

PREFACE: FROM NALS TO NOW

At the turn of the century, America had nearly 30 million farms. Today, we approach the year 2000 with fewer than two million. While this is partly due to enormous changes in the structure of agriculture in this country, it is also the result of competition for land, which threatens the future of our agricultural land base. We have been converting farmland for residential and commercial development steadily since World War II, when the U.S. Department of Agriculture reported a high of 1.2 billion acres of land in farms. By 1992, that number had dropped to 945 million acres. We continue to convert about one million acres a year for urban, suburban and rural development.

In 1981, the USDA released the results of the National Agricultural Lands Study, a two-year project to document the extent and causes of the loss of farmland. NALS reported that the nation was losing approximately three million acres of agricultural land each year, close to one million acres of which were valuable cropland. While these figures were controversial, few disputed the overall trend: Very large areas of farmland were being permanently converted to non-agricultural use.

NALS also produced *The Protection of Farmland: A Reference Guidebook for State and Local Governments*. This study examined existing state and local farmland protection programs and analyzed the various types of techniques being used across the country in the late 1970s. It immediately became the most thorough source of information for state and local officials, farmers and conservation organizations involved with developing policies and programs to safeguard the nation's agricultural land base.

Since the guidebook was published, the first state and local farmland protection programs have matured. They have been modified and improved to reflect changing conditions for agriculture. New programs have been initiated, drawing on the experience and expertise of the pioneers. Land trusts and other private organizations have launched their own resource conservation activities. American Farmland Trust, founded in 1980, is still the only national, private organization dedicated to protecting farmland.

The federal role in farmland protection also has expanded, starting with the passage of the Farmland Protection Policy Act (FPPA) in 1981. Federal regulations to implement the law were adopted in 1994. The recent farm bill, formally known as the Federal Agricultural Improvement and Reform Act of 1996, appropriated matching funds for state and local farmland protection programs.

One of the provisions of the FPPA was for the Secretary of Agriculture to "designate one or more farmland information centers to serve as central depositories and distribution points for information on farmland issues, policies, programs, technical principles, and innovative actions or proposals by local and State governments." In cooperation with the U.S. Department of Agriculture's Natural Resources Conservation Service and the National Agricultural Library, AFT has developed a farmland information center specifically on farmland protection. The FIC provides easy-to-access resources to federal, state and local officials, farmland protection and conservation professionals, farmers and ranchers, agricultural organizations and concerned citizens.

The FIC has two components that serve the public: An electronic library and a technical assistance service. The library offers a searchable database of farmland protection literature, state statutes, maps, resources and other reference aids. The technical assistance

service provides information on farmland protection using fact sheets, articles and model documents and by preparing customized packets to respond to specific needs. The FIC is accessible online at <http://www.farmlandinfo.org>; technical assistance staff can be reached at (413) 586-4593.

Even with increasing public support and the development of successful farmland protection programs, we are still losing valuable farm and ranch land in every state in the nation. New challenges and opportunities are changing the scope and context of land use and agricultural issues. In many states, mid-size family farms have declined the most, while the number of very small and very large operations have increased. After the farm crisis of the 1980s, which forced tens of thousands of midwestern family farmers into bankruptcy, the number of farms declined dramatically. Those that remained got bigger in the struggle to survive. At the same time, in most metropolitan areas farms got smaller and switched to high-value crops like fruits and vegetables, as competition for land caused huge increases in property values.

Much of the high-quality farmland threatened by development is located near major population centers. During the 1980s, many urban areas developed commercial and employment centers at or near their outer boundaries. Many of these “edge cities” have spawned suburbs of their own, consuming even more productive agricultural land. Advances in telecommunications, declines in industrial jobs and other factors have fostered a gradual migration of population back to smaller, less densely settled cities and towns, stimulating changes in land use and real estate markets in rural communities.

Thus, in the 1990s, farming takes place in an increasingly urban context. Farms near cities are adapting to take advantage of proximity to markets. The combination of public will and private ingenuity appears to have slowed the rate of farmland loss. But urban influence on agriculture is reaching out into the countryside. It is no longer limited to metropolitan areas on the East and West Coasts. Midwestern farming regions and ranch country in the Rocky Mountains are experiencing an influx of urbanites in search of a rural lifestyle. In Texas, nearly half a million acres of high quality farmland were developed between 1982 and 1992—more than in any other state. Newcomers to these areas are driving up land prices and changing the political and cultural character of tight-knit farming and ranching communities. Growing public concern about the environmental impact of agriculture has resulted in new federal, state and local laws that restrict agricultural land use and farming practices. Farmers have responded by employing more sustainable production methods.

Established farmland protection programs are meeting new challenges and addressing the continuing loss of agricultural land with expanded missions, creative approaches and innovative funding sources. State and local governments in the midwest and mountain states are increasingly interested in establishing farmland protection programs. Public environmental agencies and nonprofit organizations are using agricultural land conservation as a strategy to protect water resources and wildlife, and some local governments are promoting farmland protection as an economic development tool. Farmland protection programs are combining planning and zoning with voluntary, incentive-driven strategies to keep land in agriculture.

In 1994, AFT teamed up with Professor John C. Keene, one of the original authors of the NALS guidebook. Our goal was to update the book to reflect the additional experience

and changes in farmland protection programs in the 1980s and 1990s. *Saving American Farmland* addresses the challenges of farming in developing areas, takes an in-depth look at the primary tools being used to meet those challenges, and discusses what it takes to develop effective strategies by using case studies of some of the most successful farmland protection programs in the country.

As part of this effort, we surveyed state departments of agriculture to find out what types of programs they have in place and compared these results with intensive legal research and review. This research forms the basis of the Farmland Information Center's database, which includes citations and popular titles of state farmland protection statutes and statute text for 49 states (every one but Alaska). With assistance from the American Planning Association, we also surveyed municipal planners to find out more about farmland protection at the local level.

These efforts generated a great deal of numerical data on the quantity of farmland protected by the primary tools: agricultural protection zoning, purchase of agricultural conservation easements, transfer of development rights and agricultural districts; these are explored in the technical chapters of the book. In addition, we took a close look at unique and enterprising local efforts. Researchers conducted case studies of some of the most successful and comprehensive farmland protection programs in the nation. The final section of the book profiles state and local government efforts in California, Maryland and Washington. The case studies contain important lessons for managers of established programs as well as for people developing new ones.

When the NALS guidebook was published, tax relief was the only public program widely used to protect farmland. Only 17 states had addressed nuisance protection, four had established purchase of agricultural conservation easement (or purchase of development rights) programs and six had passed agricultural district laws. At the local level, 270 jurisdictions had enacted agricultural protection zoning and four counties had PACE programs. Today, all 50 states have established right-to-farm laws. PACE is being used in 20 states and at least 20 counties have established transfer of development rights programs. Sixteen states now have agricultural district laws, and at least 24 states have legislation allowing APZ. The state of Oregon alone has used APZ to protect 16 million acres through its growth management act. Yet even with these efforts, every state in the nation is losing some of its best farmland to development.

While the pressure to convert farmland continues to affect both urban-edge and rural areas, the success of these programs gives us hope that with good planning, public involvement and private initiative, we can focus our attention on saving the best-quality farmland for future generations. We can learn from the achievements of creative people and committed community action and, by taking an integrated approach, develop strategies to address the complex resource challenges we face today. We can use and adapt the tools and models already in place and devise new ones to secure our land base, vitalize our communities and help agriculture thrive.

INTRODUCTION



American Farmland Trust

America is farming on the edge. According to a 1997 American Farmland Trust study, every state in the nation is sacrificing irreplaceable agricultural resources to urban sprawl. We are converting a total of about 1 million acres a year, and while the quantity of top-quality agricultural land being lost varies from state to state, the process of conversion increases the pressures on agriculture even beyond the acres that are actually taken out of production. The “Farming on the Edge” study shows a gradual dispersal of population into suburbs and small towns, threatening our best-quality resources, especially near ever-expanding metropolitan areas. These trends limit our ability to deal with a host of social, economic and environmental problems in the future¹.

FARMING ON THE EDGE

Farming is what distinguishes land as farmland. Along with sunshine and water, we need land to grow food, fiber and oilseed crops. But not all of it is equally well-suited to production. Fertile soils take millions of years to develop. Creating them takes a combination of climate, geology, biology and good luck; so far, no one has found a way to manufacture these. Productive agricultural land is a finite and indispensable natural resource.

Soils graded prime, unique and “statewide important” are especially important to agriculture. Agricultural production closely mirrors the quality of the land. Roughly 56 percent of our crops are grown on prime farmland, yet according to the U.S. Department of Agriculture, these are the very soils most likely to be converted to nonagricultural use². Most of our population centers are surrounded by high quality farmland. Between 1990 and 1994, 84 percent of non-metropolitan counties next to metropolitan areas gained population. This helps explain the conversion of 4 million acres of prime farmland and the conversion of another 266,000 acres of unique farmland in 10 years³.

Economic opportunity, environmental protection, community infrastructure and quality of life are among the most compelling reasons to save farmland. Saving farmland is a good investment in the future of our country. Yet despite its importance to our nation and communities, our most valuable farmland is at risk, imperiled by complex forces of conversion that can take 20 or more years to be fully realized on the landscape. Conversion is fueled by rising real estate values and property taxes, declining agricultural profitability, conflicts between farmers and their non-farming neighbors, stricter environmental regulations and a decline in farmers’ satisfaction with agriculture as a way of life.

MEETING THE CHALLENGES OF FARMING IN AN URBAN AGE

The frontier spirit drove Americans to settle the wilderness. The early settlers transformed the landscape by clearing forests and draining swamps. They took advantage of productive soils and built towns and cities near rivers and in fertile valleys. Farming was often the basis of wealth and trade. America’s most profitable agriculture still takes place near population centers. More than half of the value of American agricultural production comes from counties in and around urban areas. These areas provide 85 percent of our fresh fruits and vegetables, 79 percent of our dairy products and nearly half of our meat and grain. Urban-influenced counties* account for 56 percent of our gross agricultural sales and 91 percent of our specialty crops.

* Urban-influenced is defined as being in either a standard metropolitan statistical area or in an adjacent county with at least 25 people per square mile. These findings are presented in a “Farming on the Edge” map of at-risk, urban-influenced counties, published by American Farmland Trust in 1993 and developed by AFT and the Social Science Research Center at Northern Illinois University.

Yet population growth in counties with the highest agricultural productivity is more than twice the national average. For example, in the last generation, Pittsburgh, Chicago, Cleveland, St. Louis and Detroit lost an average of 37 percent of their central city populations while suburban land use soared. And during the 1980s, many urban centers reached out of their borders and developed “edge cities,” often with suburbs of their own.

Historically, an abundance of land, coupled with the development of long-distance transportation systems, encouraged American farmers to move west to avoid non-farm population encroachment. In the 19th century, federal policies such as the Homestead Act made western lands available for agriculture. However, since World War II, the government has stimulated the conversion of farmland to residential and commercial uses with little regard for the quality of the natural resource base or the land use preferences of states and municipalities. Chief among federal policies that encourage conversion are highway construction, the income tax deduction for home mortgage interest and facilities construction.

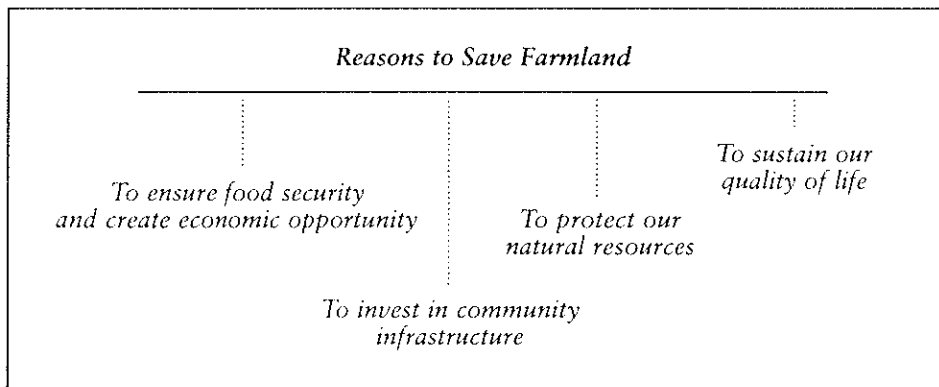
The effects of these policies were felt first on the coasts, especially in California and in the mid-Atlantic and northeastern states. These areas continue to experience losses, but the threat is spreading. Today, our top-producing agricultural states also are in jeopardy. For example, from 1982 to 1992, Texas lost more of its best-quality farmland than any other state. Florida, several other Southeastern states and much of the Midwest also converted significant acreage of prime and unique soils.

When people move out of cities, they often do so to escape noise, pollution, deteriorated neighborhoods and crime. However, this leads to further decline in our city centers and often begins a process of re-creating urban problems in the country. As suburbs close to cities become crowded with homes, shopping malls, convenience stores and commuters, people seek homes farther and farther out into rural communities. This scattershot expansion creates demand for subdivisions, public services, retail businesses and professional jobs in areas that were once devoted to resource-based industries such as farming, logging and fishing.

Increasingly, farmers and ranchers in rural areas are facing the same problems as those in more developed areas. Improvements in computer technology are allowing professionals to live in more isolated communities and “telecommute” to distant offices. The strong economy of the 1980s and 1990s fueled demand for vacation homes in traditional ranching areas such as Colorado, Montana and Utah and near the working dairy farms of Vermont’s Lake Champlain. Even without population density, agriculture can be affected by urban influences. Farmers and ranchers are being forced to compete for land and resources, which can reduce or eliminate profits. To challenge these forces, we must find a way to stabilize the land base, to support the economics of agriculture and, increasingly, to protect our natural resources.

State and local governments have employed a variety of public policies to address these challenges, using both regulatory and free-market strategies. But the first step toward protecting farmland is recognizing its importance to the economy, the environment, our communities and our quality of life.

FIGURE 0.1: WHY SAVE FARMLAND?



WHY SAVE FARMLAND

SAVING FARMLAND ENSURES FOOD SECURITY AND CREATES ECONOMIC OPPORTUNITIES

The dominant role of U.S. agriculture in the global economy has been likened to OPEC's position in the field of energy. Agriculture accounts for nearly 16 percent of the U.S. gross domestic product and provides 18 percent of civilian jobs. The market value of our agricultural commodities was \$162 billion in 1992⁴, and domestic demand for food and fiber products generated \$950 billion in 1992. Our farmland supports the world's most productive food and farming system.

With a rapidly increasing world population and expanding international markets, saving farmland is a wise investment in global food security and economic opportunity. While food shortages are unlikely to threaten American consumers in the short term, our population is predicted to grow by 50 percent in the next 50 years, with farmers and ranchers having to make do with 13 percent fewer acres of high quality agricultural land. If we do not take measures to save our best-quality resources for the future, domestic food production—and certainly food prices—could become an issue for the next generation.

The United States produces half of the world's grain exports⁵. The current world human population of 5.7 billion is growing by more than 88 million people a decade. Meanwhile, global food production seems to be declining in relation to world population. In 1990, the USDA reported that grain consumption had exceeded production for three years in a row⁶. The 1996 World Food Summit of the United Nations reported that to adequately feed the world, global food production must quadruple in the next 50 years⁷.

Developing nations in Africa, Asia and Latin America are already concerned about food security. Even as worldwide demand for food rises, many countries are paving over their arable land for commercial growth to support rapidly expanding economies. These countries are expected to be larger consumers of U.S. agricultural products in the future.

Our agricultural exports are an important part of the food supply of many industrialized countries. Currently, the Japanese are our most important customers, accounting for nearly 20 percent of our total agricultural exports⁸. Japan is increasingly purchasing American specialty crops as well as grains. According to the Wall Street Journal, Japanese imports of vegetables grew by 66 percent in 1994. Forty-four percent of the increase was in American-grown vegetables, especially broccoli, asparagus and onions⁹.

The diversity and versatility of American agriculture can ensure our continuing preeminence in world markets. But if we do not develop an investment strategy that preserves our assets, including agricultural land, we will not have resources readily available to supply rapidly changing global demand. According to U.S. Secretary of Agriculture Dan Glickman, “[o]ur ability to advance our national and global interests is inextricably linked to how we manage America’s natural resources¹⁰.” In sum, American agriculture plays an important role in feeding our nation and the world, and supports our balance of trade.

SAVING FARMLAND PROTECTS OUR NATURAL RESOURCES

With 945 million acres in production, agriculture is the dominant land use in the United States¹¹. So it is not surprising that farming has had a significant ecological impact. Since most farmers live close to the land, it is in their best interest to protect the environment that sustains them. Yet, ever since the publication of Rachel Carson’s *Silent Spring* more than three decades ago, environmentalists have called attention to the negative consequences of some of the inputs associated with modern agricultural practices.

Yet developed land uses have far more negative long-term implications than agricultural ones for the nation’s natural resources. Water pollution from urban runoff is well documented¹². Paved roads and roofs collect and pass stormwater directly into drains instead of filtering it naturally through the soil¹³. Septic systems for low-density subdivisions can add untreated wastes to surface water and groundwater¹⁴. Septic fields can actually yield higher nutrient loads than livestock operations¹⁵. Land development often produces more sediment and heavy metal contamination than farming does and increases pollutants—such as road salt, oil leaks from automobiles and runoff from lawn chemicals—that lead to groundwater contamination.

A new tide of federal regulations has imposed environmental restrictions on agricultural practices. The first wave came in the early 1970s, first with the Clean Air Act and then with the Clean Water Act and the reauthorization of the Federal Insecticide, Fungicide and Rodenticide Act. These were followed by the Resource Conservation and Recovery Act, which was amended by the Superfund Law in 1980. Since the 1985 Farm Bill, the agricultural community has begun to address the ecological and economic costs of conventional agriculture. The 1990 and 1996 Farm Bills included new agricultural policies that emphasize resource conservation.

The Conservation Reserve Program was authorized by the 1985 Farm Bill. It pays landowners not to cultivate highly erodible cropland and sensitive areas like streamside buffers, critical wildlife habitat and wetlands. The program is administered by the USDA Farm Services Agency with technical assistance from the Natural Resources Conservation Service. Approximately \$1.95 billion was spent on this program in fiscal year 1996, protecting about 34 million acres under 10-year contracts. In the past, the focus was on curbing soil erosion, particularly in the Great Plains. Changes made by the 1996 Farm Bill increase emphasis on protecting sensitive aquatic resources, by allowing continuous signup for farmers who use practices such as filter strips, buffers along rivers and contour grass strips.

The Wetlands Reserve Program was authorized by the 1990 Farm Bill and is administered by the NRCS. The WRP pays for perpetual and long-term conservation easements, as well as shorter-term agreements that call for restoration and protection of formerly cultivated wetlands. Since the program began, the NRCS has spent \$274 million to restore and protect 325,833 acres of wetlands nationwide. Program rules tend to favor areas where there are extensive, low-cost wetlands such as the Mississippi Delta, but anticipated changes will make the program more attractive in the East and far West where land is more expensive and wetlands more isolated.

The federal government owns 408 million acres of forests, parks and wildlife refuges that provide substantial habitat for wildlife. Most of this federal land is located in 11 western states. Another 108 million acres are publicly owned by states, municipalities and other non-federal units of government⁶. Yet public agencies cannot sustain wildlife populations alone. Farmers and ranchers own more than twice the amount of land devoted to public forests, parks and wildlife refuges. Well-managed, privately owned agricultural land can provide significant wildlife habitat.

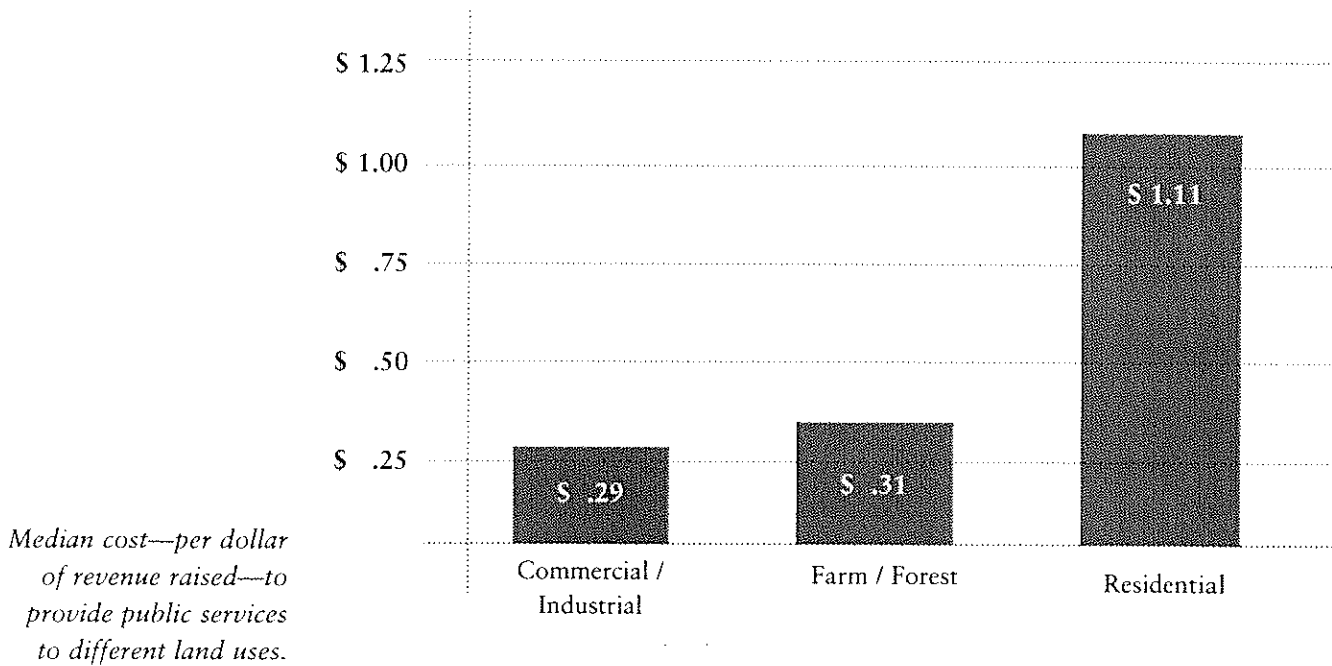
According to the USDA, it is hard to overestimate the importance of the non-market goods and services that agriculture provides. Well-managed farmland protects soil and water resources and can prevent flooding. It absorbs and filters wastewater and provides groundwater recharge. New energy crops even have the potential to replace fossil fuels. From wetland management to on-farm composting for municipalities, farmers are finding ways to improve environmental quality.

SAVING FARMLAND IS AN INVESTMENT IN COMMUNITY INFRASTRUCTURE

To many people, the most compelling reasons for saving farmland are local and personal, and much of the political support for farmland protection is driven by grassroots community efforts. Agriculture contributes to local economies directly, through sales, job creation, support services and businesses, and also by supplying lucrative secondary markets such as food processing. Distinctive agricultural landscapes may be magnets for tourism. Farmland offers a hedge against fragmented suburban development while supporting a diversified economic base. Increasingly, people view natural resources, including agricultural land, as vital for the well-being of our communities, rather than as “free” material to be disposed of at will.

Privately owned and managed farmland generates more in local tax revenues than it costs in services. In a series of Cost of Community Services studies, AFT has developed a method to analyze revenues and expenditures on a municipal land use basis. To date, AFT and others have used this method in more than 40 communities in the Northeast and Midwest. Time and time again, careful examination of local budgets has shown that farm, forest and open land more than pay for the municipal services they require, while taxes on residential uses consistently fail to cover costs. Saving farmland is an investment in community infrastructure. Figure 0.2 on page 8 summarizes the findings of 40 COCS studies.

FIGURE 0.2: SUMMARY OF COST OF COMMUNITY SERVICES STUDIES



In related studies measuring the effect of all types of development on municipal tax bills, Ad Hoc Associates found that in general, as communities become more developed, tax bills go up. Even communities with the most taxable commercial and industrial properties have higher-than-average taxes¹⁷. Local governments are finding out, often too late, that they cannot afford to pay the price of sprawl.

SAVING FARMLAND SUSTAINS OUR QUALITY OF LIFE

Sometimes the most important qualities are the hardest to quantify. This is true of the role that farmland plays in contributing to a sense of place. Farm and ranch land maintains scenic, cultural and historic landscapes. It offers beautiful views and managed open space, which can provide opportunities for hunting, horseback riding, fishing and other recreational activities. Farms and ranches create identifiable and unique community character and add to our quality of life.

These qualities are appreciated by visitors as well. For example, people vacation in places as distant as the state of Vermont or Steamboat Springs, Colo., because they enjoy the scenery created by rural meadows and grazing livestock. In Lancaster, Pa., agriculture is still the leading industry, but with Amish and Old Order Mennonites working in the fields, tourism is not far behind. Napa Valley, Calif., is another place known as a destination for “agro-tourism.” Tourists have become such a large part of most Napa Valley wineries that many vintners have hired hospitality staff. Both the valley and the wines have gained name recognition, and the economy is thriving.

Finally, farming is an integral part of our heritage and our identity as a people. American democracy is rooted in our agricultural past and founded on the principle that all people can own property and earn a living from the land. Our ongoing relationship with the agricultural landscape connects us to our history and to the natural world. Our land is our legacy, both as we look back to the past and as we consider what we have of value to pass on to future generations.

ADDRESSING THE CRITICS

The importance of saving farmland is sometimes challenged by economic theories that, upon closer examination, turn out to be short-sighted.

“Let the market decide.”

Some economists claim that our agricultural system is so productive that we need not worry about the continuing loss of farmland. They contend that the free market should determine whether prime soils are maintained in agriculture or converted to other uses. According to this argument, if farming is less profitable than other land uses, agricultural land should be converted to its “highest and best” economic use. This perspective neglects non-market values and positive attributes such as scenic views and floodwater storage, which are difficult to quantify. The full economic value of farmland and other natural resources cannot be measured solely in financial terms.

The “market forces” argument also assumes that farms and ranches operate in perfectly competitive markets, which is not the case. Public investments have made it possible for people to afford to live great distances from where they work. The inflation of agricultural land values is fueled by home mortgage deductions, artificially low gasoline prices and government expenditures on highways, sewer systems and other municipal services. Indeed, the expectation of land price inflation can be seen as a self-fulfilling prophecy. Before the 1996 Farm Bill phased out the agricultural commodity support system, 50 years of food policies and commodity programs distorted wholesale prices here and abroad, interfering with the free-market system. Environmental regulation, inflation and other economic forces also affect the marketplace.

“Why worry? We have plenty of farmland.”

Other people argue that there is so much land in the United States that farmland lost in one area can be replaced by bringing new land into production somewhere else. This quantitative perspective overlooks the importance of the quality of the resource. We have a limited amount of agricultural land that is ideally suited for food production. This land is characterized by a combination of very productive soils, conducive climates or unique microclimates, ample water and the ability to produce specialty crops.

Competition for resources can drive farming onto marginal lands, where larger inputs of chemical fertilizers and pesticides may be required, sometimes to the detriment of the environment¹⁸. While our best farmland is being taken out of agriculture, lower quality land is being added from arid rangeland in the West and forest land in the Southeast¹⁹. The conversion of rangeland to cropland in the West is associated with increased erosion²⁰.

Competing for Land: One Farmer's Story

Craig Christensen is a third-generation farmer in Washington state. He grew up on the farm where he now lives with his wife and children, five miles from Walla Walla, the county's seat and only city. Craig describes his operation as "totally diversified." He grows beans, peas, squash, onions, sunflowers, asparagus, lupines and canola seed on prime, irrigated land that is suitable for a variety of crops.

The Christensens own 290 acres, but Craig is producing on a total of 1,500 acres. He rents cropland from more than a dozen different landlords. Although he tries to get long-term leases with expensive buy-out clauses and a right of first refusal, land pivotal to his operation has been sold out from under him.

Pointing to a big, new, \$400,000 house atop the rolling hills surrounding his farm, Craig explains, "When I was born, there were no houses anywhere around here. Now we're going through what California went through in the 1940s and '50s." He notes that his neighbors made a fortune by selling at \$10,000 an acre land they had bought for less than \$500 an acre. One-acre lots have sold for as much as \$40,000. Although plenty of land is still available in town, new residents are moving out to live on large lots in the country. Craig is afraid these lots will turn to weed patches and eventually be broken up into housing developments.

Craig's father stopped farming and allowed his land to be rezoned for residential development. "I tried to talk him out of selling," Craig says, "but I see where he's coming from. We get two or three calls a week from people who want to buy this land." Craig and his family live in the family's old farmhouse. "If I didn't live here for free, there's no way I could farm and make house payments." Craig hopes to farm until he retires, but doubts that his children will continue to farm the family's land. "If you come back in 10 or 15 years," he predicts, "it will look totally different²¹."

Craig Christensen's story could be told by farmers all over the country. He is caught in a typical pattern of conversion pressure. Intense development was once limited to the edges of large cities. Today, even farmers and ranchers in rural counties are competing with developers for land.

Farmers generally sell their land out of agriculture for two reasons: weak farm profitability and the high value of land for nonfarm development²². These two factors underlie the complex process of farmland conversion.

Declining farm profitability has many causes. Among them, rising land values and property taxes play a significant role by increasing the costs of agriculture. Expensive land also increases opportunity costs: Selling lots for development is generally more lucrative than raising crops or livestock. As municipalities change from rural to suburban—and then from suburban to urban—the pressures mount on producers to sell their land. This does not necessarily or immediately result in conversion, but without dedicated community action, the tendency is for that land to become developed in the long run.

THE PROCESS OF CONVERSION



Dennis Reeder for Maguire Reeder Ltd.

Rural land is cheap for suburban developers, who are willing to pay landowners far more than agricultural value for the flat, well-drained land they prefer for building. As people from surrounding urban and suburban areas move into rural communities, large land parcels are divided and prices soar far beyond their economic value for agriculture. Farmland, which requires few public services, is typically converted to subdivisions filled with residents who require education, utilities and other costly amenities.

Photo: Selling lots for development is generally more lucrative than raising crops or livestock.

New rural residents demand expanded, improved and new services. Roads are widened and paved to facilitate commuting. New subdivisions are usually first in line for public water and sewer services. Existing schools may not be large enough to accommodate the growing population. Crime increases and there is more demand for fire protection and inspections, so formerly volunteer public safety officers become full-time civil servants, and dispatching equipment once used at home must be moved to police and fire stations. These services are expensive and they are typically funded by increasing property taxes.



U.S. Department of Agriculture

Photo: Farmland, which requires few public services, is typically converted to subdivisions filled with residents who require education, utilities and other costly amenities.

Some rural communities faced with escalating municipal costs promote development as a strategy to expand the tax base. While growth can create employment opportunities and contribute to municipal coffers, the gains are likely to evaporate as the next wave of urban or suburban expatriates moves to town, demanding even more new services. Large landowners bear a disproportionate share of rising property taxes, increasing the likelihood they will sell.

High land costs make it difficult for new farmers to enter agriculture or for existing producers to buy or rent land to expand operations. Inflated land values make it too expensive for farmers to compete in agricultural markets. Transferring land from one generation to the next also becomes difficult. Federal and state inheritance taxes are assessed at the time of death and are based on the highest and best use of property. Without solid estate planning and a farm transfer strategy, heirs often find they cannot pay inheritance taxes without selling all or a portion of their land.

As communities change to accommodate new residents, suburban employers compete with farmers and ranchers for labor. Producers find it difficult to hire help, and new employees tend to have fewer farming skills and demand higher wages. The inability to attract or afford labor further jeopardizes the profitability of agricultural enterprises.

Scattered development increases the likelihood of conflict between farmers and ranchers, and their neighbors. Large land parcels are divided into smaller and smaller tracts, which more people can afford to buy. The remaining operations become separated by housing developments inhabited by people with little understanding of agriculture as a business or way of life. New residents may appreciate the agricultural landscape, but they frequently resent farm chemicals and the smell of manure, noisy machinery and slow-moving vehicles. Often they complain; sometimes they sue. Complaints can lead to new ordinances that restrict agricultural

practices. Production costs rise as losses due to trespassing, pilfering, harassment of livestock and vandalism increase.

In the last 20 years, the public has demanded higher environmental performance from agriculture. Concern about conserving soil and water has expanded to include nonpoint source pollution, wetland protection and biodiversity. Environmental regulations on agriculture have become stiffer, and farmers have had to find alternatives to conventional practices. New techniques may not be as well researched, proven or profitable as the methods that have been promoted and used for 50 years. These demands add to production costs.

The combination of all these forces threaten the viability of agriculture. When farmers and ranchers sell out, the economic foundation of rural communities is weakened. Local seed and feed distributors and equipment dealers go out of business, and the remaining producers must travel longer distances and pay higher prices to purchase supplies and services. Communities that were once tight-knit become fragmented and farmers become stressed. Discouraged, they may reduce long-term investments in their operations. Without pro-farming public policies and political support, the snowballing process of scattered development, falling profits and rising property taxes can result in an “impermanence syndrome,” in which farmers’ expectation of decline may actually stimulate it.

Photo: Development increases the likelihood of conflict between farmers and their neighbors.



Thor Swift

As agriculture loses ground, farmers and ranchers become a minority and often lose influence in their communities. This weakens their political voice, especially in local planning and zoning decisions. While zoning bylaws can be drafted to support agriculture and limit the forces that cause decline, without vision and attention to the needs of the agricultural community, new ordinances can be hostile to commercial production.



Larry Lefever for Grant Heilman Photography, Inc.

Photo: Failure to address the issues of urban influence and conversion pressure may mean an end to farming as a way of life.

The clash of urban and rural cultures is personal as well as economic and political. Although they are entrepreneurs, most farmers and ranchers work the land because they love it. They are as motivated by family, faith and feeling as they are compelled to make a profit. They serve the public in a fundamental way by providing life-sustaining food and other useful products. Many have farmed or ranched for their entire lives. They value their communities and generally see themselves as good stewards of the land. Failing to address the issues of urban influence and conversion pressure may mean an end to their way of life. We must address the challenges together to secure the land base, support agriculture and maintain a high quality of life in our communities.

RESPONDING TO THE
CHALLENGES

State and local governments have been taking the lead in protecting agricultural land since the Maryland Legislature approved the nation's first differential property tax assessment law in 1956. Over the past 40 years, public concern about the loss of farm and ranch land has led to the enactment of some form of property tax relief for farmland and right-to-farm laws in every state. Several other state laws and hundreds of local ordinances have been designed specifically to stabilize the land base and support the economic viability of agriculture.

Sixteen states have voluntary agricultural district programs, which provide farmers with a variety of benefits, including tax relief, protection from government taking of farmland by eminent domain and protection against municipal annexation. Fourteen states have programs to purchase agricultural conservation easements on farmland (PACE is also known as purchase of development rights). PACE is a good way to invest in the infrastructure of agriculture and permanently protect land for future generations. Some states also have supported agriculture through executive orders, and a few have used comprehensive growth management laws to direct growth away from farmland.

Communities have addressed their own challenges in many enterprising ways. They have used comprehensive land use planning and farm-friendly zoning ordinances to control growth in farming areas. When farmers participate in the development of comprehensive plans and zoning ordinances, they can be sure that local regulations will support agriculture. Agricultural protection zoning has been used effectively in places as varied as Lancaster County, Pa., Story County, Iowa, Marathon County, Wis., Napa County, Calif., and Walla Walla County, Wash.

APZ seeks to keep most non-farm residential development out of farming areas, in an effort to minimize conflicts between farmers and other residents. APZ also has been found to support agricultural infrastructure, such as farm supply and equipment dealers, food processors and specialized services such as veterinarians and farm credit services. Some places have been very specific in drafting zoning ordinances; Hall County, Ga., for example, has planned a commercial farm district that excludes hobby farms. Farm-friendly zoning also can be used to encourage roadside stands, alternative farm enterprises and high visibility farm signs, and to give agriculture priority over other land uses.

Some communities have initiated county- or town-level PACE and transfer of development rights programs to compensate landowners for placing restrictions on their land. In some states, such as New Jersey and Pennsylvania, state PACE programs require local matching funds. TDR programs allow landowners to transfer the right to develop land in agricultural areas to designated areas closer to urban services. Generally, these programs are established by local zoning ordinances.

Farmers have also responded to the challenges by adapting their operations to take advantage of urban opportunities. Farms in metropolitan areas tend to be more specialized and more intensive than those in rural areas. They produce a diversity of high value crops such as fruits and vegetables, nursery products and specialty livestock. They often change from selling their products wholesale to direct marketing through roadside stands, farmers' markets and pick-your-own operations, or to selling directly to stores and restaurants. These farms are highly responsive to market demand and sometimes supply services to urban residents to increase income. Farm-based services include recreational activities, landscaping and bed-and-breakfast facilities. Metropolitan farms also produce value-added products such as cider, wine, potato chips, baked goods, gift baskets and flower arrangements. Some of them even promote the fun of rural living by offering ranch vacations, hayrides, bus tours, haunted haystacks or maple syrup breakfasts²³. Community Supported Agriculture is also increasingly popular near urban areas. CSA farms sell weekly shares of their harvest to shareholders who pay for their produce at the beginning of the season.

Producers farther from cities can also directly benefit from urban markets. Those with sufficient volume can cut out middlemen and sell to large supermarket chains. Others market their products through mail-order catalogues, or drive several hours to farmers' markets in urban centers. Some farms are even beginning to advertise and sell products on the Internet. Thus, through creative marketing strategies, some of the challenges of farming in urban-influenced areas can be turned into opportunities. Agriculture can be profitable in an urban context and can adapt to changing social and economic conditions.

Still, no one technique can address all the challenges of farming in and around developing communities, and no state legislature, county commission or town council can alone solve the problems facing agriculture. The most successful efforts to protect farmland have resulted from state and local governments' working together with private organizations and concerned citizens, using a combination of regulatory and incentive-based strategies to address the challenges of farming on the edge.

STATE AND LOCAL GOVERNMENT ROLES IN FARMLAND PROTECTION

Cooperation among different levels of government is important because each level has a different role to play. Local governments are in the best position to understand the real problems facing real farmers in their own communities. Local officials hear complaints from farmers whose crops are vandalized, and from non-farmers who object to the smell of manure. They send notices to farmers who are behind in paying their property taxes. They watch the titles to farms change hands, and approve subdivision plats and building permits. Local officials and planners can advocate unrestrained growth that threatens the future of agriculture. Alternatively, they can respond to the challenges facing farmers by promoting a vision of the future that includes a strong role for agriculture and by establishing land use policies that support farming and ranching.

County and municipal government programs can be designed carefully to meet the needs of agricultural operations in specific local areas. One community may support its small, intensive vegetable farms by organizing a farmers' market; another may protect its feedlots with agricultural protection zoning and a right-to-farm ordinance. Local governments can take a strategic approach to farmland protection by targeting programs to the most fertile land and economically viable operations. They can also use farmland protection programs to achieve other important community goals. For example, towns and counties often protect farm and ranch land that provides scenic views, includes important water resources or preserves historic landscapes. Municipalities can design farmland protection programs to meet their own specific needs.

But while farmers often depend on land, markets and services that span town and county borders, local governments cannot control what happens outside their boundaries. Farmland conversion in one county can jeopardize agricultural support businesses in another. The loss of a large slaughterhouse, vegetable processing plant or grain milling operation can threaten the viability of agricultural operations in many surrounding towns. Most municipalities lack the power and resources to protect the large areas of land needed to support entire agricultural industries. The most ambitious local-level farmland protection program may not be sufficient to keep agriculture viable if adjacent jurisdictions are promoting sprawling development.

In comparison to local governments, states have broad regulatory powers. State governments approve and manage large infrastructure projects, such as highway construction, that can result in farmland conversion. State governments control tax policy. They set the rules that govern local land use regulation. Finally, state legislatures control state coffers. They can create and fund their own programs to protect farmland, or they can enact enabling legislation and appropriate funding for local governments to do so.

State officials can analyze agricultural trends and patterns of farmland conversion, and use this information to develop statewide agricultural land protection strategies. State officials often target farmland protection programs to important agricultural regions that encompass many local jurisdictions. The officials set priorities for protection, and can award funding to local governments that work to achieve state goals. State involvement in farmland protection increases the likelihood that a “critical mass” of land will remain available for agriculture. This strategic approach, however, may mean that state programs do not meet the needs of every local jurisdiction—protecting large blocks of farmland may be a higher state priority than preventing development of a single farm that has great economic, aesthetic and ecological value to a single town.

REGULATORY AND INCENTIVE-BASED STRATEGIES

Both state and local governments can develop farmland protection programs that use a combination of regulatory and incentive-based strategies. This “carrots-and-sticks” approach is effective because it addresses the drawbacks of one technique with the benefits of another.

Growth management programs, comprehensive planning, agricultural protection zoning, mitigation ordinances and executive orders are the “sticks” of farmland protection. The primary advantage of regulatory strategies is that they can be put in place relatively quickly, and typically require no public expenditure. Growth management laws and county and municipal zoning ordinances allow state and local governments to protect very large areas of farmland with a single legislative vote.

Regulatory strategies are not magic bullets. Their primary disadvantage is that they are temporary. Regulations, zoning ordinances and comprehensive plans can be changed as demographics and political realities shift. There are no guarantees that farmland protected today will not be developed tomorrow.

Regulatory strategies are also controversial. Growth management laws and APZ ordinances restrict private property rights and may reduce the market value of farmland. This is particularly troubling for farmers and ranchers whose entire net worth consists of equity in land. While many farmers and ranchers support the goals of farmland protection, they often speak out against regulatory approaches as unfair solutions to problems that affect whole communities. Farmers and ranchers are most likely to support growth management programs and APZ ordinances if they are implemented when agricultural land values are stable, or if they are used in conjunction with incentive-based strategies that provide some compensation for the restrictions being imposed.

Differential assessment laws, circuit breaker tax relief credits, right-to-farm statutes and PACE and transfer of development rights programs are the “carrots” of farmland protection. These techniques are voluntary—farmers can choose whether they want to take advantage of the benefits that are offered. Differential assessment and circuit breaker programs reduce farmers’ taxes. PACE and TDR programs compensate farmers and ranchers for placing restrictions on their land. Incentive-based programs tend to be more popular among landowners than regulatory approaches. And unlike the regulatory strategies, PACE and TDR programs protect farmland permanently.

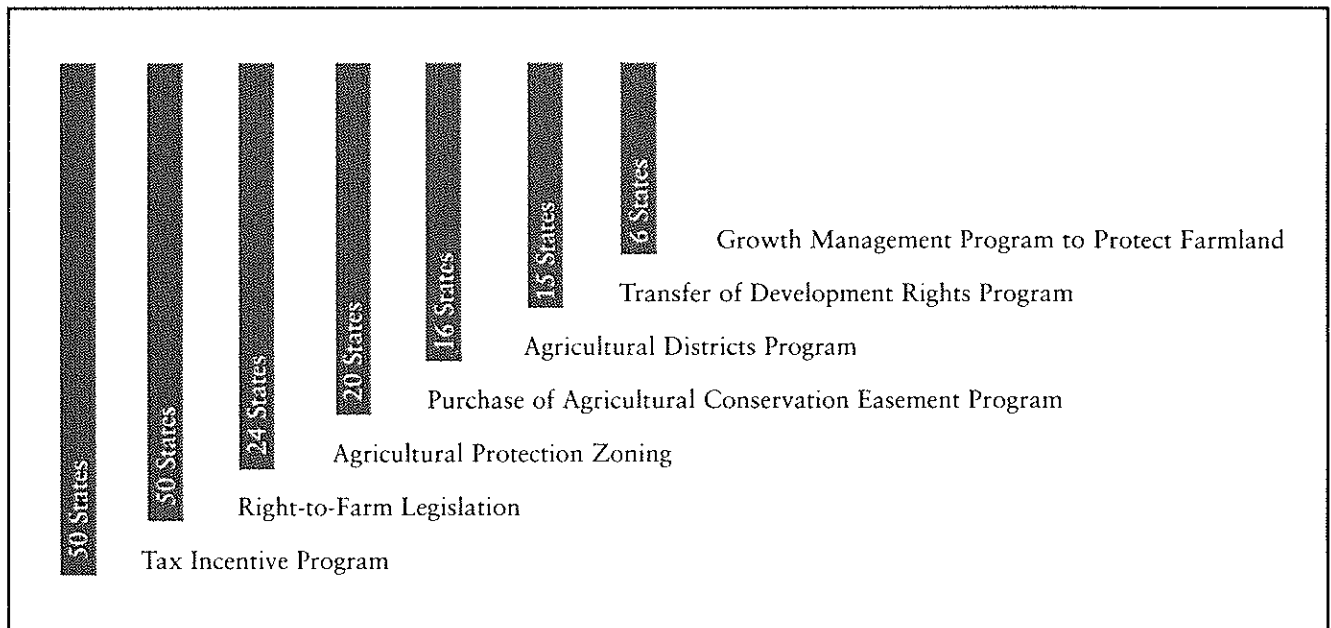
Of course, there is no free lunch when it comes to protecting farmland. Many of these “carrots” are expensive. Buying conservation easements costs money, especially when the value of land has been inflated by public investment in roads, schools and water and sewer systems. TDR programs have been promoted as a low-cost alternative to PACE. In reality, they just shift the cost from the public sector to the private sector. Establishing a private market for development rights is tricky, and few jurisdictions have done it successfully.

The high cost of purchasing easements on farmland results in a very slow pace of protection. The number of applications to PACE programs always exceeds the number of easements purchased in any given year. Farmers may not be able to wait for the state or local government to buy an easement. Unless a significant source of funding is available for a long period of time, PACE programs may not be able to protect a critical mass of agricultural land.

Tax incentive programs are less expensive than PACE, and right-to-farm laws require no public expenditure. These techniques are typically very popular with farmers and ranchers, but they do not provide strong or permanent farmland protection.

Agricultural district programs generally combine carrots and sticks. They offer a variety of benefits, including eligibility for PACE programs and soil and water conservation grants, and protection from eminent domain proceedings and municipal annexation. In some states, farmers may not develop land while it is enrolled in a district. Each agricultural district law contains different benefits and restrictions, so the extent to which these laws protect farmland varies from state to state.

FIGURE 0.3: SUMMARY OF FARMLAND PROTECTION ACTIVITIES BY STATE



THE FEDERAL ROLE IN FARMLAND PROTECTION: GOOD POLICIES IN SEARCH OF IMPLEMENTATION

State and local governments have led public farmland protection efforts. The federal government, despite playing a major role in reducing soil erosion and meeting other agricultural resource challenges, has been hesitant to become fully engaged in protecting agricultural land from development. Federal policies supportive of state and local efforts have been adopted, but have not been implemented consistently or completely. However, several pieces of legislation have important implications for farmland protection efforts at the state and local levels, and are therefore covered here.

The Farmland Protection Policy Act

As part of the 1981 Farm Bill, Congress passed the Farmland Protection Policy Act for the purpose of “minimiz[ing] the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses²⁴.” Managed by the USDA, the law is intended to assure that “federal programs are administered in a manner that, to the extent practicable, will be compatible with state and local government, and private programs and policies to protect farmland.”

The FPPA requires all federal agencies to review provisions of laws, administrative rules and regulations, and policies and procedures, and identify alternatives that could prevent or at least minimize farmland conversion. The law also addresses all construction projects (such as highways, airports, dams and federal buildings) sponsored or financed in whole or part by the federal government that may convert farmland to nonagricultural use, and applies to the management of federal lands. Private construction that is merely subject to federal permitting and licensing, projects planned and completed without any assistance from a federal agency, federal projects related to national defense and those proposed on land already committed to urban development are not included.

The FPPA directed the federal government to “develop criteria for identifying the effects of federal programs on the conversion of farmland to nonagricultural uses.” Rules issued by the USDA’s Natural Resources Conservation Service suggest forms and procedures that federal agencies should use to evaluate projects, based on the Land Evaluation and Site Assessment system²⁵.

LESA is a numerical system that measures the quality of farmland²⁶. It was developed to help federal, state and local government officials decide which land should be protected for agriculture, and which parcels are suitable for development²⁷. LESA systems have two components. The Land Evaluation element rates soil quality as measured by soil potential ratings, soil productivity ratings, USDA Land Capability Class, National Important Farmland Classification or a combination of these factors. The Site Assessment component measures suitability of the land for farming based on agricultural factors, development pressure and the presence of other valuable public resources. A LESA analysis typically produces scores for each set of factors, which are combined to obtain a total score.

Generally, LESA scores are used to rank or compare a variety of farmland parcels to determine which should be protected. Interpreting the results is a matter of judgment. While a very high score generally indicates the most valuable farmland, medium-range scores may indicate parcels with high soil quality and high development pressure, medium soil quality and moderate development pressure or relatively poor soil quality and very low development pressure. The most recent LESA guidebook, published by the Soil and Water Conservation Society in 1996, warns that “LESA is not intended to be a stand-alone technique to make decision about farmland or a technique to protect farmlands. It is intended to be an objective tool to evaluate farmland sites as part of a decision-making process²⁸.” Many state and local governments use LESA systems as part of their farmland protection programs.

While the language of the FPPA suggests that it can be a powerful tool for protecting farmland, it has not had much effect to date. Nonetheless, there are encouraging signs that the FPPA will become a more effective tool for states and localities to use in promoting farmland protection. After a 13-year delay, federal regulations to implement the law were adopted in 1994. The willingness of states and localities to invoke the FPPA—by involving themselves in the planning of federally sponsored projects that may conflict with local or regional farmland protection objectives—will make the law effective.

The FPPA also directed the Secretary of Agriculture to “designate one or more farmland information centers to serve as central depositories and distribution points for information on farmland issues, policies, programs, technical principles, and innovative actions or proposals by local and State governments.” American Farmland Trust’s Farmland Information Center—a partnership among AFT, the NRCS and the National Agricultural Library—was created under this provision.

Farms for the Future Act

The Farms for the Future program, created by the 1990 Farm Bill, authorized federally subsidized loans to state and local governments for purchase of agricultural conservation easements on farmland. Farms for the Future provided for federal loan guarantees to match state investment in PACE on a 2-to-1 basis. A pilot program was created in Vermont; the program borrowed a total of \$23,548,465 between 1993 and 1995, allowing the state to acquire easements on 44,000 acres of farmland. This program is now inactive, having been superseded by the Farmland Protection Program.

Farmland Protection Program

In the 1996 Farm Bill, the federal government took its most significant step to date toward supporting state and local farmland protection programs. The Federal Agricultural Improvement and Reform Act, as the bill is formally titled, directed the USDA to establish and carry out a program to purchase agricultural conservation easements or other interests in prime and unique farmland for the purpose of protecting it from nonagricultural use. The law states that farmland, to be eligible, must be subject to a pending purchase offer from a state or local government. NRCS is responsible for administering the program. The law authorized up to \$35 million to be devoted to such purchases from the funds of the Commodity Credit Corporation, the same federal entity that makes farm income support payments.

The initial round of purchases was conducted under an NRCS request for proposals. State and local governments were invited to apply for 50-50 federal matching funds to pay for farmland protection transactions. They had to demonstrate a commitment to farmland protection—not just the protection of open space—and pledge matching funds. Easements must include a clause enabling the NRCS to enforce the easements if the state or local holder failed to do so. In the first round, \$14,325,000 was awarded to 37 programs in 17 states, and it is anticipated that as a result, 76,756 acres of farmland will be protected.

Legislative debate over the Farmland Protection Program suggests that the bill’s sponsors intended to make the federal government a “full partner” with states and local governments. While the program clearly has significant potential to protect farmland, the current level of funding is inadequate given the growing interest in PACE and the rising cost of farmland in most metropolitan areas. With the current cost of agricultural conservation easements ranging from \$500 to more than \$10,000 per acre, the \$35 million in federal matching funds will be exhausted rapidly, and additional funds will need to be authorized.

The rest of this book focuses on techniques and strategies that state governments and communities have used to protect farmland and support agriculture. In Section One—The Farmland Protection Toolbox—we present an overview of popular tools, ranging from far-reaching approaches such as comprehensive growth management to very specific applications such as mitigation ordinances. This is followed by in-depth chapters on techniques that protect farmland (APZ, PACE and TDR) and the most popular techniques used to support agriculture (tax programs and right-to-farm legislation), as well as agricultural district programs, which generally do both. We have attached interesting ordinances and support materials as appendices to these chapters, and a resource list at the end of the book.

STRUCTURE OF
THIS BOOK

In Section Two—Putting it all Together: Building a Comprehensive Farmland Protection Program—we show how the techniques have been applied successfully in counties in California, Maryland and in the state of Washington. We look at how communities have combined different strategies to stabilize the land base and support the economics of agriculture. Finally, we use lessons from the case studies to demonstrate how to build a comprehensive farmland protection program. We have included a list of acronyms at the end of this chapter and a glossary at the end of the book to make it easier to follow the text.

ACRONYMS	AFT	American Farmland Trust
	AFPB	Agricultural and farmland protection board (New York)
	APR	Agricultural preservation restriction (Massachusetts)
	APZ	Agricultural protection zoning
	CAFO	Concentrated animal feeding operation
	COCS	Cost of community service study
	CSA	Community supported agriculture
	CSR	Corn Suitability Rating
	DFA	Department of Food and Agriculture (Massachusetts)
	FPP	Farmland Protection Program (Federal)
	FPP	Farmland Preservation Program (King County, Washington)
	FPPA	Farmland Protection Policy Act (Federal)
	GAAMPs	Generally accepted agriculture and management practices
	GIS	Geographic information system
	GMA	Growth Management Act (Washington)
	LAFCO	Local Agency Formation Commission (California)
	LESA	Land Evaluation and Site Assessment
	LPS	Land preservation subdivision
	MALPF	Maryland Agricultural Land Preservation Foundation
	MALPP	Maryland Agricultural Land Preservation Program
	MALT	Marin Agricultural Land Trust
	MET	Maryland Environmental Trust
	NALS	National Agricultural Lands Study
	NRCS	Natural Resources Conservation Service (Federal)
	PACE	Purchase of agricultural conservation easements
	PDR	Purchase of development rights
	PUD	Planned unit development
	SCS	Soil Conservation Service (now known as NRCS)
	SWCD	Soil and water conservation district
	TDR	Transfer of development rights
TRPC	Thurston Regional Planning Council (Thurston County, Washington)	
UGB	Urban growth boundary	
VHCB	Vermont Housing and Conservation Board	

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