition 20 called for a comprehensive study and plan for the protection of coastal resources that would become permanent through the 1976 Act. Between 1972 and 1976, the California Coastal Zone Conservation Commission prepared a detailed Coastal Plan containing numerous recommendations for legislative enactment of coastal policy that would be highly protective of natural resources and open space. The Plan advised that the state offer economic assistance to farming families in the coastal zone in order to help them stay in the farming industry, and that it develop specific criteria for maintaining both prime and nonprime agricultural lands in production. The final California Coastal Act of 1976 implemented some of the 1975 Plan’s provisions but substantially altered some twenty-two other portions. Most of the altered portions reflected a less strict attitude toward natural resources protection and instead encouraged “balancing” the need to protect coastal resources with the desire for orderly growth and development. Many of the challenges inherent in carrying out the Coastal Act’s regulations stem from this “balancing” requirement. The need to abstractly balance two opposing mandates inevitably creates an environment ripe for confusion and dissension.

Despite the changes incurred between the publication of the 1975 Coastal Plan and the 1976 Coastal Act, most of the recommendations for agriculture remained. The agricultural provisions of the Act directed coastal communities to place a priority on preserving productive agricultural lands, stating in § 30241 that “the maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas’ agricultural economy, and conflicts shall be minimized between agricultural and urban land uses.” The Act then provides a series of methods by which local governments are required to minimize conflicts with urban uses, including establishing stable urban boundaries, creating agricultural/urban buffer zones, limiting conversions...

[53] California Coastal Zone Conservation Commissions, California Coastal Plan, (Sacramento, 1975).
[55] Ca. Pub. Res. Code, Sec. 30001.5(a) and (b).
[57] Ca. Pub. Res. Code, Sec. 30241(a) and (b). Amendment in 1982 expanded possibilities for agricultural land conversion by changed “and” to “or” after “urban uses”. Originally subsection (b) of section 30241 required land to meet two tests
of agricultural land, \(^{57}\) and “developing available lands not suited for agriculture prior to the conversion of agricultural land”.\(^{58}\) In order to carry out the tasks mandated by the Coastal Act, each county with land in the coastal zone must prepare a Local Coastal Plan (LCP). These plans de-
scribe in more detail how the county will implement programs and regulations that reflect the Act’s directives. They are crucial to determining how effectively local regions will carry out the Coastal Act’s policies. The regulatory approach as evaluated in this project, then, consists of the Coastal Act as an umbrella law, with LCPs further specifying local rules.

before allowing conversion around the periphery of urban areas: first a showing that the “viability of existing agricultural use is already severely limited by conflicts with urban uses” and “where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.” The 1982-Amendment allowed conversions that met either condition.

\(^{58}\) Ca. Pub. Res. Code section 30241(d). Note also protections of subsections (e) and (f).
The Regulatory Approach: Key Language From the CA. Coastal Act

Cal. Pub. Resources Code § 30241
The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas’ agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:

(a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.
(b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.
(c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250. [provision added in 1981]
(d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.
(e) By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.
(f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands shall not diminish the productivity of prime agricultural lands.

Cal. Pub. Resources Code § 30250
New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are unable to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average of surrounding parcels.

Cal. Pub. Resources Code § 30242
All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (1) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such conversion shall be compatible with continued agricultural use on surrounding land.

Cal. Pub. Resources Code § 31050
The Legislature finds and declares that the agricultural lands located within the coastal zone contribute substantially to the state and national food supply and are a vital part of the state’s economy.

The Legislature further finds and declares that agricultural lands located within the coastal zone should be protected from intrusion of nonagricultural uses, except where conversion to urban or other uses is in the long-term public interest.

The conservancy may acquire fee title, development rights, easements, or other interests in land located in the coastal zone in order to prevent loss of agricultural land to other uses and to assemble agricultural lands into parcels of adequate size permitting continued agricultural production.

Figure 4: The Regulatory Approach: Key Language From the CA. Coastal Act.
2.3.1 Judicial influence

The California Coastal Commission is a quasi-judicial body with decision-making power in the coastal zone. Until 1984, there were also six regional commissions. The Commission is usually the final authority regarding Coastal Act permits and regulations; however, in cases of significant disagreement, confusion, or ambiguity, Commission decisions are appealed to a California trial court.

By the mid 1980s most counties and cities along the coast had approved LCPs, thus transferring much of the regulatory decision-making from the regional and state commissions to the local governments, with limited rights to appeal local decisions to the Commission. Before LCPs are approved, however, the Coastal Commission must directly resolve all conflicts. The original intent of the legislation was that local cities and counties would play the major regulatory role in governing the coast, taking over the role from the six regional commissions and the statewide commission. But since the LCPs took many years to complete, and some have never been completed, the State Commission has had a much larger case load than the legislature originally anticipated, and is still hearing original proposals from jurisdictions without approved LCPs.

While the Coastal Act has undergone significant legal scrutiny since its inception and the Coastal Commission is nearly always defending one or more of its decisions in the courts, there have been relatively few significant conflicts over coastal agriculture. The Commission has dealt frequently with cases involving coastal access, environmentally sensitive habitat, and coastal armoring. Coastal agricultural issues have not generally made it past the Commission level of decision-making. Nonetheless, disputes do occasionally make it to the courts.

In the 1980 case Billings v. California Coastal Commission, the Coastal Commission denied owners of land in the coastal zone of San Mateo County a permit to subdivide their 118 acres of agricultural land into three parcels. In making its decision, the Commission relied on Coastal Act §30241 and 30242, which mandate that the maximum amount of prime agricultural land remain in production; and §30250 which requires that new developments not have significant adverse effects on coastal resources. The appeals court, however, rejected the Commission’s findings for several key reasons. The court noted that §30241 and 30242 referred to prime farmland only, while the Billings land was of marginal agricultural quality. Also, §30250 did not restrict this land division because the Commission failed to indicate how it would adversely impact coastal resources. While the Commission argued that the effect would be to encourage future, similar divisions of parcels (and thus development), the court rejected the Commission’s view calling this reasoning “speculative.” In ruling against the Commission in this case, the court also noted that the landowners were not developers and had agreed to place binding restrictions on their property to ensure that it would remain in agricultural production.

While the Billings case does not begin to cover the myriad conflicts and issues that arise with the implementation of the agricultural provisions of the Coastal Act, it does emphasize the higher priority given to protection of Prime Farmland. While we were able to identify some of the cases heard by the Coastal Commission involving agricultural land, staff from the Commission were unable to retrieve from the Commission archives some of the files we requested. These files might have enhanced our understanding of the range and nature of Commission decisions regarding agricultural land.

[60] J. Matthew Rodriquez, Senior Assistant Attorney General in California’s Department of Justice, explained that the Coastal Commission has always been underfunded in part because of the original intention that its role and caseload would diminish with the transfer of authority to local cities and counties, Comments at Yosemite Environmental Law Conference, Panel on “The California Coastal Act – 30 Years Later,” October 22, 2006.
2.3.2 Coastal Act criticism

A small body of commentary exists on the design and effectiveness of the agricultural provisions of the Coastal Act. Myrl Duncan in “Agriculture as a Resource: Statewide Land Use Programs for the Preservation of Farmland” reviewed the Coastal Act as a method of preserving farmland. Duncan, a professor of law at Washburn University, praised the Act in 1987 for its emphasis on the agricultural economy and community, calling it an “integrated approach” that stands in contrast to the more parcel-specific approaches used in other states.\[64\] California Public Resources code § 30241, with its emphasis on minimizing agricultural/urban conflicts while maintaining orderly development provides an example of the balancing or “integrated” language that Duncan admired. Duncan determined that this type of language gave the Coastal Act the structure to better protect farmland than the legislature’s “piecemeal” approach.\[65\] Despite his admiration for the language and structure of the Act, Duncan notes that California’s law failed to go as far as Oregon’s, which mandated that all farmland be zoned for “exclusive farm use.” Duncan also felt that the true effectiveness of California’s Coastal Act lay in the success or failure of the permitting and planning processes. He claimed that both processes showed promise but that it was too soon and insufficient data existed to make any concrete judgments as to the Act’s effectiveness as a farmland preservation tool.

Irving Schiffman, professor of political science at California State University, Chico, also offered praise for the Coastal Act in his 1982 article “Saving California Farmland: The Politics of Preservation,” calling it the “one bright spot in the state’s role in farmland preservation.”\[66\] Schiffman noted that the most beneficial part of the Act was its authorization of the Coastal Commission to review and certify LCPs. The LCPs allow policies to be enforced at the local level while still being subject to state oversight. The state oversight is vital, Schiffman maintained, because “decision-making at a local level...is highly political and based on parochial considerations.” In Schiffman’s view, such state regulation is more effective than incentive approaches such as the Williamson Act. The planned, systematic nature of LCP publication and review stands in contrast, he claimed, to the rather haphazard voluntary implementation of Williamson Act policies.

The Coastal Commission has not historically had the resources to carry out in-depth evaluations of the effectiveness of its agricultural policies. It has, however, recently conducted a series of local coastal plan reviews under the Regional Cumulative Assessment Program, or ReCAP. These assessments provide some analysis of the effectiveness of LCPs in implementing coastal agricultural policies. In a ReCAP review of San Luis Obispo’s program, for example, the Commission expressed concern over the county’s practice of amending its LCP to allow for development on lands previously zoned for agriculture. The review found that the County’s amendment proposals were only consistent with Coastal Act policy in “approximately half of the cases.”\[67\] The review also found fault with the County’s procedures for assessing the agricultural viability of lands being evaluated for possible conversion to other uses. It asserted that San Luis Obispo County policy did not “reflect the guidance of Coastal Act 30241.5 for determining agricultural viability” and the information being used to make viability assessments “has not been developed adequately nor framed appropriately to address Coastal Act requirements for the conversion of agricultural land.” It is these types of detailed, program-specific criticisms that the ReCAP review process is able to elicit. Due to its systematic nature, however, the ReCAP process is time-consuming and expensive; thus, few regions have been reviewed.\[68\] Also, the specific nature of these reviews means that they fail to provide the type of institution-level evaluations that Duncan and Schiffman offer.

[64] Duncan, supra note 59.
[65] Duncan, at p. 454.
One serious critique of the Coastal Commission is the lack of coherent overview of LCP amendments. A 1997 Sierra Club Coastwatch Newsletter contained this sharp critique:

... instead of an LCP protecting coastal agriculture, counties have come to view the LCP’s land use restrictions as mere holding designations, where anyone can propose a subdivision, shopping mall or golf course for a farm, and the county will simply amend the LCP to permit the conversion. The result is no permanent protection for any coastal resources. The Commission has become an unwitting associate in this process by continuing to evaluate and approve the overwhelming majority of proposed amendments.

For example, the County of Santa Cruz, whose LCP was approved in 1981, has processed 58 amendments. The County of Santa Barbara, approved in 1981, has processed 54 amendments.

Explaining why some cities and counties were slow to adopt LCPs, former South Coast Region Coastal Commissioner and LA City Councilwoman Ruth Galanter noted, “Local governments passed the buck to the Coastal Commission on unpleasant stuff rather than take the heat at home. …Once you do [the LCP], you don’t have the ability to hand the tough decisions off to the Coastal Commission.”

2.3.3 Analysis

The Coastal Act as a regulatory mechanism has seen both successes and challenges. Its power and scope have been occasionally limited by the courts, and yet it continues to influence daily planning decisions across the state. Despite critical praise for the Act’s organization, its implementation is multi-layered and complicated. It is unclear whether the Act has successfully preserved coastal agricultural lands. The fact that the Act’s policies only apply to the coastal zone—in most areas extending less than a mile inland—is an unfortunate reality that makes it difficult to create truly significant agricultural preserves. The Coastal Commission itself admits that “protecting agriculture in the Coastal Zone has been one of the toughest assignments” and that their best efforts often fail where development pressures are intense. The challenges facing the Act’s implementation are not hopeless, however. They are simply an indication that regulation, like economic incentives, cannot stand alone as a method of preserving coastal agricultural lands.

The Purchase Approach

2.4.0 Overview

Recognizing that in some cases the only way to preserve a parcel of agricultural land is to have a monetary interest in it, the state of California provides funds for that purpose. Legislation enabling the purchase of agricultural lands includes both the California Coastal Act and the California Farmland Conservancy Program (CFCP) Act. The Coastal Act created and authorized the Coastal Conservancy to acquire lands in the coastal zone, while the Farmland Conservancy Act gave authority to the California Department of Conservation to do likewise for all state agricultural lands. The term ‘purchase approach’ for the purposes of this project includes outright (fee simple) acquisition of land and purchase or voluntary transfer of conservation easements on private

[74] Ca. Pub. Res. Code, sections 31100-31120 establishes the Coastal Conservancy within the Resources Agency and gives it the authority to acquire and hold lands necessary to meet the policies and objectives of Coastal Act.
land parcels. Such easements, which restrict the future development of a particular parcel, may either be bought by an agency or donated by a landowner. The California courts have upheld deed restrictions that occurred when property owners purchased development credits on some parcels and permanently restricted building rights to those parcels in exchange for coastal development permits on other parcels. These transfers of development rights resulting in deed restrictions have been upheld against subsequent owners of the restricted property.  

The main difference between the two pieces of legislation (in regard to purchasing agricultural land) is that the CFCP Act essentially provided a pool of funds to be released to qualifying organizations while the Coastal Act created the Coastal Conservancy with the authority to obtain and manage lands under state ownership as well as (after 1982) to release funds to private agencies. In practice, both Acts provide funds—when available—to local, private organizations such as land trusts to aid their efforts in preserving regionally important agricultural and open space lands. State bond approvals are continually needed in order to boost the amount of funding available for easement purchases. In a five year period at the beginning of the 21st century, for example, Californians passed three major bond measures totaling over $30 million dollars in support of the CFCP and the Farmland Mapping and Monitoring Program (FMMP).

The advantage of the purchase approach is of course that the land is permanently preserved; unlike Williamson Act lands, there is little danger that the properties will ever be developed. As with the Williamson Act, however, landowners who have transferred development rights through a conservation easement pay reduced taxes because their land has little or no potential for development. Two disadvantages of the purchase approach are that it is expensive and voluntary, thus widespread implementation is difficult. State evaluation of the purchase approach indicates that it is most successful when combined with supportive county land use policies and when the local land trust is well organized and respected.

### 2.4.1 Purchase Approach commentary

A discussion of the purchase approach necessarily differs from the economic incentives and regulatory approaches because the purchase approach’s characteristics do not lend themselves to litigation or extensive criticism. Land preservation organizations and agencies often use funds from a variety of federal, state, and private sources when purchasing a parcel, and such transactions are nearly always completed with the full cooperation of the landowner. The private, good-faith nature of most transactions means that purchasing issues rarely make it into the civil court system. It is not feasible, therefore, to examine the judicial influence or professional criticism of the purchasing approach in the same manner as was done for the economic incentive and regulatory approaches.

In its 1989 “Evaluation of Agricultural Land Trusts,” the Coastal Conservancy itself examined three private land preservation organizations on the California central coast, comparing them both with each other and with its own efforts. Their study found that several conditions had to be met before the acquisition of land or easement could be successful. These critical conditions included the availability of funds, receptive local agricultural landowners, a competent land trust staff, and supportive governmental policies such as consistency in agricultural zoning or the creation of an agricultural element in the general plan. The Conservancy recognized that local land trusts are better
able to conduct business with the landowners in their area and noted that in all of its own transac-
tions, local nonprofit trusts did much of the negotiating. The primary challenges facing land trusts,
the Conservancy claimed, consisted of establishing a trustworthy reputation in the community
and, for nonprofits, creating a functioning administration. Another issue was the Conservancy’s
inability to provide funds for any agricultural land preservation outside the coastal zone. This made
it somewhat difficult for the land trusts to find qualifying landowners. After passage of the 1995
Farmland Conservancy Program Act, additional state funds became available for the acquisition of
agricultural lands outside the coastal zone.

---

**The Purchase Approach in Writing: Key Language from the Coastal Act and the Farmland Conservancy Program Act**

**Cal. Pub. Resources Code § 31150**

The conservancy may acquire fee title, development rights, easements, or other interests in land lo-
cated in the coastal zone in order to prevent loss of agricultural land to other uses and to assemble
agricultural lands into parcels of adequate size permitting continued agricultural production.

**Cal. Pub. Resources Code § 31156**

The conservancy may also award grants to public agencies and nonprofits for the pur-
pose of undertaking improvements to and development of these lands where that action is required
to meet the purposes of this section. The expenditure of any of these funds shall be consistent with
the provisions of this chapter.

**Cal. Pub. Resources Code § 10201**

A program to encourage and make possible the long—term conservation of agricultural lands is a
necessary part of the state’s agricultural land protection policies and programs, and it is appropriate
to expend money for that purpose. A program of this nature will only be effective when used in con-
cert with local planning and zoning strategies to conserve agricultural land.

Figure 5: The Purchase Approach in Writing: Key Language from the Coastal Act and the Farmland Conservancy Program Act

A December 2000 study by University of California, Davis professors Ellen Rilla and Alvin Sokolow explored the positive and negative aspects of the purchase approach through interviews with property owners whose lands were covered by an agricultural easement.\(^80\) The property owners in the study resided in Yolo, Marin, and Sonoma Counties and dealt with several different land trusts. When asked to evaluate the success or effectiveness of the land trust in their area, 38 out of 46 participants provided positive responses. In addition to avoiding division or sale of land to pay estate taxes, landowners commented on the benefits of preservation of open space, financial gain from selling the easement, and increased confidence in the viability of agriculture in their area.\(^81\) Of course, the high number of positive responses is to be expected given that all the interviewees voluntarily possessed land with easements.

As with the state’s study, landowners “saw the protective benefits of easements as greatest when they worked in conjunction with other tools.”\(^82\) Respondents from Marin, for example, “lauded the county’s government policies for confining urban expansion…to the cities in the eastern corridor and establishing strong controls in the rural inland and coastal areas.”\(^83\) When their counties showed a political commitment to preserving farming operations, landowners understandably felt more comfortable relinquishing their development rights.

Despite much praise, the landowners also offered criticisms of the agricultural easement system and of the land trusts involved in implementing it. One primary concern was that outside economic forces had a much greater effect on the loss of farmland than any easement program could hope to stem. Given the trends in California farmland loss, this fear is not unfounded.\(^84\) The landowners also expressed worry that the land trusts were “unsympathetic to true farmers” and too concerned with open space or environmental issues. Remaining complaints centered on the bureaucracy of the process and the annoyance of having yearly inspectors come and determine whether the landowners were complying with the easement stipulations.\(^85\) These complaints echo those registered by the State’s study, which also noted landowners’ wariness of bureaucracy and unwillingness to work with the state or federal government. In that sense land trusts have an advantage because, although they may be occasionally slow and cumbersome to work with, they do not have the stigma of being a governmental agency. And some land trusts such as the California Rangeland Trust focus primarily on ranch land and are governed and run by ranchers.\(^86\)

2.4.2 Analysis

The purchase approach is implemented daily across the state of California by some 34 separate organizations seeking to permanently preserve agricultural lands.\(^87\) Thousands of acres of land have been successfully preserved, and yet the total remains a tiny fraction of the active agriculture in California. As of 2007, there were 16,246 acres of existing conservation easements in Santa Barbara County. These cover 34 separate easements or fee purchase parcels, though they vary substantially in size. Only a few are within the coastal zone, but note that Arroyo Hondo on the Gaviota Coast has 778 acres under conservation easement.\(^88\) There is a proposal currently underway to expand the Arroyo Hondo easement to include 3,310 acres to the west. Several of

[81] Ibid.
[82] Ibid.
[83] Ibid.
[85] Rilla and Sokolow, supra note 83.
the parcels with conservation easements straddle the coastal zone boundary. Most conservation easements in the county are on parcels with land use deemed grazing and other (by the County Assessor), not on important farmland parcels. Areas most likely to experience growth in the near future according to our models (e.g. Santa Maria, Cuyama, Lompoc Valley) contain no conservation easement on agricultural land. Most of the easements are located on the South Coast of the County, Gaviota Coast, and the Santa Ynez Valley. Maps 1 through 4 depict the conservation easements in Santa Barbara County.

How should these facts be interpreted? How significant are land trusts as a method of agricultural land preservation? They may help instill more confidence in farming in an area or help urban/rural boundary lines remain intact. The results for individuals and farms under easement are more concrete. And there is no questioning the millions of dollars spent on purchasing easements. Whether or not the easements and land trusts have been useful, then, depends on what goals one expects them to fulfill. As the landowners in the Rilla and Sokolow study attest, the majority have been personally very satisfied with what the purchase approach has done for them and their communities. For this purpose, then, the purchase method is worthwhile. What remains to be seen is if it can encourage more widespread participation, and how it can work together with other approaches towards furthering agricultural land preservation.

[89] Supra note 83.
Map 1

Map 2
Regulatory approaches in Santa Barbara and Ventura Counties

Authority to regulate land uses primarily rests with local government. This study focuses on two counties of south central California in order to better understand the differences among economic incentives, regulation, and acquisition approaches to retention of agricultural land. The analysis reveals substantial differences in the effect of these approaches. In both Santa Barbara and Ventura Counties, local zoning ordinances regarding protection for agricultural lands differ within and outside the coastal zone. Within the coastal zone, in order to maintain regulatory control, counties and cities must adopt LCPs that conform to the state Coastal Act. Thus, after approval of a local government’s LCP by the Coastal Commission, the regulations applicable within the coastal zone follow the state mandate. Outside the coastal zone, in both counties, the regulations are less stringent, particularly with regard to protection of non-prime agricultural land and to protection of agricultural land within and adjacent to urban boundaries.

2.5.0 Santa Barbara County

As in the Coastal Act and Williamson Act, Santa Barbara County divides agricultural land into AG I (Agricultural I) and AG II (Agricultural II) zones (prime and non-prime). The purposes of each of these zones differ depending upon whether they are in the coastal zone, so that the distinction is not based solely on soil type or productivity, but also upon location. As illustrated in Fig 6 below, the County’s policies in the coastal zone include preservation of agricultural soils (both prime and non-prime) and show intent to retain land appropriate for agricultural use over the long-term, even in areas within and adjacent to urban areas. Santa Barbara County Planner, Dianne Meester Black, regards the County’s LCP as “slightly more stringent than the Coastal Act.”

<table>
<thead>
<tr>
<th>ZONE</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG-I</td>
<td>Provide standards that will support agriculture as a viable land use and encourage maximum agricultural productivity (minimum parcel size 5-40 acres)</td>
</tr>
<tr>
<td>AG I CZ</td>
<td>Designate and protect lands appropriate for long term agricultural use within or adjacent to urbanized areas and preserve agricultural soils</td>
</tr>
<tr>
<td>AG II</td>
<td>Preserve areas appropriate for agricultural land uses on prime and non-prime lands located within the Rural Area for long-term agricultural use (minimum parcel size 100-320 acres)</td>
</tr>
<tr>
<td>AG II CZ</td>
<td>Provide for agricultural land uses on large properties (a minimum of 40- to 320-acre lots) with prime and non-prime agricultural soils in the rural areas, and preserve prime and non-prime soils for long-term agricultural use</td>
</tr>
</tbody>
</table>

Fig. 6. Purposes of the Agricultural Zones in Santa Barbara County Source: SB County Code 35.21.020 (published Jan. 2007) and Santa Barbara County Coastal Plan 1982, as amended and updated

[90] Interview by Osherenko and Monie, SB County Planning Office, April 20, 2007.
Santa Barbara County’s Land Use and Development Code carries out the Coastal Act’s goal of protecting the “maximum amount of prime agricultural land within the Coastal Zone” in part by somewhat more restrictive rules regarding what uses are allowed on agricultural lands within the coastal zone than would be allowed inland.\(^91\) We would not expect these differences, however, to result in significant differences between the coastal zone and inland areas with regard to agricultural land retention. The Land Use Element of Santa Barbara County’s General Plan, while not as strict as its LCP, nonetheless has aimed to reserve both prime and non-prime soils for agricultural use. The Plan goals (as revised in October 1991) encouraged infill of urban areas and prevention of scattered urban development, preservation of cultivated agriculture in the rural areas and, “where conditions allow, expansion and intensification” of agriculture.\(^92\) The Comprehensive Plan divided land into urban, inner-rural, rural, or existing developed rural neighborhoods. Land Use Development Policies of the 1980 Comprehensive Plan (as amended through 1992) did not permit development “beyond boundaries of land designated for urban uses except in neighborhoods in rural areas.”\(^93\) These policies serve to constrain conversion of agricultural land to urban uses and channel changes from agricultural to urban uses into existing urban areas or rural neighborhoods.\(^94\) From 1985, the Plan limited subdivision of agricultural land in an “Agricultural Industry Overlay.”\(^95\)

The Santa Barbara County Plan contained specific policies for Existing Rural Neighborhood(s) (ERNs) such as Tepusquet Canyon (North of Sisquoc), limiting lot sizes to 10 acres on land with a slope of less than thirty percent, 20 acres when 50 percent of the gross area of each lot had a slope of less than thirty percent; otherwise, a 40-acre minimum lot size applied. Other ERNs include Lake Marie Estates, San Marcos Pass, and Bobcat Springs. The plan anticipated development of the Rice Ranch (a 200 lot tract in Orcutt) with urban development limited to the northern portion in order to “prohibit development in areas used and/or suited for cultivated agriculture,” or other significant values.\(^96\) Development rights to the remaining undeveloped land, including the agricultural land, were to be granted to the County or a third party conservancy.\(^97\) The Environmental Resource Management Element of the LUP called for preservation of “all existing croplands on prime soils,”\(^98\) and declared that “Even though [non-prime lands] may not be as productive as prime soils lands, for similar reasons these agricultural lands should be preserved in so far as possible.”\(^99\) Overall, the Comprehensive Plan for Santa Barbara County from the early 1980s recognized the value of agricultural land, articulated policies to preserve prime agricultural land, and aimed “in so far as possible” to protect non-prime lands as well, particularly in rural areas.

\(^91\) Examples of uses not allowed on agricultural land within the CZ but for which a conditional use permit (CUP) may be obtained outside the CZ include: extensive agricultural processing (allowed outside the CZ only on AG-II with CUP); some recreational facilities such as country club, public or private non-religious meeting facilities, museums; residential ag in some areas, such as in the Montecito Coastal Zone, maximum size (measured in gross floor area) of residential second units in relation to lot size is smaller in the CZ than inland.


\(^93\) Land Use Development Policy no. 3, supra note 94 at 81.

\(^94\) See Land Use Dev. Policy no. 8, at 82a (revised April 1985).

\(^95\) Land Use Dev. Policy no. 9, at 82-a-b (adopted April 22, 1985).

\(^96\) LUP, p. 126, 127.

\(^97\) LUP, p. 126-a

\(^98\) LUP, p. 192.

\(^99\) LUP, p. 192.
2.5.1 Goleta Valley

*In the Goleta Valley, where carrots once could grow as big as a man, the fate of some of the last, best farmland hangs in the balance.*

*Melinda Burns, Santa Barbara News-Press*

The Land Use Element of the Santa Barbara County Comprehensive Plan from the 1980s included a section on the Goleta Valley calling for a definite limit on the area available for development, and the Goleta Valley Urban Boundary map delineated an urban boundary beyond which development denser than one residential unit per 40 acres “should be discouraged.” The plan specifically addressed the area at the northern boundary of Goleta Valley, stating “the foothills of the Santa Ynez Mountains north of Cathedral Oaks Road should be preserved in agricultural and other open space uses. The slopes of the mountains should be left essentially in their natural state.”

At the western boundary of Goleta Valley, a similar but somewhat less emphatic policy to retain agriculture applied: “lands west of Winchester Canyon, with the exception of portions of the Embarcadero tract, should be left in agriculture and grazing, and retention of agricultural uses east of this boundary should be encouraged.” (With the formation of the City of Goleta in 2002, the City took over land use planning for areas within the city limit and the city’s sphere of influence, but did not finalize its General Plan until 2006.)

---

[101] Supra note 95 at 105.
[102] Supra note 95 at 105.
[103] Supra note 95 at 108.
But pressure to provide more housing as well as commercial development has made implementing strict policies of retention difficult. In the Goleta Valley, population grew from 54,000 in 1970 to 73,000 in 2000, then to 81,000 in 2002. By 2030, the population is expected to exceed 110,000. The second largest remaining agricultural area in the Valley is the 290.6-acre Bishop Ranch. Designated for rural agriculture in 1980, the ranch was located just outside the urban boundary. Nonetheless, owners considered proposals for up to 1,700 residential units throughout the 1980s. In 1993, in response to the Goleta Community Plan, the County moved the boundary to Cathedral Oaks Road, including Bishop Ranch in the urban area while zoning the site for agriculture. Now within the City of Goleta, developers are seeking to convert part of the ranch to residential use while preserving other portions for open space and recreation. Though water rights have been sold on part of the Bishop Ranch, some of the parcel still has limited use for agriculture. At this time, Bishop Ranch remains one of the few parcels with in the City of Goleta zoned for Agriculture (Ag-I-40).

State affordable housing mandates call for 1,180 more homes to be added to unincorporated parts of the South Coast. As a result, the planning department of the County had considered several agricultural or formerly agricultural sites for development including “51 acres at Hollister Avenue and San Marcos Road, where Lane Farms, the McCloskey Ranch and San Marcos Growers have operated for years; 26 acres on North Patterson Avenue (the site of the languishing Noel Christmas Tree Farm); and 17 acres on Calle Real, once a productive lettuce farm and now a vacant lot...” (Opposition from neighbors to development of the San Marcos site prompted...)

Figure 7: Excerpts on Agriculture From the 1982 Santa Barbara County Comprehensive Plan with Commentary

Excerpts on Agriculture From the 1982 Santa Barbara County Comprehensive Plan With Commentary

GOLETA VALLEY. “[E]xisting orchards and groves should be preserved, and expansion of agricultural land use, particularly orchards and grazing, should be encouraged.” (p. 107)

Comment: Though most growth from 1984-2002 occurred on Other land, there does not appear, at our scale, to be an expansion of agriculture in the Goleta Valley.

SANTA YNEZ VALLEY. “Agriculture should be preserved and protected as one of the primary economic bases of the Valley.” (p. 117)

Comment: There has been little growth, but development has consumed some important farmland.

LOMPOC AREA. “Prime agricultural lands should be preserved for agricultural use only. Preservation of lesser grades of presently producing or potential agricultural land should be actively encouraged.” (p. 120)

Comment: From 1984 to 2002, development consumed some prime farmland north of the City of Lompoc.

SANTA MARIA/ORCUTT AREA “Leapfrog development should be discouraged. Promotion and protection of agriculture as an industry.” (p. 124)

Comment: Although growth here has been substantial, most has been infill or at least contiguous to other significant development, thus following the Comprehensive Plan.

[105] Final EIR, Goleta General Plan, figure 3.2-1 (Sept. 2006).
[106] Goleta Valley Urban Agriculture Newsletter, “Profiles of the Goleta Valley’s Urban Farms,” 2002, p. 16. This report discusses the three remaining large agricultural blocks (South Patterson, Bishop Ranch and Hollister-San Marcos) as well as four smaller farms in Goleta Valley identified in the Goleta Community Plan as suitable for long-term agriculture. None are in the Williamson Act.
[107] Santa Barbara Properties, “Beautiful Santa Barbara Real Estate: Farm Land in Santa Barbara County,” available at http://www.santabarbaraproperties.com/outlook/farmland.htm, (viewed 5/29/2007). Note that the Final EIR Fig. 3.2-1 lists the Calle Real parcel at 9.4 acres.
the County to look to rezoning in Isla Vista to meet the housing quotas.) About 1,000 acres of farmland in the Goleta Valley have been converted since the 1960s, leaving 920 acres south of Cathedral Oaks Road zoned for agriculture in 2007.

Of note are the South Patterson Avenue parcels remaining in agricultural use. As a result of the County’s 1991 agricultural policy, urban infill was allowed on agricultural parcels under certain conditions in order to meet development pressure while preventing expansion of urbanization west of what is now the Bacara Resort, located coastally on the far western edge of the urban boundary. Given that the South Patterson block is not in the Williamson Act, it is remarkable that it remains in agriculture today. Even long-term growers find it difficult to continue farming within and adjacent to the urban boundary. Fourth-generation farmer John Lane, who once worked 200 acres, now farms on only 44 (of which he owns only 4 acres). Lane stated, “Once a neighborhood is built next to a farm it is only a matter of time before the farm succumbs to development.”

Water policy has also played a major role in agricultural land retention and conversion in the County, and perhaps nowhere in the County has water been more important in shaping urban growth than in the Goleta Valley. As Lane explained, new farming operations have become impossible to begin in some areas of the state since the cost of installing a new water meter has become prohibitively expensive. A 2002 report credits completion of Bradbury Dam and Cachuma Reservoir with stimulating growth of residential development in the Santa Barbara area, particularly in the Goleta Valley. Agriculture in the Goleta Valley had relied on ample groundwater until a combination of “heavy pumping and a growing human population led to the need for, development of, and eventually dependence on, the Cachuma Reservoir.” In 1973, the Goleta Water Board imposed a moratorium on new hookups, slowing the pace of development. In 1979, Santa Barbara County voters rejected connection to the State Water Project, perhaps in part as a means of limiting growth. When severe drought from the mid-’80s limited permits for new construction, voters finally approved a pipeline to connect Lake Cachuma to the California Aqueduct in 1991. In 1989 the County Board of Supervisors placed a ceiling on growth in Goleta that allowed 200 new homes and 80,000 square feet of commercial development per year. This growth limit remained in place until 1996 when the County increased the limit for commercial development to 120,000. Nonetheless in 1993, the Board of Supervisors had exempted the 500,000 square-foot shopping center at Storke and Hollister from the Goleta growth limits. As David Lackie, Supervising Planner in Long Range Planning for Santa Barbara County, explained, “Once water became available in Goleta, this opened up the gates to a lot of development.”

Amidst the loss of agricultural land, Fairview Gardens stands out as an example of protection of a working farm through purchase. In 1994, a group of local activists organized to purchase the farm and place it under agricultural easement. Claimed to be the oldest organic farm in Southern California, the non-profit Center for Urban Agriculture provides fruits and vegetables to feed 500 families from 12.5 acres of rich agricultural land.

[110] Lane, interview with authors, 2005.
[112] Id.
[114] Comment to authors at meeting June 25, 2007, in offices of Community Environmental Council.
2.5.2 Carpinteria Valley

“The Carpinteria Valley is the largest, prime agricultural resource in Santa Barbara County’s coastal zone.” At one time, the entire valley was producing beans, tomatoes and a variety of other crops. In 1980, when the Coastal Commission approved the City of Carpinteria’s LCP, agriculture remained the dominant land use in the Valley, with a trend toward higher return specialty crops. Sixty-four percent of agricultural lands (2,878 acres) were in Williamson Act preserve status; notably, no greenhouses were included in the preserves. As discussed above, the Williamson Act tax breaks diminish with higher crop values typical of greenhouse production.

In 1980, sixty percent of the Valley’s productive agricultural land lay outside the City. The City’s 1980 LCP delineated an urban/rural boundary that allowed 115 acres outside the city limits to be added to the urban area. The maps we generated for Carpinteria show that almost all development in the coastal zone of Carpinteria occurred before 1984, indicating that the LCP’s strong policies on retention of agricultural land have been effective.

[117] Id. But some nursery production occurred on preserve status land (55 acres).

Map 7B. Carpinteria Greenhouses in 1970.

In Carpinteria, the agricultural land is being sold and then often not used as agricultural land. One large home is built, and the place becomes a big estate that is not farmed though it stays zoned for agriculture.

Dianne Meester Black, Santa Barbara County Planner, April 20, 2007

Of the 3,900 acres in use for agriculture in 1980, the predominant crops were lemons and avocados (3,200 acres) as well as greenhouse and nursery production (650 acres); the remainder contained irrigated, cultivated crops. Roughly 60 percent of the production took place on the estimated 2,350 acres of prime soils. At that time avocados were the “second most profitable crop,” filling a market niche for late season harvesting, but lemons were declining in economic value and growers were not replanting orchards that had matured beyond profitability. Furthermore, those seeking a rural residential lifestyle purchased agricultural land, driving up prices and increasing the likelihood that agriculture would become secondary to investment goals for some owners. In the Carpinteria Valley, as elsewhere in the study area, agricultural land is converted to non-agricultural uses in this manner without rezoning, redesignation or annexation to a city.

In 2002, competition from foreign avocado growers (first in Mexico and later in Chile) drove down the price for avocados. For landowners not in the Williamson Act, avocado orchards became no longer profitable. Some growers have taken out avocados and replaced the orchards with greenhouses growing flowers in pots to tap into another high yield specialty market. Others are trying to compete by becoming certified organic. Meanwhile, larger houses are springing up on the hillsides. For one avocado grower whose parcel is too small to enroll in the Williamson Act, the doubling in appraised value between 2003 and 2005 coupled with a steep drop in the price for avocados made payment of property taxes a sizable burden.

The strict policies of the Coastal Act as incorporated into the City and County LCPs may account at least in part for the number of agricultural parcels immediately adjacent and near the urban boundary that remain in Williamson Act preserves. Landowners may reason that if their property cannot be developed anyway, they may as well take advantage of the tax breaks. In 2002, these agricultural parcels were predominately east and northeast of the urban area. To the northwest, few of the prime agriculture parcels are in the Williamson Act, and many have converted to greenhouses.

[119] Interview by Osherenko with anonymous landowner, November 14, 2006.
2.5.3 The Gaviota Coast

The Gaviota Coast (from Coal Oil Point at the edge of Isla Vista and continuing around Point Conception to Point Sal) has historically been ranchland used primarily for grazing and held predominately in large parcels. Roughly half of Southern California’s remaining rural coastline is on the Gaviota.120 As shown in Map 7 for the Gaviota region, there is little development currently on the Gaviota Coast. In 1993, the County allowed the owners of 147 acres west of the Ellwood Pier known as Arco Dos Pueblo to sidestep restrictions on rezoning by granting a conditional use permit for conversion of agricultural land to a golf course. As reported by Mark Masara in the Sierra Club’s Coastwatcher, the Coastal Commission, hearing an appeal from the County’s approval, at first denied the project “due to irreparable and catastrophic impacts on agriculture,” but after extensive lobbying of legislators and the governor by Arco, Assembly Leader Willie Brown removed the Commission’s Chair, Tom Gwyn, who had voted against the golf course, and replaced him with a San Francisco lawyer “decidedly more open toward golf.”121 On a motion for reconsideration in 1994, the Coastal Commission concurred with the County’s decision,122 and determined instead that the golf course “would actually ‘protect’ agricultural soils by covering them with lawn and fairways.”123 But the golf course never materialized since new information located wetlands on the property as well as endangered Red-legged frogs, the Tidewater goby, White-tailed kites, and

[122] Interview with Mike Lunsford (by Osherenko) May 4, 2005.
[123] “Saving Naples,” supra note 124
Monarch butterflies.\textsuperscript{124} When brought to a more conservation minded Commission in December 2002, the Commission unanimously rejected the project. The owners, Dos Pueblos Associates, sued the Commission for $35 million. A court ordered settlement effort resulted in a settlement agreement allowing Dos Pueblos Associates to apply for “up to 10” residential units. That application is now being processed by the County.

Roughly half of the 200,000 acres on the Gaviota Coast are located within Vandenberg Air Force Base, and of the remainder, about 85,000 acres are privately owned, and much of this is under Williamson Act contract. Hollister Ranch, on the other hand, was sold to a development corporation and subdivided into 100 acre parcels in the 1960s, before passage of the Coastal Act. A cattle-cooperative was formed to allow owners within the Hollister Ranch subdivision to qualify for Williamson Act contracts and tax reductions. As Mike Lunsford pointed out, “There is apparently no active mechanism to distinguish between productive and nonproductive agriculture in the Williamson Act.”\textsuperscript{125}

Purchase or conservation easements have been used to permanently retain some of the larger parcels of agricultural land on the Gaviota Coast. The Trust for Public Land (TPL) arranged the purchase of 2,500 acres at El Capitan (known as the Texaco Property), to become part of El Capitan State Beach, with the owners retaining 650 acres. In addition, the Land Trust for Santa Barbara County purchased a conservation easement at El Capitan reducing the development entitlements from 7 to 2 parcels. As of 2006, conservation easements on the Gaviota Coast protected 22 percent of the area (6,434 acres).\textsuperscript{126}

Surfrider’s website calls the Gaviota Coast, “a priceless treasure that has attracted the attention of developers and environmentalists alike.”\textsuperscript{127} In 1998, the Gaviota Coast Conservancy launched a campaign to declare this coastline a National Seashore. Although the U.S. Park Service study concluded in 2004 that the Gaviota Coast met both biological and cultural criteria for national protection, the Bush Administration determined that the area was not appropriate for inclusion in the National Park System and should be managed at the local level. As reported by Mike Lunsford, “Within 18 months, the County was processing 13 applications for residential development on 135 lots.”\textsuperscript{128}

Efforts to prevent development on the Gaviota hit a serious snag in 1994 when the California Supreme Court in Morehart v. County of Santa Barbara\textsuperscript{129} invalidated the County’s merger ordinance. As a result, in 1995, the county issued a new official map of the township of Naples recognizing 274 lots, as opposed to Morehart’s claim to more than 400 lots, despite existing agricultural zoning allowing only one home per 100 acres.\textsuperscript{129} In 1999, the Morehart related interests entered into an agreement with the County which stayed three lawsuits and provided a protocol for process-
ing an application for development at Naples.\textsuperscript{130} In 2006, the County projects list for the Gaviota Coast included development applications for 137 homes on reconfigured lots. Environmentalists are seeking compliance with LCP policy 2-13 calling for the transfer of development rights at Naples to appropriate parcels within the urban boundary.\textsuperscript{131}

In addition to proposals for development at Naples, a number of other development applications are pending for 73 additional primary residences. And the County has proposed expansion of its Tajiguas landfill, near the small community of Arroyo Quemada.

As the models of future scenarios in our study are based on historical development, they do not predict new development on the Gaviota Coast. This is due to its remote location, away from existing development, as well as its less than desirable slope and the fact that much of it is removed from major roads. But the California Supreme Court decision invalidating the County’s requirement for merger of preexisting lots to conform to existing zoning dramatically increased the probability of urban development in this previously undeveloped ranchland. Due to the high value of the land for residential development and considerably lower value for agricultural production, we can anticipate conversion of agricultural land to large homes, referred to by those who oppose changing the character of the coastline as “mega-mansions” or “trophy homes.”\textsuperscript{132} As estates change hands, it becomes more difficult to retain the working landscape, but the Gaviota Coast Conservancy, together with other conservancies and the state, are working to preserve the open space and views along Highway 101. They are achieving this by using conservation easements and transfers of development rights to limit new development, especially on the coastal side of Highway 101.

\textsuperscript{130} At the time of the draft EIR (dated October 2006), the Naples town site had four principal sets of owners: Santa Barbara Ranch related interests (219 lots and 485 acres), Dos Pueblos ranch related interest (16 lots and 244 acres, Makar Properties, LLC, (25 lots and 57 acres), and Morehart related interests (13 lots and 16 acres).


\textsuperscript{132} Melinda Burns, “Conservationists fighting coastal estate approval,” Santa Barbara News-Press (March 1, 2004): A3.
The City of Santa Maria adopted the text of its Land Use Element in August 1991 and maps at the end of 1993. In the past decade it has steadily annexed agricultural land and approved zoning that allows urban and industrial development. The stated Land Use Goal for the City is to “maintain and improve the existing character of the community as the industrial and commercial retail center for northern Santa Barbara County and southern San Luis Obispo County.”

With substantial arable land, the North County has been more welcoming of development than the South County. The City of Santa Maria has thus been a focal point for conversion of agricultural land to urban uses. In 2003 Santa Barbara County’s LAFCO amended conditions of approval of Santa Maria’s sphere of influence and approved reorganization in 2004. With completion of the Black Road Reorganization, the City added 884 acres to its land use inventory of which slightly over half (252 acres) was pre-zoned AOS II (secondary agricultural open space) in 2003. The City Council had approved pre-zoning for the Mahoney Ranch (447 acres) in 1994, but LAFCO approval for annexation did not occur for another decade (March 4, 2004). Of Mahoney Ranch’s 447 acres, 119 acres (slightly over 25%) is zoned AOS II.

The City had four applications for annexation under consideration in 2005. Two of these, the Bradley Ranch and The Wastewater Treatment Plan Spreading Ponds, required amendment to the city sphere of influence to follow LAFCO MSR review in 2006.

2.5.5 Cities and County of Ventura

In 2003, California was “gaining 660,000 people a year. In the last decade, Ventura County has been growing at about 1.23-1.26 percent per year.”

Carl Morehouse 5/7/03
An editorial in the Ventura County Star based on the county’s annual crop report noted in August 2007 that harvested acreage in the County dropped by 14,000 acres from 1998-2006. Farmers are keeping agricultural revenues high by raising higher value crops on less land and increasing greenhouse growing space (by 14% from 2005-2006). Similar to the situation discussed in section on Carpinteria Valley.

### FARMING’S CHANGING FACE

By John Krist  
Ventura County Star, August 9, 2007

What [Ventura County’s annual crop] reports reveal in recent years is a nearly stagnant industry operating on a shrinking land base, its overall economic productivity maintained only by shifts to higher-value crops.

Adjusted for inflation, the overall crop value has hovered right around $1 billion a year over the past 30 years. There have been occasional upward and downward blips from year to year, and last year’s figure was indeed the highest ever. But at $1.29 billion, it was only marginally higher than the 2004 total of $1.27 billion (in 2000 dollars), and both represent departures from the long-term average.

That steady value, however, has been produced on a shrinking land base. Harvested acreage exceeded 110,000 acres in 1998; by last year, that had dropped to 96,000 acres. Predictably, the value per acre has risen dramatically. Adjusted for inflation, it climbed from $8,872 in 1998 to $13,352 last year, an increase of more than 50 percent. (The figures refer to gross revenue, not profits.)


A 1991 study of the impacts of farmland conversion in California focused on Ventura as one of two case studies. The study reported conversion of 14,580 acres of cropland to urban uses between 1969 and 1988, and conversion of 13,120 acres of wildlands to croplands in the same period. In conversions to urban uses, the County lost 5,990 acres of truck crops, 5,150 acres of citrus crops, 1,970 acres of irrigated field crops, 430 acres of deciduous tree crops, and 220 acres of irrigated pasture. Through conversion of previous wildlands, however, the County gained almost 12,000 acres of avocados (9,800 acres) and lemons (1,950 acres) in addition to 760 acres of truck and irrigated field crops and 610 acres of other agriculture. In the two decades covered in the study, the report emphasized the negative impacts on farming operations from urban encroachment, increased production costs from rising land values, and the “spiraling effect” of farmland loss due to urban development. Among the impacts of conversion, the Department of Conservation found housing conditions for farm workers and low-income people worsening. In terms of environmental

[136] Id., Table 2.
impacts, the report noted the negative impacts of both types of conversion on loss of wildlife habitat and increased groundwater scarcity and contamination, among other effects. But the report also pointed to likely improvement in water quality as farmers deal with nearby urban neighbors who demand that farmers make reductions in pesticide use and municipalities replace septic systems with wastewater treatment facilities.  

**VENTURA IN THE 1980s**

Ventura County’s first attempt to develop a land use element for its Coastal Zone failed to receive approval of the Coastal Commission. The South Coast Regional Commission rejected the December 1980 draft plan in part because the provisions for non-prime agricultural land allowed minimum parcel sizes of 40 acres instead of 200 acres as called for by the Coastal Act. In August 1981, the statewide Commission certified the County’s LUP (except for the Channel Islands Harbour geographic segment) with several conditions including those related to agriculture, and the County Board of Supervisors adopted continuing resolutions approving the Commission’s conditions of certification language or language the County deemed to be substantially equivalent in Nov. and Dec. 1981.

Despite the strong language of §30241 of the Coastal Act, which called for maintaining “the maximum amount of prime agricultural land,” the Coastal Commission allowed conversion of 220 acres of prime agricultural land under the condition that the prime soil be relocated to other coastal non-prime agricultural land through an Agricultural Soil Transfer Program. This enabled construction of residential and commercial (visitor-serving and recreational) water-oriented development on prime agriculture lands in a part of Oxnard Shores known as the Mandalay Beach Assoc. Property. The Coastal Commission eventually approved an LCP for the City of Oxnard that required removal of top soil from the site and its relocation on non-prime agricultural land elsewhere within the coastal zone: the recipient site would then be restricted exclusively to agricultural use for 25 years (through a deed restriction or agricultural easement). Part of the recipient land, the Coastal Berry Ranch, lay in the 100-year flood plain, so its soil had to be relocated first in order not to increase the elevation. Under the Ventura Coastal Land Use Plan for Mandalay Bay (approved by the Coastal Commission in January 1985), 220 acres were rezoned from agricultural to marine-oriented development. Although most of the agricultural land of the City of Oxnard lay outside the coastal zone, roughly 350 acres within the coastal zone were farmed in 1981.

The 1980s in general were boom years for urban development. Thus it is not surprising that FMMP data (our aerial photo data begins in 1945 and reflects urban land change while FMMP begins in 1984 and details both urban and non-urban land use change) shows the highest rates of land conversion in Ventura County in the period between 1984 and 1990 (0.92% of available agricultural land converted in 1984-86, 0.77% in 1986-88, and 0.86% in 1988-90). Note that the maps also show a large parcel east of the metropolitan area coming out of Williamson Act preserve status in 1990. Rates of agricultural land conversion are lower in the 1990s and then show an increase again in 2000-2002 (0.61%). If this upswing in conversion continues, the current decade would emerge as the highest ever in agricultural land conversion, but the recent downturn in housing is likely to moderate that trend. Additionally, the County’s General Plan as Amended in 1982,

[137] Id.


directs land conversion away from unincorporated parts of the County and into areas within City Spheres, thus limiting conversion beyond city CURB and Sphere lines, as will be explained in the next section.  


After a hard fight in which the opponents outspent proponents 10-1, the Ventura City voters passed the Save Our Agricultural Resources (SOAR) ballot measure in 1995. According to William Fulton, President and CEO of Solimar Research Group in Ventura, “It was adapted from Napa County’s 1990 Measure J, which required a vote of county residents, rather than just the Board of Supervisors, to change the General Plan land use designation of property from agriculture to an urban use.” Email correspondance to Osherenko, Dec. 20, 2007. The California Supreme Court upheld the Napa County measure in DeVita v. County of Napa, 9 Cal.4th 763 (1995).

The County and seven other cities within it adopted similar SOAR measures (now renamed to “Save Open Space and Agricultural Resources”) between 1998 and 2002. Ventura County’s 1998 SOAR ordinance requires a vote of the electorate and/or special findings for changes in the status of agricultural land: the ordinance is effective through 2020. The other city SOARs (beside Ventura) create so-called CURB boundaries beyond which development cannot occur without a vote, but Oxnard and Camarillo have been developing a considerable amount of farmland inside their CURBs. Smart Growth advocates credit these SOAR measures with adding another layer of protection to several previous county-wide actions to assist in the retention of the semi-rural character of the area and to help promote higher density mixed use redevelopment within urban boundaries. Bill Fulton explains, “what SOAR did was use the vote requirement to cement the land use designations and growth policies that had been in place since the 1970s.”

AHMANSON RANCH PROTECTED THROUGH PURCHASE

Another hard fought and long-lasting battle raged for 17 years over plans to develop 3,050 homes and 2 golf courses on the Ahmanson Ranch in the southeastern part of the County adjacent to Los Angeles. The controversy ended with the State purchasing the land in 2003.

The GIS database created for this project showed no difference between the rates of agricultural land conversion inside and outside the coastal zone in Santa Barbara, but a significantly lower rate of conversion of land inside (as compared to outside of) the coastal zone of Ventura. (See in-
Excerpts from the Ventura County Non-Coastal Zoning Ordinance

Sec. 8104-1.2 – Agricultural Exclusive (A-E) Zone

The purpose of this zone is to preserve and protect commercial agricultural lands as a limited and irreplaceable resource, to preserve and maintain agriculture as a major industry in Ventura County and to protect these areas from the encroachment of nonrelated uses which, by their nature, would have detrimental effects upon the agriculture industry.

Sec. 8104-2.1 – Rural Agricultural (R-A) Zone

The purpose of this zone is to provide for and maintain a rural setting where a wide range of agricultural uses are permitted while surrounding residential land uses are protected.

Sec. 8104-2.2 – Rural Exclusive (R-E) Zone

The purpose of this zone is to provide for and maintain rural residential areas in conjunction with horticultural activities, and to provide for a limited range of service and institutional uses which are compatible with and complementary to rural residential communities.

Sec. 8104-2.3 – Single-Family Estate (R-O) Zone

The purpose of this zone is to provide areas exclusively for single-family residential estates where a rural atmosphere is maintained by the allowing of a range of horticultural activities as well as animals for recreational purposes.

Source: Ventura County Non-Coastal Zoning Ordinance, Division 8, Ch. 1, p. 37 (12.06.05 edition), www.ventura.org/ma/planning/pdf

Figure 8: Exerpts from the Ventura County Non-Coastal Zoning Ordinance.

[148] Ventura County Land Use Ordinance, Article 4; Purposes of Zones, Sections 8104-0 through 8104-2, www.ventura.org/ma/planning/pdf.
PART 3

Landowners’ views, values and motivations

Survey of landowners

We developed a survey instrument to sample landowners’ reasons for enrolling, not enrolling, or leaving the Williamson Act, and to determine whether landowners regard the Coastal Act or Coastal Commission actions as influential in decisions regarding participation in Williamson Act contracts.149 The target population for the survey included all landowners with land in active agriculture in the present or past in Santa Barbara County. From this population, we derived a sample through the use of County assessor’s records. We tracked Williamson Act contract initiation and expirations from the mid 1970s through 2002 to compile a list of current and former Williamson Act landowners. In order to produce a list of eligible parcels, we assumed that any parcel of prime land over 10 acres or a non-prime parcel of at least 40 acres with an agricultural land use was eligible to enroll in the Williamson Act. From this list, we located landowner names and addresses in the telephone book, and called those whose numbers we recovered to ask if they would fill out a survey regarding their experience with the Williamson Act. We phoned landowners before mailing out a survey in order to ensure responses and increasing the response rate over a cold mailing. Based on the number of surveys sent out, the rate of return was high.

We found the task of tracking and contacting former Williamson Act landowners particularly difficult, but for all landowners we found the process time consuming and arduous. Eventually, we were able to obtain survey responses from only 13 landowners-- a sample neither sufficiently large nor statistically significant to be scientifically meaningful. Nonetheless, the results illustrate the range of landowner views, the challenges faced by those who want to continue farming, and the importance of the Williamson Act tax reductions to agricultural land retention.

Of the 13 respondents, five had land currently enrolled in the Williamson Act, two were no longer enrolled, and six were eligible but had not enrolled. Six held property within the coastal zone, 6 outside the coastal zone, and one is unknown. Respondents' land ranged from Carpinteria in the south county to Santa Maria in the north and from the coast inland to Santa Ynez. The uses identified by owners included crops,150 pasture, woodlot, horticulture, avocado and lemon orchards. In response to the question about future land use plans, only two owners indicated intent to build and develop the land. Eight owners indicated their intention to continue farming; one of these also intended to build houses on the property, and one aimed to increase the value of the land (most likely through development). One owner was unsure about future uses, and one intended to have greenhouses; the latter wanted to see greenhouses allowed as agriculture under the Williamson Act. Both of these landowners engaged in horticulture at the time of the survey. One had not been enrolled in the Williamson Act and the other was no longer enrolled. Among reasons given for enrolling land in the Williamson Act, landowners stated that they had no development interest, wanted to farm, and believed tax incentives were more valuable than development opportunities at the time of enrollment. Two owners commented that the Williamson Act is the only way to make farming economically possible.

Two landowners noted their reasons for non-renewal of Williamson Act contracts, indicating their intention to develop the property or possible development potential in the future despite higher taxes in the present, or holding a parcel that no longer complies with Williamson Act rules. Among the eligible owners not enrolled, several wanted to keep their options open, and one indicated that the property already has low taxes without Williamson Act tax reductions.

[149] Kristin Hart developed the survey instrument with the advice of Onsted, Osherenko, and Professor Dan Montello. Ms. Hart tracked down survey participants and gathered the survey results.
[150] The survey form did not list orchards, but had a category for other. Some owners listed avocado or lemon orchards under other, while others known to grown avocados and lemons simply checked “crops.” When asked to list the crops grown, the following appeared: avocados, cherimoyas, oranges, persimmons, wine grapes, flowers, strawberries, vegetables, and lavender.
When asked “What factors most influence your decisions about the future of your land?” respondents cited water issues (high water prices), labor shortages (attributed to lack of affordable housing for seasonal labor), energy prices, Coastal Commission regulation (particularly regulation limiting the number of greenhouses), crop developments (finding specialty crops with higher returns), market prices, “good stewardship of the land,” and interest level of the future generation. Landowner recommendations for change included increasing tax breaks available to horticultural operations (tax breaks decline proportionate to profitability) and the desire for the Williamson Act to include tax breaks for greenhouses. Two respondents with parcels ineligible for Williamson Act preserves recommended that the Act be amended to allow for enrollment of smaller parcels.

A number of landowners surveyed (especially those with eligible land or whose land was already under contract when they purchased it) indicated little knowledge of the Williamson Act. This lack of awareness about eligibility and the potential benefits of the Williamson Act may account for the sizable acreage qualified for enrollment but not enrolled.

Although the Coastal Act has strong protections for all agriculture, when adopted, the Act did not anticipate the rapid growth in greenhouses along the coast. The Coastal Commission has regulated and limited the number of greenhouses in some parts of the County. To many people, greenhouses are a type of industrial development: they pave over land, limit open space, use high volumes of water, and raise serious waste disposal and water pollution concerns. The values and interests of greenhouse growers are not well-aligned with Coastal Act provisions, and this has led to ongoing controversy.

Overall, the survey findings illustrate that the Williamson Act has been helpful to landowners who plan to continue farming by providing tax reductions. Those landowners not enrolled in the Act were either interested in future development or lacked awareness of Williamson Act benefits. The fact that enrollment in contracts is voluntary limits the Act’s overall effectiveness in providing long-term retention of agricultural land, but at the same time, the Act has definitely helped to maintain agricultural activity in areas with high land values.

3.1

Values toward the land

The survey, though just a sampling of agricultural landowners, illustrates the range of values and goals of different property owners. Survey responses indicated that goals differ from generation to generation. Both of the local attorneys we interviewed (one a land use lawyer, the other a specialist in trusts and estates) commented on how changes in generations lead to changes in agricultural patterns and attitudes toward the land. Estate and probate lawyer, Jim Davidson explained that what agricultural landowners want to do with the land depends on which generation they are in:

If I am dealing with the individuals who developed the business, they are often intent on maintaining the business. At the next generational level, they often want to preserve what Mom and Dad had. By the third generation, goals are all over the board. Many just want their one-ninth (or whatever) interest out.151

Susan Petrovich who works with many farm and ranchland owners noted:

[A]gricultural parcels tend to be smaller along the coastal area for two reasons. First, it is the way of the world that parents divide up their land to apportion to their children, so a 40 acre parcel becomes two 20 acre pieces. Second, smaller farming operations tend to be more economically feasible; greenhouses are more economically viable than large grazing operations.152

Gaviota coast ranchers Eric and Elizabeth Hvolboll chose to protect their land for continued long-term use as a “working landscape” by giving up development rights and placing the land in an agricultural conservation easement with the Land Trust for Santa Barbara County. Mrs. Hvolboll wrote an editorial in the Santa Barbara News Press regarding the issue:

My family has owned and farmed land in Santa Barbara County since 1840 and on the Gaviota coast since 1866. …When my husband and I had our children, they spent most of their growing-up years on our ranch, working with cows, raising orphan calves, riding horses, fixing fences. They learned about the natural world and about how they fit into the whole system, raising animals and food. As farmers and ranchers, they understand much about the cycle of life because they are part of it. … There are three newer generations of my family now, and I think about when the youngest will be my age 70 years from now. I feel good knowing they will be able to stand here in Venadito canyon and see it much as it has been for hundreds of years.

A recent study of how to preserve agricultural land in Monterey County, California, conducted by graduate students of the Bren School of Environmental Science and Management confirmed the difficulties younger generations have in retaining active agricultural operations.

PART 4

MODELING RESULTS

Introduction

The tables contained in Part 4 together with the Supplemental images, maps, figures and charts in the Appendix are the marrow of the modeling results gathered in this project. Preceding the images in this section is explanatory text that provides a companion narrative to the materials offered in the second half of the section.

There are six different scenarios explored for the future of the counties in question. The figures in the second half of this section use abbreviations to describe these scenarios. Table 1 below offers a description of each abbreviation.

<table>
<thead>
<tr>
<th>Scenario Shorthand</th>
<th>Scenario Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZ100Strict</td>
<td>The coastal zone is 100% protected and all of the 2002 parcels enrolled in the Williamson Act remain so throughout the duration of the modeling period.</td>
</tr>
<tr>
<td>CZ50Strict</td>
<td>The coastal zone is 50% protected (i.e., SLEUTH provides a 50% resistance to development) and all of the 2002 parcels enrolled in the Williamson Act remain so throughout the duration of the modeling period. This scenario exists only for Santa Barbara County for reasons explained later in this Chapter.</td>
</tr>
<tr>
<td>CZ28Strict</td>
<td>The coastal zone is 28% protected (i.e., SLEUTH provides a 28% resistance to development) and all of the 2002 parcels enrolled in the Williamson Act remain so throughout the duration of the modeling period. This scenario exists only for Ventura County for reasons explained later in this Chapter.</td>
</tr>
<tr>
<td>CZ0Strict</td>
<td>The coastal zone is 0% protected and all of the 2002 parcels enrolled in the Williamson Act remain so throughout the duration of the modeling period.</td>
</tr>
<tr>
<td>CZ100NoWA</td>
<td>The coastal zone is 100% protected but the Williamson Act is abolished.</td>
</tr>
<tr>
<td>CZ50NoWA</td>
<td>The coastal zone is 50% (i.e., SLEUTH provides a 50% resistance to development) protected but the Williamson Act is abolished. This scenario exists only for Santa Barbara County for reasons explained later in this Chapter.</td>
</tr>
<tr>
<td>CZ28NoWA</td>
<td>The coastal zone is 28% protected (i.e., SLEUTH provides a 28% resistance to development) but the Williamson Act is abolished. This scenario exists only for Ventura County for reasons explained later in this Chapter.</td>
</tr>
<tr>
<td>CZ0NoWA</td>
<td>The coastal zone is 0% protected and the Williamson Act is abolished.</td>
</tr>
</tbody>
</table>

Table 1. Scenarios modeled.
Williamson Act possibilities either removed all Williamson Act protections (Abolition of the WA) or assumed permanent protection of existing parcels (Strict Adherence). The coastal zone possibilities correspond to percentage resistances encoded into the model within the zone. The mixture of these two dimensions allows for the eight different scenarios above, though there are only six for each county.

For urban growth runs, each scenario corresponds to a different excluded layer. There is no other difference amongst the forecasts. All were run with the same growth coefficients within the respective counties.

Since each figure and chart was crafted carefully to fit on each page, maximizing the size of the image yet efficiently taking up page space, the explanatory text for the results is in Part 4 while many figures and charts are in the Appendix.

Examining the past

In order to properly understand the effectiveness of the Coastal Act in the retention of agriculture, we must, of course, begin by examining the past. However, in all such similar endeavors we have been confronted with the difficulty of proving the counterfactual. In other words, we cannot know for sure what the coast would look like if the Coastal Act, along with all its regulations and commission oversight, had never been adopted. Since this is impossible, we decided that the next best option would be to examine the patterns of growth inside and outside the coastal zone both before and after the promulgation of the Act. By controlling for universal economic trends that could affect the county as a whole we can more specifically isolate native differences taking place along the coast as compared to non-coastal areas. For example, if the coast consumes available land (land not in government owned parcels or the Williamson Act, etc.) at a rate twice that of the non-coastal areas before the Act but then afterwards consumes available land at a rate only 20% higher then there would be circumstantial evidence to suggest the Coastal Act had made a difference. The relationship, therefore, between coastal and non-coastal rates of urbanization before and after the Act is the criteria we are using to determine the efficacy of the Act.

Santa Barbara County

Supplementary Figures 1 through 4 display the County of Santa Barbara’s coastal zone (or what would become the coastal zone) over four different time periods. Digital land use data in California often does not exist before 1984, the earliest year of data offered by the California Department of Conservation’s Farmland Mapping and Monitoring Program (FMMP). Therefore, we digitized the two earlier time periods (1954 and 1967) from aerial photographs. Aerial photographs do not exist for every year and every count has different years available. The years 1954 and 1967 were chosen for Santa Barbara County because 1954 is 22 years before the Coastal Act while 2002, the last year displayed, is 26 years after the Act. Therefore, 22 years before and 26 years after is the closest we could achieve to a symmetrical before and after study. The year 1967 was selected because that is the closest year we could obtain for a midpoint between 1954 and 1984, the third year examined in the study.

Lastly, we used the FMMP’s 1984 land uses for the first two time periods as well. The only changes we made were the differences in urban growth. Therefore, the reader will notice no interplay in the first three time periods between the other types of land uses, i.e., grazing land does not become prime farmland or vice-versa. We chose this course of action for two reasons: first, these intra-farmland changes tend to occur more slowly than urban growth, and secondly, these nuanced differences are often impossible to decipher from an aerial photograph. Consequently, the only differences among the first three time periods are the growth of urban lands. The audience may also notice that there is a great change of land uses from 1984 to 2002. This is due more to the FMMP’s unfortunate habit of frequently updating its mapping methods than to actual changes on the ground. Also, sometimes land that appears to convert from important farmland to grazing land has really done so because the land has lain fallow for three seasons. In these cases, nothing has changed on the ground but the map will make it appear so. Despite these caveats, these
are the best sources of data we were able to procure, render, and design. Therefore, when examining future differences in farmland types (i.e., much important farmland acreage converting to grazing land) keep in mind the data upon which this is predicated. The urban growth itself, on the other hand, is less caveat-laden and, therefore, should be emphasized more than the dynamism between farmland types.

Returning to the figures themselves, Supplementary Figures 1 through 4 display the coastal zone over the four time periods while Supplementary Figures 5 through 8 offer the entire county. These images are not only helpful for display purposes but they were also examined to ascertain the amount of urban growth in each time period. To keep consistency of method, we ignored the actual numbers used by the FMMP for 1984 and 2002, and instead used the numbers in our image analysis. We chose to do this because FMMP has no numbers for 1954 and 1967. Since we had to perform image analysis for the first two time periods, we remained consistent by also performing it for the last two years. Fortunately, the numbers FMMP has do not differ greatly with ours for 1984 and 2002. They have about a 5% inconsistency with each other.

In order to make the numbers useful we first compared the rate of urbanization for each time period both inside and outside the coastal zone. The rate of urbanization, in this research, represents the average percent urban consumption of available land between time periods. Available land changes between time periods are due not only to the before and after effect of the Williamson Act (it did not exist in 1954) but also the fluctuating acreage in the Williamson Act over the years.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>9556</td>
<td>83584</td>
<td>5222</td>
<td>23278</td>
<td>35935</td>
<td>653670</td>
<td>935836</td>
<td>4605</td>
<td></td>
</tr>
<tr>
<td>1967</td>
<td>25333</td>
<td>79174</td>
<td>5222</td>
<td>23259</td>
<td>35935</td>
<td>651446</td>
<td>926714</td>
<td>4605</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>57671</td>
<td>72346</td>
<td>5222</td>
<td>23250</td>
<td>35935</td>
<td>645169</td>
<td>907490</td>
<td>4605</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>65213</td>
<td>77731</td>
<td>8713</td>
<td>33944</td>
<td>24539</td>
<td>629353</td>
<td>907651</td>
<td>4543</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Coastal</th>
<th>1954</th>
<th>76-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.065347</td>
<td>0.099875</td>
<td></td>
</tr>
<tr>
<td>Yearly</td>
<td>0.00297</td>
<td>0.003841</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>0.2970316</td>
<td>0.3841363</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Santa Barbara acreages 1954 to 2002

<table>
<thead>
<tr>
<th></th>
<th>Non-Coastal</th>
<th>54-76</th>
<th>76-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.042456</td>
<td>0.00193</td>
<td>0.069441</td>
</tr>
<tr>
<td>Yearly</td>
<td>0.00193</td>
<td>0.002671</td>
<td>0.002671</td>
</tr>
<tr>
<td>%</td>
<td>0.1929838</td>
<td>0.2670797</td>
<td></td>
</tr>
</tbody>
</table>

Table 2A. Analysis: Santa Barbara Average Yearly % Consumption of Available Land: Coast vs. Non-Coast
The numbers above suggest the Coast continued to consume available land at a rate roughly 50% higher than the Non-Coastal Area both before and after the implementation of the Act. The data for the year 1976 was assumed to be the numerical mid-point between the 1967 data and the 1984 data.

<table>
<thead>
<tr>
<th>COAST</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>1901</td>
<td>5902</td>
<td>874</td>
<td>3018</td>
<td>810</td>
<td>67420</td>
<td>42224</td>
</tr>
<tr>
<td>1967</td>
<td>2692</td>
<td>4549</td>
<td>778</td>
<td>2495</td>
<td>670</td>
<td>55795</td>
<td>33892</td>
</tr>
<tr>
<td>1984</td>
<td>5658</td>
<td>2705</td>
<td>606</td>
<td>2067</td>
<td>523</td>
<td>45969</td>
<td>25674</td>
</tr>
<tr>
<td>2002</td>
<td>6361</td>
<td>2616</td>
<td>753</td>
<td>1576</td>
<td>434</td>
<td>46103</td>
<td>25144</td>
</tr>
<tr>
<td>Retention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINCE CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54 to 1976</td>
<td>0.6146</td>
<td>0.7920</td>
<td>0.7558</td>
<td>0.7362</td>
<td>0.7547</td>
<td>0.7053</td>
<td></td>
</tr>
<tr>
<td>76 to 2002</td>
<td>0.7212</td>
<td>1.0876</td>
<td>0.6909</td>
<td>0.7273</td>
<td>0.9061</td>
<td>0.8443</td>
<td></td>
</tr>
<tr>
<td>54 to 2002</td>
<td>0.4432</td>
<td>0.8613</td>
<td>0.5222</td>
<td>0.5354</td>
<td>0.6838</td>
<td>0.5955</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outside Coast</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>4626</td>
<td>51189</td>
<td>2692</td>
<td>12882</td>
<td>23734</td>
<td>379055</td>
<td>596978</td>
</tr>
<tr>
<td>1967</td>
<td>14611</td>
<td>49530</td>
<td>2788</td>
<td>13392</td>
<td>23875</td>
<td>389168</td>
<td>599090</td>
</tr>
<tr>
<td>1984</td>
<td>33707</td>
<td>46710</td>
<td>2960</td>
<td>13813</td>
<td>24022</td>
<td>394706</td>
<td>594177</td>
</tr>
<tr>
<td>2002</td>
<td>38147</td>
<td>50436</td>
<td>5193</td>
<td>21591</td>
<td>16314</td>
<td>383432</td>
<td>594330</td>
</tr>
<tr>
<td>Retention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SINCE CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54 to 1976</td>
<td>0.9400</td>
<td>1.0675</td>
<td>1.0560</td>
<td>1.0090</td>
<td>1.0340</td>
<td>0.9994</td>
<td></td>
</tr>
<tr>
<td>76 to 2002</td>
<td>1.0481</td>
<td>1.8069</td>
<td>1.5872</td>
<td>0.6812</td>
<td>0.9783</td>
<td>0.9961</td>
<td></td>
</tr>
<tr>
<td>54 to 2002</td>
<td>0.9853</td>
<td>1.9289</td>
<td>1.6761</td>
<td>0.6874</td>
<td>1.0115</td>
<td>0.9956</td>
<td></td>
</tr>
</tbody>
</table>

Table 2B. Retentions of different Land types between years.
*Note: 1976 data is assumed to be numerically halfway between 1967 and 1984 data.*

As Tables 2, 2A, and 2B show, the relationship between urbanization rates inside the coastal zone and outside the coastal zone, remained stable both before and after the implementation of the Coastal Act. More precisely, the coast consumed its available land at a rate 50% higher than the non-coast both before and after passage of the Coastal Act. (Greater pressure for development near the coast could explain the higher rate of agricultural land conversion.) Consequently, circumstantial evidence suggests the Coastal Act has not made an appreciable difference on the rate of growth along Santa Barbara County's Coast. An alternative explanation is that Santa Barbara County adopted regulations that closely resemble Coastal Act policies and provisions, and that therefore, any difference between the coastal zone and inland parts of the County that might be attributable to the Coastal Act is diminished. Also, as far as retention is concerned, in nearly every category, the difference in retention rates of various types of farmland actually becomes more disparate between coastal and non-coastal areas after the implementation of the Act. (See Table 2-B) Nevertheless, three different scenarios have been selected for future Coastal Act administration: no more development allowed along the Coast, 50% resistance, and 0% resistance. Though research suggests the third scenario is the most likely, the reader has the flexibility to examine each possible future administrative possibility.
About 90% of the FMMP’s study area is covered by US Department of Agriculture (USDA) modern soil surveys. A classification system that combines technical soil ratings and current land use is the basis for the Important Farmland Maps of these lands. In areas where no soil survey is available, a series of Interim Farmland definitions have been developed to allow land use monitoring until soils data becomes available.

### Important Farmland Map Categories

The colors and letters above are used to depict categories described below. The minimum mapping unit for all categories is 10 acres unless specified. Smaller units of land are incorporated into the surrounding map classifications.

- **Prime Farmland (P)** Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Farmland of Statewide Importance (S)** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Unique Farmland (U)** Farmland of lesser quality soils used for the production of the state’s leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

- **Farmland of Local Importance (L)** Land of importance to the local agricultural economy as determined by each county’s board of supervisors and a local advisory committee.

- **Grazing Land (G)** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen’s Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres. Due to variations in soil quality, smaller units of Grazing Land may appear within larger irrigated pastures.

- **Urban and Built-up Land (D)** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- **Other Land (X)** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

- **Water (W)** Perennial water bodies with an extent of at least 40 acres.

---

Figure 1: Timeline of key legislative events establishing the different approaches to agricultural land preservation in California.
Communities of Santa Barbara County

It should be noted that, when discussing the communities below, the surrounding area outside current official city boundaries is assumed in the discussion to be part of that community, since that is where much of the growth takes place. Also, when describing its proximity to the coastal zone, this general area is what is considered, rather than the city limits themselves.

4.3.1 Santa Maria Valley

GUADALUPE (Mostly outside the coastal zone)

Guadalupe, though a smaller western neighbor of Santa Maria, was already settled in 1954. Then, it was surrounded to the east and west by thousands of acres of Prime farmland in the fertile Santa Maria Valley and to the north by the Santa Maria River, which also serves as a southern boundary to the County of San Luis Obispo. Though Guadalupe indeed grew throughout each time period, it barely more than doubled its developed area in the entire 48 years examined, unlike Santa Maria.

SANTA MARIA (Outside the coastal zone)

The single greatest change observed for a community from 1954 to 2002 must surely be Santa Maria. In the mid-1950s the urbanized area of Santa Maria paled in comparison to the tens of thousands of acres of Prime Farmland that literally surrounded the town in the fertile plain of Santa Maria Valley. Thirteen years later, Santa Maria had doubled in size while the nascent community of Orcutt to the south had exploded with enough urbanized land to rival Santa Maria itself. These two communities each doubled in size again by 1984 so that they nearly merged. Due to the Williamson Act contracts to Santa Maria’s west and east, as well as the Santa Maria River to its north, its growth consisted largely of infill and southward expansion into Orcutt. By 2002, this merging was complete with Santa Maria abutting the Santa Maria River to the north and consuming virtually all unprotected Prime farmland in its reach while additional growth occurred along Highway 101. Nevertheless, a significant amount of unprotected Unique farmland was spared.

4.3.2 Cuyama Valley (Outside the coastal zone)

Development in Cuyama did not exist until the 1984 time period. From then until 2002 it did not grow very much but remained a small farming community surrounded immediately by Important Farmland and more distantly by Grazing Land. The community is bordered by foothills.

4.3.3 Santa Ynez Valley

BUELLTON (Outside the coastal zone)

In 1954 the community of Buellton had only a bare sliver of development. This sliver tripled by 1967 and by 1984 it more than tripled again. However, from 1984 to 2002, Buellton grew very little, most likely due to a high enrollment in the Williamson Act for surrounding lands. These lands act as a barrier to sprawl. Throughout the 48 year period the lands developed were largely grazing lands, though some prime and other important farmlands were converted as well.

SOLVANG (Outside the coastal zone)

Solvang is one of the oldest communities in the Santa Ynez Valley. In 1954 it was already settled. To the west lay prime farmland and to its east was farmland of local importance. To the northeast was Other land and to the southwest was Grazing land. From 1954 to 1967 this town grew only very little and consumed no Important Farmland. By 1984, however, it doubled in size and added new territory in a tendril carved into grazing land to the south. During this time, surrounding crop-lands were largely untouched. However, by 2002 some Important Farmland to the east of the city was converted.
4.3.4 South Coast

CARPINTERIA VALLEY (Totally inside the coastal zone)

This community is unique in that it lies completely within the Coastal Zone. From 1954 to 1967 urbanization spread along the coast and inland, consuming nothing but Prime farmland. Nevertheless, most of the land in Carpinteria was still in farming. By 1984, though, development existed almost continuously along a thin strip of coast from Carpinteria to Santa Barbara, with the urban envelope pushing farther inland, and with increasing acreage of Prime farmland being converted to urban uses. However, between 1984 and 2002, according to data provided by FMMP, it appears as if very little additional development took place in Carpinteria. At this time period urban land appeared to be one third of the land in the area, with Prime farmland comprising another third, and Other Land as well as other Important Farmland together bringing another one third of the total land. Since FMMP, as discussed previously, somewhat altered its scheme for classifying land, there are changes between land use classes from 1984 to 2002. Nonetheless, the various thirds given above overall remain fairly constant.

GOLETA (Inside and outside the coastal zone)

In 1954 urban Goleta consisted of what is currently called “Old Town,” the Santa Barbara Airport, a token acreage of development on the military base transitioning into UC Santa Barbara, and another small piece of development in an older section of the Isla Vista community. The rest of the surrounding lands were principally Other Land, with a significant amount of Important Farmland to the northwest and less to the Northeast. Unique Farmland (orchards) and Grazing lands lay in the foothills to the north of Goleta Valley. With the passage of time, the Prime Farmland to the Northeast was consumed by the expansion of Old Town Goleta. New developments to the Northwest appeared by 1967 and began to convert the mix of farmland types there while University expansion gobbled the Other Land acreage along the ocean. Seventeen years later, in 1984, tremendous growth is seen Goleta, as with all other areas of the County. Most of the Important Farmland in the northwest and northeast is converted, creating an unbroken corridor of development between Goleta and Santa Barbara, which also sprawled. The period 1984 to 2002, however, reveals far less change than the previous two time periods. Though some of this change is obscured by updated methods used by the FMMP, certain trends can still be discerned. First, Other Lands in the northwest were urbanized to a big box mall and affiliated suburban development.

SANTA BARBARA (Inside and outside the coastal zone)

By far the largest development in 1954, Santa Barbara is the capital of Santa Barbara County and was settled nearly two hundred years before the beginning of our time period analysis. Most of the land surrounding the city was classified as Other Land. To the Southwest is the Mesa, with slopes steep enough that much of it resisted development until the second time period (1967 to 1984). Much of the rest may have been low-density rural development (ranchettes) or other vacant or otherwise undeveloped lands. Since Santa Barbara was already a venerable town, there were not valuable farmlands adjacent as they had long since moved farther from the city. However, with the ocean to the south and the steep slopes of Los Padres to the North Santa Barbara, the city faced natural constraints. Therefore, by 1967, it had grown only 30 to 40% mostly by moving west along the coast and pushing farther into the foothills of the Santa Ynez Mountains. A few interspersed developments appear between Goleta and Santa Barbara during this time while others already present expanded. Santa Barbara’s story of development had largely been told by 1984 since it had utilized most of its land that lay between the mountains and the sea. During this time Santa Barbara doubled in area and sealed the breach between itself and Goleta, creating an unbroken expanse of development. Despite the implementation of the Coastal Act, significant portions of undeveloped Santa Barbara that lay in the jurisdiction of the coastal zone were nonetheless developed. The following 18 years yielded little additional development for Santa Barbara, with the exception of additional development along the coast of Summerland.
4.3.5 Lompoc Valley

**LOMPOC** (Outside the coastal zone)

In the northwest portion of the Lompoc Valley, lies the city of Lompoc. In 1954, Lompoc was already a sizable development that rivaled other conurbations in the County, with the exception of Santa Barbara itself. Surrounded on three sides by Prime Farmland, Lompoc seemed ripe for a collision between growth and agricultural interests. By 1967, Lompoc had exploded into the croplands it abutted, rather than into the more sloped grazing lands to the south. However, by 1984 growth had slowed in Lompoc, with steep slopes to the south and recently contracted Williamson Act lands to the west and east constraining expansion. Consequently, a great deal of infill occurred in this time period, along with a few small satellite developments. By 2002, Lompoc had managed to expand northwards and consume most of the available prime farmland there. However, the Williamson Act prime farmland to the west (as well as the east, beyond the ribbon of Other Land) remained a barrier to westward sprawl.

**Ventura County natural constraints**

Though Santa Barbara County contains a high proportion of land that is either federally owned or too steep to develop (which are often the same areas), Ventura County’s proportion of land that is either *de jure* or *de facto* off-limits to urbanization is even higher. Only around 10 to 15% of the County is flat enough for most types of development. However, flat valleys in the far north of the County are located in the Los Padres National Forest and are, therefore, obviously excluded from such consideration. Therefore, the ocean to the south, Los Padres to the north, and interspersed areas of steep slope between form the natural barriers to development in Ventura County.

4.4.1 Ventura and Oxnard (Both partially within the coastal zone)

San Buenaventura, or Ventura, is the oldest community in Ventura County. Nevertheless, by 1945 Port Hueneme (Naval base) and Oxnard, though not agglomerated at that time, had a total amount of developed acreage greater than Ventura. Both Port Hueneme and Ventura were developed along the seashore, with Oxnard farther inland. Ventura’s surrounding area was far more mountainous than Port Hueneme and Oxnard’s, which would affect their respective degrees of development over time. In 1945, Ventura had already begun to snake its way through the narrow pass that Route 33 now occupies while also marching east into the greater valley. Growth west and northeast was not possible due to slope concerns.

By 1963, Ventura had doubled in area, mostly by expanding east into the nearby plain. At the same time, Oxnard had grown south, forming an aggregate urban area with Port Hueneme. Both communities enjoyed a certain amount of leapfrog development into the plain, as spontaneous growth occurred beyond the contiguous boundaries of past development, though Oxnard did not face the topographical impediments of Ventura. In Ventura’s case, most of the acreage consumed between 1945 and 1963 was Important Farmland. Oxnard, on the other hand, consumed mainly grazing land in its expansion. To the southeast, along the Coast, the Point Mugu Naval Air Weapons Station was developed during this time.

Twenty-one years later Ventura, having grown 50%, had caught up to nearby leapfrog development as well as increased the area of isolated communities farther to the northeast. Though development between 1963 and 1984 was mostly infill, significant amounts of croplands as well as grazing land were converted. Oxnard increased its urban land by approximately one third, again consuming mostly grazing land. Despite the implementation of the Coastal Act during this time, land was urbanized along the coast. Most of this land, however, was not agricultural but rather other land.

Unlike Santa Barbara County, most cities in Ventura County grew noticeably between 1984 and 2002. As for Ventura and Oxnard, they were no exception. Ventura expanded its urban footprint perhaps 10%, infilling the Prime and Statewide Important Farmland between the main body of the
city and its Northeastern appendage. Oxnard, meanwhile, having exhausted surrounding grazing lands, also expanded into Prime and Statewide Important farmland. However, it did grow approximately 20%.

Most communities in Ventura County grew noticeably from 1984 to 2002. Ventura itself consolidated by developing more interstitial gaps between urban areas, resulting in fewer patches. By 2002, the southern half of Route 33 was completely developed. Oxnard grew in a similar fashion, to the degree of approximately 30%, consuming solely Prime and Statewide Important farmland in the process. By 2002, the only feature separating Ventura from Oxnard was the Santa Clara River and the riparian vegetation along its banks.

4.4.2 Camarillo (Outside the coastal zone)

In 1945, the community of Camarillo consisted of a few, very small, developed areas with wide expanses of prime farmland and grazing land between them. In 1963, some of these communities became unbroken expanses of urbanized areas while new areas of growth erupted more distantly. This represented a nearly ten-fold increase in developed area, with prime farmland bearing almost all the collateral damage. By 1984, Camarillo had tripled in size consuming equal proportions of grazing land and prime farmland. Most of this development consisted of connecting the disparate pockets of development across the landscape and thus did not increase the radius of Camarillo’s footprint. Eighteen years later Camarillo infilled to 50% of its 1984 size, converting equal parts Grazing Land, Prime Farmland, Unique Farmland, and Other Land.

4.4.3 Thousand Oaks, Simi Valley, and Moorpark (Outside the coastal zone)

At the end of World War II none of these three communities existed, or at least they boasted no developed land discernible by aerial photograph. By 1963, however, considerable development had taken place in the areas they presently occupy. While Thousand Oaks had begun to carve itself out of relatively flat but forested lands (Other land) that serpentinely wound throughout the mountains of the south, Simi Valley was firmly ensconced in a wide and nearly rectangular plain, where it had converted a considerable amount of Prime Farmland. Moorpark, smaller than the other two communities, emerged as three disparate conurbations, built upon what was previously Prime Farmland, distributed throughout another circuitously constructed plain just north of Thousand Oaks. A generation later, in 1984, Thousand Oaks grew nearly five-fold in size, consuming almost all of the natural lands (Other Land) left in its valley. This growth resulted in the joining of what had been far-flung communities into one large, inefficiently shaped conurbation. Simi Valley, over the same time period, nearly maxed out its own valley in a 600% increase by consuming all but a few very small pieces of prime farmland. Due to the shape of Simi’s valley this resulted in a rather compact urban shape. Moorpark, in the meantime, leapfrogged into surrounding Prime Farmland and Grazing Land, tripling its developed land. By 2002, Thousand Oaks grew perhaps 20% more by forcefully cramming development into every last reasonably sloped piece of land within its city limits, resulting in an even greater spider webbing shape to development. Ninety percent of this expansion resulted in the conversion of Other Land while the remainder fell to Grazing Land. Simi Valley, previously compact in shape, faced the same predicament as Thousand Oaks when it sought to expand. Therefore, by 2002, tendrils of new development, around 10% more, extrude from the central city, gobbling up Grazing and Other Lands. Moorpark and its satellite developments remain scattered in 2002, yet it too had filled up much of its flatlands by developing Important Farmland. However, as opposed to Thousand Oaks and Simi Valley, it still had significant cropland acreage left in 2002. Lands to the west of Moorpark are mostly enrolled in the Williamson Act, which largely explains their escape from the bulldozer.
4.4.4 Fillmore (Outside the coastal zone)

Fillmore, a farming community along Route 126, already existed in 1945 as a small collection of developed land close to the road. By the early 1960s Fillmore had doubled in size and converted adjacent Prime Farmland accordingly. Twenty one years later, in 1984, it had only grown by 50%, modest compared to other Ventura County cities. In the process it continued to develop its Prime Farmland. In 2002, Fillmore had only increased in size another 20 or 30% and, again, pushed into nearby Prime Farmland. Unlike other areas of the County, Fillmore has plenty of easily developable flatlands (that are also Important Farmland) surrounding it on three sides. However, much, though not all, of that surrounding land is contracted in the Williamson Act and therefore, serves as a buffer against this expansion.

4.4.5 Santa Paula (Outside the coastal zone)

Sixty years ago Santa Paula was a reasonably large community immediately surrounded by Grazing land in a valley otherwise brimming with Important Farmland. By 1963, it had developed most of the surrounding Grazing Land by doubling in size. Expanding 50% more by 1984, the pattern of development began to march southwest through the Valley, this time consuming both Grazing Land and Prime Farmland. By 2002, this progression had been all but halted as a combination of Williamson Act lands and steep slopes bracketed Santa Paula on every side. From 1984 to 2002, Santa Paula grew only a negligible amount.

4.4.6 Ojai (Outside the coastal zone)

Even in 1945, the artist mountainous community of Ojai consisted of a few scattered collections of developed land. Other isolated developments dotted along Route 33 all the way down to Ventura. A generation later, Ojai and the other unincorporated settlements along Route 33 had at least tripled their developed land. In the process, however, they converted only Grazing Land and Other Land. From 1963 to 1984 these communities began the process of urban consolidation when they doubled their urban footprints. Again, though, only Grazing Land and Other Land was consumed. Over the next 18 years’ Ojai as well as the other communities that lay along Route 33 hardly grew at all. Unlike Santa Paula, however, easily developable flat croplands within striking distance of Ojai were also unprotected by the Williamson Act, yet they still remained. This is an anomalous demonstration of restraint and probably has much more to do with the environmentally progressive local politics of the Ojai community than with lack of market opportunities.

4.4.7 Non-urban land use change

The most striking non-urban feature change in Ventura County is the increase in Farmland of Local Importance. This is mostly at the expense of Grazing Land. FMMP offers the following explanation in its 2000 to 2002 conversion report: “Farmland of Local Importance increased relative to Grazing Land as a result of the automated selection of qualifying soil units using SSURGO.” A second important land use change, though less noticeable, is the increase in Unique Farmland throughout the County. FMMP explains: “Conversions to Unique Farmland due to the identification of nurseries with plants being grown in containers and corrections to soil unit identification throughout the county.”

Urban forecasting

Supplementary Figures 9 and 10 display both the Slope and the Roads that are fed into our urban growth model, SLEUTH. The model only accepts grayscale Gif images so all input images are likewise rendered. For Slope, the whiter the pixel, the steeper the slope. Jet black areas are perfectly flat and, consequently, the most ripe for development. The road layer simply shows those major roads that are thought to direct development patterns. Although there are other input images as well, some of which are shown in later figures, these two are revealed because they help guide
the reader’s sense of where development is most likely to take place. Without going into detail, SLEUTH takes into account four major factors when calibrating and predicting urban growth patterns: slope, excluded areas off limits to development, proximity to urban areas, and proximity to major roads. The past images show where growth has already taken place while Supplementary Figures 9 and 10 reveal Slope and Roads.

The following figures reveal an excluded layer along with the resulting forecast image for the year 2050. They progress from the most restrictive conditions to the least. The black areas are available for development. The light gray areas are Parks and Federal Lands. The darker gray areas are Williamson Act areas. The coastal zone appears in several different shades corresponding to that scenario’s particular restriction. As resistance to development increases the coastal zone becomes a lighter shade of gray. The Williamson Act is either in effect or not so its color is either very gray or black. Not surprisingly, the resulting forecasts demonstrate greater growth as restrictions are lifted.

Examining the different excluded layers and outputs reveals insights into the importance that reviewing policies in conjunction with other policies can have. For instance, Carpinteria in the extreme southeast corner of Santa Barbara County is entirely within the coastal zone but also has lands in the Williamson Act. Therefore, it is only when both are removed that it loses all its prime farmland. If no development is allowed in the coastal zone, then Williamson Act policy changes have no effect. Conversely, lands in the coastal zone that are also in the Williamson Act are still off-limits, even if the Coastal Act were repealed. This is also reflected in the qualitative section on the Carpinteria Valley.

As far as total acreage is concerned, the South Coast of Santa Barbara County has a story that has already mostly been written. There is not a tremendous amount of acreage left to urbanize or protect. Santa Maria, in the northwest, on the other hand, shows not only tremendous growth in every scenario but also great variability depending on the Williamson Act. Though even with the unlikely assumption of persistence for all current Williamson Act contracts, the Santa Maria area still grows considerably, when those protections are lost the difference is sizable. This also is true for Lompoc, in the west, and the cities of Buellton and Solvang, and the town of Santa Ynez in the center of the County. However, percentage-wise, no city shows as much sensitivity to the removal of the Williamson Act as the city of Cuyama in the northeast of the County. Although strict enforcement of current contracts still results in some growth, the removal of the Williamson Act causes a loss of over two thirds of the Cuyama area’s prime farmland.

Addressing the coast more specifically, the data and model suggests that pressure to develop the remaining land in the South Coast is tremendous. In the South Coast, when mixing the two dimensions of policy, it would appear that the Coastal Act has more relevance for the protection of the remaining farmland since much of the farmland on the South Coast is not in the Williamson Act. The Carpinteria Valley, as explained before, has the most farmland in the Williamson Act along the South Coast. It is likely that some of the remaining farmland would be converted to urban uses if California and local policies favoring retention of agricultural land were relaxed. To the extreme Northwest of the County it can be observed that the western fringe of the Santa Maria sprawl consumes the last piece of prime farmland along the coastal zone at a rate depending on the administration of the Coastal Act.

The Charts following the scenario outputs give aggregate numbers for the different scenarios. The charts do not offer anything surprising that the maps do not already reveal except for the changes in grazing land. In several scenarios the acreage of grazing land actually increases. To hearken back to earlier explanations, the model’s land use predictions are driven by the FMMP’s data. Since the FMMP data has a constantly evolving methodology and classification scheme that can be misleading, these intra-farmland changes should not be considered as gravely as the urban growth itself. Nevertheless, the numbers displayed give an FMMP data-based forecast for these land classes in the future.
As far as Coastal Prime Farmland, in the CZ0.Strict scenario (See Supplementary Figures 15 and 16 as well as Chart 4), over half is lost. However, removing both protections, CZ0.NoWA (See Supplementary Figures 21 and 22 as well as Chart 7), results in nearly all prime farmland disappearing along the Coast. The County as a whole, however, retains between 35 and 86 percent of its 2002 prime farmland, depending on the scenario. In those scenarios involving strict adherence to the Williamson Act, due to the land use change nature of the model, grazing land actually increases.

Table 3: Santa Barbara County Acreages and Retentions Across Time and Scenarios

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>9556</td>
<td>83584</td>
<td>5222</td>
<td>23278</td>
<td>35935</td>
<td>653670</td>
<td>935836</td>
</tr>
<tr>
<td>1954</td>
<td>6772</td>
<td>74944</td>
<td>3942</td>
<td>18860</td>
<td>34749</td>
<td>554963</td>
<td>874017</td>
</tr>
<tr>
<td>1967</td>
<td>21391</td>
<td>72514</td>
<td>3942</td>
<td>18841</td>
<td>34749</td>
<td>569760</td>
<td>877095</td>
</tr>
<tr>
<td>1984</td>
<td>49348</td>
<td>68385</td>
<td>3942</td>
<td>18832</td>
<td>34749</td>
<td>577867</td>
<td>869902</td>
</tr>
<tr>
<td>2002</td>
<td>55893</td>
<td>73898</td>
<td>7609</td>
<td>31635</td>
<td>23904</td>
<td>561802</td>
<td>870809</td>
</tr>
<tr>
<td>Retention Non-Coast</td>
<td>0.9300</td>
<td>1.6685</td>
<td>1.4582</td>
<td>0.6829</td>
<td>0.9628</td>
<td>0.9699</td>
<td></td>
</tr>
<tr>
<td>COAST</td>
<td>2784</td>
<td>8641</td>
<td>1280</td>
<td>4418</td>
<td>1186</td>
<td>98707</td>
<td>61819</td>
</tr>
<tr>
<td>1954</td>
<td>3942</td>
<td>6660</td>
<td>1280</td>
<td>4418</td>
<td>1186</td>
<td>81686</td>
<td>49619</td>
</tr>
<tr>
<td>1967</td>
<td>8323</td>
<td>3961</td>
<td>1280</td>
<td>4418</td>
<td>1186</td>
<td>67301</td>
<td>37588</td>
</tr>
<tr>
<td>2002</td>
<td>9320</td>
<td>3833</td>
<td>1103</td>
<td>2309</td>
<td>636</td>
<td>67551</td>
<td>36841</td>
</tr>
<tr>
<td>Retention Coast</td>
<td>0.4436</td>
<td>0.8620</td>
<td>0.5226</td>
<td>0.5358</td>
<td>0.6844</td>
<td>0.5960</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZ100Strict</td>
<td>99745</td>
<td>66677</td>
<td>5693</td>
<td>19007</td>
<td>5674</td>
<td>650026</td>
<td>900448</td>
<td>4417</td>
</tr>
<tr>
<td>CZ50Strict</td>
<td>106824</td>
<td>65324</td>
<td>4614</td>
<td>18539</td>
<td>4984</td>
<td>649504</td>
<td>897506</td>
<td>4391</td>
</tr>
<tr>
<td>CZ0Strict</td>
<td>107555</td>
<td>64562</td>
<td>5086</td>
<td>19055</td>
<td>5092</td>
<td>648443</td>
<td>897502</td>
<td>4391</td>
</tr>
<tr>
<td>CZ100NOWA</td>
<td>183283</td>
<td>32568</td>
<td>2072</td>
<td>12497</td>
<td>3118</td>
<td>620502</td>
<td>893234</td>
<td>4412</td>
</tr>
<tr>
<td>CZ50NOWA</td>
<td>190122</td>
<td>30118</td>
<td>1570</td>
<td>11371</td>
<td>1787</td>
<td>621580</td>
<td>890775</td>
<td>4365</td>
</tr>
<tr>
<td>CZ0NOWA</td>
<td>193619</td>
<td>27002</td>
<td>1232</td>
<td>10970</td>
<td>3248</td>
<td>620629</td>
<td>890595</td>
<td>4391</td>
</tr>
</tbody>
</table>
4.5.1 Santa Barbara County

SANTA MARIA VALLEY

In the Strict WA scenarios, Guadalupe doubles in size, consuming nothing but Prime Farmland. The City of Santa Maria remains straitened in the north but expands considerably in the South. Nevertheless, Santa Maria doubles in size under these conditions. However, most of the growth converts Important Farmland other than Prime as well as Grazing land due to the persistence of Williamson Act contracts on Prime farmland surrounding the city’s northern reaches. Virtually all unprotected prime farmland is consumed in Santa Maria Valley in these scenarios. Altering the Coastal Protection in Santa Maria Valley has no effect on growth because those lands are still protected by the Williamson Act. However, abolishing the Williamson Act has a tremendous impact on the Valley. Urban land increases roughly five-fold from 2002 levels as the easily developable flat lands of the Valley convert from Prime Farmland to urban lands. Also, a great deal more growth takes place along US 101 when Williamson Act protections are removed. This is due to the positive reinforcement nature of growth. Urban development islands are attracted to major roads then higher growth increases this attraction. Despite the tremendous growth that occurs without the Williamson Act there are still some important farmlands that are predicted to remain in Santa Maria Valley. They are mostly spared due to their significant distance from urban areas and important roads. As for the farmlands to the west of Guadalupe, near the coast, without the protection of the Williamson Act, they are extremely vulnerable to development. Unsurprisingly, less strict implementation of the Costal Act leads to more conversion of Prime farmland along the Coast.

CUYAMA VALLEY (Outside the coastal zone)

In no region of the county is there a greater percentage growth than in Cuyama Valley. In Strict Williamson Act scenarios, the most restrictive, the community of New Cuyama leapfrogs northwest along the corridor of unprotected Grazing lands on either side of Route 166. Cuyama, to the east, grows little, even though it has easily developable unprotected Prime farmland to its south. However, new communities are predicted to arise throughout the Valley, particularly along the Route 33 corridor to the east of the Valley. This corridor consists entirely of unprotected prime farmland, much of which gets devoured in this scenario. Other communities are expected to spontaneously arise in other areas of the unprotected foothills as well as the unprotected prime farmland between New Cuyama and Cuyama.

With the removal of the Williamson Act, the Cuyama Valley undergoes even more profound growth than the Santa Maria Valley. The total amount of developed land in this Valley, under these conditions, is forecast to be thirty to fifty times greater than 2002 levels. The reasons for this astounding growth resulting from the removal of the Williamson Act are simple. The Valley has very little developed land in 2002, and this land is far outweighed by the amount of currently contracted Williamson Act lands. Furthermore, much of the non-contracted acreage to the south becomes too steep to build upon and, therefore, acts as a barrier to development. Also, State Highway 133 passes
through much of the Williamson Act lands and, once they are available, growth is strongly encouraged. Finally, the Valley has large areas of flat well-drained soils and the abolition of the WA allows their exploitation.

**LOS ALAMOS (Outside the coastal zone)**

With all Williamson Act contracts persisting into the future, the community of Los Alamos, rather small in 2002, is expected to double in size by 2050 while new communities are expected to appear along the US 101 corridor. There are large patches of non-Williamson Act lands along this corridor so they offered no resistance to development, which tends to be attracted to major roads. Most of this growth takes place on Important Farmland.

However, when Williamson Act protection is removed, development along 101 skyrockets to ten times greater than 2002 levels. This is especially true along US 101, where virtually all Important Farmland is consumed. The effect on other Important Farmland along the Creek to the west is largely assuaged due to its distance from US 101 as well as burgeoning Los Olivos.

**LOMPOC VALLEY (Outside the coastal zone)**

Even with no parcels leaving the WA and no development in the Coastal Zone, Lompoc Valley experiences tremendous growth by 2050. With the communities of Lompoc, Vandenberg Village, and Mission Hills nearly doubling in size, they merge into a conglomerated metropolis. Also, an unnamed rural community to the east of Lompoc is predicted to triple in size, consuming surrounding unprotected grazing land. However, most of the land consumed in the valley is Other Land. Lastly, to the northwest of Lompoc is the Lompoc Federal Penitentiary. Though the penitentiary itself, an anomalous type of developed land, is unlikely to expand as indicated, the nearby lands, once freed, could offer considerable development opportunities abutting the penitentiary's perimeter.

With the removal of the Williamson Act protections, urban land more than triples in Lompoc Valley. The aggregation of Lompoc, Vandenberg Village, and Mission Hills is so complete that their boundaries are no longer clear. In addition, spontaneous growth occurs along Highway 1 to the southeast and the rural community to the east quintuples in size. By 2050, with out the Williamson Act, 80% of the 2002 Prime Farmland in Lompoc Valley will be developed.

### 4.5.2 Non-urban land use change

Throughout the County as a whole, great swaths of Farmland of Local Importance and, to a lesser degree, Unique Farmland give way to Grazing land. This should be regarded, however, in the context of the rubric set forth by the FMMP. “Grazing land,” as the chart above indicates, does not mean crops have been replaced with cows necessarily. Rather, it suggests that much of this farm land may be left fallow for three or more seasons which would automatically convert it to grazing land in the view of the FMMP, e.g., “land that is suitable for the grazing of livestock.” Prime Farmland, for the most part, appears far more resistant to this form of change. With farming becoming more difficult financially in the County, the abandonment of many of these less profitable and intensive operations (Farmland of Local Importance) to essentially open land (that is adequate for grazing but not necessarily being used for such purposes) is entirely possible. Unique Farmland giving way to Other Land in the foothills of the South Coast is another noticeable land use change.

The amount of urbanization involved in the various scenarios drives the degree observed in the changes enumerated above. Therefore, with the Williamson Act in place more Locally Important farmland escapes obsolescence into Grazing Land than when it is abolished.
4.5.3 Ventura County

Supplementary Figure 23 introduces the Ventura County portion of the analysis. As with Santa Barbara County, it begins with the past. For reasons explained earlier, we were forced to choose two earlier time periods than those provided by the FMMP for land use and urban data. For Ventura, we settled upon 1945 and 1963. Figures 23 through 30 offer snapshots of Ventura County’s coastal zone as well as the County as a whole for the four different time periods. The same caveats offered for the Santa Barbara County maps also apply to Ventura County.

<table>
<thead>
<tr>
<th>Year</th>
<th>TOTAL</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>5473</td>
<td>77347</td>
<td>39994</td>
<td>22674</td>
<td>12519</td>
<td>241080</td>
<td>778750</td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td>25703</td>
<td>70568</td>
<td>39978</td>
<td>22650</td>
<td>12519</td>
<td>233652</td>
<td>772766</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>78498</td>
<td>57240</td>
<td>39976</td>
<td>22649</td>
<td>12519</td>
<td>214196</td>
<td>752758</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>105524</td>
<td>47552</td>
<td>35082</td>
<td>27798</td>
<td>17973</td>
<td>198039</td>
<td>745104</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>TOTAL</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>COAST</td>
<td>1945</td>
<td>1479</td>
<td>917</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>3084</td>
<td>26763</td>
</tr>
<tr>
<td>1963</td>
<td>2515</td>
<td>767</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>2293</td>
<td>21132</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>4025</td>
<td>767</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>1756</td>
<td>20158</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>4687</td>
<td>610</td>
<td>1132</td>
<td>340</td>
<td>277</td>
<td>1568</td>
<td>19643</td>
<td></td>
</tr>
</tbody>
</table>

Table 4

<table>
<thead>
<tr>
<th>COASTAL</th>
<th>TOTAL %</th>
<th>YEARLY %</th>
<th>NON-COASTAL</th>
<th>TOTAL %</th>
<th>YEARLY %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945-1976</td>
<td>15.07006</td>
<td>0.486131</td>
<td>1945-1976</td>
<td>14.09075</td>
<td>0.45454</td>
</tr>
<tr>
<td>1976-2002</td>
<td>9.378764</td>
<td>0.360722</td>
<td>1976-2002</td>
<td>12.98698</td>
<td>0.499499</td>
</tr>
</tbody>
</table>

Table 4A. Analysis: Ventura County’s Average Yearly % Consumption of Available Land: Coast vs. Non-Coast

The numbers above suggest the relationship between urbanization rates along the Coast and the non-Coast did indeed change after the implementation of the Act. As Table 4A shows the Coast went from consuming available land at a rate slightly higher than the non-Coast to consuming available land at a rate only 72% as high as the non-Coast. This led to the 28% Coastal resistance scenario for Ventura County, which, in this case serves as a Business As Usual scenario for Coastal Administration. The data for the year 1976 was assumed to be numerically 2/3 between the 1963 data and the 1984 data.
However, unlike Santa Barbara County, the Tables 4, 4A, and 4B reveal different conclusions about the effectiveness of the Coastal Act. As Table 4A demonstrates, the relationship between coastal rates of urbanization of available land and non-coastal rates has changed over the years. Before the Coastal Act the coast consumed available land at a rate slightly higher than the non-coastal area. After the Act, it consumed land at a rate 28% lower than the non-coastal area. Therefore, circumstantial evidence indicates the Coastal Act may be making a difference in Ventura County.

The modeling process, therefore, integrates a scenario that reflects this conclusion: CZ28.Strict and CZ28.NoWA. These both correspond to a business as usual assumption about future administration of the Coastal Act in Ventura County.

As for past retention of agricultural lands, the coastal zone actually retained a greater percentage of all categories of important farmland than the non-coastal areas (Table 4-B). However, it did lose nearly half of its grazing land and a quarter of its other land, whereas the non-coast area retained much higher proportions of these two categories.

The future scenarios, as with Santa Barbara County, are all predicated upon 2002 roads, urbanized areas, and Slope (See Supplementary Figures 31 and 32 for Slopes and Roads). There are differences in the input data that can help explain why Ventura County grows less across certain scenarios than Santa Barbara County. First, Ventura County has a smaller amount of available land with a slope suitable for development (compare Supplementary Figures 31 and 9). Second, even when the Williamson Act is stripped away, many places in the Act are still too steep for de-

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>5473</td>
<td>77347</td>
<td>39994</td>
<td>22674</td>
<td>12519</td>
<td>241080</td>
<td>778750</td>
</tr>
<tr>
<td>1963</td>
<td>25703</td>
<td>70568</td>
<td>39978</td>
<td>22650</td>
<td>12519</td>
<td>233652</td>
<td>772766</td>
</tr>
<tr>
<td>1984</td>
<td>78498</td>
<td>57240</td>
<td>39976</td>
<td>22649</td>
<td>12519</td>
<td>214196</td>
<td>752758</td>
</tr>
<tr>
<td>2002</td>
<td>105524</td>
<td>47552</td>
<td>35082</td>
<td>27798</td>
<td>17973</td>
<td>198039</td>
<td>745104</td>
</tr>
<tr>
<td>Retention</td>
<td>0.6148</td>
<td>0.8772</td>
<td>1.2260</td>
<td>1.4356</td>
<td>0.8215</td>
<td>0.9568</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-COAST</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>3994</td>
<td>76429</td>
<td>38792</td>
<td>22397</td>
<td>12479</td>
<td>237995</td>
<td>751987</td>
</tr>
<tr>
<td>1963</td>
<td>23188</td>
<td>69801</td>
<td>38776</td>
<td>22373</td>
<td>12480</td>
<td>231358</td>
<td>751634</td>
</tr>
<tr>
<td>1984</td>
<td>74472</td>
<td>56473</td>
<td>38774</td>
<td>22373</td>
<td>12479</td>
<td>212440</td>
<td>732600</td>
</tr>
<tr>
<td>2002</td>
<td>100837</td>
<td>46943</td>
<td>33950</td>
<td>27458</td>
<td>17696</td>
<td>196472</td>
<td>725461</td>
</tr>
<tr>
<td>Retention</td>
<td>0.6142</td>
<td>0.8752</td>
<td>1.2259</td>
<td>1.4180</td>
<td>0.8255</td>
<td>0.9647</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COAST</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>1479</td>
<td>917</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>3084</td>
<td>26763</td>
</tr>
<tr>
<td>1963</td>
<td>2515</td>
<td>767</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>2293</td>
<td>21132</td>
</tr>
<tr>
<td>1984</td>
<td>4025</td>
<td>767</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>1756</td>
<td>20158</td>
</tr>
<tr>
<td>2002</td>
<td>4687</td>
<td>610</td>
<td>1132</td>
<td>340</td>
<td>277</td>
<td>1568</td>
<td>19643</td>
</tr>
<tr>
<td>Retention</td>
<td>0.6645</td>
<td>0.9419</td>
<td>1.2291</td>
<td>6.9278</td>
<td>0.5083</td>
<td>0.7340</td>
<td></td>
</tr>
</tbody>
</table>

Table 4B. Retentions of different land types between years
velopment. Third, Ventura County does not have as much land enrolled in the Williamson Act so its abolition has an effect less shocking than Santa Barbara County’s.

In every scenario, Ventura County’s future grazing land increases. Again, this should be understood in the context of the FMMP’s methodology. In the coastal zone, even in the least restrictive scenarios, there is still some prime or statewide farmland projected to remain in 2060. (See Supplementary Figures 42 and 43) Though there is variability across the different scenarios for Ventura County they still do not show as much variability as Santa Barbara. For instance, Ventura County’s scenarios result in 50% (Figure 34) to 80% (Supplementary Figure 43) increases in urban land. Santa Barbara County, on the other hand, leaps from 50% in the most restrictive scenario (Supplementary Figure 12), to an over 300% increase in the least (Supplementary Figure 22). Again, this different response to policy is for the reasons outlined above. As for retention of farmland, Ventura County ranges from 50 to 75% retention of Prime, with Local farmland taking the greatest percent losses. Santa Barbara County ranges from 35 to 85% retention of Prime with Statewide plummeting to a possible 14% retention and Local 13% in the least restrictive scenario.

The figures, tables, and charts in this section are numerous and lend themselves to a number of different conclusions. First, it would appear that the Coastal Act has made an appreciable difference in Ventura’s coastal zone, but has not in that of Santa Barbara County. As noted earlier, the fact that Santa Barbara County’s general plan and zoning are closer to Coastal Act policies than Ventura’s plan and zoning inland, may offer at least a partial explanation of the lack of difference between coastal zone and inland rates of agricultural land retention. Second, policies working in concert are more powerful than policies working alone. For instance, even with the abandonment of one of these two policies, some farmland along the coast can still be spared due to the protection of the other. Third, though models do not truly tell the future, they are meaningful. By using state of the art techniques and the best data available (even when imperfect) a picture of the future can emerge. This can offer glimpses of where the highest pressure to develop will be. By understanding the effect of slope, roads, current development patterns, and excluded areas, we can make extremely educated guesses, if not about where development will be at least about where the next battle for control of farmland and development could be fought.

### 4.5.4. Ventura communities

Table 5. Ventura County Acreages and Retentions Across Time and Scenario

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>1479</td>
<td>917</td>
<td>1439</td>
<td>411</td>
<td>32</td>
<td>3084</td>
<td>26763</td>
<td>0</td>
</tr>
<tr>
<td>1963</td>
<td>2515</td>
<td>767</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>2293</td>
<td>21132</td>
<td>0</td>
</tr>
<tr>
<td>1984</td>
<td>4025</td>
<td>767</td>
<td>1202</td>
<td>277</td>
<td>40</td>
<td>1756</td>
<td>20158</td>
<td>0</td>
</tr>
<tr>
<td>2002</td>
<td>4687</td>
<td>610</td>
<td>1132</td>
<td>340</td>
<td>277</td>
<td>1568</td>
<td>19643</td>
<td>0</td>
</tr>
<tr>
<td>Retention</td>
<td>0.6645</td>
<td>0.7866</td>
<td>0.8278</td>
<td>0.7597</td>
<td>0.5083</td>
<td>0.7340</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-Coast</th>
<th>Urban</th>
<th>Prime</th>
<th>Statewide</th>
<th>Unique</th>
<th>Local</th>
<th>Grazing</th>
<th>Other</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>3994</td>
<td>76429</td>
<td>38555</td>
<td>22263</td>
<td>12488</td>
<td>237995</td>
<td>751987</td>
<td>3156</td>
</tr>
<tr>
<td>1963</td>
<td>23188</td>
<td>69801</td>
<td>38776</td>
<td>22373</td>
<td>12480</td>
<td>231358</td>
<td>751634</td>
<td>3156</td>
</tr>
<tr>
<td>1984</td>
<td>74472</td>
<td>56473</td>
<td>38774</td>
<td>22373</td>
<td>12479</td>
<td>212440</td>
<td>732600</td>
<td>3155</td>
</tr>
<tr>
<td>2002</td>
<td>100837</td>
<td>46943</td>
<td>33950</td>
<td>27458</td>
<td>17696</td>
<td>196472</td>
<td>725461</td>
<td>3919</td>
</tr>
<tr>
<td>Retention</td>
<td>0.6142</td>
<td>0.8806</td>
<td>1.2333</td>
<td>1.4170</td>
<td>0.8255</td>
<td>0.9647</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VENTURA AND OXNARD (Partially inside the coastal zone) as well as Camarillo (outside):

Due to their partial inclusion in the coastal zone, Ventura and Oxnard are the only cities that are sensitive to Coastal Act administration. Therefore, particular attention is paid not only to this policy but its interaction with the Williamson Act along the coast. When no development is allowed along the coast and all Williamson Act contracts persist until 2060, Ventura and Oxnard still merge into one urban agglomeration. Though there is a river separating them, it and the surrounding vegetation are not protected according to our data and are, therefore, possible development sites. Though the two communities only increase their footprint 20 or 30 percent, it is mostly at the expense of Prime and Statewide Important Farmland. Of course, in this scenario, no development occurs along the coast.

When altering Coastal Act development resistance, the results differ only negligibly. Almost all of the land in the coastal zone under these conditions is either already developed, too steep to develop, in the Williamson Act, or under some other form of protection. The tiny fraction of acreage that does not fall under one of these categories is what is at stake under these circumstances, and so small patch of Prime Farmland is developed just north of Port Hueneme. Regardless of the
scenario all three of these communities: Ventura, Oxnard, and Camarillo concentrate almost all of their growth exclusively on Important Farmland, most of it Prime and Statewide Important.

When abolishing the Williamson Act but keeping 100% Coastal Protection, development obviously increases. In fact, not only do Oxnard and Ventura merge together but so too does Camarillo with them both. (Santa Paula comes close to joining them.) All three of these communities roughly double in size and convert almost exclusively Prime and Statewide Farmland in the process.

THOUSAND OAKS, SIMI VALLEY, AND MOORPARK (outside the coastal zone):

These three communities are unusual for this study since they betray almost no sensitivity to the Williamson Act. In every scenario, for instance, Thousand Oaks and Simi Valley show the same pattern of growth. All that is at stake is a relatively small remaining area of Prime Farmland between northern Thousand Oaks and Camarillo. This does not suggest, however, that no growth occurs. Both Simi Valley and Thousand Oaks expand their developed land by approximately 20%. This is only accomplished, though, through a laborious foray up the surrounding slopes and hillsides. The model assumes flatter lands are more likely to be developed before attention is turned to less amenable steeper slopes. Nonetheless, even these intermediate slopes become exhausted and there is a point that is not crossed and development ceases in an area. This point is reached for both Thousand Oaks and Simi Valley in every scenario, regardless of policy. In the case of Thousand Oaks, it is entirely Other Land that is consumed while with Simi Valley it is Grazing Land. As for Moorpark, it follows a different pattern. Though it expands and consumes more of the valley in which it lies, interstitial steeper lands between heavy pockets of urban Moorpark are also developed due to intense pressure in every scenario (they are not protected). Therefore, even with the abolition of the Williamson Act, flat and easily developable and Important Farmlands to the east of Moorpark, yet still out of Camarillo’s reach, escape conversion. However, croplands closer to Moorpark in that valley are developed without Williamson Act protection but their total acreage is small.

FILLMORE (Outside the coastal zone)

With permanent Williamson Act protections Fillmore is still predicted to double in size by 2060. Without them it is expected to quadruple. In either case an equal proportion of Other Land and Important Farmland is consumed. The same holds true for Piru, an unincorporated community east of Fillmore along Route 126.

SANTA PAULA (Outside the coastal zone)

Even with Williamson Act protections persisting Santa Paula still nearly doubles its urban footprint between 2002 and 2060; all at the expense of Important Farmland. Without the Williamson Act, however, it more than triples. Under this scenario all new development takes place on Important Farmland except most of it is Prime.

OJAI (Outside the coastal zone) (And Casitas Springs, etc.)

The community of Ojai as well as nearby unincorporated communities on or near Route 33 are projected to grow regardless of Williamson Act policy. With persistence, they roughly double in size, consuming mostly Other Land and Grazing Land. With its removal, the difference is small. Essentially, there is a bit more expansion onto Important Farmland adjacent to the communities.

LAND USE CHANGE

In every scenario, agricultural lands in every category yield a net loss of acreage. However, the different retention rates reflect not only urban conversion but also conversion from one farmland class to another. Therefore, the tremendous loss of Local Farmland is due far more to its conversion to Grazing land than to urbanization. Unique Farmland also loses significant acreage to Grazing land. Prime and Statewide Important farmlands owe most of their loss to urbanization, on the other hand. Grazing land shows great retention compared to the others due not only to the tremendous acreage it began with, vis-a-vis urban lands, but also because its losses are mitigated by its consumption of other farmland categories.
Summary of Findings

5.0 Conclusions

The California Coastal Act as implemented by cities, counties, and the statewide Coastal Commission has not prevented the loss of agricultural land in the coastal zone, but it has lowered the rate of agricultural land converted to urban uses. Santa Barbara County’s total prime farmland declined at a rate of .0039 yearly averaged over the pre-Coastal Act years 1954-67; at a rate of .0085 between 1967-1984, and at a lower rate of .0010 in the 18 years after implementation of the Coastal Act (1984-2002). The lower rate of agricultural land conversion in the years following implementation of the Coastal Act by local cities and counties as well as by the statewide Coastal Commission tends to confirm the effectiveness of the Coastal Act despite fluctuation in the rate of loss of agricultural land for economic reasons: in the building boom years of the 1980s, agricultural land was converted to urban uses at a higher rate than in the 1990s when the economy slumped.

Santa Barbara County’s coastal zone prime farmland declined by 392 acres total, or an average of 30 acres/year over a 13 year period or at a rate of .0051 from 1954-1967. The table below shows how the rate of prime farmland loss within the coastal zone increased between 1967 and 1984 and then declined dramatically from 1984-2002.

<table>
<thead>
<tr>
<th></th>
<th>YEAR</th>
<th># ACRES TOTAL LOST</th>
<th>AVE. LOST YEARLY</th>
<th>RATE OF LOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIME AG LAND Coastal</td>
<td>1954-1967</td>
<td>392</td>
<td>30</td>
<td>.0051</td>
</tr>
<tr>
<td></td>
<td>1967-1984</td>
<td>1,530</td>
<td>90</td>
<td>.0164</td>
</tr>
<tr>
<td></td>
<td>1984-2002</td>
<td>122</td>
<td>6.8</td>
<td>.0017</td>
</tr>
<tr>
<td>PRIME AG LAND Non-Coastal</td>
<td>1954-1967</td>
<td>3,830</td>
<td>295</td>
<td>.0038</td>
</tr>
<tr>
<td></td>
<td>1967-1984</td>
<td>10,018</td>
<td>589</td>
<td>.0080</td>
</tr>
<tr>
<td></td>
<td>1984-2002</td>
<td>1,159</td>
<td>64</td>
<td>.0010</td>
</tr>
<tr>
<td>IMPORTANT FARMLAND Non-Coastal</td>
<td>1954-1967</td>
<td>3,764</td>
<td>290</td>
<td>0.0021</td>
</tr>
<tr>
<td></td>
<td>1967-1984</td>
<td>14,306</td>
<td>842</td>
<td>0.0063</td>
</tr>
<tr>
<td></td>
<td>1984-2002</td>
<td>+8,205</td>
<td>(+456)</td>
<td>+.0038 GAIN</td>
</tr>
</tbody>
</table>

Table 6. Comparison of agricultural land lost before and after implementation of the Coastal Act
In Ventura County before adoption of the Coastal Act, urbanization consumed available land in the coastal zone at a rate slightly lower than in the non-coastal area. After the Act, it consumed land in the coastal zone at a rate 43% lower than the non-coastal area. The modeling exercise described in detail in Part 4 of this report suggests that both the Coastal Act and the Williamson Act are important for retention of prime agricultural land and less significant for grazing land (For Santa Barbara see Charts 1-9 and Table 3; for Ventura County see Charts 10 to 18 and Table 5).

For Santa Barbara County, with full protection of both Williamson Act and Coastal Act, retention of prime agricultural land is around 100%, while with no Williamson Act and no Coastal Act, the model predicts only 41% retention. For Ventura, with both Williamson Act and Coastal Act fully enforced, prime retention in 2060 is predicted to be 74%; with both removed, retention falls to 53%. While there are slight variations in retention of grazing land in Ventura under all scenarios, retention of grazing land remains high suggesting that the impact of both regulation and tax incentives is small.\[155\]

For Santa Barbara County, with no parcels leaving the Williamson Act and levels of Coastal Act protection varying from 0 to 100% protection, prime retention under future scenarios is in the range of 97 - 100%. If parcels are dropped from Williamson Act protection (e.g. Williamson Act incentives are abolished), rates of retention drop for Prime Farmland significantly from 49% with 100% Coastal Act protection, to 45% with 50% Coastal Act protection, and to 41% with no Coastal Act protection. As for Ventura, it varies less wildly, with a range of 52 to 74% retention of prime farmland across all the scenarios.

Finally we can relate the narrative history of farming communities contained in Part 2 to the story depicted by the maps. For example, almost all of the Carpinteria Valley is in the coastal zone. Therefore, abolition of the Williamson Act but 100% protection of the coastal zone results in no development in this area. However, the opposite, 0% protection of the coastal zone and full enforcement of the Williamson Act, does result in development. When both are removed virtually all of the farmland is lost in the Carpinteria Valley. In contrast, most of the agricultural land in Santa Maria is not in the coastal zone; there, a great sensitivity to the Williamson Act is evident but, of course, virtually none to Coastal Act administration. And future scenarios for Santa Maria predict much more significant loss of agricultural land.

**Policy implications and recommendations**

This study shows that economic incentives (the Williamson Act) and regulation (the Coastal Act) working together are powerful tools for retaining agricultural land. The modeling exercise illustrates that were California to get rid of either act, the other would be less effective. While the 100% protection scenario of the model is only a pipedream, 50% resistance to development is more realistic. Municipalities may reject conversion of agricultural parcels many times, but eventually when the pressure for development is great enough, they may allow conversion.

The combination of the Williamson Act, the Coastal Act, the Coastal Conservancy and private land trusts using conservation easements provides a mix of tools to effectively retain valuable farm- and rangeland. As the narrative, maps and model show, economic incentive, regulatory and purchase approaches have all played a role in evolution of the Ventura and Santa Barbara County landscape. Each retention strategy has weaknesses: jurisdiction of the Coastal Act is geographically quite limited; the voluntary nature of tax incentives undermines permanent protection; the Williamson Act incentives don’t differentiate between types of farmland (prime or non-prime); and

[155] Though grazing land does indeed get consumed by urban sprawl, it is not nearly as affected as Important (e.g., flat) Farmland. At the same time, Important Farmland obsolescence, abandonment, insolvency, or fallowness automatically switches that acreage over into the Grazing Land category. Therefore, a great deal of Important Farmland is predicted to become Grazing Land (even if there are no cows on the property). The rate of this process eclipses loss of Grazing land to urbanization or other occasional conversions to Other Land or even Important Farmland.
the expense and voluntary nature of easements dramatically limits their utility. Nonetheless, the three approaches interact to provide greater success in retaining agricultural land than could any one approach alone.

Reflecting on the lessons of this study, we offer a few recommendations for strengthening the existing tools to enhance agricultural land retention. First, weighting benefits based upon a sliding scale of proximity to urban areas may help to maintain an urban boundary; however, it may also foster leapfrog development on farmland farther from the urban boundary. Also, lowering minimum acreage requirements would increase enrollment in Williamson Act. With the high property values in coastal counties such as Santa Barbara and Ventura, and especially in areas close to urban development, agricultural parcels are often smaller than 10 acres. This is evident in the Goleta Valley. Reduction in the minimum acreage requirements of prime farmland coupled with greater incentives for prime soil (and possibly proximity to urban areas) would increase the appeal of Williamson Act contracts for urban fringe farmers. Lowering minimum acreage requirements, however, risks offering tax reductions for residential development in the guise of farming. Note that making such adjustments to the Williamson Act would require increased funding to accommodate growing enrollment, greater incentives, and increased regulation to ensure landowners are not entering under false pretenses.

Another possibility is to capitalize on the already existing synergies of the various policies. For instance, by allowing greater tax breaks for Williamson Act parcels in the coastal zone the Coastal Act would better meet its goals of coastal farmland retention. This could also be achieved by reducing acreage requirements along the coast, where parcels tend to be smaller than in more inland areas. Additionally, increasing tax breaks for all agricultural parcels within the coastal zone could enhance the resistance to development. Incentives provided by the Williamson Act could be differentiated by the size and the type of land in order to provide stronger protection for bigger parcels and for prime and important farmland.

While conservation easements provide the most permanent protection for agricultural land, constraints on funding have prevented extensive use of this tool. Statewide, less than 1 percent of agricultural land is covered by a state-owned conservation easement (roughly 80,000 acres), but increased recognition of the importance of conservation easements could strengthen this trend, especially with the development of new non-profit farmland trusts. We recommend increased state and private funding for purchase of conservation easements for agricultural land. Lawyers could play an instrumental role in helping to preserve agricultural land by educating ranchers and farmers of the potential benefits of creating conservation easements through estate planning.

Finally, agricultural easements are the most effective tool for permanently preserving agricultural land; however, the expense and voluntary elements of this strategy make it unrealistic as a widespread solution to agricultural land conversion. The use of easements to preserve endangered farmland could be enhanced with greater state involvement in planning and increased funding. Funds could be better directed by state level planning and distribution of funds to those local area organizations where the most prime agricultural land is at the highest risk. As with the Williamson Act, increased tax incentives should be offered landowners with prime land near urban boundaries.

The vitality of the California Coastal Act is highly dependent on implementation by cities and counties. Relatively few cases of agricultural land conversion reach decision makers at the statewide Coastal Commission. Further, the Coastal Commission has not had the funds or staff to regularly review and update LCPs. On the one hand, this has left implementation and evaluation largely in the hands of municipalities; on the other hand, the reluctance of cities and counties to bring major revision of LCPs before the Commission may have enhanced retention of agricultural lands.

The Coastal Act’s jurisdiction is too geographically limited to protect agriculture on a large scale, but the Coastal Act provides a model for state-level agriculture policy. This study demonstrates that the combination of mandatory regulations and voluntary economic incentives provide a significantly more robust strategy for retaining agricultural land than either tool can provide alone. If retention of farm- and rangeland are important throughout the state, the legislature should adopt goals and policies such as those in the California Coastal Act. While municipalities are likely to re-
sist intrusions by the state into land use decisions, a statewide policy on agricultural land retention and a program for oversight of local land use plans would be a far more effective way to prevent urban sprawl and loss of agricultural land than reliance on economic incentives alone.

**Recommendations for future research**

This study demonstrates the ability and utility of an interdisciplinary team of researchers to collaborate in the use of quantitative and qualitative methods to provide both systematic and robust evaluation of policy tools. We were able to go beyond literature review and anecdotal evidence to map changes in land use over a half century and correlate these with policy and regulatory changes at the state and local level.

Modeling greatly enhanced this study as it aligned quantitative and qualitative elements of the study. The modeling scenarios strongly correlated with most of the other analyses included with the report, especially noting the complementary nature of the Coastal and Williamson Acts in the Carpinteria Valley as well as the projected growth of the Santa Maria urban area. We caution, however, that the modeling exercise is most useful as an indicator of broad changes in land use, rather than in precise delineation of land use change. The model, for example, did not identify the Gaviota Coast as an area likely to experience residential development, though we know from the ongoing controversy at Naples, that the Gaviota Coast is likely to experience development and loss of agricultural land. Concomitantly, with removal of all Williamson Act protections, the model projected significant urban growth for the isolated area of Cuyama, an area currently without the infrastructure and services to support major urbanization. The model placed weight on proximity to major roads (in this case to Highway 166) and the presence of much flat, easily developable surrounding land. The model could be strengthened by taking in to consideration other variables such as water availability, another factor that may make Cuyama less likely to be developed than the model predicts.

We found the maps depicting historical change as well as those showing future scenarios triggered lively discussions among planners and others concerned with land use planning and agricultural land retention. We hope in making these widely available on the internet that others will use them to engage experts and the general public in debate and discussion. We hope other researchers will extend the analysis and use the maps to further their own research. The shapefiles used to create the maps are available from Davidson Library at the University of California, Santa Barbara.
SUPPLEMENTARY FIGURES

Supplementary Figure 1: 1954 Santa Barbara County Coastal Zone
Supplementary Figure 2: 1967 Santa Barbara County Coastal Zone
Supplementary Figure 3: 1984 Santa Barbara County Coastal Zone
Supplementary Figure 4: 2002 Santa Barbara County Coastal Zone
Supplementary Figure 5: 1954 Santa Barbara County
Supplementary Figure 6: 1967 Santa Barbara County
Supplementary Figure 7: 1984 Santa Barbara County
Supplementary Figure 8: 2002 Santa Barbara County
Supplementary Figure 9: Slope used in SLEUTH
Supplementary Figure 10: Roads used in SLEUTH
Supplementary Figures 11 and 12: CZ100.Strict Excluded Layer scenario with future output
Supplementary Figures 13 and 14: CZ50.Strict Excluded Layer scenario with future output
Supplementary Figures 15 and 16: CZ0.Strict Excluded Layer scenario with future output
Supplementary Figures 17 and 18: CZ100.NOWA Excluded Layer scenario with future output
Supplementary Figures 19 and 20: CZ50.NOWA Excluded Layer scenario with future output
Supplementary Figures 21 and 22: CZ0.NOWA Excluded Layer scenario with future output
Supplementary Figure 23: 1945 Ventura County Coastal Zone
Supplementary Figure 24: 1963 Ventura County Coastal Zone
Supplementary Figure 25: 1984 Ventura County Coastal Zone
Supplementary Figure 26: 2002 Ventura County Coastal Zone
Supplementary Figure 27: 1945 Ventura County
Supplementary Figure 28: 1963 Ventura County
Supplementary Figure 29: 1984 Ventura County
Supplementary Figure 30: 2002 Ventura County
Supplementary Figure 31: Ventura County Slope for use in SLEUTH
Supplementary Figure 32: Ventura County Roads for use in SLEUTH
Supplementary Figure 33 and 34: CZ100.Strict Excluded Layer scenario with future output
Supplementary Figures 35 and 36: CZ28.Strict Excluded Layer scenario with future output
Supplementary Figures 36 and 37: CZ0.Strict Excluded Layer scenario with future output
Supplementary Figures 38 and 39: CZ100.NoWA Excluded Layer scenario with future output
Supplementary Figures 40 and 41: CZ28.NoWA Excluded Layer scenario with future output
Supplementary Figures 42 and 43: CZ0.NoWA Excluded Layer scenario with future output
SUPPLEMENTARY CHARTS
Supplementary Chart 1: SB County 2002
Supplementary Chart 2: SB County 2050 CZ100.Strict
Supplementary Chart 3: SB County 2050 CZ50.Strict
Supplementary Chart 4: SB County 2050 CZ0.Strict
Supplementary Chart 5: SB County 2050 CZ100.NoWA
Supplementary Chart 6: SB County 2050 CZ50.NoWA
Supplementary Chart 7: SB County 2050 CZ0.NoWA
Supplementary Chart 8: SB County Farmland Across Scenarios
Supplementary Chart 9: SB County Important Farmland Across Scenarios
Supplementary Chart 10: Ventura County 2002
Supplementary Chart 11: Ventura County CZ100.Strict
Supplementary Chart 12: Ventura County CZ28.Strict
Supplementary Chart 13: Ventura County CZ0.Strict
Supplementary Chart 14: Ventura County CZ100.NoWA
Supplementary Chart 15: Ventura County CZ28.NoWA
Supplementary Chart 16: Ventura County CZ0.NoWA
Supplementary Chart 17: Ventura County Farmland Across Scenarios
Supplementary Chart 18: Ventura County Important Farmland Across Scenarios
Supplementary Figure 1: 1954 Santa Barbara County Coastal Zone

Santa Barbara County Land Use

- **Developed**
- **Prime**
- **Statewide**
- **Unique**
- **Local**
- **Grazing**
- **Other Land**
- **Water**
Supplementary Figure 2: 1967 Santa Barbara County Coastal Zone

1967 Coastal Zone

Santa Barbara County Land Use

Land Use
- Developed
- Prime
- Statewide
- Unique
- Local
- Grazing
- Other Land
- Water
Supplementary Figure 3: 1984 Santa Barbara County Coastal Zone

1984 Coastal Zone

Santa Barbara County Land Use

Land Use
- Developed
- Prime
- Statewide
- Unique
- Local
- Grazing
- Other Land
- Water
Supplementary Figure 5: 1954 Santa Barbara County

1954 Entire

Santa Barbara County Land Use

- Developed
- Prime
- Statewide
- Unique
- Local
- Grazing
- Other Land
- Water
Supplementary Figure 6: 1967 Santa Barbara County

1967 Entire

Santa Barbara County Land Use

- Developed
- Prime
- Statewide
- Unique
- Local
- Grazing
- Other Land
- Water
Supplementary Figure 7: 1984 Santa Barbara County

1984 Entire

Santa Barbara County Land Use

santabarbara

Land Use

- Developed
- Prime
- Statewide
- Unique
- Local
- Grazing
- Other Land
- Water
Supplementary Figure 8: 2002 Santa Barbara County

2002 Entire

Santa Barbara County Land Use

Land Use
- Developed
- Prime
- Statewide
- Unique
- Local
- Grazing
- Other Land
- Water
Supplementary Figure 9: Slope used in SLEUTH

Supplementary Figure 10: Roads used in SLEUTH
Supp. Figures 11 and 12: CZ100.Strict Excluded Layer scenario with future output
Supp. Figures 13 and 14: CZ50.Strict Excluded Layer scenario with future output
Supp. Figures 17 and 18: CZ100.NOWA Excluded Layer scenario with future output
Supp. Figures 19 and 20: CZ50.NOWA Excluded Layer scenario with future output
Supp. Figures 21 and 22: CZ0.NOWA Excluded Layer scenario with future output
Chart 3: SB County 2050 CZ50.Strict

SB County 2050 CZ50 Strict

- Grazing: 37.1%
- Other: 51.2%
- Urban: 6.1%
- Prime: 3.7%
- Statewide: 0.3%
- Local: 0.3%
- Unique: 1.1%
- Water: 0.3%

Chart 4: SB County 2050 CZ0.Strict

SB County 2050 CZ0 Strict

- Grazing: 37.0%
- Other: 51.2%
- Urban: 6.1%
- Prime: 3.7%
- Statewide: 0.3%
- Local: 0.3%
- Unique: 1.1%
- Water: 0.3%

Urban
Prime
Statewide
Unique
Local
Grazing
Other
Water
Chart 5: SB County 2050 CZ100.NoWA

Chart 6: SB County 2050 CZ50.NoWA
Chart 7: SB County 2050 CZ0.NoWA

SB County 2050 CZ0 NoWA

- Water: 0.3%
- Urban: 11.1%
- Prime: 1.5%
- Unique: 0.6%
- Statewide: 0.1%
- Local: 0.2%
- Grazing: 35.4%
- Other: 50.8%

Chart 8: SB County Farmland Across Scenarios

All SB Farmland Across Scenarios
Chart 9: SB County Important Farmland Across Scenarios

Important SB Farmland Across Scenarios

- Urban
- Prime
- Statewide
- Unique
- Local

Acres
Supplementary Figure 23: 1945 Ventura County Coastal Zone

Legend
Ventura Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
Supplementary Figure 24: 1963 Ventura County Coastal Zone

Legend

Ventura
Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
Supplementary Figure 25: 1984 Ventura County Coastal Zone

Legend
Ventura
Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
Supplementary Figure 26: 2002 Ventura County Coastal Zone

Legend
Ventura
Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
Supplementary Figure 27: 1945 Ventura County

Legend
Ventura
Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
1963 Ventura County

Legend
Ventura Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
Supplementary Figure 29: 1984 Ventura County

Legend
Ventura
Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
Supplementary Figure 30: 2002 Ventura County

Legend
Ventura Land Uses
- Developed Land
- Prime
- Statewide
- Unique
- Local
- Grazing
- Water
- Other Land
Supplementary Figure 31: Ventura County Slope for use in SLEUTH

Supplementary Figure 32: Ventura County Roads for use in SLEUTH
Supp. Figure 33 and 34: CZ100.Strict Excluded Layer scenario with future output
Supp. Figures 36 and 37: CZ0.Strict Excluded Layer scenario with future output
Supp. Figures 38 and 39: CZ100.NoWA Excluded Layer scenario with future output
Supp. Figures 40 and 41: CZ28.NoWA Excluded Layer scenario with future output
Supp. Figures 42 and 43: CZ0.NoWA Excluded Layer scenario with future output
Chart 10: Ventura County 2002 Land Use

Ventura County 2002 Land Use

- Urban: 8.9%
- Water: 0.3%
- Grazing: 16.8%
- Other: 63.1%
- Prime: 4.0%
- Statewide: 3.0%
- Unique: 2.4%
- Local: 1.5%

Chart 11: Ventura County CZ100.Strict

Ventura County 2060 CZ100 Strict

- Urban: 13.0%
- Water: 0.3%
- Grazing: 17.1%
- Other: 62.0%
- Prime: 3.0%
- Statewide: 2.4%
- Unique: 1.7%
- Local: 0.6%

Legend:
- Urban
- Prime
- statewide
- Unique
- Local
- Grazing
- Other
- Water
Chart 12: Ventura County CZ28.Strict

Chart 13: Ventura County CZ0.Strict
Chart 16: Ventura County CZ0.NoWA

Ventura County 2060 CZ0 No WA

- Water: 0.3%
- Urban: 15.4%
- Prime: 2.1%
- Statewide: 1.6%
- Unique: 1.5%
- Local: 0.5%
- Grazing: 16.9%
- Other: 61.6%

Chart 17: Ventura County Farmland Across Scenarios

All Ventura Farmland Across Scenarios

- Urban
- Prime
- Statewide
- Unique
- Local
- Grazing
- Other
- Water
Chart 18: Ventura County Important Farmland Across Scenarios