# MEASURING CHANGE IN RURAL COMMUNITIES

## A Workbook for Determining Demographic, Economic, and Fiscal Trends

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About Sonoran Institute

Sonoran Institute promotes community-based strategies that preserve the integrity of protected lands, and at the same time meet the economic aspirations of adjoining landowners and communities. Underlying the Institute's mission is the conviction that community-driven and inclusive approaches to conservation produce, in the long run, the most effective results.

Sonoran Institute works throughout the western public lands states, from the Sonoran desert of Mexico and the Southwestern U.S. to the Greater Yellowstone region, the Northern Rockies, and Alaska.

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# PREFACE

The economic history of many rural communities is closely linked with natural resources: soils and water for crop and livestock production; hardrock minerals, coal, oil, and natural gas; and forested lands for timber. Some national park gateway communities -- such as West Yellowstone, Montana; Jackson, Wyoming; and Estes Park, Colorado -- have carved out niches for themselves in the tourism industry. But for the most part, many people assume that rural economies are still largely dependent on resource extraction industries.

Extracting natural resources continues to be a part of rural economies. However, new technologies coupled with globalization of labor and the economy are changing where and how Americans work. New applications in resource extraction industries, such as the development of wood composite materials in the construction industry, and growth in "service" occupations, such as financial planning, mechanical engineering, architecture, medicine, pharmaceuticals, education, computer software designing, and telecommunications, are helping to diversify many rural economies.

Such diversification offers opportunities for rural communities. It often brings about additional types of economic activity that can provide employment for local residents. It may increase the capacity of existing businesses to compete and create new markets for local pro-ducts and services. But the economic growth that accompanies economic diversification can also present challenges for local communities. If the economy and population are growing, the demand for public services may outstrip the tax base. Competition for housing and jobs may put local residents at a disadvantage. Pressure for housing and the subdivision of agricultural land may lead to a loss of open space and wildlife habitat.

Residents who understand the changing make-up of their economies stand a better chance of capitalizing on both the new opportunities and potential problems associated with economic change and growth. This workbook is designed to help interested citizens in rural areas determine where their communities have been and where they are today. Through a series of exercises, it teaches users how to conduct trend analysis of basic demographic, economic, and tax structure data that can be useful in reaching decisions about local economic development and needed services.

This is the electronic version of the second edition of *Measuring Change in Rural Communities*, which was first published in 1994. Little has changed in Chapters 1 and 2 since the workbook was first created, but chapter 3 has been deleted because we found the published data needed to complete its exercises unreliable and often out of date. . Phone numbers and addresses have been updated, and links to useful website have been included in the electronic version of the publication. We decided to not make significant changes to chapters 1 and 2 because the current presentation has worked well so far, and it is worth waiting for the release of the 2000 Census before making major revisions.

# INTRODUCTION

Rural communities are constantly in flux. People move in and out of town, some industries decline and others prosper, people change jobs -- all in response to many different factors, including global competition, the application of new technologies to manufacturing, changes in consumer demand, the depletion of resources, or the development of substitutes. Those factors also affect the revenues and expenditures of local government, and they influence land-management patterns. Newcomers moving into town may want land for real estate development. Local governments may feel pressured to provide new services, such as schools and roads. Perhaps the Chamber of Commerce is interested in expanding downtown businesses or attracting new firms.

The purpose of this workbook is to help rural residents gather and understand information about the make-up of their communities and how the communities may have changed over time. Exercises in the workbook are designed to assist users in working through social, demographic, and economic data. We also suggest ways of interpreting and presenting the information so that it is useful in discussions of basic issues confronting many rural communities today, particularly the challenges of providing long-term economic stability and needed services.

The workbook is intended for a cross section of people who are interested in participating in the shaping of their communities. Many users will not be experts in data interpretation or planning, and we have attempted to avoid technical jargon. But sometimes, certain aspects of data gathering and interpretation require a basic knowledge of the terminology that is common to practitioners in relevant fields. We use such terms -- with explanation -- where necessary.

## TREND ANALYSIS

Our focus is on demographic, economic, and fiscal trends because trend analysis can show you how the local population, economy, and tax base have changed over the past few decades, and it can tell you where you are today. Government officials, businesses, and citizens will likely do a better job of community planning if they have a solid understanding of local economic, demographic, and fiscal trends and how these compare to state, national, and global trends. Knowing about certain trends can stimulate informed discussions on the causes and consequences of changes in the community. As examples: What are the forces behind job increases in one industry and job losses in another? How much of the expansion (or decline) in business is due to tax structure, infrastructure, the labor force, or availability of raw materials? How much is due to other variables, such as social, cultural, and environmental amenities? How are changes in population affecting private land development?

We emphasize that while trend analysis can give you a factual basis for reviewing different options, it cannot tell you the best direction for the future of your community. A number of guides to help you accomplish that objective exist; two are described below.

## COMMUNITY DEVELOPMENT GUIDEBOOKS

There is a large amount of information about rural community development. We recommend you begin with:

- Ayres, J., R. Cole, C. Hein, S. Huntington, W. Kobberdahl, W. Leonard, and D. Zetocha. 1990. *Take Charge: Economic Development in Small Communities*. North Central Regional Center for Rural Development, Ames, IA. ($14.00)

The book is designed for use by development specialists working with rural communities. It contains detailed instructions on how to conduct an educational program, following exercises divided into three units: "Where Are We Now,"? "Where Do We Want To Be,"? and "How Do We Get There"?

Order from: North Central Center for Rural Development
108 Curtiss Hall
Iowa State University
Ames, Iowa 50011-1050
515-294-8321
http://www.ag.iastate.edu/centers/rdev/

- Fosum, H. 1993. *Communities in the Lead: The Northwest Rural Development Sourcebook*. Northwest Policy Center, Seattle, WA. ($30.00)

The guide contains numerous sources aimed at empowering people in community revitalization initiatives. Each source - from agencies, private companies, university programs, and individuals - is described in detail. It offers an excellent overview of changes facing rural communities in the Northwest, and most of the findings and sources listed are applicable throughout the country. Use as a starting point and a source book for other community assistance manuals.

Order from: Northwest Policy Center
P.O. Box 353060
University of Washington
Seattle, Washington 98195-3060
206-543-7900
http://weber.u.washington.edu/~npcweb

# Fiscal Impact of Conversion of Prime Lands

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Nationally and in South Carolina, prime agricultural and forest land has been undergoing rapid conversion to other uses, primarily residential and to a lesser extent commercial. This conversion has important implications for economic development, community amenities, environmental protection, survival of agriculture, and other public policy questions. The focus of this paper is on the impact of such conversion on local government finances, as well as a preliminary inventory of the fiscal tools that governments can and do use to minimize any negative impact.

The total amount of prime land converted and the speed of conversion is heavily impacted by alternative patterns of land development. The same amount of population growth can be accommodated with very different patterns. One pattern has been described as "ranchette"--large lots with scattered housing. Another pattern is dense development that may or may not be surrounded by open space. A third is a random distribution with patchwork developments on moderate sized lots separated by undeveloped land. A fourth pattern is infill development, making use of scattered lots within the developed urban and suburban areas. These alternative land use patterns have very different implications not only for the loss of prime lands to other uses but also for local government service costs.

**Economic versus fiscal impact**

Projects involving the development of agricultural, forest, or "idle" land are often promoted in the name of economic development. That is, proponents argue that the project will generate jobs and income that will enhance the economic well-being of area residents. The additional jobs and income are referred to as economic impact. Economic impact studies measure the impact of development on the private sector--new businesses, retail sales, housing construction, employment opportunities, and increases in personal income. For the last fifty years, economic development has been a primary goal of the state and local public sector in South Carolina. In many areas of the state, where job opportunities are limited, there is still great demand to attract employers of any kind. Citizens may be willing to accept a negative fiscal impact in exchange for the opportunities provided by new employers ranging from a new prison in Allendale County to a retirement community in McCormick or a chip mill in Laurens.

In other areas, however--along the coast and the I-85 corridor in particular--the promised positive impact of continued new development is increasingly being questioned on several grounds. While environmentalists and farm interests have joined forces to argue the benefits of farmland preservation, there are also many other voices challenging existing development patterns on pragmatic grounds of costs and benefits to the local

communities themselves. These arguments involve the costs of congestion, increasing demands on infrastructure for expansion, replacement and maintenance, changing real estate values for established areas, and fiscal impact on local governments.

Increasing congestion and pressures on physical and social infrastructure may negatively impact the quality of life for both established and new residents. Rapid population growth may slow police and fire response time, exhaust the capacity of the landfill too rapidly and require expensive and more remote landfill space, crowd the schools and force new construction, or require significant outlay for new roads as well as water and sewer lines and treatment capacity.

In counties where unemployment rates are low and have been for several years, there is often a concern that the added jobs will just result in in-migration because the local labor market is already tight. In-migration may further speed up population growth to a faster pace and level than the area is willing or able to accommodate at the same level of public services. If the jobs are entry-level, they are likely to attract families with young children living in relatively modest housing (often mobile homes in South Carolina), resulting in pressures on the schools without a comparable rise in tax revenues. In some of those areas economic developers are more selective, concentrating their efforts on attracting firms that offer better jobs at higher wages.

Economic development can affect amenities beyond congestion and pressures on the infrastructure. The disappearance of green space and the alteration of the landscape from rural to urban has not only a visual impact (and in some cases a thermal one, raising the average summer temperature) but also has a direct measurable impact on land and real estate values. Loss of open space also disturbs wildlife habitats and limits biodiversity, which is an amenity that is difficult to quantify but important to many urban and suburban residents.

One of the costs that are not counted in a market-driven land use development pattern is the impact of new development on both private and public physical capital in older developed areas. When land is cheap outside the developed core, it is easier and less expensive to start fresh than to maintain or rehabilitate older buildings and facilities. As these privately-owned assets deteriorate, there is a loss of both economic activity (income and jobs) in the core and tax revenues to the local government. Despite the loss of population in urban areas, local governments must still maintain infrastructure and provide services to a declining population supported by a deteriorating property tax base.

Finally, there is considerable research evidence indicating the long-term negative effect of most kinds of development (but especially housing) on local government. Both operating costs and infrastructure construction and maintenance expenditures are impacted, more so in the case of low-density residential developments that are not closely contiguous to developed urban areas (sprawl). Rarely do such developments generate enough local revenue to cover the additional costs, but the discrepancy varies greatly with the type of development.

**Markets, incentives, and nonoptimal choices**

Existing and emerging land use patterns are the result of individual choices, influenced heavily by both market forces and constraints imposed and incentives offered by governments at all levels. Left to the individual buyer and seller, the ownership and use of land would be determined by the highest present value in terms of projected future revenues and costs, discounted at prevailing private market rates of interest. In some instances, leaving land "idle" while awaiting a future more attractive use may be the most attractive alternative, an outcome familiar to those who are aware of the workings of any futures markets. The actual pattern of land use may be less than the socially desirable optimal pattern of land use for several reasons. Among the major sources of distortions in land use choice are imperfect information, overdiscounting future costs and benefits where benefits are immediate and costs are delayed, spillover effects (externalities), and public policies that create perverse incentives.

**Imperfect information** on the part of developers, new residents, established residents, and/or local officials can lead to a misallocation of the actual cost of development among the relevant parties. All investments contain elements of uncertainty, and even if relevant information exists, the parties involved may not be able to willing to make the necessary effort to access and process that information. Most people, but particularly those for whom these decisions are not as central (existing residents, for example) live in a world of bounded rationality or rational ignorance because of the high time cost of obtaining perfect information. The nation is littered with abandoned strip malls that suggest developers operated on less than perfect information even on their own future revenues and costs, let alone costs that they may be indifferent to because they are able to impose those costs (see below). New residents may be unaware of the future public sector costs that their arrival will create, resulting in higher local tax burdens on themselves as well as on established residents.

Established residents and local public officials are persuaded that growth will reduce their tax burdens through sharing the cost of public services among more citizens, an expectation that is rarely fulfilled in practice. Residential development in particular tends to add more to the cost than the revenue side of local government budgets. Loudon County Virginia, just outside Washington D.C., offers one good example:

> "In Loudon County, Virginia, officials in 1994 estimated that a new home must sell for at least $400,000 to bring in sufficient property taxes to cover the cost of all the services the county provides. By contrast, the average home sold that year for less than $200,000. The fastest selling properties in 1995 were town homes averaging between $120,000 and $160,000."[1]

[1] Diamond, Henry L. and Patrick F. Noonan, 1996: *Land Use in America,* Lincoln Institute of Land Policy, Cambridge, MA., p. 35.

This estimate confirmed an earlier study in Culpepper County, Virginia, which found that residential development cost $1.25 in county services for every $1 of revenue, while service costs were only 19 cents per dollar of revenue generated for industrial, commercial, or agricultural land.[2] Likewise, Benfield cites an earlier study by the American Farmland Trust that found a revenue to cost ratio for residential property is 1:1.11, while the rations are 1:0.29 for commercial and industrial property and 1:0.31 for farmland, forests and open space.[3] However, as Benfield notes, these ratios may overstate the benefits of nonresidential development:

> "A 1991 study by the DuPage County, Illinois Development Department found that, between 1986 and 1989, areas of the county with significant nonresidential development experienced a *greater* increase in taxes than did areas without nonresidential development...commercial development may create a demand for additional nearby residential development which...brings a fiscal drain that offsets the benefits."[4]

**Discounting the future.** Developers, tenants in new malls, industrial firms, home buyers, and renters are all private, self-interested individuals. They are not expected, required, or even encouraged to consider the long-term community impact of their choices, unless they expect that future taxes and service levels will directly impact on the market value of their investment before it is substantially depreciated, i.e., that those community impacts will be capitalized into the present value of their property. Until recently, the average American household moved every seven years, which in many cases leads to a very short-term perspective about the local community. Homeowners may invest in their own homes in order to preserve the value of a private asset, but may be less concerned about investing in the long-term future of a community where they do not plan to remain. This attitude toward community investment is particularly likely to prevail if they believe that the benefits of low taxes will enhance property values and the costs of deferred capital investment and maintenance will not surface in time to affect the value of their property. Many of the costs of development appear only gradually over time as service costs rise, property values decline or at least fail to keep pace with service costs, infrastructure must be replaced, etc.

An essential role of government is to offer incentives (both positive and negative) to offset these higher private rates of discounting the future (compared with a social rate of discount that takes into account future generations and future residents). However, government officials themselves face perverse incentives to engage in short-run behavior

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[2] ibid, p. 36.

[3] Benfield, F. Kaid, Mathew D. Raimi, and Donald D. T. Chen, 1999, *Once There Were Greenfields: How Urban Sprawl is Undermining America's Environment, Economy, and Social Fabric*, Natural Resources Defense Council, New York, p. 107.

[4] Benfield, F. Kaid, Mathew D. Raimi, and Donald D. T. Chen, 1999, *Once There Were Greenfields: How Urban Sprawl is Undermining America's Environment, Economy, and Social Fabric*, Natural Resources Defense Council, New York, p. 113.

that has long-term detrimental effects. Elections are frequent, taxes and regulations are unpopular, maintenance can be deferred. Economic development strategies have often run counter to the government's responsibility to consider intergenerational issues. These strategies often maximize the short-term, up-front incentives offered to firms in order to locate in a particular area for reasons of employment and income. In the short-term even local governments may engage in short-run maximizing behavior at the expense of longer term negative consequences. Trott notes this kind of behavior in the case of California:

> "Since Proposition 13, one of the few ways remaining to local governments to raise local revenue is by cashing in on farmland. Studies showing that in the long run this kind of development doesn't pay for itself notwithstanding, local governments in California largely persist at what has become popularly known as 'zoning for dollars' to survive financially from one budget to the next...To be successful at stemming the loss of farmland...we need different ways to finance local government where there is no nexus between local revenue and land development."[5]

**Spillover effects or externalities,** positive and negative, between adjacent landowners or between neighborhoods or larger groupings are another important source of decisions that are appropriate from an individual perspective but not from the larger perspective that considers all the impacted parties. Spillover effects are particularly significant in the matter of the cost of providing public services privately owned developments. Broadly speaking, the private cost of development varies little from one site to another within a given area. However, the cost of providing public services to different kinds of development in terms of both location and density varies enormously from one site to another. Because private developers are not required to take these external costs into account, the pattern of development may diverge substantially from the pattern that is most efficient and cost-effective in terms of providing public services.

A second set of spillover effects comes from the interaction between incompatible uses when commercial, industrial, and urban or suburban residential development invades space that was previously agricultural. Nelson notes a variety of spillover effects from urbanization as it encroaches on agricultural areas. There is increasing regulation of farm farm activities that affect nonfarm residents (e.g., use of fertilizer, disposal of manure, smells, more restrictions on use of farm chemicals, irrigation and runoff); higher property taxes on farmland to pay for urban services; air pollution damage to crops by cars and industry; increasing destruction/theft/vandalism; and greater use of eminent domain to acquire farm land to service residential developments. All of these effects make agricultural land close to urban areas less attractive to use for farm and forest purposes. Agricultural land also offers benefits to urban areas that are unpriced and therefore undervalued, including groundwater recharge and water purification, flood and erosion control, air cleansing, and scenery. These factors tend to drive down the market price of

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[5] Trott, Kenneth E., 1998: *Impact of the California Land Conservation (Williamson) Act,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 200-204.

agricultural land and make it more attractive to developers. As the future of agricultural use of land becomes more uncertain, farmers may be more reluctant to invest in the land, improvements, and equipment, further depressing its value as agricultural land relative to other uses.[6] As Grossi observed in the case of New York's farmland preservation policies,

> "...the economics of the marketplace were simply too powerful...land protection programs would not be successful without consideration of the disparity between the land's value for farming and its fair market value for houses."[7]

**Government incentives.** Government is not always the solution: sometimes it is the problem. There are a variety of perverse government incentives at all levels that have the effect of overstimulating some kinds of land use and understimulating or even discouraging others. The Federal (and often state) deduction for property taxes and mortgage interest for homeowners has encouraged investment in housing--more housing, less dense housing, more expensive housing than would have otherwise occurred. State homestead exemptions from the property tax have the same effect.

Nelson summarizes some of the policy actions by government that have exacerbated the problems associated with conversion of prime lands to other uses:

> "One of the problems with prime farmland preservation is that such land is sometimes made more valuable in the market for urban uses through subsidies such as (1)inefficient inducements to industrial development through tax concessions and subsidized utility extensions; (2)inefficient home construction caused partly by tax concessions given to homeowners through the federal income tax system; (3) inefficient urban land allocation caused by local government planning policies oversupplying land for lower densities while undersupplying land for higher densities thereby forcing more lower [density] residential development than is efficient; and (4)inefficient public facility pricing resulting in higher density development in urban areas--where facility costs are relatively low per unit--paying the same rates and thereby subsidizing suburban lower density development--where facility costs are relatively high per unit..."[8]

Grossi, likewise, notes that a significant part of the problem in managing land use in and around urban areas is the result of both government inaction and inappropriate government policies:

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[6] Nelson, Arthur C, 1998: *Farmland Preservation Policies: What Works, What Doesn't and What We Don't Know,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 19.

[7] Grossi, Ralph, 1998: *The Next Generation of State Policy,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 106.

[8] Ibid, p.17.

> "There is no "free market." All markets are shaped by government policy, inherent in which are regulations and subsidies that favor one behavior over another, and affect value in the marketplace...there would be a lot less pressure on this nation's farmland if we could somehow quite subsidizing sprawl and start subsidizing urban quality of life. It would also make conservation a whole lot cheaper."[9]

**Measuring fiscal impact**

This paper is not concerned with the broader economic or social impacts of land conversion, important as these questions are. Our focus is on a much narrower question, changes in the revenues and expenditures of cities, counties and school districts. These changes are referred to as fiscal impact. The initial reaction might logically be that a positive economic impact that results in more jobs, houses, sales and income would generate more revenue for state and local government. While this outcome is generally true, more revenue does not always translate into a net gain for state or local governments and the residents/taxpayers already there. In some cases development adds more to local government revenues than it does to local expenditure demands or costs, which is defined as a positive fiscal impact. Unless the revenue structure is designed to capture revenue from the new stream of private incomes that flow from economic development, and unless some of the costs of new development are shifted back to the developers or buyers, state and/or local governments may find that a stronger private sector is quite compatible with an increasingly fiscally stressed public sector. The case studies summarized in a later section show predominantly negative fiscal impact from most kinds of development of agricultural, forest, or idle land for industrial, commercial and residential uses.

In fact, greenspace itself contributed to property values and thereby indirectly to property tax revenues. According to one study,

> "...distance from the greenbelt has a statistically significant negative impact on the price of residential property. Specifically, other things being equal, there is a $4.20 decrease in the price of a residential property for every foot one moves away from the greenbelt."[10]

**Contributing factors to negative fiscal impact.** Development can have a positive economic impact on the economy and on the developer and yet have a negative fiscal impact. One of the primary reasons is that the **relevant factors that enter into locational preferences** are different for developers and for local officials. Developers encounter somewhat similar building costs anywhere in a given region. They make their

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[9] Grossi, op. cit, p. 106.

[10] Correll, Mark R., Jane H. Lillydahl and Larry D. Singell, "The Effects of Greenbelts on Residential Property Values: Some Findings on the Political Economy of Open Space," Land Economics 54(2), May 1978, pp. 207-17.

locational decisions based on the price and availability of vacant land and its potential attractiveness to buyers based on such factors as highway access. A large part of the costs created by such development do not fall directly on either the developer or the buyer, but on the local government. No one pays much heed to costs that they create that are imposed on others unless those other parties can find ways to internalize those costs, i.e., to make sure that those who create the costs are made to bear them. The costs of development, which may be virtually identical from one site to another in a given area from the developer's standpoint, are likely to be very different in the eyes of local government depending on the location, the density, and the kinds of improvements (residential, commercial, industrial) that are being built. In Robert Frank's summary of the literature in 1989, he notes that

> "...costs typically borne by the municipality fluctuated much more dramatically with location (and available capacity) than did on-site frontage costs, typically financed privately in the purchase of a house, making the municipality's stake in infill development greater than that of the builder." [11]

Second, the **local revenue structure** is not designed to fully recover the additional costs of development. The property tax system and other local revenue sources do not penalize low density development or reward high density development. There are no rewards for locating in areas of excess capacity for water treatment, sewerage treatment, or public schools. There are no penalties for locating far out and increasing the traffic congestion, parking problems and air pollution by increasing traffic congestion. Local governments, especially in South Carolina, are constrained in their use of one of the potentially most useful tools, impact fees, to attempt to direct development in appropriate channels. The availability of incentives to industrial and commercial location by fee in lieu of taxes (FILOT) agreements and other forms of property tax relief further aggravates the attempts by local governments to obtain revenue from the industrial and commercial tax base in order to support services for residential property owners.

Another tool that might be useful in directing development into the least costly channels is **regulation**, but there is strong resistance to using zoning, land use planning, and other techniques to channel development as an infringement on property rights. There is a strong constituency for a somewhat absolute concept of property rights, as evidenced by takings legislation proposed in South Carolina and elsewhere (the *Lucas* case on the South Carolina coast being one of the better known instances). Fear of litigation makes land use planners somewhat cautious. These regulatory tools of growth management have been employed to a limited degree in most states, but are relatively new and lightly utilized in South Carolina. In some states, cities have extra-territorial zoning, or (in North Carolina), can easily annex contiguous areas that are becoming urbanized and bring them within the taxing and zoning powers of the city. In Tennessee, county land use plans included designation of urban growth areas around cities. Only in those areas can cities provide services and annex additional land. In the West, cities and counties

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[11] Frank, James E. 1989. *The costs of alternative development patterns: a review of the literature,* Washington, D.C.: Urban Land Institute, p. 18.

frequently control development by limiting access to water rights, an option that works well in the dry mountain states, most of which have a separation of water rights from property ownership that is largely unfamiliar in the East.

Yet another factor in the development-local government equation is **fragmentation of governments**. Cities and their counties rarely consult, adjacent counties even less so. Development tends to be viewed as a series of isolated events defined by city or county boundaries, rather than in regional terms where more efficient use of facilities (roads, schools, water and sewer systems) might help to control the costs of development. And fragmentation often allows developers to play one local government against another for favorable tax treatment or additional services, further aggravating the negative impact of development on local governments.

Fragmentation also extends to the separation between state and local governments. Often the fiscal impact of development (non-residential, at least) is positive for the state, which receives additional income and sales tax revenues but provides relatively little additional services. There may be some redistribution of state aid to growing areas using the formulas for distribution of state aid to school districts (tied partly to school population) and cities and counties (total population). In the case of school districts, the additional aid to accommodate more pupils may be more than offset by reduced aid because of the increase in the property tax base from commercial and/or industrial development, which also enters into the aid formula.

**Methodologies.** The methodologies for fiscal impact studies are fairly clearly defined, the result of three decades of development of techniques to assess a variety of situations. For the issue of conversion of prime lands, Burchell's 1994 Handbook offers a useful summary of the three basic methods. One method is simple per capita projections, which works well for small individual projects but fails to capture the differential costs of different kinds or levels of development. A second method is case studies, which provide a rich literature on which to draw in terms of measured costs and benefits. A third method is econometric studies, in which models are developed to project costs and revenues from a single scenario or alternative scenarios over a period of twenty years or more.[12]

**Interested parties.** Much of what has been written about the fiscal impact of conversion of prime lands comes from two groups of interested parties. One group consists of the American Farmland Trust, the Natural Resources Defense Council, and other organizations that represent the interests and concerns of farmers, environmentalists, and their allies. Their primary goal is to create and/or defend a tax and regulatory environment more favorable to preservation of prime agricultural lands and environmentally sensitive areas, such as wetlands and prime wildlife habitats. The second group includes some public finance economists and land use planners, mostly connected with local governments or state agencies, who are concerned about service costs and the resources with which to pay for new service demands. The literature of land use planning is heavily focused on the cost of providing public services, especially

[12] Robert W. Burchell et. al, Development Impact Assessment Handbook The Urban Land Institute, 1994.

local public services, to these new residents. Less attention is paid to the revenue consequences of development. In part, this imbalance may reflect that fact that revenue effects are more state-specific, being tied to the particular revenue structure of a state and its political subdivision. However, the problems of using the property tax as a primary local revenue source is an essential part of the challenge of managed growth that slows the conversion of prime lands to developed uses while also protecting the fiscal health of local governments.

**Case studies and empirical findings**

The literature from both of these sources speaks with a consistent voice. Unplanned, unregulated development is costly to local and to state governments, almost always increasing costs of service provision more than the revenue that results from the development. The evidence that development of most kinds has a negative fiscal impact on local governments ranges from anecdotal to highly sophisticated econometric studies. Different scholars find different cost and revenue figures for different kinds of development, but the message is consistently clear. If one clearly and carefully assesses the full costs of servicing new developments, particularly residential developments, then city and county governments are better off with farm land than they are with housing developments. And while industrial and commercial developments, taken in isolation, often more than pay their own way in terms of local service costs and demands, the full impact of the industrial and/or commercial development and the associated housing developments that follow is almost always negative. Benfield et. al report that

> "According to the American Farmland Trust, farmlands and open space actually provide a fiscal surplus for municipal governments. Although residential developments generate more total revenues than farmland, forests, and open space, residential land uses also require more in public services. The net result is that residential development produces a fiscal loss, while farmland, forest, and open space produce a fiscal benefit. This is a strong argument for managing growth and maintaining open spaces, including farmland."[13]

> "Specifically, AFT has analyzed data from at least 40 communities in the Northeast and Midwest during the last decade, using the information to create a ratio of annual revenues generated from property taxes to annual expenditures for each land-use type. In a summary of this work, AFT concludes that residential land uses generally cost more in services than they generate in property taxes, and that they are subsidized by commercial and residential developments and by farmland, forests, and open space."[14]

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[13] Benfield, F. Kaid, Mathew D. Raimi, and Donald D. T. Chen, 1999, *Once There Were Greenfields: How Urban Sprawl is Undermining America's Environment, Economy, and Social Fabric*, Natural Resources Defense Council, New York, p. 107.

[14] Diamond, Henry L. and Patrick F. Noonan, 1996: *Land Use in America,* Lincoln Institute of Land Policy, Cambridge, MA., p. 35

**Differential fiscal impact by type of development.** Certain kinds of development typically have a more positive fiscal impact than others, and many kinds have a negative fiscal impact. The outcome depends on both the kind of development that takes place and on the tax/revenue structure. Among types of development, industry often demands the fewest services and generates the highest revenues, while owner-occupied residences below a certain price level are likely to demand more services than they produce in additional revenue. Residential developments vary greatly in fiscal impact depending on density, number of school-age children, and taxable property value per resident. Commercial development in South Carolina (in the absence of special tax incentives) typically generates less revenue per dollar invested than industrial development and usually demands somewhat more local public services per dollar invested.

Burchell and Listokin offer a hierarchy of fiscal impacts based on experience in New Jersey. Within that hierarchy, it is generally true that there are different fiscal impacts (costs less revenues) for different kinds of development (scattered or isolated versus dense or infill).[15] Overall, however, the fiscal hierarchy ranges from research office parks with the most positive impact to mobile homes at the bottom, with unimproved land somewhere in the middle. Townhouses (3-4 bedrooms), inexpensive single family homes (3-4 bedrooms), garden apartments (3+ bedrooms) and mobile homes all had negative fiscal impact on school districts, while research office parks, office parks, industrial development, high rise garden apartments (studio or one-bedroom), age-restricted housing, garden condominiums (1-2 bedroom), open space, retail facilities, townhouses (2-3 bedrooms), and expensive single family homes (3-4 bedrooms) had a positive fiscal impact in descending order. Significantly, for municipalities, retail facilities, 2-3 bedroom townhouses, and expensive single-family homes also fell into the negative fiscal impact range of the hierarchy.

**Distributional impact.** When fiscal impact is negative, who pays? Frank argues that it is not the developer or the homebuyer in many cases, so that the cost implications are not part of the consumer's purchase calculation. In particular, development fees, impact fees, and tax assessments fail to consider such factors as distance from central facilities, which increases service costs. The result is overconsumption of housing in areas and densities that are costly to serve and underconsumption in areas that could be served at lower cost.[16] As Benfield notes, impact fees rarely reflect the full cost of development or even the full capital cost. User fees also tend to reflect average rather than marginal costs, so that there are cross-subsidies from central city to suburban residents and apartment dwellers to lower density residents.[17]

**Fiscal impact by nature of development**

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[15] Robert W. Burchell and David Listokin "Land, Infrastructure, Housing Costs and Fiscal Impacts Associated with Growth: The Literature on the Impacts of Sprawl versus Managed Growth," 1995, Working Paper, Lincoln Institute of Land Policy .

[16] Frank, op.cit. p. 42.

[17] Benfield, op.cit., p. 110.

There are three intertwined issues on the cost side of the fiscal equation that affect the fiscal impact of development. One is the type of development--residential or commercial, single or multi-family, etc. The second factor is density. The third factor is location--infill or contiguous versus distant or leapfrog (the pattern referred to as sprawl). A number of the earlier studies were summarized by Duncan *et. al.* in 1989.[18] They found that studies that looked at a variety of densities and dwelling types consistently found that, for the same density and dwelling type, leapfrog development was more costly than contiguous development and in capital costs and farther out cost more than close in. Costs for public capital and operations ranged from $9,252 to $23,960 per dwelling unit, with the lowest costs in compact and contiguous developments.

A second review was done by James Frank in the same year.[19] This review summarized nine earlier studies of the impact of alternative development patterns. One of the earliest studies by Wheaton and Schussheim (1955) looked at both capital and operation and maintenance costs of development of single family houses, including the allocated cost of inherited facilities. They found that full capital costs ranged from $27,224 to $33,024 per dwelling unit, depending on service levels, population characteristics and lot size. Primary costs for streets, sewers, water and drainage fell primarily on the developer, but there was significant variation in the public costs. Because they assumed septic tanks rather than sewers, they found less variation related to lot size, but in general they found, as did others later, that increasing density in a particular development reduced service costs per household. A second study from the 1950s by Isard and Coughlin, also summarized by Frank, developed cost simulations for varying densities. They found that medium density (4 units/acre) was the most costly because it required both sanitary and storm sewers (unlike lower density) and was also the most expensive in terms of roads (unlike high density). Adjusted to 1987 prices, the total outlay per dwelling unit for public costs ranged from $17,467 to $24,041.

Still another of the early studies, by Stone, looked at alternative neighborhood sizes and configurations and found sharply different building costs (higher) and development cost (lower) with increasing density. Road costs were particularly significant contributors to this outcome. Frank also reported on the Real Estate Research Corporation study of the cost of sprawl from the same period. This study also examined the effects of alternative densities (3-30 units per acre), finding capital costs per dwelling unit (both public and private) ranging from $76,629 to $112,023 adjusted to 1987 prices. Net of the cost of the dwelling unit itself, the costs ranged from $27,368 to $38,331 per dwelling unit. Of that cost, the amount paid by the owner or developer ranged from $6,854 to $13,890 was cost paid by owner or developer for such items as streets, sewer, water, and drainage. The cost of schools, and open space/recreation ranged from $8,513 to $12,855 per dwelling unit, while broader public costs such as public facilities, roads, and the public part of sewer, water, and drainage expense ranged from $6,512 to $8,865 per dwelling unit.

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[18] Duncan, James et al, 1989, *The search for efficient urban growth patterns*, Tallahassee, FL: Florida Department of Community Affairs.

[19] Frank, James E. 1989. *The costs of alternative development patterns: a review of the literature,* Washington, D.C.: Urban Land Institute.

Yet another study in the Frank review was a Rand (1975) study of municipal pricing. Concentrating on fire protection, streets, sanitary sewer, and flood control, this study projected costs for a 15 year period for three alternative scenarios, compact, scatter and leapfrog. In 1987 prices, the cost per dwelling unit for those four services was $2,078 for compact development, $9,885 for leapfrog, and $11,581 for scattered development. Likewise, a 1977 study by Downing and Gustely, looking at costs for police, fire, sanitation, schools, water supply, storm drainage, and sanitary sewers, found that the cost per unit rose with distance. In summarizing all these studies, Frank noted that the major items and the ones most sensitive to building patterns are streets, sewers, water systems, storm drainage and schools.

> "When all capital costs are totaled (neighborhood plus community) for streets, sewers, water, storm drainage, and schools, the total cost for low-density (three dwelling units per acre), sprawl (noncontiguous growth) is slightly more than $35,000 per dwelling unit (for central sewerage and water, full curb and gutter, and urban drainage). Further, if that development is located 10 miles from the sewage treatment plant, the central water source, the receiving body of water, and the major concentration of employment, almost $15,000 per dwelling unit is added to the cost, for a total of $48,000 per dwelling, excluding housing and land costs. In the most extravagant circumstance, that of estate zoning at one dwelling unit per four acres with full improvement standards and located 10 miles from all central services, the total cost surpasses $92,000 per dwelling unit.
> Costs of infrastructure can be reduced to about $24,000 (the total cost of streets, utilities, schools and leapfrog development for 12 dwelling units per acre...) by locating developments close to central facilities and employment... and by including multifamily housing types...in equal proportion to single-family conventional and single-family cluster units. Further reduction to about $23,000...is possible by planning a mixture of housing types instead of allowing sprawl, that is, by building in locations contiguous to existing development and avoiding costly facilities to span the bypassed vacant land. Finally, the cost can be reduced to less than $18,000...by choosing a central location, using a mix of housing types in which single family units and townhouses constitute 30 percent of the total and apartments 70%, ad by planning contiguous development instead of leapfrogging."[20]

Burchell, like others before him, emphasizes the implications of planned versus traditional development on infrastructure, housing and public service costs, as well as the implication of both patterns for protection of prime lands:

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[20] Ibid, p. 39.

"directing development to areas of excess service costs and away from those locations that would have to expand public services and infrastructure. Fiscal impacts thus involve initial capital improvement savings, as well as longer-run savings in operating costs relative to where development takes place, both regionally and in a single community...planned development or managed growth...seeks to contain most new growth around existing centers and limit development in rural and sensitive environmental areas. It also seeks to save more prime agricultural and fragile lands, prevent wetland encroachment, buffer streams and other water bodies, and protect open water and natural habitats. It further seeks to reduce road construction and water/sewer infrastructure provision through more contained cluster development...by increasing the share and density of development close in to existing development and decreasing the share and density of development in the outer, more rural and undeveloped areas of the county or metropolitan area."[21]

The three major surveys of the literature of the costs of sprawl versus dense/contiguous development found cost differences as summarized in the following table.

| | **Planned development capital costs as a percentage of costs of sprawl-type development[22]** | | | |
|---|---|---|---|---|
| | **Roads** | **Schools** | **Utilities** | **Other Capital** |
| Duncan | 40% | 93% | 60% | 102% |
| Frank | 73% | 99% | 66% | na |
| Burchell et. al. | 76% | 97% | 92% | na |

The Rutgers study examined the impact of alternative growth management strategies on conversion of acreage and impact on fragile lands from 1990-2010 in New Jersey to accommodate projected increases of 520,000 persons, 431,000 households, and 654,000 employees. The state had about 2 million acres of developable land. Planned development would consume 117,607 acres vs. 292,079 (a difference of 60%), including 30,000 fewer acres of fragile environmental lands (-80%) and 42,000 fewer acres (-40%) of prime agricultural land.[23] In addition, the planned development emphasizing contiguity, denseness, infill, and locating close to excess capacity in public capital, would

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[21] Burchell, Robert W.,1997, *Economic and Fiscal Costs (and Benefits) of Sprawl*, The Urban Lawyer, Vol. 29, No. 2, pp. 160-1.

[22] Ibid., p. 173-5.

[23] Burchell, Robert W. et. al. 1992: *Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan, Report II: Research Findings,* Trenton NJ: New Jersey Office of State Planning.

save about 2% a year in cost to cities and school districts ($400 million) just in more efficient service delivery. There would be a 9% saving in road construction, water and sewer facilities, and school construction for the same number of housing units.[24]

**Mitigating fiscal impact.** Some of the negative fiscal impact of low-density development can be mitigated by adjusting service and development standards for lot size and density. [25] The presence or absence of sidewalks, the use of septic tanks rather than sewers, narrower street widths, and other adjustments depending on lot width seemed to "flatten" the cost curve over varying densities of development. Frank, likewise, noted that "Cost can also be held down by relaxing standards for roads, sewers, and storm drainage and by allowing narrower roads, septic tanks, and nonpiped drainage for large lot subdivisions...Finally, costs can be reduced ...*in the short run* by locating developments where existing capacity is already in place but not yet fully used."[26]

**Policies and their effectiveness**

States have created a number of policy tools that can be used at either the state or local level to accomplish two complementary objectives: slow the conversion of farm, forest and wetlands to development use, and minimize the negative fiscal impact of development on local governments. These tools fall into four categories. One is property tax relief for agricultural and related uses. The second is protective legislation for farmers, including right-to-farm laws and agricultural zoning, sometimes complemented by restrictions on urban expansion. The third, and most recent, is a series of quasi-market techniques involving conservation easements and transfer or purchase of development rights on either a permanent basis or for a period of years. The fourth technique is some kind of full-cost pricing wherein the costs of development that have been borne by all taxpayers are more correctly assigned to the developments that create the increased costs. Impact fees have a positive role to play in forcing local governments to develop and disseminate information about the costs of development as well as ensuring that some share of those costs fall on the developer or his/her customers. This fourth category will be explored in greater depth in a future report in this series. In this section, we focus on those tools that are aimed directly at preventing or discouraging conversion of prime lands by working with the farmer or other non-developer/owner, rather than those tools that emphasize assigning the costs of development appropriately.

**Tax relief.** Forty-eight states have differential assessment of agricultural land for property tax purposes, either with a lower tax rate or a lower assessment rate, or in valuing the land by current use rather than market value. This differential treatment is justified not only in the name of preservation of greenspace but also by the lower service demands from agricultural lands compared to other uses, as indicated earlier. In addition to the effect of differential taxation, in states that use conservation easements or transfer

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[24] Ibid.

[25] Urban Land Institute, 1958, Effects of Large Lot Size on Residential Development (Technical Bulletin No. 32).

[26] Frank, op.cit, p. 40.

or purchase of development rights, the market value of the affected property will decline, reducing the tax burden on farmers. However, most observers regard tax relief for farmers as a relatively weak tool, because (as Nelson observes) the tax penalty for conversion is almost always less than the value of tax deferred or underpaid. Speculators can take advantage of tax relief for farm and forest land to reduce their holding costs until they are ready to develop.[27]

**Protective legislation.** A number of states have passed "right to farm" laws to protect farmers from various kinds of nuisance lawsuits that limit the use of chemicals and pesticides or challenge smells, noises, and other aspects of farm operation that are inconvenient to neighbors. These laws offer some marginal aid to farmers, but will not prevent conversion.

More powerful legislation comes in a variety of zoning regulations that not only protect farmland and open space but also encourage higher urban density. In Oregon, the use of Exclusive Farm Use (EFU) zoning was protecting over 16 million acres by 1986, although it still has not effectively prevented urbanization or conversion to rural residential uses. Oregon also has established urban growth boundaries (UGB) in which higher density urban growth (1,000 people per square mile or more) is encouraged. From 1980 to 1994, most of the land urbanized in Oregon was in UGBs.[28]

New York, likewise, created agricultural districts starting in 1971. An agricultural district overrides local land use authorities, requires states to modify regulations in order to facilitate retention of farmland, offers relief from benefit assessments or ad valorem taxes on farm land for certain improvements, and provides for special agricultural assessment for production land. By 1997, more than 8 million acres in 408 districts were offered some protection from through agricultural districts.[29]

**Market-based techniques for preserving farms and open space.** Increasingly, legislators, farmers, and environmentalists are turning to market-based methods to preserve farms and open space. Purchase of development rights, transfer of development rights, and conservation easements, all closely related techniques, have become popular in the last two decades as a way to slow the conversion of prime land to development uses.

The first major program using market incentives was the Williamson Act in California in 1965. This act had a dual purpose, to protect agricultural land, preserve open space as an asset to urban development, and "...to discourage dis-contiguous urban development

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[27] Nelson, op.cit., p. 36.

[28] Liberty, Robert, 1998: *Oregon's Farmland Protection Program,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 49-72.

[29] Bills, Nelson and Jeremiah Cosgrove, 1998, *Agricultural Districts: Lessons from New York,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 73-104.

patterns and in so doing, decrease the cost of community services."[30] Unlike most later programs, this Act provided for the lease rather than outright purchase of development rights, with rolling 10 year contracts. If a contract is negated taxes rise gradually over the next nine years until the contract expires. The Act applies primarily to agricultural land, although some open space is eligible and some uses compatible with agriculture are allowed (agricultural processing, wine tasting rooms, fish farms, utility lines, farm worker housing, etc.).

In Maryland, there are conservation easement programs run by four MD counties and the state to make irrevocable purchases of development rights. The system is incentive-based and voluntary, with prices reflecting both market appraisals and landowner bids. In some cases, development rights sold to developers who can transfer them to another area for higher density developments. Nongovernmental organizations (NGOs) can also accept transfer or make purchases of developmental rights and retire them.[31] The goals of this program are to preserve as many acres as possible with limited funds, with preference given to parcels bordering other preserved lands, operating productive farms, and/or land under immediate threat of conversion. Maryland actually uses three techniques: purchase of development rights (PDRs) and transfers of development rights (TDRs). One set of PDRs is operated by counties with rates based on a set formula. This program is more expensive on average than the state program (Maryland Agricultral Land Preservation Foundation, orMALPF), which uses two market appraisals and the capitalized value of expected future income to set a price on development rights. MALPF has limited funds and sets priorities based on the ratio of bid to development value. In 1997, TDRs in Montgomery County were selling at $2,200 an acre, while county PDRs cost $3,652/acre. In all cases the land can continue in its current use but cannot be developed. An alternative measure is a TDR unit, which is one right for each five acres less one acre for each dwelling unit on the land (e.g., a nine acre tract with four dwelling units). The price of one such right averaged $9,000 in Montgomery County in 1997.[32]

Pennsylvania has chosen to use conservation easements within established agricultural security areas that meet certain soil class requirements, and contain crop, pasture or grazing land on 50% or more of the affected acreage. By 1997 977 farms containing 123, 423 acres were in the program with an average payment of $1946/acre.[33]

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[30] Trott, Kenneth E., 1998: *Impact of the California Land Conservation (Williamson) Act,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p.193.

[31] Lynch, Lori and John K. Horowitz, 1998: *Comparison of Farmland Preservation Programs in Maryland,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 114-115.

[32] Criss, Jeremy, 1998: *Farmland Preservation Options in Montgomery County, Maryland-Transferable Development Rights,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 187.

[33] Kelsey, Timothy W. and Stanford M. Lembeck, 1998: *Purchase of Conservation Easments for Farmland Preservation,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 151-166.

In the state of Washington, the purchase of development rights program is based on bids by farmers. During the mid1980s, prices ranged from $480 per acre to $18,975, with a mean of mean $4250. The sale of development rights affected land values: unresitricted land sold for an average of $1217 more per acre than restricted parcels. A 1996 estimate found that the cost of purchasing the parcels in the program was $54 million to buy rights plus a $279 million loss per year in assessed valuation, which must be counted as part of the fiscal impact.[34]

**Summary**

The extensive literature on the experience of conversion and protection of prime lands against urban encroachment, and the impact on the fiscal condition of local governments, speaks with a remarkably consistent voice. The nation is experiencing a rapid pace of urban development, and particularly leapfrog, low-density, high-service cost development that places severe fiscal stress on local governments while accelerating the lost of prime agricultural and forest lands, wetlands and wildlife habitats. This process, which results in higher tax burdens and/or deteriorating public capital and public services, is the result of short-sighted public policy decisions and particularly the inability or unwillingness to insist that developers pay the full cost of new residential, commercial, and industrial development, differentiated by type and location of the development. Public policy can also make useful contributions on the side of current owners of farm and forest land and other greenspace with appropriate incentives to forgo development and retain land in its current use. South Carolina can draw useful lessons from the experience of many other states in both managing urban growth and protecting prime lands from unduly rapid conversion while at the same time accommodating expected population growth and protecting the fiscal health of its cities, counties, and school districts.

[34] Druffel, Sarah M. and Paul W. Barkley, 1998: *Is Selling Development Rights a Wise Economic Decision? The Case in Kings County Washington,* in The Performance of State Programs for Farmland Retention, Proceedings of a National Research Conference, Columbus, OH, p. 167-176.

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# FISCAL ANALYSIS

# REVIEW OF FISCAL IMPACT STUDIES

Prepared by American Farmland Trust

## INTRODUCTION

American Farmland Trust conducted a literature review of the fiscal impacts of land uses and/or land conservation in small towns or rural communities with an actively managed working landscape. The review included research on studies done in the past 10 years that focus on communities with strong home rule government and land actively managed in agriculture or forestry uses. AFT summarized methodologies that represent different types of fiscal analysis and could be adapted and applied to similar communities.

Research for this project began with literature on file at American Farmland Trust (AFT), including Cost of Community Services (COCS) studies, tax base studies done by Deb Brighton of Ad Hoc Associates, fiscal impact studies, reports on the economic value of open space and general literature on the fiscal impacts of land use. A library search uncovered few relevant studies as most fiscal impact analyses focus on development scenarios and are conducted in suburban areas or fast-developing towns. Often the cost for these studies is prohibitively high for small, rural communities.

A Web search and telephone survey were conducted for state and national nonprofit conservation organizations as well as planning-related organizations. A general Web search was done using Google.com. Lists of studies done by private consulting firms, including RKG Associates and Tischler & Associates, were one result of this search. The Land Trust Alliance and several land trusts provided some references, and bibliographies of reports and articles led to other sources, as well.

The search yielded a wide variety of results, including fiscal impact studies, COCS studies, cost of sprawl studies, cost of open space analyses and other reports that did not fit into an existing category. Reports with some relevance were obtained when found. Based on this literature search, three general methodologies were chosen for in-depth evaluation: 1) fiscal impact studies, 2) COCS studies, and 3) tax base studies by Ad Hoc Associates.

## FISCAL IMPACT STUDIES

Fiscal impact studies tend to fall into two basic approaches: 1) theoretical analyses of alternative and/or cumulative development scenarios and 2) site-specific analyses of the impact of preservation or development of a particular parcel of land. In the first approach, evaluation of cumulative impacts of all expected development within a jurisdiction over time is often referred to as a "build-out" scenario. Of the reports gathered, most fell into the first category. Within this category, methodologies vary, and a list of typical methodologies is provided in the glossary. The most common is the "per capita" method, which determines the costs of development by averaging the total cost of required services by the number of people using them, sometimes with a multiplier to assess more distant effects. Another popular method is the "econometric" model, which projects impacts year by year, usually for very large projects.

### General Literature Reviews

In the process of searching for fiscal impact studies, a significant amount of general information on the fiscal impact literature was gathered. These reports and articles included guides to fiscal impact analysis (for community members and planners), fiscal impact models, and in-depth literature reviews. They summarize the major methodologies and discuss the relationship of fiscal

impact analysis to other kinds of economic impact studies, including cost-benefit analysis. Some of them trace the history of the field and its methodologies and discuss the range of findings that have occurred. These reports only are listed in the bibliography, since none of them are relevant to the types of communities targeted by this review.

**Theoretical Analyses**

A common approach is to examine the cost of sprawl vs. the cost of compact development. Such studies generally are based on an analysis of two potential development scenarios, usually focused on residential uses but sometimes including commercial and industrial uses. The first scenario assesses the fiscal impact of current growth trends (sprawl), while the other measures the impact of a more compact arrangement of the same number of units or uses. These studies found that compact development was significantly less costly than sprawl for the affected municipalities, particularly for infrastructure (roads, water and sewer). In the long term, ongoing operating costs for roads and infrastructure also would be reduced with compact development, and there would be less need to acquire land for public parks and recreation (Burchell and Listokin, 1995). The annual savings to municipalities was found to be in the 2-3 percent range in several studies (Southeast Michigan Council of Governments, 1996; Burchell and Listokin [3 examples], 1995).

Another possible scenario is to compare varying types of residential development, such as different types of housing (Planner's Collaborative) or variable growth rates, from faster to slower (RKG Associates, 1998). One study runs through the fiscal impacts of a single three-bedroom home, using the per capita multiplier approach, and shows the net impact to be a significant cost to the municipality (Turner, 1990).

**Site-Specific Studies**

About half of the studies gathered in this category analyze the cost of developing vs. preserving a given parcel (ranging from 300-900 acres in each case). The studies compare the revenues and costs generated by housing vs. the revenues and costs generated by the undeveloped parcel. The findings show a net loss from residential development of the land (Alexander, 1999; Maine Coast Heritage Trust, 1991; Mayors and Members of the Township Committee, 1994; New Jersey Land Forum, 1995). Other examples assess the impact of a particular development, such as an office complex or residential subdivision (Hamilton, 1992; Upper Valley Lake Sunapee Council, 1990, 1992; Dotzour, no date). However, Terry Holzheimer, AICP, cautions that "...without development of a community-wide model, project related impact analyses are difficult and generally inaccurate" (1998, p.3). Since project-level analyses often do not account for the effects of the new development on current service capacities, the community-wide impacts are harder to predict.

**COST OF COMMUNITY STUDIES (COCS)**

COCS studies are a straightforward way to assess the fiscal impacts of different land uses at a given point in time. They are snapshots in time of a community's costs versus revenues based on current land use. Unlike traditional fiscal impact analysis, they are not predictive, but are based on case studies of real places in real time.

In the COCS methodology, local budgetary information is allocated to land use categories, which are usually: (1) residential development, (2) commercial/industrial development, and (3) farm/forest land and open space. The studies rely on financial data and in-depth interviews with town officials to understand how revenues were generated and how appropriations were spent for a recent year.

COCS studies were inspired by a 1986 American Farmland Trust (AFT) report, *Density Related Public Costs*, which compared the costs of serving hypothetical low-density developments to the costs of higher-density developments. The Piedmont Environmental Council followed *Density Related Public Costs* with a study of the fiscal impacts of land use in Clarke County, Virginia. They used the same three basic land use categories: residential, commercial/industrial, and farm/forest/open space. AFT adapted this convention for subsequent studies of Hebron, Conn. (1986), and Dutchess County, N.Y. (1989), and upon peer review, refined the method for three studies of the Pioneer Valley in Massachusetts (1992).

Since then, AFT and other organizations throughout the country have conducted at least 83 COCS studies (see fact sheet say where). Based on this research, the median costs to provide public services—per dollar of revenue raised—are $.27 for commercial and industrial uses, $.36 for farmland and forest uses, and $1.15 for residential uses. The COCS findings are a useful tool to understand current conditions, although they do not provide data about long-term costs associated with different land uses.

**AD HOC ASSOCIATES STUDIES**

Ad Hoc Associates, a consulting firm in Salisbury, Vermont, has conducted research about the long-term fiscal impacts of various land uses on a community, which nicely complements COCS studies. Ad Hoc Associates' case studies analyze the relationship between land conservation, development and property taxes in New York, Maine, Vermont, Massachusetts and Connecticut. They investigate both short-term and long-term impacts of different types of land uses on the overall tax base as well as on the actual tax bills paid by town residents.

These studies confirm the widely held assumption that, in the short run, development increases the tax base by adding property value, whereas land protection does not provide additional tax revenue and may reduce the tax base. However, in the long term, Ad Hoc's studies show that open land requires a much lower level of services than developed land, limiting increases to municipal budgets and associated spending over time:

> "In the long term, permanent land conservation projects limit the potential for swelling the town's tax base through development. However, limiting the development potential of a parcel also limits its potential to increase the town's costs to provide services. For this reason, permanent protection of land should not be looked at only as precluding a more lucrative option; it also is appropriate to look at it as protection against a more expensive option" (Ad Hoc Associates 1997, p.15).

Ad Hoc Associates also found that, in the long term, tax bills tend to be highest in towns with the most commercial and industrial activity. Three reasons are given for this:

*1) Commercial development and residential development tend to go together.*
Commercial and industrial activity usually creates jobs that attract new residents. Some new employees may settle in neighboring communities, but Ad Hoc's study in Connecticut found a strong correlation between the number of jobs and the number of residents in a given town. Therefore, commercial and industrial development often results in higher municipal expenditures for residential services.

*2) Commercial and industrial development does not appreciate as rapidly as open land or residential development.* Assets associated with this type of development, such as buildings, do not appreciate at the same rate as residences or open land; in fact, they can depreciate. "A

commercial development that originally represented 10 percent of the tax base may over time only represent 5 percent of the tax base – due only to differences in the rates of appreciation" (Ad Hoc Associates 1995, p.16).

*3) In general, communities with larger tax bases offer more services.* Once a certain point of development is reached in a town, new facilities may be required to continue the same level of services to residents. These facilities require additional expenditures that may not increase services to residents. Ad Hoc cites the example of replacing a stop sign at a busy intersection with a traffic light. Investing in a new traffic light is a response to increased traffic due to growth, but only maintains safety standards rather than improving them.

In addition to negative impacts of commercial and industrial development on property taxes, such development also may have unwanted secondary impacts on the community. For example, increased pollution, traffic jams, taller buildings and large parking lots may diminish a community's visual character and decrease residents' quality of life. Although not measured in these studies, communities incur financial and economic costs associated with these secondary impacts.

These findings provide an important perspective on the long-term effects of growth. Over time, towns with more development and population tend to have higher costs. Therefore, plans to control growth may limit both municipal spending and future increases to tax bills.

## OTHER STUDIES

Another relevant study was reviewed that did not fit into the above categories. A 1998 project in Westhampton, Massachusetts, evaluated the town's capital needs, population trends, types of businesses and zoning regulations. It provides a set of strategies to diversify the tax base and offset the financial impact of residential growth. Even though the town has one of the highest tax rates in the area, more than 80 percent of its revenues are spent on school-related costs, leaving little for other expenses. The report recommends that the town pursue economic development through volunteer activities, including forming a business association to help implement some of the other strategies outlined. Together with this effort, the town could establish small business and large commercial/light industrial zoning districts to direct new growth appropriately. The report's conclusion emphasizes the proposed strategy of adopting a wireless communications by-law to encourage telecommunications companies to lease sites from the municipality (while also minimizing the scenic impact of these facilities.)

Finally, a wide variety of studies examining the economic value of open space was uncovered. These studies address economic issues relating to conserved land, such as the effects of such land on adjacent property values; the financing of land acquisition; the economics of regulatory measures such as transfer of development rights and clustering; the economic benefits of tourism and outdoor recreation; the value of environmental conservation (i.e. air and water quality, biological diversity, and floodplain management); the fiscal impact of open space versus development; and quality of life issues. These studies were not included in this report because they were not fiscal impact studies but rather in-depth discussions of these diverse issues. In some cases, fiscal impact studies were cited or summarized, and these references were pursued where relevant, but fiscal impact analysis is only one component of the economics of open space.

## CONCLUSION

The methodologies reviewed in this report vary from the current snapshot approach of COCS studies to the long-term predictions of fiscal impact analyses. Yet they all show similar results,

namely that residential development requires more services and costs municipalities more than other types of land uses.

COCS studies measure the relative aggregate costs of major land uses in a real place and real time. They are straightforward and relatively inexpensive and useful for assessing the fiscal balance of current community land uses. And they are helpful for analyzing the financial implications of differential tax assessment policies that tax working lands at their current use rather than their "highest and best" use, typically for development.

Ad Hoc Associates' studies also are a useful measuring tool that give a sense of the relationship of property tax rates to socioeconomic and land use indicators. They show that tax rates correlate with the type and degree of development in a town, and that more developed towns have higher tax rates. These results complement COCS study findings that residential uses require more services, but also show a long-term fiscal downside to commercial and industrial development.

Fiscal impact studies measure potential impacts of development, but vary widely in scope. Many do not look at the unintended consequences of a given scenario, including the residential growth that typically follows commercial and industrial development. They also may or may not account for existing service capacity and whether new growth will maximize or exceed current capacity.

The Ad Hoc Associates studies address the issue of secondary impacts, but do not provide a means of measuring them. Fiscal impact studies can provide a way to measure some of the relative costs of different development scenarios, and show that compact development is less costly than sprawl. However, because they are predictive, and the literature search did not identify any retrospective evaluations of the approach, it is hard to know whether the costs and benefits they anticipate actually pan out over time.

Each of these types of studies has its own merits and must be evaluated in terms of the needs and budgets of a given community. All of the methodologies can help raise awareness and contribute to comprehensive planning efforts, particularly if they are undertaken before an actual development is under consideration. They all show the costs of growth and development, although fiscal impact analyses rarely, if ever, address open space issues – especially privately owned farm and forest land. Therefore, factors to consider in choosing a methodology include whether a current snapshot is sufficient, as in COCS, or whether there is a need for historic perspective or a predictive model. Other factors include who the intended audience is and what level of fiscal complexity will be relevant to them, how quickly information is needed, and the cost of a study, which varies widely between the methods.

### GLOSSARY OF FISCAL IMPACT METHODOLOGIES

**Per capita method, or "average-costing."** The per capita method is applied on a jurisdiction-by-jurisdiction basis for all of an area's major service providers, including municipalities, school districts and county government. It determines current public service costs on a per unit basis—per pupil for the school district and per capita/per employee for the municipality.

**Per capita multiplier method.** After using the per capita method, growth-induced public service costs are determined by multiplying the per capita cost by the total number of people, employees and pupils introduced by development.

*These two techniques are straightforward, relatively easily accomplished, and usually allow a quick understanding of the impacts of development. They are the most common techniques*

*employed, but may also be the least accurate. They do not account for the capacity of existing municipal services, which new development may maximize (decreasing per capita costs) or exceed (increasing per capita costs).*

**Adjusted per capita method, or marginal costing.** This is a variation on the per capita method where the figures are adjusted based on the subjective judgment of the analyst or local officials, possibly along with some local economic indicators, to reflect specific changes expected from the new development, such as new facilities that will be needed or changes in state aid. It relies on careful analysis of existing supply of and demand for services.

**Disaggregated per capita method.** This method takes apart the local budget by estimating the costs and revenues separately for each of the municipality's major land use sectors. However, it is difficult to determine exactly how much is attributable to each sector for all revenue and expenditure types.

**Dynamic, or econometric, method.** This is the most sophisticated of the methods, accounting for changes over time in a municipality's economic, land use, and demographic profile, and therefore in its service levels and per capita costs and revenues. It applies statistical techniques to time-series data and requires more expertise to carry out than the other methods. It projects the impact of a particular project on a year-by-year basis and is particularly useful for large-scale projects that will be implemented in phases.

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# PRIVATE PROPERTY RIGHTS

# LOCAL GOVERNMENT TOPICS


# Introduction to Property Rights: A Historical Perspective

Everyone seems to have an opinion about property rights, whether about one's own rights, those of someone else, or the rights of a community. Property rights discussions can reveal diverse and controversial opinions and are often related to larger issues such as land use, regulation, planning, and the like. Since there is no universal definition of property rights, considering different perspectives and the historical background can be helpful in understanding property rights issues.

According to Neil Meyer, professor of agricultural economics and rural sociology at the University of Idaho, "what is often referred to as property is really the access right to a stream of benefits from a given set of resources." In the United States today, access to that stream of benefits is controlled in four basic ways: private ownership, public open access, public closed access, and state ownership.

**Who Owns What Property and Where Do Property Rights Come From?**

Property rights come from culture and community. One person living in isolation does not need to worry about property rights. However, when a number of people come together, they need to define and enforce the rules of access to and the benefits from property. In this way, the group or community defines the stream of benefits.

"This land is mine to use, enjoy, and treat as I wish." Many property owners feel this way about their rights to land, and certainly, landowners possess many rights to the properties they hold. However, historical actions by governments and courts suggest that the property rights of private owners are shared with the public. Therefore, the definition of property rights can, and has, changed over time. Although the issue of property rights has received a great deal of attention in recent years, it is valuable to remember that property rights have been debated in the United States since the country was formed over 200 years ago.

**What Are Property Rights?**

Property rights establish relationships among participants in any social and economic system. Holding the rights to property is an expression of the relative power of the bearer. Holding such power or rights commands certain responses by others that are enforced by the community or our culture. For example, a producer owning 100 acres of cropland is entitled to the returns from his property, management ability, and good sense. He is protected from trespass by his neighbors' cultural customs and the laws of the community. The production, or stream of benefits from the land, is his to sell, give away, or otherwise dispose of as he sees fit.

Property rights are a function of what others are willing to acknowledge. The limits on an owner's actions result from expectations and rights of others as formally sanctioned and sustained by law. The boundary between obligation and right is variable. Patterns in rights and obligations reflect prevailing judgments on what is fair, and people's values determine fairness. Laws and rules generally reflect the values held by a sufficient number of the people in a social group.

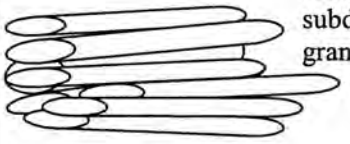
**A Bundle of Rights**

Property rights have been likened to a bundle of sticks where each stick represents a right or stream of benefits.

The bundle expands as "sticks," or rights, are added and gets smaller as sticks are taken away.

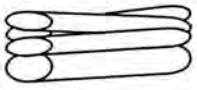
Some important landowner sticks include the right to sell, lease, mortgage, donate, subdivide, grant easements, etc. The community also has a bundle of rights, such as to tax, take for public use, regulate uses, etc. Some more recent issues have also been added to and taken from the bundle by our culture and community, such as the rights to farm, to air and water quality protection, to species conservation and preservation, etc.

A bundle of landowner rights may include the right to



sell
lease
mortgage
subdivide
grant easement

A bundle of public rights may be somewhat more limited but can include the right to



tax
take for public use
control use of
dispose of in case of death

Governments, acting for the public, have long exercised powers that may affect individual property owners' use of their land, including the power to tax private property, take property under eminent domain (with compensation), and establish rules with the policing power to enforce them. These are more formal powers, but communities also have auxiliary powers to influence behavior, such as public spending, public ownership, and public opinion.

History shows that previously accepted concepts of property have changed with new conditions and passage of time. Early communities treated land and other natural resources as a communal resource held in joint ownership. Under feudalism, status in the community was directly related to the rights a person held in land. Even though the distribution of rights has changed considerably over the generations, understanding this history is important because it provides the basis for our present concept of property rights.

**How Are Rights Defined?**

Five legal terms from feudal times are still in use today: property, fee, estate, interest, and right. These terms have similar meanings and are often substitutes for one another. Fee simple ownership means that the owner enjoys all the rights that one can hold in a property. Many citizens believe and cherish the notion that these rights have not changed since the frontier period in America. However, a review of the many programs adopted by local, state, and federal governments shows our culture has adopted a larger role for public rights than was recognized in the individualistic frontier perspective. This evolution over the past 200 years can be attributed to increasing population, rising incomes, more competition for available resources, environmental concerns, wider suffrage rights, etc.

It is apparent that the rights we hold in property spring from society. Rights are real only when the sovereign power, acting as an agent for society, recognizes those rights and is willing to defend and enforce them.

It is also important to remember that removing sticks from the bundle of rights does not necessarily mean less satisfaction for the owner or that property has less value. For example, residential easements that deliver electricity, water, and sewer service usually enhance property values and add comfort to the owner. The same may be said for regulations protecting water and air quality, controlling noise, avoiding health concerns, etc.

**Do Private and Public Rights Conflict?**

Depending on a person's perspective, one set of rights may be in conflict with another's perceived set of rights. Who is right or wrong, though, is not necessarily a question that can or should be answered. Since property rights are culturally defined and enforced, no one knows how or when public rights may be broadened over time. This situation can create concern or conflict since the interests of different groups of people vary greatly.

Those who see private ownership as an opportunity for acquiring wealth have obvious reasons for being concerned about trends toward public ownership. Others view land as a fragile resource needing community protection and more

public supervision. Most Americans are probably somewhere in the middle of these two views.

As demands and pressure increase for stronger public programs to direct land use, private property owners may fear that such societal attitude shifts will adversely affect them. They may worry about being stripped of certain rights. Accepting this change requires recognizing the rights that owners enjoy in private property are balanced by responsibilities. Property owners need to use land or other streams of benefits in a manner that does not impact negatively on others and to use practices that serve the basic community interests. Defining what may be a negative impact or what specific practices to follow, however, can be a point of conflict. The community also needs to reflect on the value of private ownership to society and to remember that it is in private owners' best interest to use their land productively.

**What Is Common Property?**

Although perspectives vary, the general aspects of private and public ownership and rights are fairly well understood in today's society.

Common property is a third category of ownership. Common property consists of benefit streams that are jointly owned and/or managed. Grazing on public lands or fishing on the open seas are examples of different types of common property ownership, jointly sharing the benefit streams between public and private. Common property can be more controversial and complicated because groups and individuals have different beliefs on how to manage the resource. In some parts of the United States today, many prominent property rights conflicts concern the management of commonly owned resources.

Ownership and management can be easily confused when using the term common property. Public property can be divided into three types: open access, closed access, and state/government. With *open access*, there is no governance and everyone can use and take part in the benefit stream(s) of a particular resource. This situation may result in uncontrolled use that can destroy the resource. A second type of public property is the *closed access*, which is jointly managed and owned. Those who jointly own the closed access resource provide control, limit access, define rules, etc. Many fisheries are managed in this manner. The third type, *state management*, has governmental managers making decisions and rules about access, use, etc. These decisions can become controversial for the recipients of the various benefit streams—for example, the issue of grazing on public land.

**Summary**

When discussing private property rights issues, it is important to remember that property rights are not absolute but, inst
ead, a function of what society is willing to acknowledge, defend, and enforce. The relationship between the rights of the individual and the rights of the community have been in constant flux throughout our history and will likely continue to change with time. Since the discussion of these shifting relationships can be extremely polarizing and controversial, adopting a historical perspective may help to improve the overall discourse on these issues.

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# The Government Giveth

*Recent complaints about the "taking" of private property ignore "givings" that have increased the property's value in the first place. The last thing we can afford is to pay twice for environmental protection*

EDWARD THOMPSON JR.

BY DECREEING IN THE landmark case *First English Evangelical Lutheran Church v. City of Los Angeles* that landowners may collect monetary damages from the government when property is "taken" by regulation, the U.S. Supreme Court may have done a favor for a nation struggling to reconcile private enterprise with environmental protection. Now that the public treasury is at stake, budget-conscious legislators are being forced to take a harder look at the risk that government regulation may take property by too severely regulating its use.

When they do so, they are likely to discover that the best way to manage the risk of takings may be to eliminate "givings": government subsidies that simultaneously encourage uses of land that require public regulation and increase the value of the land itself. Examples range from farm subsidies that have promoted wetlands drainage and soil erosion to the income tax deduction for home mortgage interest that drives wasteful urban sprawl. Eliminating or redirecting subsidies such as these would not just minimize potential takings claims. It would also result in budgetary savings that could be re-invested in incentives to make environmentally desirable land uses more profitable—a win-win outcome for the environment and property owners alike.

There isn't an acre of property in the United States with a value strictly attributable to private enterprise. Government actions exert a powerful influence on the utility and, hence, the value of land, whether it is waterfront property in South Carolina or farm fields in Illinois. As often as not, such actions increase property values by making formerly uneconomic uses profitable. That, of course, is the essential purpose of subsidies.

Take the celebrated case of David Lucas, the real estate developer who recently won a $1.5-million takings judgment because he was denied permission to build houses on the beach at Isle of Palms, South Carolina. Whether or not one agrees with the decision in his case, the fact remains that both Lucas's ability to build on the beach and the value of his beachfront lots were augmented by government action. Public authorities had constructed a bridge to provide access to the island, roads to drive on, water and sewage systems to serve the houses, and beach protection measures to prevent them from washing away. On top of that, the government has helped underwrite flood insurance to cushion the loss when those measures fail. All of these taxpayer-financed improvements contributed to the value of Lucas's property and in all likelihood spelled the difference between its being attractive for development and a financially worthless strip of shifting sand. In effect, much of the government's financial exposure for taking the Lucas property was attributable to the government itself.

Another example of government action that has given value to private property is the payment of agricultural subsidies. On average, the federal government pays the nation's farmers about $30 million a *day* to encourage them not to plant crops on part of their land. These "set aside" payments are intended to regulate the supply of corn, wheat, and other major commodities so that their prices do not become depressed. Together, the payments and higher commodity prices maintain farm income, keep farms in business, and help assure that the United States has the world's most abundant and affordable food supply.

In so doing, however, agricultural subsidies have been capitalized into land prices, increasing the total value of U.S. farmland by around $250 billion, according to the American Farm Bureau Federation. This windfall has helped make it profitable for farmers to drain wetlands and to plow up fencerows and highly erodible ground that otherwise

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Wade Spees

**Between two houses built earlier lies an empty lot that David Lucas owned on Isle of Palms, South Carolina. Taxpayers' improvements, such as roads and water systems, may have turned this property from a worthless strip of sand into an attractive development prospect.**

would have been untouched. While the "sodbuster" and "swampbuster" provisions of the 1985 farm bill seem to have enjoyed some success at preventing new drainage and plowouts, the ironic fact remains that agricultural givings have probably done as much as anything to fuel the current takings debate between farm groups and environmentalists over wetlands and erosion-control regulations.

A third example of givings is another sacred cow: the income tax deduction for home mortgage interest. For taxpayers whose combined federal and state income tax bracket is, say, 35 percent, the deduction reduces the cost of every $100 in mortgage payments to only $65. This enables people to buy houses almost half again as expensive as they could without the write-off and is, thus, a massive subsidy to the real estate industry. The Congressional Budget Office estimates the annual revenue cost of this tax preference to be $44 billion. Assuming capitalization at 6 percent, today's average mortgage rate, it can be said to have enhanced residential property values by approximately $730 billion.

The mortgage deduction is intended, of course, to make home ownership more affordable. Few would argue with this objective. But the subsidy is conferred regardless of how or where houses are built. They can be built in wetlands or endangered species habitat, on barrier islands, floodplains, or Civil War battlefields. The subsidy is the same whether the pattern of development is low-density sprawl or compact communities that have a wide variety of environmental and economic advantages: conservation of prime farmland and open space, lower energy consumption and air pollution, reduced public service costs and demand for property tax collections. Though some would argue that the neutrality of the mortgage deduction keeps land use planning at the local government level, as a practical matter it gives developers a powerful incentive to try to upset local plans.

THESE ARE ONLY A FEW OF THE public subsidies built into private property values in the United States. Ironically, givings such as these are at least partly responsible for the increased attention to takings of private property now manifesting itself both in litigation and in legislative attempts to require review of proposed government regulations, ostensibly for purposes of avoiding takings litigation

and the potential liability now associated with it.

By creating expectations of profit from land where none formerly existed, givings have almost certainly encouraged takings litigation, the mere threat of which intimidates government officials into making questionable land use decisions. But a more explicit judicial recognition of the influence of givings on property value as it relates to the issue of just compensation might help restore government officials' confidence by discouraging borderline litigation and reducing potential damage claims.

A recognition of governmental givings is already a significant—though seldom acknowledged—part of modern takings jurisprudence. Notwithstanding *First Lutheran Church*, *Lucas*, and other recent cases, the basic takings rule has remained unchanged since it was first articulated by Justice Oliver Wendell Holmes in *Pennsylvania Coal Co. v Mahon*: Virtually *all* economic value of land must be destroyed by regulation for a taking to occur. Only under such circumstances, Holmes said, does regulation "go too far" in shifting the cost of improving the social condition from the public to private property owners.

Some property rights advocates have criticized the all-or-nothing rule. They seek to enlarge the concept of takings to include circumstances where regulation proscribes use of only part of a larger property or the whole has merely been reduced in value. This, they claim, is necessary to restore fairness to the system of land use regulation and make government, which is to say the general public, pay its fair share of protecting the environment. A closer examination of the philosophical and practical basis for the current rule suggests, however, that compensation for partial takings or mere diminution in value would itself go too far.

The source of the current "all-or-nothing" rule was Holmes's insight that property values are *increased* as often as decreased by government action; that, on the whole, landowners are benefitted and burdened in roughly equal measure by government spending and regulatory decisions. The renowned jurist termed this "average reciprocity of advantage," but in plain English it could simply be said that "givings tend to balance takings."

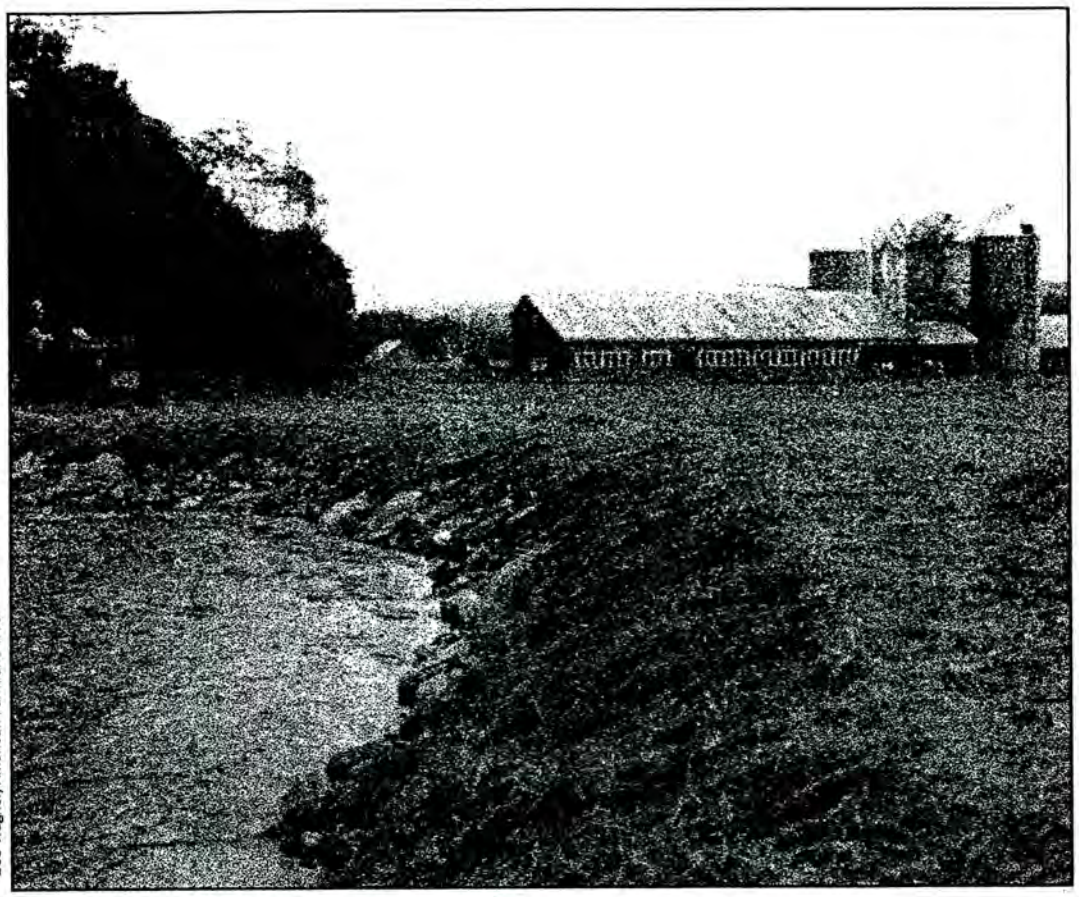
Though the rule is a practical one—"Government could hardly go on," Holmes observed, "if to some extent values incident to property could not be diminished without paying for every such change"—it also implicates fundamental fairness. Would it be just to charge the public for every diminution in property value, while at the same time allowing property owners to reap a windfall every time government action increases land values?

The "all-or-nothing" rule thus insulates government from liability except when regulations proscribe all economic use of property. Few regulations go that far, but there may be some important exceptions, including regulations designed to protect wetlands, barrier beaches, and some endangered species habitat. None of these environments can tolerate much if any economic use and survive. They will remain fertile ground for future takings litigation and the source of potential government financial liability. It is, therefore, worth exploring how the concept of givings could further inform takings jurisprudence as it affects the sharing of responsibility and cost of environmental protection.

ONE PROMISING AVENUE OF inquiry might be a re-examination of the notion of just compensation. Currently, the measure of damages for takings is the fair market value of the property whose use is prohibited. This concept of valuation reflects, among other things, enhancements of land value attributable to governmental givings. Arguably, where government has subsidized property value, a takings award based on fair market value results in *unjust* enrichment of property owners who are compensated not only for their "equity" but also for the windfall value created at public expense.

Whether the courts will entertain this argument remains to be seen. Currently, they look only at the harm suffered by the aggrieved landowner—not the potential loss to the government or taxpayers—in determining just compensation. But how can it be said that a property owner has been harmed when the government decides to take back by regulation what it has given through subsidies or other action? Why shouldn't courts consider evidence that property values have been inflated by government action in deciding what compensation is fair? Why shouldn't they reduce damage awards by an amount attributable to givings?

The prospect of government financial liability for takings has prompted officials to analyze proposed regulations affecting land use to determine the extent to which they could lead to damage claims. Though it is



Bob Wagner/American Farmland Trust

**Streambank restoration on a Vermont farm. Agriculture subsidies could be shifted from traditional set asides to "green incentives" paid to farmers for conservation activities on their land.**

questionable whether such analysis can actually help government avoid takings exposure by rewriting regulations, it does afford officials an opportunity to examine how they can do so by eliminating givings.

Executive Order 12630, signed by President Reagan in the early 1980s, was the first initiative to require regulatory analysis aimed at reducing takings exposure. While a U.S. senator, Steve Symms (R-Idaho) later succeeded in persuading the Senate to pass a bill (S. 50) in the 102nd Congress that would have codified this order, but it died in the House. Variations on it have been resurrected in the current Congress by Senator Robert Dole (R-Kansas) (S. 117) and a number of members of the House, where an agriculture subcommittee recently held hearings on such a measure (H.R. 561). Many state legislatures are considering similar bills and a few—such as Indiana and Utah—have passed them, but most bills have been defeated.

It is difficult to see how prospective analyses of takings claims could possibly result in any meaningful conclusions. If 70 years of Fifth Amendment jurisprudence have taught anything, it is that takings determinations are perforce a case-by-case exercise. To predict government liability in advance, so many assumptions would have to be made about the on-the-ground impact of regulation on individual properties as to defy credulity: the number of affected properties of record, the environmental characteristics of each property, patterns of ownership relevant to "total taking" analysis, the appraised value of each parcel under future market conditions, and any circumstances that under *Lucas* could excuse a taking. If the government really tried to get access to that much information about private land in the United States, property rights advocates would scream invasion of privacy—as indeed they have in opposing the National Biological Survey.

ONE CONCLUSION ABOUT government's potential exposure to takings claims is clear under any set of assumptions: Its exposure could almost certainly be reduced by eliminating, conditioning, or redirecting governmental givings that increase the value of private property by encouraging uses that must be regulated in the interest of protecting the environment. While the courts may be reluctant to consider the extent to which taxpayers enrich landowners—yes, there's an over-

lap, but taxpayers don't get to spend their own money—there is no reason why Congress, the administration, and state officials should not. Indeed, at a time when budgets are tight all over, and the nation's environmental and social deficits continue to grow, re-examining how tax dollars are distributed among classes of subsidy beneficiaries would seem to be an imperative.

A HARD, CAREFUL LOOK AT real *givings*—not putative takings—is the kind of analysis that needs to be undertaken if the nation is to avoid both financial and environmental bankruptcy. For too long, we have been subsidizing the very uses of land we need to regulate in the interest of environmental protection. This has set the stage for double dipping in the public treasury by those who benefit from taxpayer largesse and then sue the government for damages when regulation frustrates their plans. The last thing we can afford is to pay *twice* for environmental protection. Paying once—compensating property owners for using the land as the public sees fit—is probably the most effective way of achieving harmony between private enterprise and protection of our environment.

Instead of continuing to subsidize new development of barrier islands and other flood plains, we could reprogram funds now used to build infrastructure and use them to buy and retire development rights on flood-prone lands. That is in effect what South Carolina was forced to do in Lucas's case, except that it is now offering the property for sale for development purposes. It probably could have bought two or three times as much land on an island where property values were not as inflated by government subsidies.

Agricultural subsidies are also fertile ground for fiscal reprogramming. They could be shifted from traditional set asides to "green incentives" paid to farmers for conserving soil, protecting wetlands and other habitat, cleaning up non-point-source water pollution, and dedicating prime farmland to rural open space. Existing programs like the Conservation Reserve, Wetlands Reserve, Water Quality Incentives, and Farms for the Future, which now account for only about one-sixth of annual farm spending, provide ready-made vehicles for doing this. Farm income would continue to be supported, assuring a stable food supply. But many of the environmental impacts of modern agriculture would be ameliorated by withdrawing the incentive to push the land beyond its capacity and replacing it with an incentive to conserve resources and protect the environment.

It is probably too much to ask for Congress to re-examine the home mortgage interest deduction in any meaningful way. But what would happen if this subsidy to real estate development were graduated or conditioned on the basis of the impact of new dwellings on the environment and their consistency with local comprehensive plans? Developers would be encouraged to build houses on land with few environmental constraints because those houses would be less expensive than comparable dwellings located on prime farmland, in wetlands, critical wildlife habitat, and maybe even on barrier beaches. The revenue recaptured could be used to fund a housing tax credit for lower-income families to maintain the overall affordability of housing. For perhaps the first time in history, federal tax policy would harness the marketplace to improve the quality of community growth and to protect the environment, rather than promoting its destruction.

The Fifth Amendment seeks to assure that the cost of achieving social objectives is fairly shared by property owners and the public at large. Property rights advocates complain that regulations are forcing landowners to bear a disproportionate share of the burden by taking property value. All but ignored in the debate are givings, governmental subsidies that enrich property owners by making uneconomic uses of land profitable and which, not coincidentally, increase the need for the regulations that landowners find so vexatious.

An honest recognition of, and accounting for, givings has tremendous potential to inform the debate over private property rights and change the way we approach the protection of public environmental values. Though the courts implicitly consider givings in takings jurisprudence, they are powerless to curb them and can only arbitrate when the government sends property owners confusing signals about the appropriateness of land uses by simultaneously subsidizing and regulating them. It is up to the political branches of government to re-examine how tax dollars are spent on subsidies to unwise land use, and to reprogram scarce funds so that they send the unmistakable market message that there is more profit in protecting the environment than in destroying it. ❑

# LAND EVALUATION AND SITE ASSESSMENT (LESA)

***~INFORMATION SHEET~***

# LAND EVALUATION AND SITE ASSESSMENT (LESA)

## What is LESA?

The Land Evaluation and Site Assessment system was designed by the U. S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) to determine the quality of land for agricultural uses and to assess sites or land areas for their agricultural economic viability. It was developed to provide a tool that would meet public policy needs for analyzing farmland conversion and protection issues by combining soil survey information with socio-economic criteria. LESA can be used to facilitate decision making by state and local planners, landholders, developers and governing officials. LESA consists of two components – land evaluation (LE) and site assessment (SA) – that determine the total comparative value of a given site for agriculture. The higher the total value of a site, the higher the agricultural economic viability.

## Why is LESA Important?

LESA is a flexible, locally-adapted and collaboratively derived system that enables communities to improve their planning and land protection decisions, use scarce conservation dollars more efficiently and better coordinate land protection opportunities with public and private partner organizations. LESA gives local and state government, policy makers and conservation organizations an effective way of deciding how to protect valuable agricultural lands and open space.

## Land Evaluation

Under Land Evaluation, soils of a given area are rated and placed into groups ranging from the best to the poorest for a stated agricultural use for either cropland, forestland or rangeland. A relative score is determined for each group. The best group may be assigned a score of 100, while all other groups are assigned lower scores. The land evaluation is based on soils data from NRCS.

## Site Assessment

There are three types of Site Assessment: non-soil factors related to agricultural use of a site, factors related to development pressures, and other public values of a site such as open space or wildlife habitat. Each selected factor is stratified into a range of possible values in accordance with local needs and objectives. This process provides a rational and consistent basis for making land-use decisions.

## How is LESA Used?

LESA systems can be used to:

- identify important farmland;
- implement national, state and local agricultural land protection policies;
- guide the appropriate use of state, local or federal funds;
- determine how proposed development will affect the agricultural suitability of surrounding parcels;
- rank applications for a purchase of development rights or a transfer of development rights program;
- choose farm units to be included in an agricultural land protection program;
- determine minimum size of farm units to be included in agricultural districts;
- plan sewer, water and transportation districts;
- assess and review environmental impacts as they relate to agricultural land; and
- implement local land use planning.

Geographic information systems have also been used to develop LESA ratings, and offer the users the ability to develop different evaluation scenarios, produce output in maps, and easily update LESA factors and other data.

## LESA System Design and Development

LESA is a tool to assist decision-makers in making sound land use decisions. For this reason LESA

systems should be developed at the governmental level at which they will be used – either the state, county or municipal level. LESA provides a framework where land evaluation and site assessment factors are documented before individual sites are evaluated. This process permits different individuals to evaluate sites consistently and without bias.

State or local officials may request assistance from NRCS through soil and water conservation districts or other units of government to develop an appropriate system. They should specify needs and objectives, and assist in developing and testing the LESA system. Key elements of LESA system development include:

**1. The LESA Committee**
To ensure that LESA addresses conditions and concerns at the appropriate level, a diverse committee of community members involved with agriculture, planning, development and natural resource management designs the LESA system. This committee is responsible for setting priorities, determining criteria, and giving direction throughout the entire LESA process.

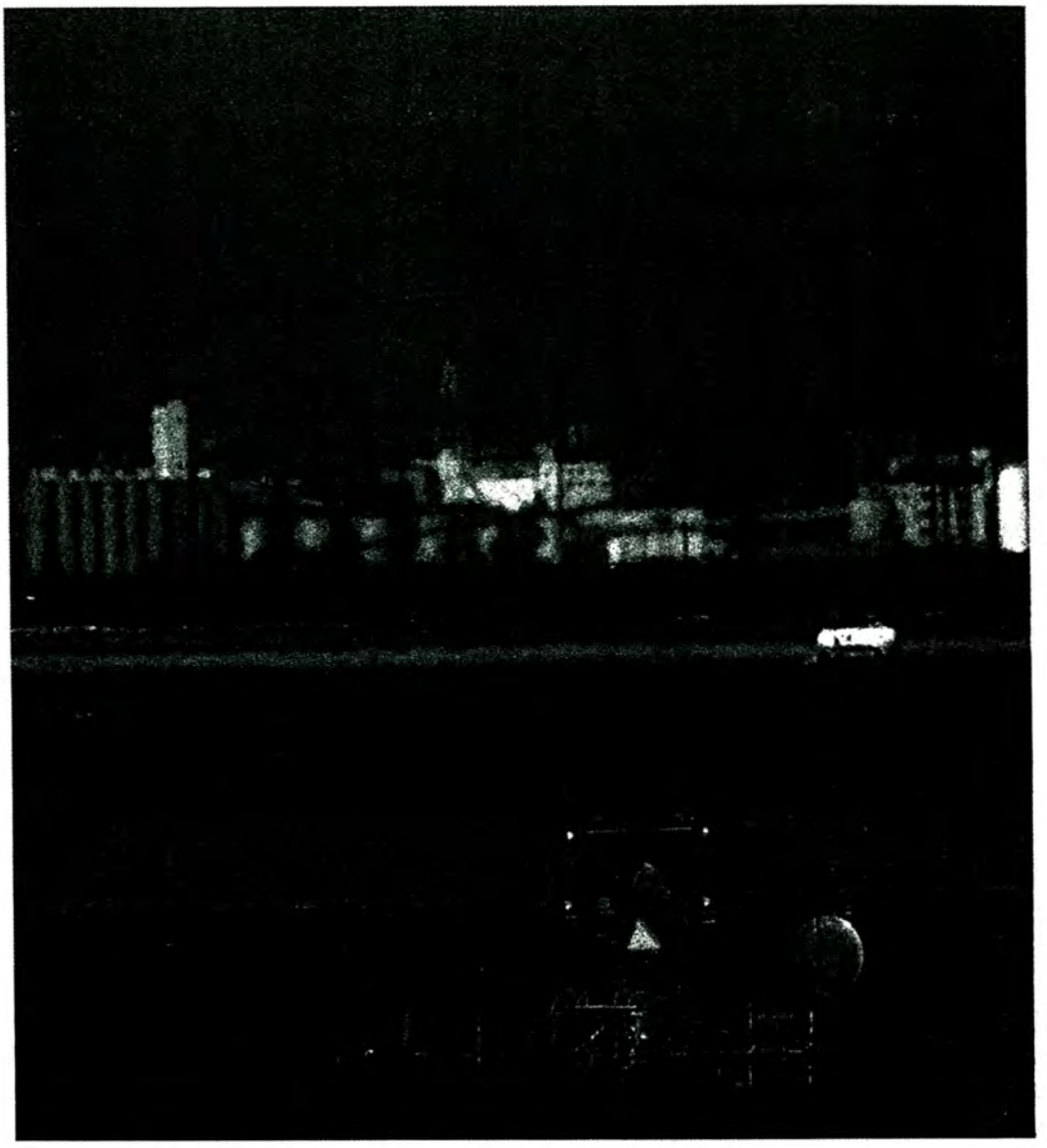
**2. The Focus Statement**
Before developing land evaluation and site assessment factors, the local LESA committee must develop a focus statement for a proposed LESA system. The focus statement should address the question, "What are we trying to learn from a LESA score?" This statement should be reviewed frequently to ensure that the system being developed corresponds to the stated focus.

**3. Factor Selection**
The committee decides which factors are useful for evaluating agricultural viability. The committee also determines how to measure each factor objectively. Each selected factor should measure a distinct quality or attribute of the site to avoid redundancy. Redundancy of LESA factors may unintentionally occur while trying to incorporate numerous issues, some of which are too closely related to provide distinguishing information. LESA factors must be clearly defined and measurable in order to obtain consistent factor ratings and LESA scores. Ultimately, different sites with similar attributes should yield similar factor ratings. This is evaluated during the field-testing.

**4. Data Sources**
It is important to consider data sources when selecting LESA factors and establishing their scoring. Reliable, objective and credible data are necessary to develop effective LESA scores. Data sources include state and federal agencies, local planning or development offices, agricultural censuses, research institutions and the Cooperative Extension Service. If sufficient information is not available, the LESA committee may have to modify its LESA system.

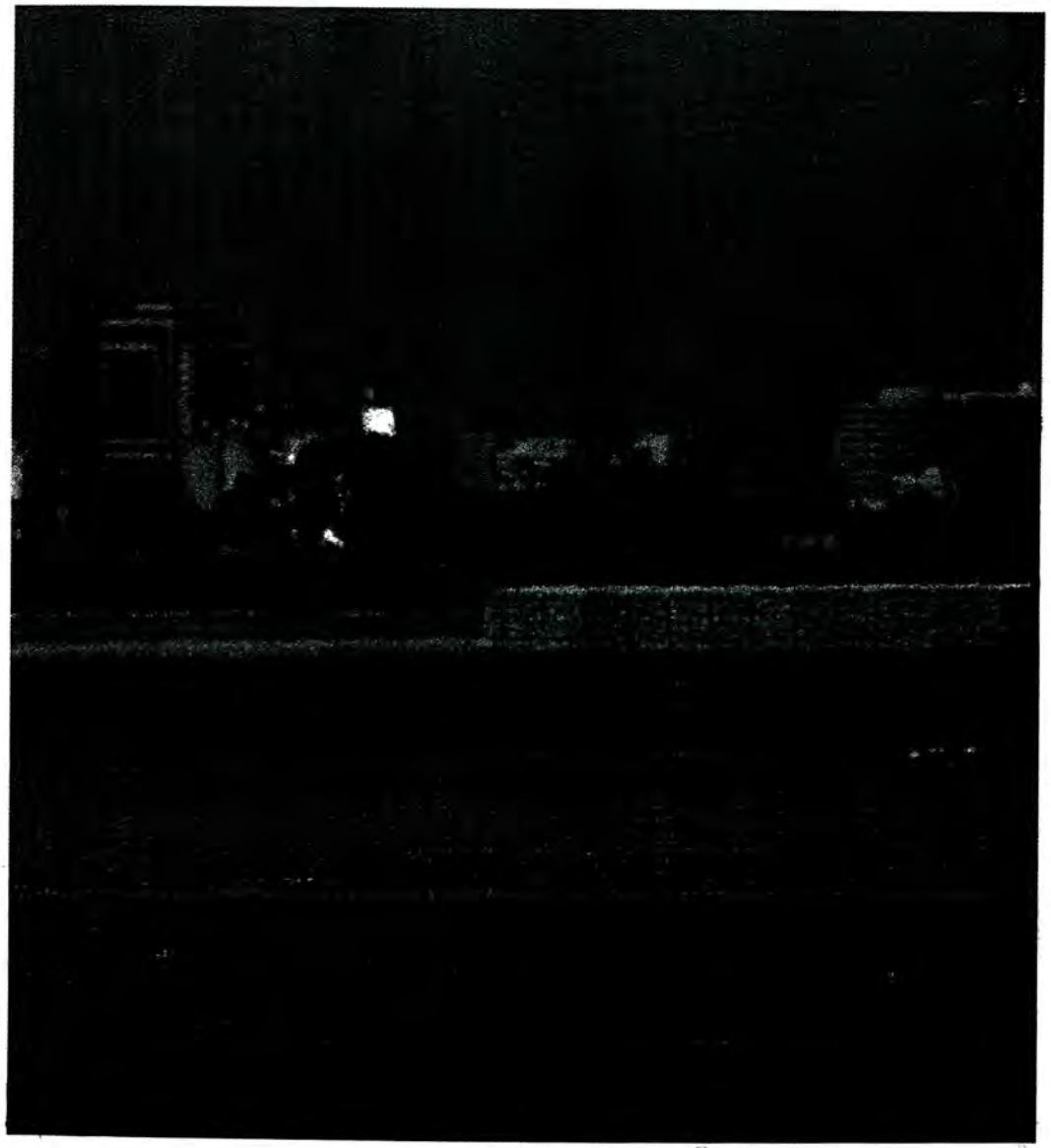
**5. Factor Weighting**
Each LESA factor is weighted based upon its relative importance. For example, if the committee determines that water availability and farm size are important factors, they must place a relative weight on each factor. Typically, weights range from 0.1 to 1.0, with all factor weights adding up to 1.00. A LESA score is then determined by objectively scoring each factor, multiplying them by the respective factor weight, and summing each factor's score to obtain a final LESA rating.

**6. Field Testing**
Once factors, factor scores and weights are determined, the draft LESA system is field-tested at a variety of sites. Information gathered from field-testing allows for a reevaluation of the LESA system. Based on field-test results, adjustments can be made to improve the LESA system.



# The status of state and local LESA programs

*Robert E. Coughlin, James R. Pease, Frederick Steiner, Lyssa Papazian, Joyce Ann Pressley, Adam Sussman, and John C. Leach*



PHOTOGRAPH FROM THE AMERICAN FARMLAND TRUST

The land evaluation and site assessment (LESA) system was designed by the USDA Soil Conservation Service (SCS) "to determine the quality of land for agricultural uses and to assess sites or land areas for their agricultural economic viability" *(9)*. The Federal Farmland Protection Policy Act of 1981 gave LESA prominence by requiring its use by federal agencies, but the system is also used by many local governments. A limited inventory of local governments' use of LESA was conducted in 1985 *(6)*, but the first comprehensive study was recently completed *(5)*. The comprehensive study, based on a mailed survey questionnaire and analysis of the elements of locally adopted LESA systems, covers the national distribution and extent of adoption, the process by which local jurisdictions formulated their LESA systems, the questions they have addressed with LESA, and the degree of reliability they ascribed to LESA scores.

## The LESA system

The LESA system for rating land consists of two components: land evaluation (LE) and site assessment (SA). Several factors make up each component. A site is rated on each of the factors. Before adding the factor ratings, the individual factors are weighted and the two components, LE and SA, are also weighted. The result is a LESA score for each site. The 1983 LESA Handbook *(8)* suggested a set of factors, but each local jurisdiction is free to define factors appropriate to its needs and to weight the factors and components as it deems best. Federal agencies, in contrast, all use the LESA model specified in the 1981 Federal Farmland Protection Policy Act, except where SCS–approved local systems are in place.

## Extent of adoption

The study identified 212 local and state governments in 31 states as current, former,

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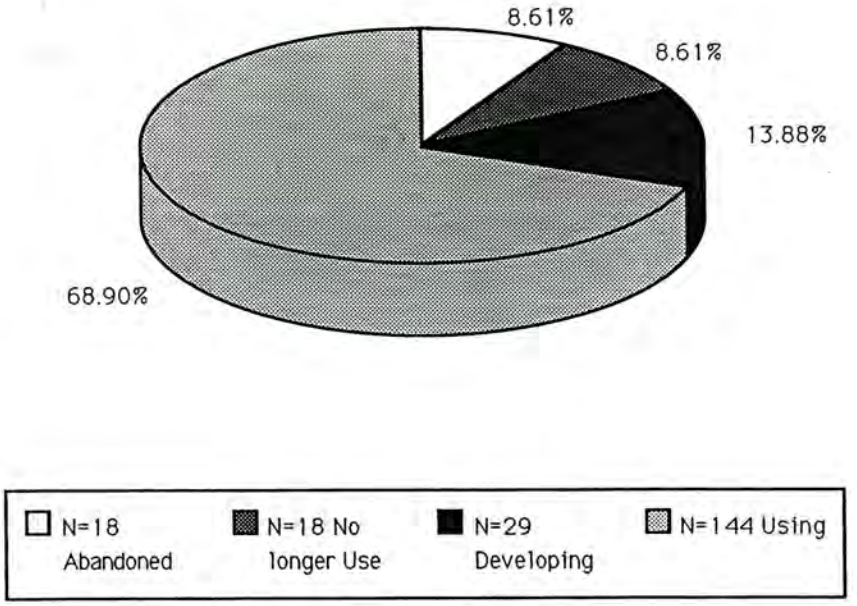



**Figure 1: Status of LESA programs: 212 state and local jurisdictions.**

or future users of LESA (Table 1 and Figure 1). Of these, 138 local governments (mostly counties) and eight states are currently using a LESA system. States with the largest number of local systems are Connecticut, Georgia, Illinois, New Jersey, Pennsylvania, Vermont, and West Virginia. A large proportion of local LESA systems are found in metropolitan areas or other locations where there are strong development pressures. Most local LESA systems are in states that have adopted policies and undertaken programs to protect farmland.

Ten states have developed LESA systems or adaptations of LESA systems and eight of them continue to use LESA. Most of these systems are used only by state agencies (Hawaii, Michigan, New Jersey, and West Virginia). In Illinois, Pennsylvania, and Vermont, however, they are also used as models by local governments that develop their own systems. Delaware worked with its three counties to tailor a system for each of them.

The use of LESA by local jurisdictions increased sharply between 1983 and 1985, then leveled off, and once again accelerated in 1989-1990 (Figure 2). The recent acceleration can be traced largely to state programs that call for the use of a LESA system. As examples, Pennsylvania's program for purchase of agricultural conservation easements required LESA evaluation of farmland for setting purchase priorities and Vermont's Land Use Act of 1988 required the use of LESA to determine farm and forest land use designations by local governments. The number of jurisdictions using LESA is likely to increase significantly in the near future. Thirty jurisdictions reported that they were currently developing a LESA system, eight of which are in Vermont and four in Pennsylvania. Nevertheless, many counties with significant agricultural areas have not yet begun a LESA program.

In addition to the 138 local governments that are currently using a LESA system, 16 local jurisdictions have developed LESA systems but no longer use them. Some no longer use LESA because the programs they used it for have been completed. For example, Kenai Borough, Alaska, used LESA for a public land disposal program; once completed, LESA was no longer needed. Others found LESA too time consuming, some found that it did not give reliable results, and some replaced it with a state-designated scoring system.

Eighteen local jurisdictions started developing LESA systems but abandoned the idea before implementing a system. Several of these found the system too complicated or time-consuming; several noted a lack of interest or support by landowners or planning bodies; one noted that development of LESA ended with a personnel change in the position of town zoning administrator.

## Process of formulation

Although about 26 percent of the jurisdictions simply adopted the federal SCS LESA model, the large majority (74 percent) adapted their own versions of LESA. Most of these jurisdictions adapted a full LESA model, but 10 percent of them limited their adapted models to the land evaluation (LE) portion of the system. Local adaptation of the LESA model is attractive to local jurisdictions, because once a local jurisdiction develops its own version of LESA and SCS approves it, SCS is required to use the local version in reviewing federal projects.

The choice and weighting of LE and SA factors was usually carried out by local committees in order to make full use of local knowledge and to assure local acceptance (see Figure 3). In preparing the LE component, the committee was usually broad-based (59 percent of jurisdictions) and typically included an SCS representative, but seven percent of the jurisdictions relied on more restricted committees made up of planning commission members or local officials. One-third of the jurisdictions, however, relied on SCS alone to make LE determinations.

SCS personnel were the most represented group on LE committees —79 percent of the jurisdictions reported an SCS employee on their committee. County or town planners were the next most represented group (on 50 percent of the committees). They were

followed by agricultural extension agents (on 44 percent), local farmers (on 36 percent), local citizens (on 32 percent), local public officials (on 32 percent), non-SCS soil scientists (on 12 percent), and other unspecified persons (on 32 percent of the committees).

Broad-based committees were relied on more heavily to choose and weight site assessment (SA) factors. They were used by 78 percent of the jurisdictions, while six percent used smaller committees made up only of planning and other local officials. Only 16 percent relied solely on SCS for SA formulation.

County or town planners were the most represented group on SA committees — 67 percent of the jurisdictions reported a planner on their SA committee. SCS personnel were found on 54 percent of SA committees. Also represented were local farmers (50 percent), local citizens (47 percent), county or town officials (44 percent), agricultural extension agents (38 percent), non-SCS soil scientists (11 percent), and other unspecified persons (30 percent). SA committees tended to be larger than LE committees, so more groups were likely to be included on them.

## Applying LESA to decision making

LESA has been used to provide information for a variety of purposes (Figure 4). Deciding whether to permit or deny requests for zoning changes was the most common use (cited by 40 percent). About half of the jurisdictions that applied LESA for this purpose used it as background information only. Forty-four percent, however, considered LESA an important part of the zoning

**Table 1. Jurisdictions with LESA experience.**

**Alaska**
Kenai Peninsula Borough

**Connecticut**
State of Connecticut
Town of Bloomfield
Town of East Windsor
Fairfield County
Hartford County
Middlesex County
Town of Suffield
Windham County
Town of Windsor

**Delaware**
State of Delaware

**Florida**
Highlands County
Marion County
Pasco County

**Georgia**
Barrow County
Coffee County
Crisp County
Dooley County
Hall County
Houston County
Lee County
Macon County
Morgan County
Richmond County
Tift County
Turner County

**Hawaii**
State of Hawaii

**Idaho**
Bonneville County
Latah County

**Illinois**
State of Illinois
Boone County
Brown County
Champaign County
DeKalb County
Ford County
Fulton County
Grundy County
Henry County
Jackson County
Kane County
Kankakee County
Lee County
McHenry County
McLean County
Mercer County
Monroe County
Peoria County
Pike County
Putnam County
Rock Island County
St. Clair County
Sangamon County
Schuyler County
Stephenson County
Whiteside County
Will County

**Iowa**
Black Hawk County
Johnson County
Muscatine County
Story County

**Kansas**
Douglas County

**Kentucky**
Clark County
Hardin County

**Maine**
Aroostook County
Dover-Foxcroft
Knox County
Waldo County

**Maryland**
Baltimore County
Cecil County
Harford County
Howard County

**Massachusetts**
State of Massachusetts
Barnstable County
Essex County
Hampshire County
Middlesex County
Suffolk County
Worcester County (northeast part)

**Michigan**
State of Michigan

**Minnesota**
Carver County
Holding Township
La Crescent Township
Ramsey County
Stearns County

**Montana**
Flathead County

**Nevada**
Douglas County and Carson

**New Hampshire**
Belknap County
Cheshire County
Grafton County

**New Jersey**
State of New Jersey
Burlington County
Camden County
Cumberland County
Hunterdon County
Middlesex County
Monmouth County
Morris County
Ocean County
Salem County
Somerset County
Sussex County
Warren County

**New York**
Cortland County
Erie County
Monroe County
Town of Penfield
Town of Perinton
Town of Rush

**North Carolina**
Forsyth County
Gaston County
Henderson County
Stanly County
Wake County

**Ohio**
Medina County

**Oklahoma**
Rogers County

**Oregon**
Baker County
Clatsop County
Columbia County
Josephine County
Lane County
Linn County
Marion County
Tillamook County
Washington County

**Pennsylvania**
State of Pennsylvania
Adams County
Berks County
Bradford County
Bucks County
Carbon County
Centre County
Chester County
Dauphin County
Lancaster County
Lehigh County
Lycoming County
Mercer County
Monroe County
Montgomery County
Northampton County
Snyder County
Westmoreland County
York County

**South Carolina**
Aiken County
Charleston County

**Vermont**
State of Vermont
Bennington
Brattleboro
Caledonia County
Chittenden County
Town of Dorset
Town of Dummerston
Town of East Montpelier
Essex County
Franklin County
Grand Isle County
Town of Granville
Town of Hancock
Town of Hartland
Lamoille County
Town of Newbury
Orange County
Town of Pawlet
Town of Pecham
Town of Putney
Town of Randolph
Town of Rockingham
Rutland County
Town of Stowe
Town of Thetford
Town of Westminister
Town of Weston
Windham County
Windsor County (North)
Windsor County (South)

**Virginia**
Clarke County
Culpeper County
Hanover County

**Washington**
Clark County
Douglas Country
Island County
Stevens County
Walla Walla County
Whitman County

**West Virginia**
State of West Virginia
Berkeley County
Brooke County
Calhoun County
Gilmer County
Grant County
Hampshire County
Hancock County
Hardy County
Jackson County
Kanawha County
Marshall County
Mason County
Mineral County
Morgan County
Ohio County
Pendleton County
Pleasants County
Putnam County
Ritchie County
Roane County
Tyler County
Wetzel County
Wirt County
Wood County

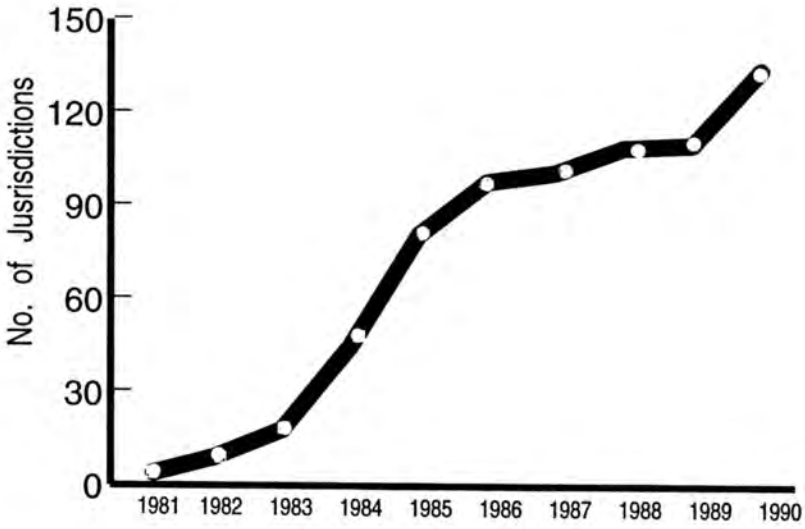



**Figure 2: Growth in the number of jurisdictions currently using LESA.**

decision, and five percent treated the LESA score as binding on the decision.

Linn County, Oregon, is an example of a jurisdiction that uses LESA as background for zoning decisions. It uses LESA not only to rate the subject parcel (i.e., the one requested to be converted) but also to rate surrounding parcels before and after development to determine how their agricultural suitability would be affected by the proposal. This type of analysis addresses the creeping effect of land use conversions on subsequent LESA evaluations.

Twenty-five percent used LESA to help determine what land to include in agricultural zoning districts. Another 20 percent used LESA in delineating agricultural districts, which are non-zoning areas established through voluntary cooperation of farmers to protect agricultural practices within the district.

The demands of state and federal programs tended to determine other applications: 29 percent reported using LESA for environmental impact assessments and 23 percent used it for ranking farms for purchase of development rights. Less common uses included lending to property owners by a federal agency, and acquisition and disposal of land by federal agencies.

Some variation in LESA applications by regions was noted. The use of LESA for zoning designations and zoning permit decisions was especially strong in the West and Midwest. The use of LESA for environmental impact assessment, agricultural districting, acquisitions of land, property tax assessment and lending by Federal agencies is less common in the West and Midwest than in eastern states. Purchase of development rights and property tax assessment applications are exclusive to eastern and southern states. Figure 4 illustrates this regional variation.

Geographic information systems (GIS) for LESA applications have been used in Hawaii, Illinois, Oregon, Kansas, Vermont, and probably in some other states as well. Forestry LESA systems have been developed in Oregon and Vermont. Since the completion of the survey, a riparian evaluation and site assessment has been developed for a watershed in Yavapai County, Arizona.

## Reliability ascribed to LESA

A most important question was whether LESA scores gave the right answers; that is, whether they were consistent with the judgments of knowledgeable local people. Eleven percent of the jurisdictions responded that their LESA system always distinguished reliably between land that should remain in agriculture and land that should be converted to other uses; 68 percent responded "most of the time." Thus, taken together, 79 percent of the jurisdictions appeared to be satisfied with LESA results.

Some 19 percent, however, reported that LESA scores distinguished reliably "not very often" and about two percent reported that they "never" were reliable – a total of 21 percent who had generally negative opinions of LESA. The survey did not gather information on why they found LESA to be less than reliable. Some possible reasons, however, might include a poor LESA model, difficulty in using LESA for a particular application, an unsympathetic local political climate, lack of qualified and trained staff, or simply the failure of a model to capture the complexity of all factors affecting a site.

## Factors and weights

There is considerable variation in the factors included in local LESA models and in the weights assigned to LE and SA components. The general characteristics of the factors and the relative magnitudes of the weights assigned have been summarized for 69 jurisdictions that provided worksheets and other documentation.

Most local LESA systems assigned 100 points to LE and 200 to SA, resulting in a total maximum LESA score of 300. This ratio is the one recommended in the SCS Handbook *(8)*. However, as research in Hawaii, Oregon, and Pennsylvania determined *(2, 7,1 )*, the LE-to-SA weight ratio is very significant in determining the overall score. The 33:67 ratio may need to be adjusted for goals and conditions in different jurisdictions and even sub-areas within jurisdictions.

Of the 69 LESA systems analyzed, 50 percent used only one LE factor (usually the soils potential rating) and 50 percent used a combination of land capability, soils productivity, and important farmland rating systems.

**Figure 3. Methods of determining LE and SA factors**

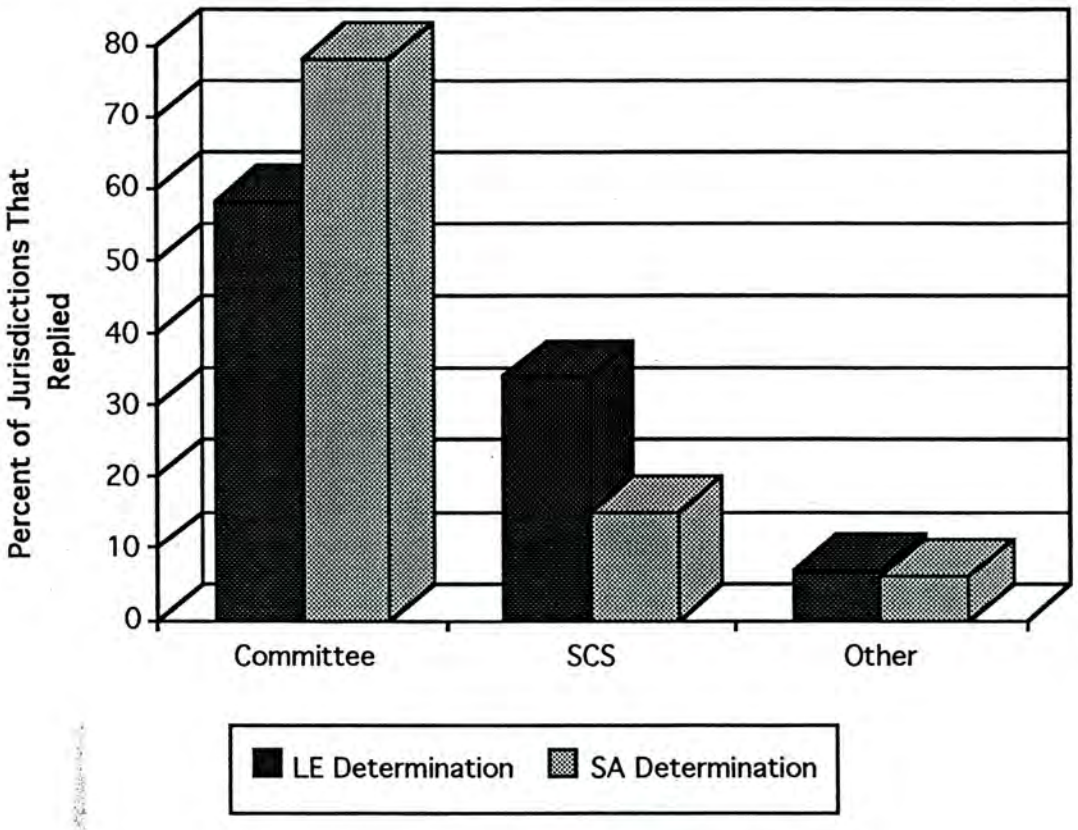



**Figure 4. Types of LESA applications by region**

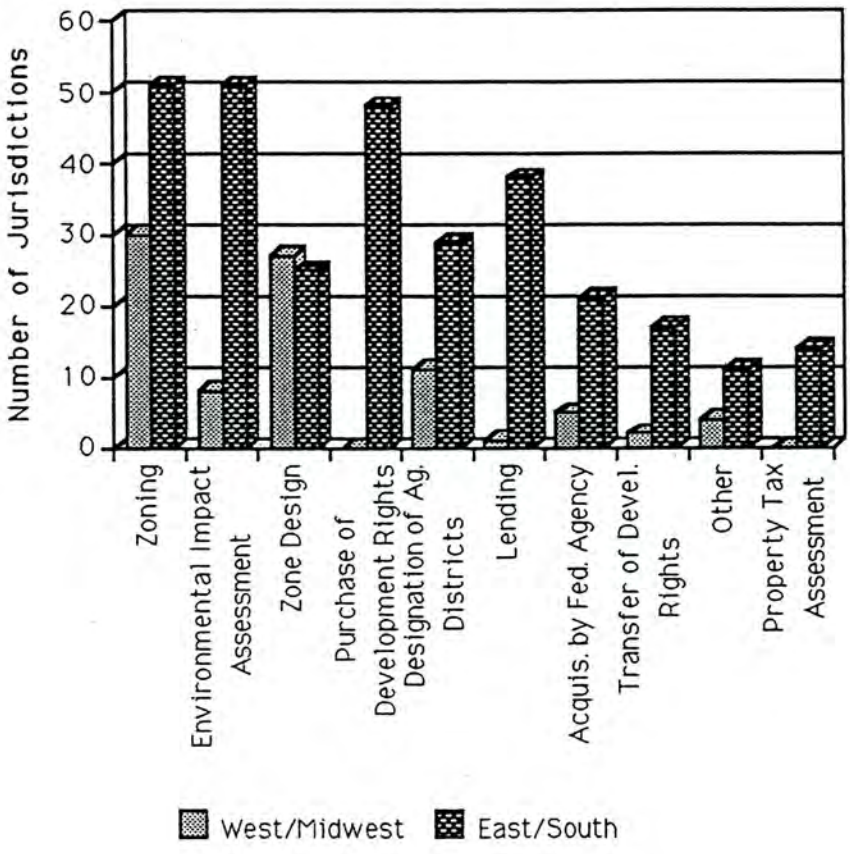
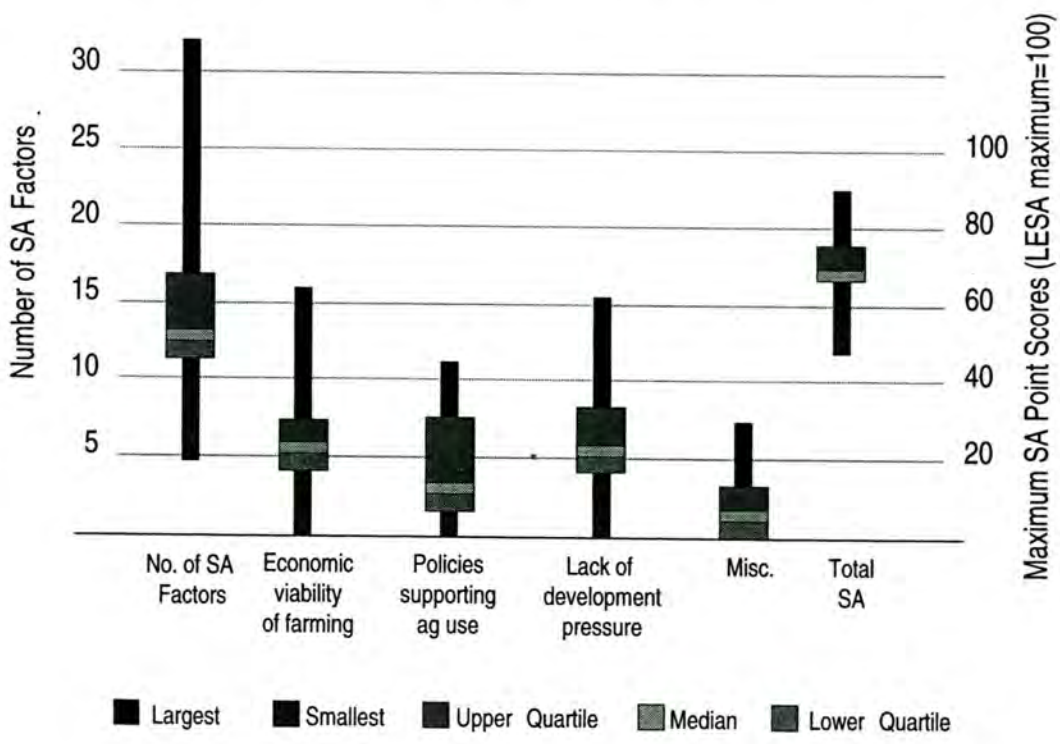


**Figure 5: Maximum point scores for groups of SA Factors, 47 LESA systems in Eastern U.S.**




Many more factors were found in the SA part of LESA, with about 40 different factors being used in various combinations. Well over half of the jurisdictions used between 10 and 20 factors in the SA component, but one used only five and one using 31. Questions of whether some of these factors were redundant, and therefore, possibly distorted the final LESA scores are discussed elsewhere *(1, 2, 3)*.

The various SA factors found in the 69 systems were classified into four groups: (a) factors that describe the economic viability of farming, accounting for 27 percent of the factors; (b) factors that describe the lack of development pressure, accounting for 29 percent of the factors; (c) factors that describe policies and regulations that favor the continuation of farming and the existence of environmental, historic, and scenic features, accounting for 32 percent of the factors; and (d) other miscellaneous considerations, accounting for 12 percent of the factors.

The medians and ranges for maximum point scores of the four SA groups are shown graphically in Figure 5 for 44 East Coast LESA models. The graph also shows the inter-quartile ranges. (To make comparability possible, the researchers transformed all systems summarized in Figure 5 to a maximum LESA score of 100). It is clear from the data that the various models vary greatly in the weights assigned to each of the four groups of SA factors.

There is relatively little variation in the weight assigned to SA as a whole, however. The original prescription of a 33:67 ratio for LESA predominates to the extent that 44 percent of the jurisdictions use it, including both the jurisdiction at the lower quartile and the jurisdiction at the median.

## Conclusions

More and more local governments are using LESA. The trend has been accelerated by state programs that call for its use and by the fact that users generally have found LESA a reliable method of distinguishing between land that should remain in agriculture and land that could be converted to other uses. Still, many counties that have significant agricultural areas have not started a LESA program.

The LESA systems adapted by local governments generally all have the same format but differ considerably in the choice and number of factors and in their weighting, especially those relating to site assessment. This variability is a reflection of the local flexibility intended in the development of LESA systems, but may also indicate the lack of systematic analysis in assigning factors and weights.

The LESA concept is also being applied to other resources, such as forest land and riparian areas. In some states and local jurisdictions, geographic information systems are

being implemented to make it easier to use LESA ratings for land use policy applications.

The nation-wide status report of LESA systems together with profiles of each LESA system in use, on which this article is based, is part of a larger effort. Research emanating from this project and other papers from the First National LESA Conference are being published *(4)*. The USDA SCS Handbook is being revised to reflect recent research results and to provide clearer guidelines for developing and evaluating LESA models.

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ENVIRONMENT & Development

AMERICAN PLANNING ASSOCIATION

MAY 1995

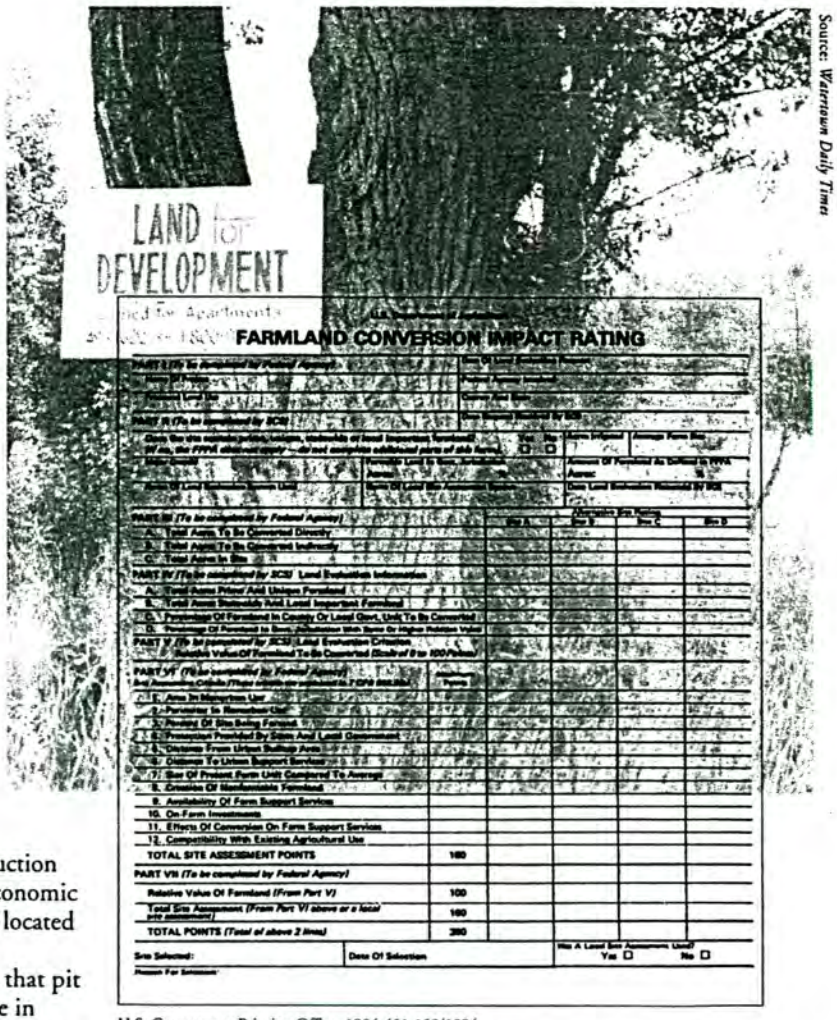
# The Agriculture Land Evaluation and Site Assessment System

*By Frederick R. Steiner*

The loss of productive farmland persists as an important issue in many parts of the United States. There has been considerable debate concerning the national rates of conversion and whether they constitute a serious problem. This debate is likely to continue. Meanwhile, in specific regions and in several states, the concern is high about the loss of strategic farmlands—those areas with good soils and ample water close to markets. Our food security and ways of life depend on farmers and farmland.

The benefits of farmland protection include food production, the sustainability of rural communities, the preservation of national and regional heritages, the provision of open space, and the potential for several environmental amenities, including flood water retention, soil conservation, and wildlife habitat enhancement. Unique farmlands, such as the cranberry bogs of New Jersey, the vineyards in the Napa Valley of California, and the citrus regions of the Sunbelt, provide a cornucopia of food varieties in the United States. Small-scale operations are often more viable for specialty crop production near growing cities. Such operations promote great economic opportunity within regions. Most unique farmland is located within or near metropolitan areas.

These lands are often the focus of intense debates that pit economically strapped farmers, who wish to continue in agriculture but need cash, against preservationists, who value open space and recognize the long-term importance of good farmland. Such conflicts are unnecessary. Farmland protection can benefit farmers and preservationists alike.




Source: *Watertown Daily Times*

U.S. Government Printing Office: 1984-451-159/1324

## The Origins of LESA

In 1981, the U.S. Department of Agriculture (USDA) launched a new system to make objective ratings for agricultural land suitability. The value of land for agriculture is measured against demands for other uses. The land evaluation and site assessment (LESA) system can help elected officials, citizens, farmers, environmental planners, and soil conservationists rate a tract's soil potential for agriculture. LESA also considers social and economic factors, such as location, access to market, and adjacent land use.

Soon after its origin, LESA became a federal procedural tool identifying and taking into account the adverse effects of federal programs on farmland protection, and to ensure that federal programs, to the extent practicable, are compatible with state, local, and private programs and policies to protect farmland. These requirements are explained in the Farmland Protection Policy Act of 1981 (FPPA, Public Law 97-98) and its subsequent amendments.

Many local and state governments also use LESA. The rating system can be modified to reflect local conditions. Once a state or local government adopts a LESA system, it may become part of that government's land-use planning program. One incentive for adopting a local LESA system is that federal agencies must use a certified local LESA system in project reviews. The National Resource Conservation Service (NRCS, formerly the Soil Conservation Service) state conservationist is responsible for certification according to national criteria. Local adaptation might allow the state or locality more control over proposed federal projects because impacts would be evaluated according to criteria generated by the state or community.

## Why Was LESA Designed?

It seemed to USDA and local government officials in the late 1970s and early 1980s that standard soil surveys did not provide enough information to meet public policy needs regarding issues of farmland conversion and farmland protection. Thus, the soil science aspects of land evaluation were merged with the social and economic criteria of site assessment to create a comprehensive planning tool.

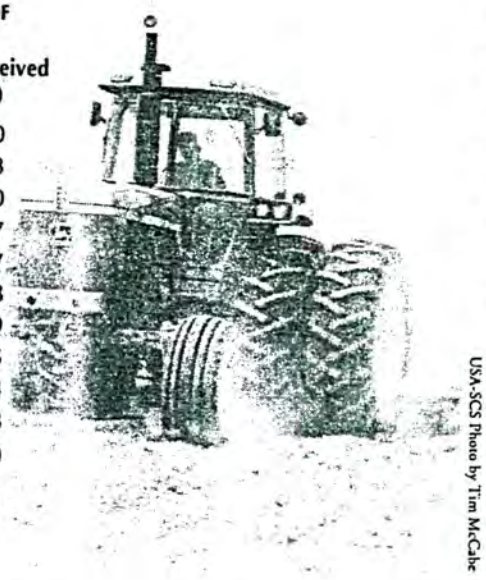
The land evaluation (LE) portion of the system is a process of rating soils for a given area from best to poorest for a specific agricultural use. A relative value is determined for each soil type. The LE may use one or a combination of various existing rating systems, such as the land capability classifications, important farmlands' classifications, soil productivity ratings, or soil potential ratings. Factors included in the site assessment (SA) portion of a LESA system can include parcel size, relationship with nearby land uses, land-use regulations, farm-use taxation status, impacts of proposed use compatibility with local comprehensive or general plans, and proximity to urban areas. LE and SA factors for a particular parcel are given scores (sometimes weighted), which, when totaled, tell local officials the parcel's relative agricultural value.

A local LESA system is often designed by a committee of farmers, extension agents, citizens, planners, scientists, and elected officials, with advice from NRCS. Only the jurisdiction can determine what importance to attach to LESA in determining future uses of agricultural land. In a few cases, evaluations are binding. In most cases, LESA scores are part of the background information to aid in the decision-making process.

**FEDERAL AGENCIES REQUESTING ASSISTANCE TO EVALUATE THE IMPACT OF PLANNED CONVERSIONS OF FARMLAND ON SITES IN FISCAL YEAR 1994**

| Agency | Forms Received (Sites) |
|---|---|
| Bureau of Indian Affairs | 150 |
| Corps of Engineers | 33 |
| Economic Development Administration | 10 |
| Environmental Protection Agency | 17 |
| Farmers Home Administration | 1,117 |
| Federal Aviation Administration | 68 |
| Federal Highway Administration | 609 |
| Housing and Urban Development | 135 |
| Natural Resources Conservation Service | 114 |
| Rural Electrification | 78 |
| All Others | 220 |
| **Total Requests** | **2,551** |

Source: U.S. Department of Agriculture, 1995 Data



USA-SCS Photo by Tim McCabe

## Extent of LESA Use

USDA is required by Congress to submit an annual report on farmland protection activity, including the use of LESA. Federal agencies use USDA Form AD-1006 to assess the impacts of projects on farmland conversion (see page 1). All states have now completed at least the LE portion so that FPPA determinations can be made. By 1995, federal agencies in all states had completed LESA determinations. The federal agencies responsible for these reviews include NRCS, Farmers Home Administration (FmHA), the Department of Housing and Urban Development, the Federal Aviation Administration (FAA), the Rural Electrification Administration, the Economic Development Administration, and the Army Corps of Engineers. The FmHA uses LESA for funding rural projects; the FAA for siting airports. The number of AD-1006 forms completed by federal agencies is increasing, with 2,551 in 1994 (see table). Although the number fluctuates, FmHA personnel generally complete the most in any given year. Based on those processed in 1994, a total of 193,152 acres of farmland was proposed for conversion to nonagricultural uses by federal agencies, of which 69,867 acres were prime and unique farmland and 18,838 additional acres were important at the state or local levels. In other words, at least 46 percent of the farmland proposed for conversion by federal agencies in 1994 was prime or important.

The number of state and local LESA systems is also increasing. In 1987, a survey of local and state LESA systems reported at least 46 local governments in 19 states were actively using LESA. Twenty of these were in Illinois. Ranking second was Virginia, with four.

A 1991 nationwide survey of state and local LESA systems identified 212 local and state governments in 31 states as current, former, or future users of LESA. Of these, 138 local governments were using LESA in 1991. Most local LESA systems have been adopted by counties, and these are mainly in metropolitan areas or other locations where there are strong development pressures.

## Examples of State LESA Systems

Hawaii was one of the first state governments to embrace LESA and remains the only state to have developed an areawide system for all agricultural land within its jurisdiction. The Hawaii experience began in 1983 with the appointment by the legislature of a special commission. This commission issued its final report in 1986; afterwards, the legislature appropriated funds to the University of Hawaii for further refinement of LESA. Professors Carol Ferguson and Richard Bowen were responsible for the further development of LESA in Hawaii. Bowen, Ferguson, and their colleagues used GIS technology to improve the use of LESA for agricultural zoning. As a result of their experience, they advocate more consideration of environmental factors, specifically the vulnerability of aquifers to nonagricultural uses, in LESA systems.

Another state with extensive LESA experience is Illinois, which uses the system as part of its farmland protection

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*Frederick Steiner is professor and director of the School of Planning and Landscape Architecture at Arizona State University.*

program. Illinois adopted a course of action designed to minimize the amount and quality of agricultural land converted directly or indirectly by government agencies, and to do so for the lowest administrative costs. The state began encouraging counties to adopt LESA in the early 1980s, and now 29 counties do so. In these counties, planners use LESA in making day-to-day land-use decisions.

At the time of the 1991 survey, there were no LESA systems in California, although several counties had experimented with LESA-like systems. These counties used models to assess farmland quality with a system of points and thresholds. The use of LESA in California has expanded since 1991. California Department of Conservation planners have worked with the legislature to recognize LESA as a system to be used for identifying environmental impacts, as required by the California Environmental Quality Act.

California legislation passed in 1993 establishes LESA as a model that state and local agencies can use in determining the environmental significance of farmlands impacted by their proposals or programs. The California act also authorized the conservation department to develop a state LESA model and to work with local agencies in providing assistance to develop local LESA models.

## Local Use of LESA

Oregon is well known for its leadership in statewide land-use planning and farmland protection. It is also a leader in the development of LESA. Linn County is an example of a local Oregon jurisdiction that uses LESA as a background for zoning decisions. Linn County planners rate both the parcel being considered for conversion and the surrounding parcels before and after development. LESA is thus used to determine how proposed development will affect the agricultural suitability of surrounding parcels.

In Lancaster County, Pennsylvania, the LESA system is part of a purchase-of-development-rights program. Lancaster officials use LESA as an analytical tool to rank applications for the sale of development rights and implement different farmland protection strategies. Thomas Daniels, director of the Lancaster County Agriculture Preserve Board, reports in *A Decade with LESA* (see "References") that the LESA system provides "a quick, consistent, numerically based approach that is easy to understand and defend. The point score for a farm can be determined in a matter of minutes."

Planning consultant Lee Nellis has linked LESA to local land-use planning in Idaho. Nellis contends that rural communities can use LESA in their efforts to maintain a rural identity and a viable agricultural economy. He has used LESA for planning efforts in two eastern Idaho counties. In these cases, the system fits into the local land-use planning process. Nellis has also used LESA as one basis for the implementation of a local Idaho comprehensive plan. Nellis suggests that development of a LESA system should be standard practice in planning for any community where agricultural lands are an important economic asset or an essential element in the character of the local landscape.

## Refining LESA

The national LESA handbook was issued by USDA in 1983 to guide state and local governments interested in formulating and implementing LESA systems. At the time, few LESA systems had been prepared, and the jurisdictions that had adopted them had little experience in actually using them. Since then, the use of LESA has become much more widespread. Currently, James Pease of Oregon State University is writing a new LESA handbook that should be published later this year by the Soil and Water Conservation Society.

The new handbook as well as *A Decade with LESA*, also published by the Soil and Water Conservation Society, should help interested planners learn from the experience of others. With such a foundation, LESA will continue to evolve. As states and local governments continue to adapt LESA, they can base their refinements on the knowledge gained from critical review and analysis.

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**The following chapters from Steiner's *A Decade with LESA* provided specific source material for this article:**

Bowen, Richard L. and Ferguson, Carol A., "Hawaii's LESA Experience in a Changing Policy Environment."

Daniels, Thomas L., "Using LESA in a Purchase of Development Rights Program: The Lancaster County, Pennsylvania Case."

Huddleston, J. Herbert, "Importance of the LESA Objective in Selecting LE Methods and Setting Thresholds for Decision Making."

Nellis, Lee, "Linking LESA Systems into Local Land-Use Planning."

Pease, James R. and Sussman, Adam P., "A Five-Point Approach for Evaluating LESA Models."

Riggle, James D. "LESA and the Illinois Farmland Preservation Act."


# Southern California Wetlands Site Slated for Housing

Construction is set to begin next year on a massive and controversial housing development in the Bolsa Chica wetlands near Huntington Beach, California. Bolsa Chica's 1,700 acres, in unincorporated Orange County, constitute the largest area of

# INDIVIDUAL LANDOWNER OPTIONS

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**Edition:** FINAL
**Page:** B1

# FAMILY PROTECTS LAND WITH EASEMENT

*JOEY HOLLEMAN, Staff Writer*

**Rainbow Farms** is the type of property that developers clamor to turn into a golf course or a housing development, or better yet, a combination of the two.

Wooded high ground wraps around a gorgeous lake and a meandering creek. The 1,125 acres include nearly a mile of frontage on a paved public road. And the Lower Richland tract is all in the hands of one family.
But developers shouldn't salivate. The Boyd family has made sure the farm will remain a farm.

Darnall and William Boyd have signed a conservation easement with the Congaree Land Trust, ensuring the property will remain much the way it is.

"My brother and I want our families and future generations to enjoy it the way we have," Darnall Boyd said. "We grew up enjoying the freedom to hunt, ride and explore these acres. Now, our children and grandchildren will have the same opportunities."

The property nearly doubles the number of acres in conservation easements monitored by the Congaree Land Trust, executive director Ann Jennings said. The land trust is a private, nonprofit agency that helps landowners protect land from development.

"We applaud the family for their foresight to keep the land in the family and to ensure that this part of the Lower Richland landscape will always remain rural in character and use," Jennings said.

W.L. Boyd acquired the land in several purchases in the 1950s. He grew grain, timber and cattle on the acreage, which stretches from St. Matthews Church Road to Old Eastover Road, just south of the Sumter Highway.

"My father wanted to see the land kept in one piece," William Boyd said. "He didn't have it in his will, but he made it clear to us."

'WATCH THE TREES GROW'

The easement allows traditional farming on the land. A provision also allows construction of as many as 14 houses around the 56-acre lake, but the Boyds have no immediate plans to build more houses. Darnall has a home by the stables, and William has a log home overlooking the lake.

"I drive down there on weekends and ride around on a golf cart and watch the trees grow," William Boyd said.

About 240 acres are leased to a neighboring farmer for cultivation. Most of the rest of the property is managed for wildlife.

Vegetation cultivated throughout the property is designed to attract critters: deer, turkeys, dove and quail. Yellow partridge pea and lavender lespedeza bicolor also please the human eye.

The telephone lines in the dove fields weren't erected to carry conversations. They aren't even connected to telephones. They're there to give birds a perch.

A man-made dam created the lake in the 1960s, and it's ripe with fish. Caretaker Jim Ridgeway and a friend recently pulled in nearly four dozen fish in two hours.

Ridgeway said another man shooting only a video camera spotted 14 bucks from a deer stand on the first day of hunting season this year.

Only family and friends hunt and fish on the property. While the next generation enjoys the property now, Darnall and William said they worked out the easement to alleviate any temptation to sell the land in the future.

The easement agreement offers tax benefits that make holding on to the land less expensive. The Boyd brothers also donated money to the land trust to help monitor the property.

**Illustration:** PHOTOS, MAPS: COLOR, BW

1. Darnall and William Boyd donated a conservation easement in perpetuity to the Congaree Land Trust on 1,125 acres of farmland and wildlife preserve in Lower Richland County. PHOTOGRAPHS BY ERIK CAMPOS/THE STATE

2-3. No more than 14 additional homes may be built on the property and family heirs and future owners must abide by the easement for the landscaping to be rural in character. Far left, the area is a haven for wildlife.

4. **Rainbow Farms** is a working farm with crops, timber, pastures, horse trails and a 56-acre lake.

5-6. (locator maps) **RAINBOW FARMS**. A conservation easement protects 1,125 acres of **Rainbow Farms** around a 56-acre lake from Old Eastover Roan to St. Matthews Church Road.

7. **Rainbow Farms** is made up of 1,125 acres of land. ERIK CAMPOS/THE STATE

# INVESTING IN THE FUTURE OF AGRICULTURE:

## The Massachusetts Farmland Protection Program and the Permanence Syndrome

*American Farmland Trust*

## EXECUTIVE SUMMARY



America is losing approximately 1 million acres of farmland every year. Between 1982 and 1992, every state lost some of its prime or unique farmland to urban development. As awareness of the threat to farmland grows, state and local governments are increasingly looking at Purchase of Agricultural Conservation Easement programs as a solution. PACE programs protect farmland by compensating farmers for giving up the right to develop their land.

Since 1977, state and local governments and the federal government have spent more than $975 million to purchase agricultural conservation easements on more than 581,000 acres of farmland. PACE programs are designed to prevent conversion of farmland to non-agricultural uses. Critics claim that PACE is an expensive approach to protecting open space, while advocates maintain that these programs have significant agricultural, economic and environmental benefits. Until now, there has been little evidence to support either viewpoint.

In 1997, American Farmland Trust and the Franklin and Deerfield land trusts conducted a study of 75 farms protected by the Massachusetts Agricultural Preservation Restriction program. The results of the study clearly document the agricultural and economic benefits of PACE programs. Major findings include the following:

1. **The land protected by the Massachusetts APR program is actively farmed.**
   Sixty percent of the farmers surveyed said that *all* of their protected land is in agricultural use. An additional 30 percent reported that the majority of their APR land is being farmed. Fewer than 10 percent of farmers said that less than half of their protected land is devoted to agriculture. Much of the land not being farmed is woodland, wetlands or otherwise unsuitable for agricultural use. In some cases, participation in the APR program has increased farming activity on the land, as landowners have cleared brush, re-seeded hayfields and brought old fields back into production.

2. **Owners of protected farms plan to keep their land in agricultural use for the foreseeable future.**
   More than 93 percent of farmers surveyed said that they planned to keep the land in agricultural use for the next decade.

3. **The APR program facilitates transfer of farmland to the next generation of farmers.**
   Farmers who purchase or inherit protected farms are younger and have more resources to devote to agriculture than those who sell restrictions on the land. The average age of farmers who sold a restriction on their land was 65, compared to 49 for farmers who bought protected land and 47 for farmers who inherited land enrolled in the APR program. Median income for the older group of farmers was $31,713, compared to $40,601 for land purchasers and $62,500 for farmers who inherited protected land.

   Interviews conducted for this study show that young, innovative, educated, highly motivated farmers are actively looking for parcels of protected land. Seventy-five percent of farmers who purchased protected land said that the APR program had a "very positive impact" on the purchase price of the land, and 62.5 percent said that the program had a "very positive impact" on their actual ability to buy the land.

More than 70 percent of farmers surveyed intend to pass their protected land on to other family members in the future. Nearly 50 percent believe that the APR program will help them achieve this goal.

4. **The APR program supports investment in agriculture.**
One of the most dramatic and promising findings of this study is the extent to which APR farmers are investing in the agricultural potential of their land. Almost three-quarters of the farmers interviewed have improved their operations since they participated in the APR program. Improvements include repairs to farm buildings, implementation of conservation practices, purchase of land, equipment and livestock, and development of new products and marketing strategies. Seventy-eight percent of the farmers who made changes said that the APR program was important to improving their operations, and 95 percent said that they believed the changes made are important to the long-term viability of their operations.

   Information collected during personal interviews suggests that the APR program creates a psychological "permanence syndrome" among participating farmers. Farmers who believe that their land is safe from non-farm development feel more secure about investing in the agricultural potential of the land. This investment—in farm buildings, conservation practices, land, machinery, livestock and farm management strategies—creates a greater likelihood that protected farms will be successful in the future.

5. **Farmer satisfaction with the APR program is extremely high.**
Eighty-five percent of the farmers surveyed were satisfied with the APR program. Ninety-two percent said that they would be likely participate again.

6. **Participation in the APR program is a key element of a comprehensive strategy to keep farms viable for the future.**
Many of the farmers interviewed expressed their belief that without the opportunity to participate in the APR program, they would no longer be farming. Others said that they would still be farming, but they would have had to sell land for development to stay in business. The APR program serves as a safety net for some struggling farms, but it seems to be most effective when used as one element of a comprehensive strategy to keep a farm viable for the future. The six case studies included in this report illustrate how farmers are using the APR program to expand and modernize their operations, implement environmentally sound farming practices and transfer land and operations to younger family members. These farmers emphasize the importance of developing business, marketing and estate plans as part of the process of deciding to protect a farm.

## INTRODUCTION

INTRODUCTION

In September 1997, the Massachusetts Agricultural Preservation Restriction program celebrated its 20th anniversary. The APR program was one of the first state-run programs to give farmers an alternative to selling land for development. It was created to stem the tide of farm sales and farmland conversion in the decades following the end of World War II. Between the mid-1940s and the mid-1970s, Massachusetts lost 83 percent of its 35,000 farms. Land in farms, as measured by the U.S. Census of Agriculture, declined from 2 million acres to 600,000 acres. The trend seemed clear: Unless something was done, Massachusetts farms and farmland were headed for extinction.

The APR program was inspired by the purchase of development rights program created in Suffolk County, N.Y. The county, located on the eastern end of Long Island, was farmed extensively prior to World War II; but demand for suburban and vacation homes resulted in skyrocketing land prices during the 1950s and 1960s. Potato, vegetable, livestock and poultry farmers found that they could not compete with developers for land. Property taxes became a very heavy burden. Residential development made agricultural practices such as manure spreading and chemical spraying more difficult and controversial. Those trends made farming less rewarding, just as high land values made the prospect of selling land for non-agricultural purposes more attractive.

To address these problems, Suffolk County gave farmers the opportunity to sell the right to develop their land—not to a developer, but to the county, which would extinguish that right forever. The process of designing the PDR program and winning political support for a $21-million bond to fund it started in 1974. Funds were appropriated in 1976, and the first deals were closed in 1977.

Policymakers in Massachusetts and Maryland quickly recognized the potential of the Suffolk County program to address the loss of farmland in their states, and adopted their own programs just as Suffolk County officials were signing the first checks to farmers. Since 1977, 12 additional states and dozens of local jurisdictions have created similar programs or approved funding to compensate farmers for giving up the right to develop their land. [see Appendix A, p. 52]

These programs are known by many different names, for example, agricultural preservation restriction in Massachusetts, purchase of development rights in Suffolk County and Maryland, and purchase of agricultural conservation easements in California and Pennsylvania. The remainder of this report will use APR to refer to the Massachusetts program and PACE as the generic term referring to other programs that pay farmers to permanently restrict development of their land. The restrictions imposed by the Massachusetts program will be referred to as *aprs*.[1]

PACE programs are based on the concept that property owners have a bundle of different rights, including the right to use land, lease, sell and bequeath it, borrow money using it as security, construct buildings on it and mine it, or protect it from development, subject to reasonable local land use regulations. Some or all of these rights can be transferred or sold to another person. When a landowner sells property, generally all the rights are transferred to the buyer. PACE programs enable landowners to separate and sell their right to develop land from their other property rights. The agency or organization that acquires the restriction does not acquire the right to build anything on the land, but only the right and responsibility to prevent development.

State and local governments with PACE programs provide funds to compensate farmers for giving up the right to develop their land. Typically, a government agency pays farmers the difference between the restricted value of the land and the value of the land for its "highest and best" use, which is generally residential development. [For more information on PACE, see Appendix A, p. 52].

Easements usually are intended to last in perpetuity. Most PACE programs make provisions for termination of the restrictions if the land is no longer suitable for farming. Generally, the criteria for termination of easements are stringent and the process is lengthy, difficult and expensive.[2]

Each state has different criteria for eligibility to sell an easement. In Massachusetts, farms must be at least five acres in size. The land must have been "actively devoted" to agriculture or horticulture for at least two immediately preceding tax years and must provide at least $500 in gross sales per year, plus $5 for each additional acre or 50 cents per additional acre of woodland or wetland.[3] The APR program's main criteria for selecting farms to protect are:

1. The suitability and productivity of the land for agricultural use based on its soil classification, physical features and location;

2. The degree of threat to the continuation of agriculture on the land due to circumstances such as the owner's death, retirement, financial difficulties, development pressure or insecurity due to rental agreements;

3. The degree to which the land is of a size and composition to be economically viable for agricultural purposes and the likelihood that it will remain in agricultural use for the foreseeable future.[4]

APR program managers try to acquire contiguous parcels of land and farms in close proximity to each other to create large blocks of protected farmland. They consider the degree to which projects would accomplish environmental and cultural objectives, such as protection of water resources and flood plains and the preservation of historic and open space resources and scenic views. They also try to balance the costs and benefits of acquiring *aprs*.[5]

The law that created the APR program allows municipalities to co-hold restrictions with the Commonwealth. In deciding which properties to protect, the state considers the comments and recommendations of towns and the degree to which a town is willing to provide financial and legal assistance and participate in enforcing the restriction.[6] The APR program also works with land trusts and other nonprofit land conservation organizations. Land trusts promote the program to farmers and in some circumstances may "preacquire" a restriction and sell it to the state when purchase funds become available.

The APR program's long track record makes Massachusetts a good place to study the effectiveness of PACE programs in general. A previous American Farmland Trust study found very high farmer satisfaction with the APR program. The fact that the state always has long waiting lists confirms this finding.[7] By the end of 1997, the program had protected more than 40,000 acres of land from conversion to non-farm uses—approximately 7.6 percent of the state's land in farms, according to the 1992 Census. Yet, critics have charged that APR protects open space but does little to help the state's agricultural economy. Others claim that protected farms are sitting idle or being used for non-agricultural

purposes. In 1997, American Farmland Trust teamed up with the Franklin and Deerfield land trusts to evaluate the impact of the program on participating farms.

## Purpose of this study

This study was designed to explore the impact of the APR program on participating farms. While legislators and the public generally appreciate the role of PACE in protecting open space, the research for this report was intended to investigate the agricultural, economic and environmental benefits provided by the APR program. Previously, evidence of those benefits has been largely anecdotal. American Farmland Trust, Franklin Land Trust and Deerfield Land Trust long have been aware of individual farmers who used the APR program to improve the performance of their operations, but lacked the data to determine whether these benefits were widespread.

The 20-year history of the Massachusetts program offered researchers the opportunity to explore both the initial advantages farmers received from selling *aprs* and continuing benefits of the program over the years. The study sponsors wanted to see if the proceeds from the sale of *aprs* were being reinvested in farms and how selling an *apr* affects subsequent owners of the land and land tenure patterns. They also hoped to document agricultural improvements on protected farms, changes in farm management practices and implementation of conservation measures.

Given the cost of the APR program, it is important that policymakers and the general public understand its value to participating farms. It is just as important for farmers themselves to see the benefits of selling restrictions and purchasing protected land. The case studies conducted for this report are designed to illustrate the benefits of participating in the APR program and inspire other farmers to protect their land.

## Study sponsors

American Farmland Trust is a private, nonprofit conservation organization dedicated to protecting the nation's strategic agricultural resources. Founded in 1980, AFT works to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. Its activities include public education, technical assistance, policy research and development and direct land protection projects. AFT has had offices in Northampton, Mass., since 1987.

Franklin Land Trust is a private, nonprofit conservation organization dedicated to the preservation of farmland, open space and rural character in western Franklin County. Founded in 1987, FLT has protected more than 4,500 acres through the use of creative land protection and development strategies. The land trust often works in cooperation with the APR program to protect farms, and has sponsored independent efforts to promote local farm products. FLT also accepts donations of easements on farmland, and helps property owners protect land and natural resources through limited development projects and conservation estate planning.

Deerfield Land Trust was founded in 1990 to preserve the natural resources and character of the land within the town of Deerfield for agricultural, recreational, educational, historical and environmental purposes. DLT has protected more than 700 acres.

## Study region

AFT's Northampton office, FLT and DLT are all located in Massachusetts' Connecticut River Valley, a three-county region slightly west of the center of the state. The Valley encompasses the best farmland in Massachusetts. Hampden County, dominated by the city of Springfield, is mostly urban in character, but agriculture continues to be an important land use in Hampshire and Franklin counties, with farms accounting for 16 and 17 percent of the land base, respectively.[8] Farming also is important to the region's economy, generating more than $73 million in annual sales.[9] According to the U.S. Department of Agriculture's Natural Resources Conservation Service, there are approximately 4,000 acres of prime and unique soils in the two counties.[10] The 1992 Census of Agriculture reported a total of 127,943 acres of land in farms in Hampshire and Franklin counties.

Farms in Hampshire and Franklin counties give the Valley its scenic character, which is valued by residents and appreciated by tourists. The region's agricultural land also provides good habitat for wildlife, and many farms contain important archaeological resources. But the Valley's scenic and rural character also is attractive to newcomers, and farmland in Franklin and Hampshire counties is at high risk for development. Between 1982 and 1992, approximately 17,000 acres in the two counties were developed. In Hampshire County, development increased by 19.6 percent, in Franklin County, by 34.2 percent.[11]

Over the past decade, there has been a remarkable consensus on the need to protect the Valley's natural, scenic, cultural and agricultural resources. Congress designated the entire Connecticut River watershed—from Vermont to Connecticut—as the Silvio O. Conte Wildlife Refuge. Since then, the U.S. Fish and Wildlife Service has been working with state and local governments and private organizations to develop strategies to protect the Valley's rare and endangered species, anadramous fisheries, wetlands and wildlife habitat. The Massachusetts Department of Environmental Management considers the Valley a "Distinctive Landscape," a designation reserved for just 4 percent of the Commonwealth's land base. The Nature Conservancy and the National Trust for Historic Preservation also have acknowledged the Valley's unique character and have targeted the region for protection. Including Franklin and Deerfield land trusts, at least 10 local land conservation organizations are active in the two counties.

Valley residents are concerned about loss of farmland and the future of agriculture in the region. In the early 1990s, a group of farmers, agricultural advocates, conservationists and other concerned citizens began meeting to discuss the challenges facing farmers in the area. In 1994, the group received a four-year grant from a special Kellogg Foundation program designed to help make farming communities agriculturally, environmentally and economically sustainable. After a process of defining the challenges facing Valley farmers, The Community Involved in Sustaining Agriculture Project formed eight action groups to address these issues. The action groups have sponsored workshops and training sessions on topics including agricultural marketing, agricultural financing and farm transfer, farm labor issues and innovative farming practices. CISA's Farmland Action Group provided funding for this study.

The Valley is also a priority area for the APR program. Thirty-nine percent of the 441 properties protected by the APR program are located in Hampshire and Franklin counties. The Commonwealth has purchased restrictions on 172 properties in the two counties, accounting for 12,929 acres of land—32 percent of the total land area protected by the APR program. The Commonwealth has spent $26,901,425 to protect Franklin and Hampshire County farmland, at an average cost of $2,081 per acre. The high concentration of APR farms in the region makes the Valley an ideal place to conduct a study of the program. Vegetable crops, hay and pasture are the most common uses of APR properties in the two counties. Approximately 20 percent of protected farms raise dairy cows.

**Matuszko Family Farm**
**Hadley**

When Edwin Matuszko's grandfather purchased the family's 37-acre farm a few miles east of the Connecticut River more than 80 years ago, he could not have imagined the transformations that would take place on the land in the latter half of the century. Strip malls, shopping centers and suburban housing all have converged on the fertile fields of Hadley. Although harvests of vegetables and broadleaf tobacco from the sandy loam soils rival or surpass crop yields in most of the nation, the land is even more valuable for development.

Edwin's father continued farming when his father retired after World War II. Edwin and his four siblings grew up on the land, but they all left the farm to pursue other careers. For a time, it seemed as though the Matuszko's relationship with the land might end. Edwin's parents did not want to see the farm carved up into building lots, but they were afraid that this was their only option.

The situation changed when Edwin grew tired of working in the plastics industry and he and his wife Linda decided to move back to the farm. The older Matuszkos were enthusiastic about keeping the farm in the family, but they weren't sure how they could transfer the land to Edwin and Linda and still divide the estate fairly among all their children. Edwin's brother had worked for the APR program, and several neighboring farmers had enrolled in the program, and they encouraged the Matuszkos to investigate the possibility of selling an *apr*.

Edwin's parents contacted APR program staff to see if selling a restriction could help them achieve their goal of transferring the farm while providing an equal inheritance for all five children. Edwin explains that his parents were first-generation Americans, and giving up the property value that they had worked so hard to build was "a big thing to overcome." They also were concerned that the state would intervene in day-to-day operations on the farm. They quelled these concerns by speaking with other APR farmers. They also concluded that the program offered Edwin and Linda their only chance to own the farm.

Sadly, Edwin's father passed away before sale of the *apr* was finalized in 1989. But his planning paid off when the proceeds of the sale were used to settle his estate among his wife and children without selling a single lot for development. In 1993, Edwin and Linda purchased the farm from Edwin's mother. This would have been impossible, says Edwin, if the value of the farm had not been reduced by the *apr*. "Everyone seems satisfied," he reflects on the process. "It relieved a lot of pressure."

Edwin and Linda see the restriction on their land as an added incentive for good stewardship and careful farm management. "We can't just lop off a building lot and sell it to get an influx of money," Edwin explains. "That choice is gone, and it pushes us to do the best we can." The Matuszkos have a reputation for innovation. They were founding members of the Pioneer Valley Growers' Cooperative, and continue to market their diverse harvest of vegetables through this outlet. According to Edwin, membership in the Coop has increased his awareness of market trends in produce, allowing him to tailor crops carefully to local demands. A recent experiment with eggplant proved especially successful.

The Matuszkos' commitment to succeed at farming has brought about other changes in their operation. Edwin and Linda remodeled a barn that they now use for packaging. They purchased a new tractor, a refrigerated truck and a set of cultivators. They also enrolled in the Massachusetts Partners with Nature integrated pest management pilot project in the early 1990s. While scouting for vegetable pests is "sometimes a pain," says Edwin, he has found it to be "suprisingly cheaper" than spraying. And Edwin and Linda have plenty of plans for the future. They want to install subsurface drains and underground irrigation. Edwin thinks that he can even use his protected farm as a marketing strategy. "Peppers from APR land!" he proclaims, smiling.

The Matuszkos believe that protecting the rich farmland of the Connecticut River Valley is a part of a long-sighted planning process. They consider themselves fortunate to be farming with "a rather large conglomeration of APR land in the immediate area." According to the Massachusetts Department of Food and Agriculture, the APR program has protected 22 properties—a total of approximately 1,000 acres—within a two-mile radius of the Matuszkos' farm. Edwin sees the block of protected land as a welcome "continuation of what it has been for the last few hundred years." By protecting the farm and keeping it in the family, Edwin and Linda believe they are creating opportunities for their young son and others in generations to come. Although Edwin's grandfather could not have known what the future would bring, his good stewardship of the land made it possible for his grandson to be a farmer. Edwin and Linda want to pass along the same privilege to their own grandchildren.

Duffy Family Farm
Amherst

Paul Duffy did not grow up on a farm, but he knew he wanted to be a farmer from early childhood. He started working on a horse farm, haying and showing horses, before his 10th birthday. While many teenage boys may spend their free time working on cars, Paul was more interested in livestock. He helped raise beef cattle through high school on another farm in his home town. He earned his degree in animal agriculture, and worked as farm manager for Hampshire College for nearly five years. After leaving Hampshire, Paul moved to central Massachusetts to manage a farm for the non-profit Heifer Project International, a world hunger relief organization.

In 1982, Paul started raising his own herd of purebred Holstein cattle as a step toward building his own farm. In 1990, he and his wife, Anne, began looking for land. Paul was very familiar with *aprs*—he was involved in applying to the program for both Hampshire and the Heifer Project—and he knew that the program could help make his dream of purchasing a farm a reality. "We specifically searched out a piece of APR property," says Paul. "It was one of the most important criteria."

The Duffys found what they were looking for in a protected farm in Amherst in 1996. The *apr* had just been sold, Paul relates, and the land "was being marketed on its agricultural attributes and not its development potential." The farm had not been worked in 40 years and was "slightly run-down," says Paul, but this also made it more affordable. Like most farmers, Paul speaks of his land with pride. "It was...the most holistic resource," he explains. "It's got an excellent water resource, woodlot land, open land—and the open land is for all practical purposes Class I: It's flat, it's got no stones. It's an exceptional piece of Connecticut River Valley farmland."

Paul sees the APR program as an excellent tool for young farmers. "It was our ticket to enable us and empower us to...[own] a resource that we could potentially make a go of," he states enthusiastically. "If we would have had to buy it for [full market value], it would not have been manageable for us." The Duffys also believe that purchasing protected land has enhanced their opportunity to diversify, giving them the ability to be creative without as much financial strain as they would have if they were facing development pressure.

Paul is full of ideas to make the farm profitable. His main business is cattle genetics. He uses a technique known as super ovulation and embryo transfer. Frozen purebred embryos are exported or implanted in surrogate mothers. The Duffys currently own 30 head of cattle. Fourteen cows are housed on their 38-acre parcel, the remainder are boarded with local dairy farmers. This year, Paul cut hay and raised three acres of pumpkins to test the viability of marketing vegetable crops directly from the farm.

Paul and Anne also have other businesses to supplement their income until the farm can support them. Paul is an agricultural jack-of-all trades, doing a little farm brokerage work, some contract work for other farms, restoring barns and operating his own World Wide Web site dealing with agricultural trade issues. Anne is a professional photographer. "If we had our druthers, we'd be working exclusively on the farm," Paul explains, "but we're not there yet. We've not yet been here a year and this farm hasn't been farmed in 40 years, so it's tons of work."

Fortunately, the Duffys enjoy the labor of bringing their farm back to life. Their long-term goal is to purchase additional protected land, bring more cows home and expand the operation. Through increased growth and diversification of their cattle and vegetable operations, the Duffys hope to build a successful farm business based on hard work and agricultural science.

*"I couldn't have afforded the land without [APR]. There was no way to justify paying full price of land to grow strawberries on it."*

Several farmers used the APR program as a strategy to make the purchase of additional land more affordable. "On all the land we have in APR, [selling the *apr* has] been the leverage that has allowed us to purchase it," says one of the Valley's most successful farmers. "Land comes up for sale at certain times and it's never at your best economic place, but farmland is only transferred once a generation and if you are using a piece of ground integral to your operation, and it is for sale, and the price is reasonable, then you can make that decision." Another farmer reflected that a buyer's interest in protecting farmland can facilitate the sale. "It does help the sale a lot," he believes. "Especially if you are selling farmer to farmer, people will generally sell for less. It's comforting for the person selling the land to have that restriction in place. That helped me in my purchase, as far as the person not demanding the same price as they would from a developer."

**Beauchesne Family Farm**
**Montague**

Tom Beauchesne's earliest memories are of growing up on his father's farm in Montague, less than five miles from where he now raises hay, beef, vegetables and flowers on his own land with his wife and sons. While the distance between the two farms is short, it took the Beauchesnes decades of hard work, careful planning, and the help of the APR program to make the journey.

The farm that Tom remembers from childhood was divided and sold many years ago. Tom knew that he wanted to own his own farm more than 20 years ago, but he quickly found that farms "were too expensive...for somebody who didn't inherit one." Still, Tom and his new wife, Jackie, started planning for the farm they hoped to own some day. While working at the University of Massachusetts and building houses on the side, Tom started to set aside money for land and equipment, confidently telling himself that someday he was going to be a farmer. The Beauchesne's nest egg grew slowly as they raised two sons and Tom started a business growing hay. They started to buy small parcels of land. The family moved a few times, each time to a slightly larger property: from four acres to nine, and then to 23. Tom and Jackie rented additional land as the hay business grew and the boys took an interest in farming.

Tom explains that he has taken advantage of a niche market for equine hay. Horse owners, he says, are willing to pay top dollar for good hay, and over the past 20 years, the Beauchesnes have established a reputation as high-quality growers. "My hay is sold before it is cut, each year," Tom says proudly. When he's not working on his own farm, Tom tends the greenhouses at the university and teaches classes on the floriculture industry. Over the years, he and Jackie have raised cut flowers and mums, which they have sold at roadside stands. The family also has a herd of Angus cattle that they raise organically.

As Tom and Jackie expanded and diversified their farming activities, they continued to look for a larger farm. Their goal was to acquire enough high-quality land to allow them to leave their other jobs and sustain themselves entirely on their income from agriculture. They also wanted a farm large enough to support one or both of their sons. By

the 1990s, the Beauchesnes were renting a 100-acre parcel of land from a farmer in Montague. While mowing those fields on fall days, Tom continually asked himself, "What is going to happen to this farm?" His concerns got more serious when the landowner became ill. "What a beautiful place," Tom thought, "and what a shame if it goes to house lots."

Tom told the owners that he would be interested in purchasing their farm if they were ever willing to sell it. At the same time, he contacted staff at the APR program, explained his situation, and asked: "Would you be willing to help me if something came up?" With the landowner's consent, Tom invited the APR staff to visit the farm.

Tom's planning turned out to be critical to saving the farm. During the last months of his life, the old landowner expressed his desire to keep the land in farming, and asked his wife to give the Beauchesnes the opportunity to purchase the farm before she made any other arrangements. When he passed away, his widow gave Tom and Jackie three months to decide whether they wanted the land. Because the APR staff knew the property and had already determined that it was worth protecting, the state was able to make an offer quickly.

With help from Franklin Land Trust Director Mark Zenick, the Beauchesnes negotiated a series of complex agreements to acquire the farm. To sweeten the deal for the Commonwealth and the town, they agreed to sell restrictions on both the new farm and their 23-acre home farm a few miles away. The town, says Tom, was particularly anxious to see both properties protected. "We have people that walk or bike this road from downtown all the time, and they say it is one of the prettier areas. They were really concerned with what was going to happen with it, so they bent over backwards to help me," he remembers. The farm is also in the area targeted for protection as part of the Silvio O. Conte National Wildlife Refuge, notes Tom, which increased the town's desire to protect the land. The Beauchesnes' other parcel of land sits over the town's water supply, and development could have caused problems. The town of Montague contributed to the cost of purchasing the restrictions.

The Beauchesnes divided the land on their home farm from the house and barns. They sold an *apr* on the land, and the remainder of the property to a buyer who agreed to give them a seven-year lease on the barns. This was important, Tom explains, because after buying the new farm, they wouldn't have the cash to build a barn on it immediately. Tom and Jackie kept the land from their old farm, but wanted to move to the farmhouse on the new land. To make this work for the widow, Tom built her a new house next door. The deal was closed in 1995.

Tom now sees the process of protecting the two farms as a pivotal moment for his family. "I think it forces people to make sure it is really what they want," he reflects. "...[I]t forced me to sit down with my family and find out what they wanted to do." One exciting result of the discussions was that Tom and Jackie's older son decided to come back and work on the farm after his graduation from the Stockbridge School of Agriculture at the University of Massachusetts.

Based on their son's decision, Tom and Jackie developed a long-term plan to build up their operation to the point where it can support three people. Elements of that plan include clearing more land, re-seeding hayfields, repairing an old barn and building a new one to store hay through the winter, establishing a nursery and a cut-flower business,

expanding the beef herd and retailing vegetables from a roadside stand. Owning the new farm has given the Beauchesnes the security to be innovative and to make long-term investments in the land. "I know that it's there and that nothing's going to happen to it now," says Tom with confidence. Eventually, he hopes to buy more land in the area. "What I don't use, my son will," he predicts.

Tom has nothing but good words for the APR program. "[It's] the greatest thing for a young person...or someone like myself, not inheriting the farm or not buying it from a relative where it was really cheap. I wouldn't have purchased the place if I had to have a mortgage as big as it would have taken without the APR people. I didn't want to jeopardize my family."

The Beauchesnes are very grateful for the support they received from both the state and the local community. "I didn't know...that so many people cared about what happened to the property until I went to the meetings and heard what people had to say," Tom remembers. "It was nice to hear that." Now, he feels that he has a responsibility to the town and the state to make his farm successful. "I...always want to be known as a success of the program," he explains. "I always feel an obligation...to make sure it stays a working farm."

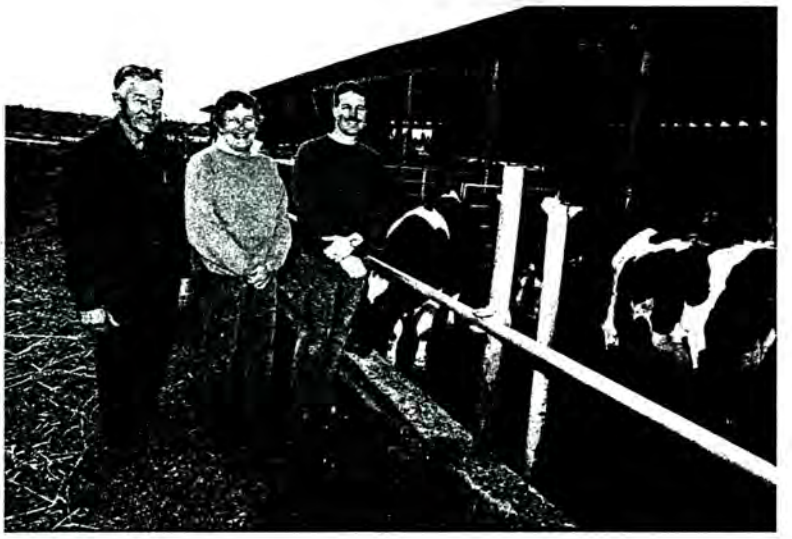
## Changes in farming operations since the sale of *aprs* or the purchase of protected land

Telephone interviewers asked farmers whether they had made any changes on their farms since they sold an APR or purchased protected land. Nearly 75 percent of respondents had made at least one change (see Table 2 for responses). The most commonly cited change was improvements in farm buildings, mentioned by 60 percent of respondents. Several farmers described repairs that they had made to their barns since selling *aprs*.

**Table 2: Changes in farms since participation in the APR program**

| | |
|---|---|
| Improved existing buildings | 60.0% |
| Established conservation practices | 46.7% |
| Bought new farm equipment | 37.3% |
| Increased tillable acreage | 30.7% |
| Hired farm employees | 30.7% |
| Established new farm management practices | 28.0% |
| Changed product mix | 26.7% |
| Established other farm practices | 25.3% |
| Bought new farm management equipment | 25.3% |
| Developed new products | 20.0% |
| Developed new marketing techniques | 20.0% |
| Opened or expanded a retail outlet | 20.0% |
| Bought more livestock | 17.3% |
| Bought more land | 14.7% |
| Transferred ownership of operation | 14.7% |
| Bought new farm buildings | 10.7% |
| Made other changes | 5.3% |

**Williams Family Farm**
**Hatfield**



For the Williams family of Hatfield, farming is more than a way to make a living—it is a 300-hundred year-old institution. Mary and Gordon Williams' 175-acre farm dates back to the 1690s, when the colonial Governor Bradford deeded the land to Mary Belden Williams' ancestors. Since then, at least 10 generations have carefully maintained the productivity of the land and passed it on to their children. Over the centuries, the rich river valley soil has enabled the family to grow a wide variety of crops, including vegetables and potatoes, hay and feed corn. Beef cattle and sheep have grazed the land in the past. Since the 1960s, the family has devoted most of its efforts to a dairy operation.

Mary's parents set up the farm as a family-held corporation. Mary and Gordon received stock from the Beldens over their time on the farm, and then shared ownership with their children, who lived off the farm. For many years, it was not clear if any of the children were interested in farming. Then, in the 1980s, their son, Darryl, decided to leave teaching and come back to the farm full time.

Gordon found out about the APR program through his involvement in Farm Bureau and the Hampshire County Conservation District. The family applied to the program to help them achieve several goals. "The land was a gift to me, and I always felt I had no right to derive a profit by selling pieces of it off for development," explains Gordon.

The Williamses also used the program to help transfer their land and operation to Darryl and his wife, Lucinda. Mary and Gordon used some of the cash from the sale of the *apr* to buy shares of the corporation from the family members who were not interested in farming. Consolidating the stock and restricting use of the land eliminated the temptation to sell a building lot to help out a relative who might need cash or a place to live, or to improve the corporation's year-end financial statement. The change in farm structure made it much easier for Mary and Gordon to make decisions and plan for the future.

Finally, the APR funds helped the family make some important investments in the farm. One improvement was the installation of a new manure storage system. Previously, the farm had a small storage facility that had to be emptied every two months. This was a problem in winter when the ground is frozen and in summer when all the cropland is in use. The new system can store six months of waste. This allows Gordon and Darryl to spread the manure in spring and fall for maximum benefit to their crops and minimum impact on local water and air quality. The investment has proved to be profitable as well as good for the land: The family is saving $3,000 to $4,000 per year on fertilizer.

Other investments in the farm included improvements to a milking parlor, renovations to the barn to keep the cows cool in the summer and an upgraded heifer facility. These changes increased animal comfort, decreased the labor needed to run the operation and improved efficiency. The family now raises all of their own replacement cows and produces a surplus of silage that they sell to other farmers.

Darryl credits the APR program with "pushing us into the 20th century and keeping us viable." Without APR, the family feels that they would have had to make big sacrifices. They would be much farther behind in their debts, explains Gordon, and they would not have been able to improve their facilities.

The Williamses are not shy about advising other farmers to participate in the APR program. They have seen neighbors who have sold their land for development and have been very disappointed in the end. "You think you're going to make big money," Gordon warns, "but it's shortsighted to sell it off...once you sell the land it is gone—you'll never get it back." He feels very fortunate to have had the opportunity to protect the land. "We're lucky to have the next generation," he explains. "We have every intention of keeping it [the land] in the family as long as they can keep farming viable, here and in this Valley," adds Darryl.

Darryl and Gordon still worry about milk prices and the low return from dairy farming. But the long history of their farm and the productivity of the soil suggest that many other agricultural uses of the land are possible if the milk business goes sour. The Williams' decision to protect the farm has insured that future generations will have the opportunity to make a living from the land that has sustained the family for more than three centuries.

Improving or restructuring the use of farm buildings was cited by 31.3 percent of farmers as the most successful change made to their operations since participation in the APR program. Farmers believe that these improvements have increased both the value and utility of the buildings.

Approximately 27 percent of the 55 farmers who made changes considered purchasing livestock, buying more land or increasing tillable acreage to be their most important investment. One family purchased land that they had been renting from a distant relative. The land was an important part of the operation, it had been in the family for more than 100 years, and it was already protected by an APR, which made it affordable. A small-fruit grower explained that acquiring additional land facilitated crop rotations.

## Melnik Family Farm
## Deerfield

In the 1970s, brucellosis wiped out Stephen and William Melnik's entire herd of nearly 400 cows. Dairy farming is a difficult business in the best of circumstances, and many farmers who lost their herd would have given up, sold some land and tried a new occupation. But the Melniks have been farming for a long time and have learned how to deal with setbacks and obstacles. Stephen and William inherited their farm from their parents, who took over the farm from their parents. After the epidemic, the brothers just bought more cows and started over again.

The Melnik family farm in Deerfield was founded in the 1920s as a small dairy and vegetable farm. Now, Stephen says, the farm is one of the larger dairies in the state with 220 milking cows, despite the fact that the operation is much smaller than it was in the 1970s. The Melniks grow pumpkin and squash as a sideline to the dairy business and do some custom work for other farmers.

When Stephen's sons, Peter and Mark, decided that they were committed to staying on the farm, the family faced the challenge of building an operation that could support the fourth generation of Melniks. "We've gone from grandfather to the brothers to four families supported by the farm," reflects Peter. "To keep up with the cost of living, you have to increase your size."

In the 1970s, Stephen and William owned 650 acres. On paper, their land was worth a small fortune, but like many farmers, the Melniks were land rich and cash poor. APR seemed like a good tool to free up some of their equity. Stephen describes his thoughts about the program this way: "If you're in this game of farming for a lifetime and the next generation hopes to farm, you are kind of cashing in on your equity. We want to actively farm, farming is in our blood. Seeing the margin of profit in the farming industry is so tight, it's a way of loosening up a lot of things."

With the proceeds from selling an *apr* on their original 250 acres, the Melniks financed the purchase of two additional parcels of land. In one case, remembers Stephen, the brothers bought land right out from under a developer. They used the APR program to protect the new land from future development. To buy land any other way is very difficult, explains Peter. He describes a parcel of land that the family purchased in the 1980s for $10,000 per acre. He estimates that it would take "about 100 years of growing corn for cows to pay for that out of the profits of the land." Peter credits the APR program with creating "a way to buy more farmland and enable four families to live here instead of just one."

The land that was purchased through the APR program has been instrumental in some changes in the operation. The Melniks grow all of their own feed and sell surplus silage to other farmers. By increasing their land base, the family also became eligible for a USDA Natural Resources Conservation Service program aimed at improving water quality within the Deerfield River Valley watershed. The program helped the farm install a manure slurry system.

The Melniks rent an additional 200 acres of land to grow corn and alfalfa. Some of their rented fields are also protected by *aprs*. One of their landlords commented that she is happy that the Melniks are using and caring for her land, and is grateful to have the rental income to help pay the bills. The Melniks like the arrangement because they have the security of knowing that the landowner is committed to agriculture and will not be selling to a developer at any moment.

Without the APR program, says Stephen, the Melnik farm "still would be here, but a lot of the land would be developed. We would have sold front lots and farmed the back," he reflects. Stephen is happy to have avoided that scenario. "With the smells and the noises [of a dairy farm]," he explains, "you don't want a lot of families around."

The Melniks are strong supporters of the APR program, but they still wish that it was not necessary. "I wish we got enough for our products so that we could compete with other industries for land," says Stephen. "Sometimes it seems backwards. The simplest way to preserve the farmland is to preserve the farmer."

Thirty-two respondents believed that the APR program helped them implement conservation practices. Twenty of the 35 farmers who participated in the personal interviews mentioned having installed or having plans to install at least one conservation measure. Most of the farmers contacted spoke about their strong feelings for the land, and considered themselves to be careful stewards of the environment and natural resources.

While the majority of farmers contacted believe that the APR program has facilitated successful changes in their operations, several sounded a cautionary note. "APR is not the answer to low prices and high operating costs," observed one grower who made significant management changes in his operation after selling an *apr*. "You have to make some changes, you can't continue the same way you were going." Simply using APR money to pay off debt and farming the same way you have been for decades, he explains, "is a dead-end street. You have to look really hard [at your operation]," he advises other farmers, and ask "what has and has not worked? You need a business plan and a marketing plan, that's for sure."

**Shearer Family Farm**
**Colrain**

The Shearer family's dairy operation in Colrain bucks the conventional wisdom of the "bigger is better" approach to dairy farming. Larry Shearer and his son, Kenny, borrowed an idea developed by farmers half a world away, in New Zealand. With seasonal dairying, the Shearers have accomplished what most experts say is impossible: They support two families with a small milking herd of 50 cows.

The Shearers began experimenting with new approaches to dairying in the early 1980s with rotational grazing.[14] Intensive pasture management cut feed costs and improved farm profitability, but the operation was still very labor intensive. With Larry's retirement in the not-so-distant future, Kenny approached his father with a decision. "Dad, I'm not going to keep farming the way we've been doing it," he announced. "We were making money," says Larry, "but it was the quality of life, the stress of no vacation," that brought Kenny to the conclusion that something needed to change.

The New Zealand style of dairying emphasizes reducing the costs of production rather than increasing output. In a seasonal dairy operation, all the cows are bred to calve during a short time period. This allows the farmer to manage the entire herd as a group. The cows have the same nutritional requirements and similar needs for veterinary care when they are pregnant and calving. They are dry in late winter to early spring, which reduces the need to store feed, cuts costs and allows the farmer to take a vacation. One of the biggest advantages of converting to seasonal dairying is that it requires no capital investment. "It's strictly a management thing," explains Larry.

Larry and Kenny started adjusting their breeding cycles in 1988. Within a few years, the benefits of the new system were obvious. Feed costs went down by 25 percent and veterinary bills decreased by 75 percent. "For eight months of the year, we don't even see a veterinarian around here," boasts Larry. "There's two months where you are making no milk so...your electric bills go way down," he continues, smiling. "It's the time to take a vacation if you want to...all you have to do is hire somebody to come in...and feed the cows once a day."

When agricultural experts look at the figures from the Shearer farm, they shake their heads. "We only have about a 15,000- to 16,000-pound herd average," Larry explains. "Everything you read says that if you don't have at least a 20,000-pound average, you are going behind, no way you can survive, no matter what your size. When you say a 15,000-pound average on 50 cows...our figures are so far off—different than anything they can come up with—that [they conclude] ours are wrong."

But the Shearer's farm is one of the few dairies in the region where the figures *do* make sense. "We're well satisfied with our standard of living. There's a swimming pool and a couple good cars out there. Everything is paid for...And nobody works off the farm here," says Larry with pride. "We couldn't be happier. We plan to stay with dairying for the foreseeable future. We are able to make a good living on the present price of milk. It would be easier if it were higher, but the price of milk is not a problem."

Very few New England dairy farmers share Larry's optimism. Lately, Larry says, interest in seasonal dairying has been increasing, and he has been traveling around the region, speaking to farmers and extension agents to promote the concept.

For the Shearers, the change to seasonal dairying was the most important step in protecting their farm. "[We] think that it is one of our best opportunities to keep the small dairy viable, and as a result, if it's viable, you keep the land open, you keep the land farmed," says Larry. "We would not have gone into [APR] if we had not...already gone into seasonal dairying and found out that the way we're doing it would be a viable enterprise for the foreseeable future."

The APR program helped the Shearers meet a different challenge. With the operation profitable and manageable, Kenny was willing to assume responsibility for the farm. Larry wanted to retire and turn the land, cows and machinery over to his partner, but he also wanted to share his assets with his other four sons, who were not interested in farming. As a board member of the Franklin Land Trust, Larry was familiar with the APR program and knew it could be a valuable tool for farm estate planning. He invested the proceeds from selling an *apr* on the farm to help fund his retirement and gave the land and the operation to Kenny, more or less as a gift. The rest of the estate, including the APR money, will eventually go to Kenny's brothers.

The APR program had another, unanticipated benefit for the Shearers. Recently, officials from the neighboring town of Shelburne Falls started eminent domain proceedings on a portion of the Shearers' land. Normally, when APR land is involved in a taking, the agency that initiates the proceeding has to take the entire parcel and compensate the Commonwealth for the restriction. Larry called the Department of Food and Agriculture for help. Department officials called the water district and told the local agency to work with the Shearers on a farm management plan that would protect water quality. "DFA interceded on my behalf, and they have made an exception," says Larry. "That is an advantage. The state has a vested interest because they spent money on this land to keep it [in] farming and seem more than willing to express their political clout to help us keep it in agriculture."

Larry Shearer officially retired three years ago, but only in the sense that the ultimate responsibility for the farm and its future now belongs to Kenny. "I'm actually working hard, if not harder than I ever did," admits Larry. "I am enjoying it and I'm not tied down now. I can pick up and leave at any time. I feel good," he says.

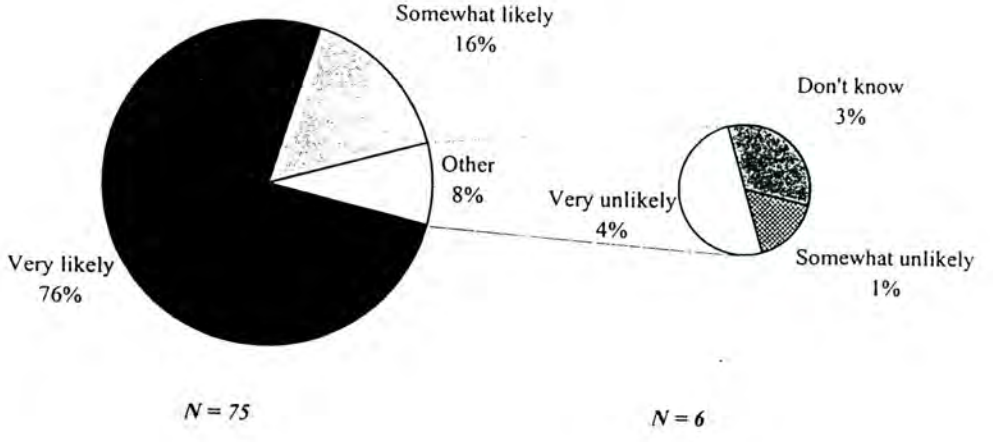
The Shearer dairy farm is part of a block of more than 1,000 acres of protected land in a three-mile radius. Larry's brother David's apple orchard abuts the dairy to the north. David sold an *apr* on his land in 1996. "The Shearers have been in this town since the mid-1700s," reflects Larry. "We're kind of married to the concept of staying. APR fits in with that concept," he explains.

The Shearers' land lies between the well-traveled Mohawk trail and the Vermont border. Driving up the road, past the rolling pastures and grazing cows, apple orchards and old red barns, it is easy to imagine the landscape of centuries past. But it's important to look behind the beautiful scenery to the farm businesses that maintain the landscape. The Shearer's land is protected by an *apr*. Their dairy operation is protected by hard work, smart planning and old-fashioned Yankee ingenuity.

Of the 75 farmers interviewed by telephone, 51 voiced no dissatisfaction with the APR program. When the farmers were asked if, based on their experience, they would participate in the program again, 92 percent said that they would be either "very likely" (57 farmers) or "somewhat likely" (12 farmers) to do so. Only four respondents believed that they would be "somewhat" or "very" unlikely to participate in the program again given their experiences (see Figure 10).

*"If any [more] local APR land became available, we'd be interested."*

Figure 10: Would you participate in the APR program again?



Saving the Land One Farm at a Time

# PERMANENCE WITH FLEXIBILITY

## A conservation easement for Ashbourne Farms.

"For many years, I have been aware that conservation easements on farms are the way to protect the land and to keep it in agricultural use. But I did not think I wanted one on my own farm until I saw a big subdivision being developed all too near to me. Then I called Ralph Grossi, president of American Farmland Trust." This is how Sally Lyons Brown, a longtime AFT supporter, describes her decision to donate to AFT a conservation easement on the 836 acres of Ashbourne Farms in Oldham County, Kentucky.

"When approached by several developers, I realized that I needed to make a decision now," explains Sally. "I want to preserve the rolling fields, the springs and the woodlands along Harrods Creek. Because of my great concern for wildlife, I want the farm to continue to provide a habitat for the deer, the foxes, wild turkeys, the mallards and geese."

Ashbourne Farms, acquired a few parcels at a time by Sally's late husband, W.L. Lyons Brown, is primarily a beef cattle farm. It provides pasture and hay for a herd of 250 to 300 cattle, with numerous free flowing springs and ponds supplying the water. Crops raised on the farm include corn, wheat and soybeans. Sally describes the farm's fences as true Kentucky fences, "horse-high, bull-proof and pig-tight!"

With a location near the ever-expanding suburbs of Louisville, Ashbourne Farms is on the last remaining scenic entrance road to Louisville, home of the Kentucky Derby. Along this road, visitors pass the black fences and green pastures of famous thoroughbred racehorse farms. In contrast, the other highways leading to Louisville are, according to Sally, "a sprawling ugliness of shopping centers, used car lots and fast food places, with so many signs and billboards that you cannot read them."

Like many landowners, Sally Lyons Brown was concerned about the words "in perpetuity," which are required in the easement document. "That is a long time; it means forever," says Sally. But flexibility is also key to a successful easement. For the use of the farm 100 or 200 years from now, Sally, her lawyers and American Farmland Trust worded the deed so that it allows for many other agricultural uses of the land that might be considered in the future. It also provides for repair of existing farm buildings and construction of three new houses for children of future owners, "who might need a place to live but should not have to go out to buy land when there are 836 acres here," says Sally. The new structures can be sited where they will not harm the agricultural and other conservation values of the farm.

It is the responsibility of AFT to monitor the farm to be sure that subsequent landowners continue to protect all the established conservation values. A small trust fund was given to AFT by Sally to provide income for this purpose.

According to Kurt Mason, district conservationist for Oldham County for the Natural Resources Conservation Service, Sally's attachment to the land goes beyond her love of Ashbourne Farms. "She wants this first conservation easement in Oldham County to be an example to other farmers as the way to promote natural resource conservation—to benefit themselves but also to benefit their families and the surrounding communities."

Dennis Bidwell, AFT's land protection director, whose "infinite knowledge of easements and great patience produced the final deed of easement," says Sally, asked her about the origin of the name "Ashbourne." She tells the story.

"My grandfather, Ashton Cockayne Shallenberger, former governor of Nebraska, had a big cattle farm in Alma, Nebraska. He named the farm for his mother, who was born at Ashbourne, in Derbyshire, England. Thinking it appropriate to make a nice entrance to the farm, he put up a big heavy wooden sign with these words carved into it: 'Ashbourne Farms—named in honor of my mother—SHE TAUGHT ME TO LOVE NATURE.' When Lyons, my first son was born, my grandfather, knowing that we had a farm, shipped a beautiful young registered Shorthorn bull named Ashbourne Randolf with best wishes to his great grandson. My husband, Lyons, was ecstatic, but was also aware that a bull is of little use without heifers. He then bought several heifers from my grandfather, which was the beginning of our Ashbourne Shorthorn herd. The herd won prizes in many states and produced the International Grand Champion bull, Ashbourne Prince William. Our farm had no name, so obviously we called it Ashbourne Farms."

@ *For more information on agricultural conservation easements, go to www.farmland.org/protect/index.htm.*

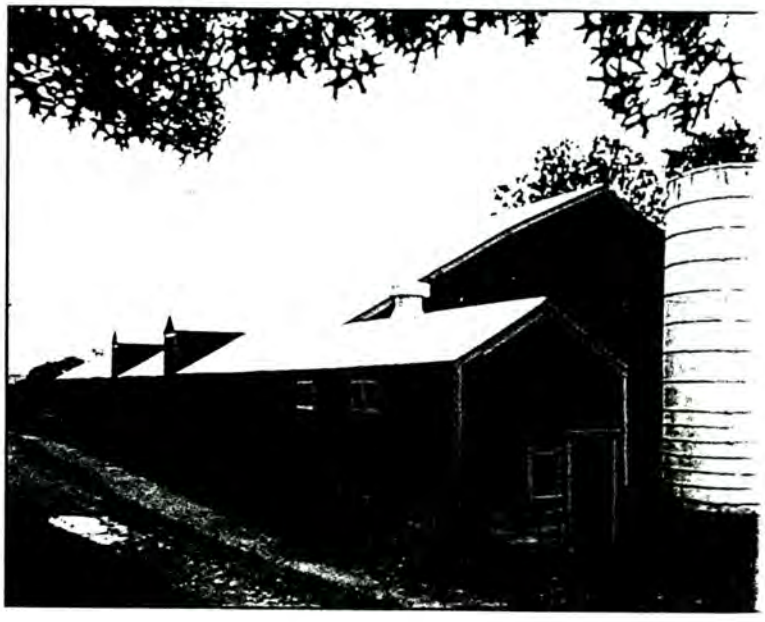


PHOTO OF FARMS BY STEPHANIE GILBERT

# Steps in Donating an Agricultural Conservation Easement

An agricultural conservation easement is a deed restriction, binding on all current and future owners of the land, intended to preserve the agricultural resources and other conservation values of the land. It is a powerful tool for protecting farmland. Agricultural conservation easements can be donated or, in jurisdictions with funded Purchase of Agricultural Conservation Easement programs, can be sold.

A conservation easement typically prohibits or limits subdivision of the land, and limits or prohibits non-agricultural improvements on the land. The specific terms of an easement are tailored to fit the particular piece of land and the vision of its owners. It is legally enforceable by the holder of the conservation easement, which is either a qualified nonprofit conservation organization or a unit of government.

Landowners considering donating an agricultural conservation easement should anticipate these steps:

**1.** Learn about conservation easements and thoroughly discuss with your family and your lawyer the merits of donating a conservation easement on your land, including the possible income tax and estate tax benefits of a donation.

**2.** Identify a suitable conservation organization to help prepare the easement and to hold it permanently. Be sure that the organization's mission and easement acceptance criteria fit with your own vision for the future of the property.

**3.** If tax considerations are a factor, seek the help of a real estate appraiser to estimate the value of the easement to be donated, and the help of your accountant to estimate the tax implications of such a donation.

**4.** Clarify with your family and the conservation organization a likely agricultural plan for the farm to assure that the easement's terms accommodate a wide range of possible future agricultural uses.

**5.** Have your lawyer commission a title search for the property to uncover any outstanding liens or partial property interests that might need to be cleared up prior to recording of the easement.

**6.** Work with your lawyer and the conservation organization to draft the easement. Be prepared for many drafts over many months—it's an important document, and it's worth taking the time to get it right.

**7.** Help the conservation organization prepare the accompanying documentation, e.g., maps showing existing structures, photos depicting the condition of the property at the time the easement takes effect, etc.

**8.** Once everyone is satisfied that all is in order, have all owners of record sign the conservation easement. Be sure an officer of the conservation organization, on authority of the organization's board of directors, also signs the easement. Then have your lawyer make sure the document is properly recorded in the county's land records.

**9.** Make a cash contribution to the conservation organization's stewardship endowment fund. Easement-holding conservation organizations typically require such contributions to enable them to perpetually monitor and enforce the easement's terms.

**10.** Have your appraiser complete a final appraisal, suitable as justification for the tax deduction you intend to claim.

**11.** Work with the conservation organization to publicize the protection of your land through the conservation easement. Often, one easement leads to other easements in the area, increasing the chance for agriculture to remain viable in the region in the future.

Pioneers of Land Protection

# AT EASE WITH AN EASEMENT

Two landowners discuss what it's like to have an agricultural conservation easement on their properties, and to partner with AFT.

By Valerie Berton

## What is it?

Utility companies use them. Your neighbor may have one. Many of us live with them every day and don't think much about them. They are easements, and they are so common in our society that they often go unnoticed.

But what about easements that are used as tools for farmland protection? This type of easement certainly requires more thought. What is it? How does it work? And what is it like to live with an easement that protects your farm? Fortunately, there are a growing number of farmers, ranchers and organizations across the country that can answer these questions.

American Farmland Trust began dealing with these questions when it acquired its first easements shortly after its formation in 1980. The kind of easement AFT uses to protect farmland, an agricultural conservation easement, does so by restricting the development of valuable farmland. People new to this concept might ask how AFT does that. The answer is: AFT doesn't; the landowner does.

Many landowners contact AFT because they are concerned about the future of their farms. They may be experiencing intense development pressure from nearby cities and towns. They may be concerned with the economic viability of their property as a farm. They may be facing estate tax and farm transfer issues. But the common thread seems to be a love for the land on which they live and work. These landowners voluntarily restrict the future uses of their property to protect it as farmland forever, and AFT partners with them in their protection efforts.

Simply put, an agricultural conservation easement is a voluntary contract in which the landowner gives up certain rights and limits the use of the property primarily to agricultural purposes. Landowners still hold title to their property and enjoy all the rights of ownership, but the conservation easement is perpetual and binding on future owners. A qualified nonprofit organization such as AFT, or a governmental agency, then holds the right to enforce the easement in perpetuity. Easements can either be sold or donated to these organizations or agencies. The IRS considers donated easements charitable donations, and in many cases, the landowner or "donor" may realize some tax benefits.

When AFT works with a landowner to draft an agricultural conservation easement, it is done with two primary goals in mind. First, the intent of the easement is to protect the agricultural and natural resources of the property. Second, the easement is drafted with the needs of the farmer or rancher in mind. A certain amount and type of farm-related development is expected. In many cases, the right to build a residence for family members is retained by the landowner. In other instances, the landowner may wish to retain the right to construct only farm structures. Whatever the restrictions, it then becomes AFT's responsibility to uphold the terms of the easement.

It is a responsibility that AFT takes seriously. Being a good steward of its easements not only supports its mission, it also supports the land trust movement as a whole. To this end, AFT has developed a stewardship program to manage its 60-plus easements. This is quite an undertaking, as AFT holds easements on more than 50,000 acres in 20 states. AFT's Stewardship Manager, Kristina Ely, says, "The story doesn't end when everyone signs on the dot-

ted line. In many ways it is just the beginning. This is the start of a long relationship between AFT and every owner, present and future, of that protected property."

## How is it maintained?

As one can imagine, this type of program requires a lot of time and financial resources. Monitoring easement-protected properties across the country is expensive, and reviewing landowners' plans for their properties can be time consuming. To finance the cost of this program, AFT has established a conservation easement stewardship endowment fund, to which anyone can donate. Typically, when AFT receives an easement, it is accompanied by a contribution to the endowment fund. These contributions are pooled and invested. The stewardship program is run on a percentage of the returns from the investment. "It seems like a lot to ask of landowners, to grant an easement and then give us money to enforce it," says Ely. "But an easement on paper doesn't mean much if we don't have the resources to uphold its terms. These easements are intended to last forever."

Whenever an easement is added to the AFT program, it is mapped, inventoried and described in a "Present Condition Report." The report includes information about the property's topography, existing structures and natural resources like soil types, wetlands and streams. This becomes the standard against which future decisions about the property are made.

At least every two years, AFT's stewardship manager or another AFT staff member visits or flies over the property and measures it against the Present Condition Report to ascertain whether its condition lives up to the intent of the easement. Regular monitoring ensures that there are no misunderstandings of the easement's terms. In its 19-year history as a holder of easements, AFT has not found a problem that couldn't be resolved relatively easily. Other land trusts have ended up in court to resolve easement issues, but AFT has been fortunate. "So far, there hasn't been a problem that a letter or phone call couldn't solve," says Tim Storrow, AFT's land protection program manager.

"Monitoring is the most enjoyable part of the job," says Ely. "I travel all over the country to visit some of the most beautiful places you can imagine, and I meet great people who are committed to protecting these places." And it's a good thing Ely enjoys traveling; this year she will be visiting Kentucky, Indiana, North Carolina, Michigan, Wisconsin, California, Colorado, Montana, Pennsylvania, Maryland and Oregon. These visits will be spent with landowners, answering questions and listening to landowners' plans for their properties. "If monitoring is the most enjoyable part of my job, then listening is the most important part," says Ely.

STEPHANIE GILBERT

**Sam Gary gives a tour on horseback during an AFT stewardship visit last year.**

## How do you live with one?

Sam Gary donated an easement on his Colorado ranch to The Nature Conservancy in 1981. One year later, TNC, which focuses on preserving threatened habitats or ecosystems, transferred the Gary easement to AFT, and it became AFT's first stewardship responsibility.

One of the first Coloradans to place an easement on an agricultural property, Gary was determined to stem the tide of development that was sweeping through Summit County, home to popular ski areas.

"We're more convinced than ever that we needed to do it, and we're proud of what we did," says Gary, who runs 440 head of cattle on the ranch. "All you have to do is look at the development that comes down the valley towards us, then starts again on the other side of our property, to see proof that we needed to do what we did."

Since the easement was transferred, Gary has heard from an AFT stewardship manager every year. Stewardship visits afford easement holders the opportunity to plumb

STEPHANIE GILBERT

**Doug Kleiss and one of his Blue Heelers stand between Holsteins in "Feed Alley." Kleiss's photogenic farm, Stardell, above.**

AFT for advice about the easement terms, natural resource issues and other questions about their properties. Sometimes they ask for interpretations of the easement; other times they want to share their latest farming techniques.

"During a visit, we enjoy face-to-face time with landowners to talk to them about their plans for the property and how their easement fits into that," Ely says. "We also need to look for any violations of the easement, but the real emphasis is on landowner communication. That's how violations, especially the unintentional variety, are prevented and good relationships are maintained."

AFT's previous stewardship manager, Stephanie Gilbert, toured Gary's ranch on horseback last summer.

"It was useful because AFT is so far away. You can look at maps and legal descriptions of the property, but that's pretty abstract," Gary says. "It was good to have her here to help her understand the scope of what's going on better. When AFT is managing their easements and being active in stewardship, they need to understand what's happening on the ranches, what's adjacent to the ranches, and the wildlife issues."

The stewardship program also provides a steady organizational contact for AFT's easement holders. The stewardship manager, who stays in regular contact with easement holders through a newsletter, phone calls and visits, remains available for property owners who may have questions or concerns.

"The stewardship manager is the main point of contact for our easement holders; the friendly face they see in person or the helpful voice they hear on the phone," Storrow says. "We want to foster that ongoing relationship with the people who took the bold step to protect their properties. Often, they're community leaders or visionary folks, and they represent a base of support for AFT's programs."

Easement holders say they have not felt AFT's stewardship program to be intrusive or burdensome. To the contrary, they say they appreciate the regular contact and the organization's efforts to uphold the terms of their easements.

Doug Kleiss put an easement on his 260-acre crop and livestock farm in northeast Iowa in the mid-1980s, and has never regretted his decision.

"I think it's a good idea to place an easement when you've got really good farmland," he says. "Let them build their houses where the land's no good for raising food. We don't want the city to get closer to us."

Kleiss has hosted a stewardship representative from AFT every two years. Each time, he drives the stewardship manager around his property and enjoys their exchange of ideas. Partly because of AFT's advice, Kleiss switched from conventional plowing to conservation tillage on his cropland.

Asked if the stewardship program was an imposition, Kleiss doesn't hesitate. "Heavens, no," he says.

Gary agrees. "It's not a burden," he says. "The mechanics of getting along with AFT have been very simple and unobtrusive." ☙

*@ For land protection options, go to www.farmland.org/protect/index.htm.*

*For in-depth reading on conservation easements, order* Saving American Farmland: What Works, *published by AFT. Call 1-800-370-4879 to order.*

*Valerie Berton, a former editor of* American Farmland, *works for the USDA's Sustainable Agriculture Research and Education Program.*

Pioneers of Land Protection

# IT TAKES A VALLEY

## AFT works creatively with a state program to save two vital properties in the Connecticut River Valley.

Story and Photos by Tim Storrow

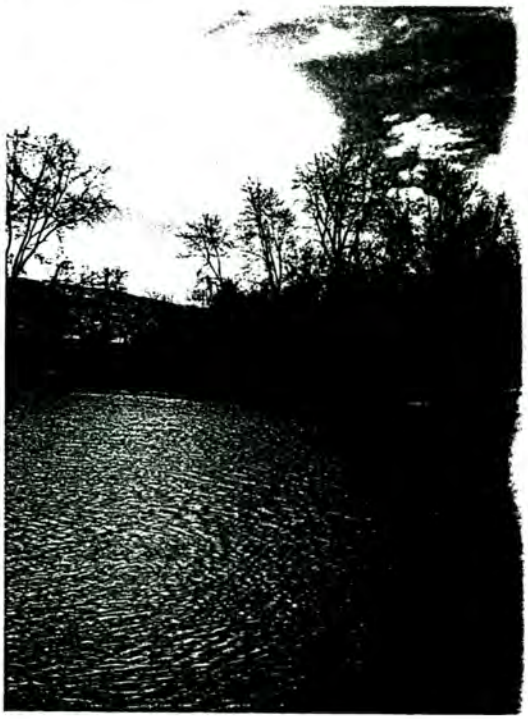
As the Connecticut River flows south and enters western Massachusetts from Vermont and New Hampshire, it sweeps across a broad valley of tremendously productive farmland. For three centuries, this valley has supported farm families in towns such as Deerfield and Hadley.

The region has not been immune from sprawling development pressures, however, and many farmers find it increasingly difficult to maintain their operations in the face of the onslaught. As one local farmer stated, "Even though my farm operation is profitable, I cannot compete with developers who can outbid me for land we've been renting for years."

Because of the development pressure on the region, its highly productive soil and high-value crops, American Farmland Trust (AFT) has identified the Connecticut River Valley as one of the top 20 most threatened agricultural regions in the country. Almost since its inception, AFT has been working in collaboration with state and local governments, regional planning agencies, local land trusts and concerned citizens to devise comprehensive strategies to protect the region's agriculture.

"There is no 'silver bullet' that will help farmers stay in the valley," says AFT Northeast Director Jerry Cosgrove. "Instead, AFT has hammered out a three-part strategy." First, promote smart growth strategies and develop a heightened awareness of the open space and economic values of the region's agriculture, particularly with local communities and the local officials who make land use decisions. Second, develop new, or expand and improve current state programs and policies in support of farming and farmland protection. And third, work in a strategic partnership with the Massachusetts Department of Food and Agriculture's purchase of agricultural conservation easement (PACE) program (known as the Agricultural Preservation Restriction (APR) program) to protect individual farms to assemble a critical mass of permanently protected farmland in the valley.

PACE programs are typically administered by public agencies and work by purchasing conservation easements from willing landowners. In return for a cash payment the landowner agrees to a permanent conservation easement that limits the use of his or her property to agricultural purposes. These programs not only compensate the landowner for the conservation easement that protects the land, but AFT studies have shown that the payments often are used by landowners in a variety of ways that strengthen the economic viability of the farm. Landowners will often use PACE funds to retire debt, diversify farm enterprises, purchase buildings and equipment or buy land to expand the farm operation or secure rented land.



But PACE programs are slow moving. It often takes the government machinery a year or more to purchase the conservation easement, assuming funding is available. Also, the payments are typically made in one or two lump sum payments, which is not necessarily benefi-

cial to the landowner from a tax standpoint since, in the year of the payment, capital gains taxes must be paid on any income from the sale of the conservation easement.

AFT has been developing ways to address these problems and enhance the effectiveness and flexibility of PACE programs. Outlined below are two recent land protection projects that AFT completed in conjunction with the Massachusetts Agricultural Preservation Restriction Program that show creative solutions to the farm-saving puzzle.

## The Peffer Farm

The Town of Deerfield was first settled in the late 17th century by English settlers drawn to the region's productive farmland. After three centuries, Deerfield still has a viable agricultural community, but is on the cusp of change. In just the past 25 years, Deerfield has changed from a largely rural, farm community to a community with an industrial park, expanding manufacturing base and surging residential development.

**View of the Peffer Farm in Deerfield, Massachusetts.**

Situated about two miles north of Deerfield on fertile bottomland adjacent to the Deerfield River, the Peffer Farm was owned by three sisters who inherited the property from their parents about 30 years ago. The farm included a large Victorian-era farmhouse, over 90 acres of prime farmland and extensive frontage along the Deerfield River. For years they had rented the land to the Melnik family, who used the land to produce corn and alfalfa for their dairy herd.

As they got older, the three sisters decided it was time to sell the property. They wanted to sell quickly; the Melniks, on the other hand, were concerned that a developer would buy the farm and they would lose a very important base of production for their farm operation.

In order to raise cash to buy the Peffer farm, the Melniks were willing to sell an APR on some of their home farm acreage. The state's farmland protection program was oversubscribed, however, and the Melniks would have to wait for up to three years before they were paid. Nevertheless, the Massachusetts APR program felt that both the Peffer and Melnik properties were important farms to protect and committed to funding the project—but the landowners would still have to wait to be paid.

The landowners and the state program asked AFT to step in. AFT negotiated a "bargain sale" purchase of the Peffer farm from the three sisters. Since they had owned the farm for a long time, there was a low tax basis in the property and any sale proceeds would be subject to the maximum amount of capital gains tax. By discounting the sale price to AFT, the sisters were able to claim the difference between the appraised market value of the property and the sale price as a charitable contribution and secure a tax deduction to help offset their tax liability. This also made the farm more affordable to AFT.

The Melniks wanted to sell an APR and use the proceeds to buy the Peffer farm, but they too faced a capital gains tax on the sale proceeds, and this tax liability would significantly reduce their purchasing power.

To overcome this problem, AFT and the Melniks took advantage of a section of the tax code that provides for the deferral of capital gain on the exchange of "like-kind" properties. Special rules apply to like-kind exchanges. but the exchange of farm property for a conservation easement is permitted under the tax code.

AFT ended up holding ease ments on both farms, thereby ensuring their protection. The process was like a choreographed dance: AFT first purchased the Peffer farm, retaining an APR on the property, and then traded the farm to the Melniks for cash and the APR on their other property. The cash component was needed to make the trade equal in value, but was modest enough for the Melniks to use cash they had on hand. When the Massachusetts program funds are available. AFT will transfer the APR to the Massachusetts program and receive reimbursement for the value of the development rights.

In the end, the three sisters received their money in a timely manner and benefited from a tax deduction. and the Melniks were able to defer the gain and tax liability on the sale of their development rights and use that extra advantage to

**View of the Mokrzecki Farm in Hadley, Massachusetts.**

acquire an important tract of land for their farm operation.

Steve Melnik is pleased. "We all had a goal that we wanted to preserve 70 acres of good fertile land. We put our minds together, the figures worked out, it was affordable, and it's a benefit to everyone." He adds, "It's one thing to say you're going to preserve land and another to really go and do it; to sign your name on the bottom line, to know this land is going to be farmed for my generation and generations after. You feel a lot better afterwards."

## The Mokrzecki Farm

The first farmers arrived in Hadley in about 1650 to till the deep, fine sandy loam that today defines an entire soil classification known as Hadley loam. Hadley has long been famous for its crops of asparagus, onions, potatoes, squash and tobacco.

More than 1,500 acres has been protected in Hadley through the state's APR program, most of it in the small-acreage tracts that are the result of generation after generation of land splits from original 18th century farms. One of the major goals of the farmland protection program is to assemble large blocks of protected land to ensure the critical mass and economic viability of land for agriculture. If a housing subdivision were to make inroads into one of these protected agricultural districts, then a serious disruption to the integrity of the agricultural operations could result.

Such was the situation with the Mokrzecki Farm, which was owned by three heirs who had divided the land into 10 building lots and were prepared to sell it off to settle their parents' estate. Surrounded on three sides by protected farmland, this tract of farmland had more significance than its 11 acres of prime soils: It was the key to protecting a much larger area from the intrusion of 10 new houses.

The state's APR program was very concerned about the fate of the Mokrzecki Farm, as was John Devine, the farmer who was renting the land. One of the Mokrzecki heirs, Charles Mokrzecki, was also interested in seeing the family farm preserved, but he was having difficulty getting his siblings to hold off on selling the 10 lots to a builder. In this case, the funds to protect the farm were coming from a combination of sources: the State APR program, the Department of Highways Scenic Road Program, and the Town of Hadley. More time was needed to pull together the funding components.

All the parties involved saw AFT's ability to act fast as the answer. AFT was asked to step in and purchase the land until all the funds were assembled. John Devine was willing to donate the development rights on a portion of his farm in return for the Mokrzecki acreage once it was protected. AFT purchased the farm, and like the Peffer project, in using the benefits of a like-kind exchange, AFT and Devine were able to make a trade of land for development rights. As a result, more land was protected than would have otherwise been possible, and a key farm parcel was added to a growing block of protected land.

*For land protection options, go to www.farmland.org/protect/index.htm, or call Dennis Bidwell at (800) 370-4879.*

*Tim Storrow is land protection manager at American Farmland Trust.*

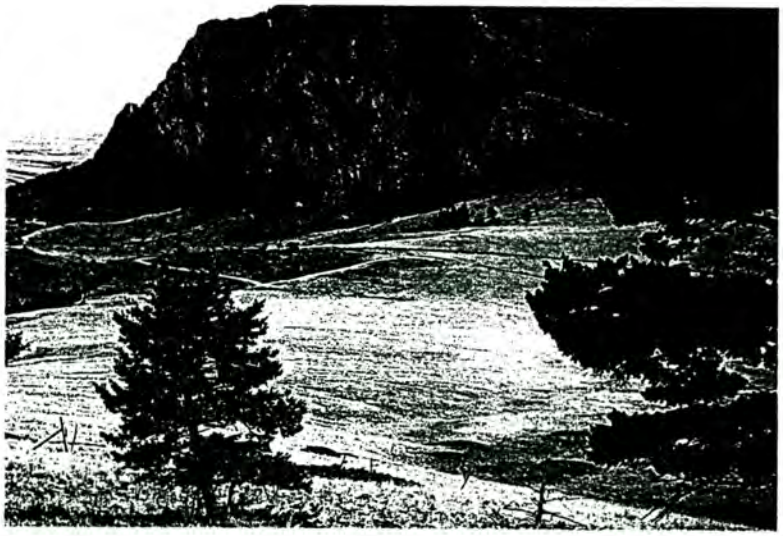
Saving the Land One Farm at a Time

# ROCKY MOUNTAIN PARADISE

## AFT takes a step to ensure the future of ranching in Montana's Sun River Valley.

By Leah Burgess/Photos By Tim Storrow

Dave Johnson is a busy man. He is a dental surgeon for the U.S. Air Force Reserves, a job he holds in addition to running his own dental practice in Great Falls, Montana, and owning ranchland in Montana's Sun River Valley. When Johnson became a landowner, he also became aware of the forces that divide ranchland. "Montana still has the potential to be the kind of place where everyone wants to live, with large tracts of land that are still intact," says Johnson. "But once divided, you lose that draw. You can't put it back together very easily." So in 1999, Johnson and his wife, Mary, decided to protect their land by donating an agricultural conservation easement to American Farmland Trust.



Johnson came to Montana from Iowa in 1974 to a military base, and immediately fell in love with the state. Around 1987, he started looking to buy land, "at about the same time the Californians started looking." He found that prices were shooting up as out-of-state people with higher incomes were able to pay significantly more for properties than local buyers (Montana has one of the lowest median incomes in the nation). He also saw that many second and third generation ranch children were not particularly interested in maintaining their family's ranch operations, and were selling out inherited land to the highest bidder, be they rancher or developer. When Johnson and his wife acquired their land in Cascade County, they wanted to ensure that it remained open and unspoiled for ranching, wildlife and recreation.

The Johnson property consists of two separate parcels in the Sun River country, about 18 miles from Cascade, in the corridor between Great Falls and Helena. The area was Blackfoot, Crow and Salish territory before settlers arrived around the turn of the 20th century. The Rocky Mountain Front forms a striking backdrop to the mountain meadows and valleys to the east. This proximity to the mountains and river valley makes the Johnson property a haven for wildlife. Both of their parcels are home to several wildlife species; elk, black bear, mule deer, rattlesnakes, hawks, eagles and bighorn sheep are seen frequently. Johnson unofficially deems his fields "the world's gopher capital," the draw, he says, for hundreds of raptors stopping for a meal on their long annual migration.

In addition to the diverse wildlife, the land boasts a healthy range condition with few weeds and reliable springs—an important asset in the Rocky Mountain West. The larger parcel, a 994-acre mountain meadow, contains a one-room schoolhouse from the early 1900s, which Johnson hopes to preserve for its historical value to the community. The smaller acreage contains rough fescue, which is harvested for seed, as well as a riparian area that is fenced off under a 10-year easement agreement with the U.S. Fish and Wildlife Service to stabilize the streambank and prevent degradation of the riparian habitat. The properties are leased to a neighboring rancher who runs 50 cow/calf pairs on them for several months of the year.

When the Johnsons decided to put an agricultural conservation easement on their property, they searched through local and national land conservation organizations, and chose American Farmland Trust as the most suited to prepare and hold the easement. The Johnsons' conservation goal was simple: keep the land open and unspoiled for ranching, wildlife and recreation. More specifically, Johnson says, "I wanted to ensure that the land would be managed according to my values system. I want the land to be in the same condition or better when I pass it on." To achieve their conservation goal, the easement had to be carefully crafted to allow for continued agricultural viability and the flexibility to meet future changes in agri-

cultural markets and industry. They also wanted to protect and enhance the diverse wildlife while maintaining the option to hunt, fish, and view wildlife on their land.

When Johnson first approached AFT's land protection program manager, Tim Storrow, he thought, "this East Coast guy will probably be a real tree-hugger; maybe I ought to take the inflammatory bumper stickers off my pick-up." What Johnson found instead was someone willing to work with him on his agricultural concerns. "American Farmland Trust understands farmers' and ranchers' issues. I found them to be more agriculture-friendly than other conservation organizations."

In addition to the comfort of knowing that the land will be protected from subdivisions and trailer park developments (an increasing phenomenon along the Helena-Great Falls corridor), the conservation easement is helping them to meet another goal. With the money saved in income taxes through the donation of their conservation easement, the Johnsons are planning to build a home on their land in the future, a provision included in their easement document that shows its flexibility.

When asked what he feels are the most serious threats to Montana agriculture, Johnson unhesitatingly replies, "Number one is subdivision, and number two is noxious weeds." He feels that farmers and ranchers are receptive to the idea of conservation easements, "but there are a lot of misconceptions out there, such as, 'an easement on our land will take away all of our rights' or 'selling an easement requires public access.'" He sees the need for education. And so does AFT.

"Donating a conservation easement does not work for many farmers and ranchers," says Storrow. "More funds are needed to purchase easements, and these land protection efforts need to be combined with economic viability strategies for agriculture."

Johnson says many ranchers around him in their 50s and 60s are faced with the situation of having no one to pass their land on to, yet they don't want to see it divided up into "ranchettes" and second home sites. Johnson's advice to folks who are considering placing an easement on their property is to "start early! At least a year before you want to do it. You need to spend lots of time thinking about what you want to do, and be sure to include your family members in your goal setting and decision-making."

He adds, "It's a big decision. You are forever encumbering the land. By putting the easement on, I restricted future owners from developing or using the land in a manner inconsistent with my values."

When the Johnsons were considering their easement, they began by outlining the minimum restrictions required by the IRS for an easement, and then built the document from there.

"Ranchers want to know how much they need to restrict their land. They should be as specific as possible about what they want to allow. For example, I want to be able to target shoot on the place, so that is written into the document." Allowing for management flexibility in the easement was a crucial component. "American Farmland Trust was not interested in micro-managing the property, but rather making the easement a living document. I have some timber on my property, and the easement calls for best management practices as pertains to logging activities. AFT really understood our resource issues."

By placing an agricultural conservation easement on their property, the Johnsons know that now the wildlife, historical and ranching resources that drew them to the land will be maintained long into the future. They also will be better able to meet their financial goals through the income tax deduction allowed by the donation of the easement. And Johnson is hopeful that his action will prove that agricultural conservation easements are an effective tool for protecting farm and ranch land in north-central Montana. "I'm the first guy on the block. If my easement proves successful, and people see that I am not restricted in my operation and that I'm positive about it, it will plant the seed."

**Rancher Dave Johnson talks with Tim Storrow, AFT land protection manager, on Johnson's land in the Sun River Valley.**

*For information on AFT's land protection options, go to www.farmland.org/protect/index.htm.*

*Leah Burgess has lived and worked in Montana for public resource agencies. She now resides near Ft. Collins, Colorad where she works for the Rocky Mounta office of American Farmland Trust.*

# COMMUNITY OPTIONS

# CASE STUDY

## SOUTH CAROLINA POLICY SUMMARY

November 2001

### LOCAL ACTIVITY

Local farmland protection efforts are still relatively new in South Carolina. So far, activity has centered on only a few counties and has been closely involved with broader, multipurpose planning and resource protection efforts. Many of these efforts received their impetus from a 1994 statewide comprehensive planning act. The new law required local governments that use zoning to draft and implement comprehensive plans. While the act only applied to about half of all South Carolina counties, it has focused attention on land use planning in many communities.

#### BEAUFORT COUNTY

Beaufort County adopted a progressive comprehensive land use plan in 1997. The plan included lower density rural zoning and limitations on infrastructure development, with allowances for local community planning efforts. Together, these measures were designed to help protect the county's rural land resources, including agricultural and forest land.

With assistance from the South Carolina Coastal Conservation League (SCCCL) and American Farmland Trust, the county council adopted a Rural and Critical Land Preservation Ordinance in the summer of 1999, dedicating $2 million per year to the program. Over the next year, the Palmetto Conservation Foundation and The Trust for Public Land assisted the Beaufort County Land Preservation Board in developing guidelines for the purchase of development rights (PDR) program, while local advocates built public support for significant program funding.

In November 2000, Beaufort County voters approved a $40 million bond referendum to fund the new PDR program. With approval of this funding, the Beaufort County program became the most significant such program in the state. In addition to acquiring easements on agricultural and forest lands, the program will acquire land in high-growth areas for open spaces, trails and wildlife habitat. The Nature Conservancy is managing the daily operation of the program.

#### CHARLESTON COUNTY

Beginning in 1997, SCCCL and others embarked on a comprehensive, four year effort to map development trends in Charleston's rural areas and educate the public about the impacts of sprawl. The planning effort built on the successes of an earlier (1988) community-led effort to adopt 15-acre agricultural zoning on much of rural and agriculturally important Wadmalaw Island. The effort culminated in the adoption of a countywide comprehensive plan in 1999, the first such plan in the state to include widespread use of agricultural zoning. However, as the county began revising its zoning code to comply with the new plan, a strong property-rights movement coalesced within the county, slowing implementation.

In 2000, county officials and land protection advocates proposed a $0.01 sales tax increase to fund a wide range of projects, including land protection in a 46,200-acre greenbelt of farm and forest lands to separate the county's urban and rural areas. Authorized under a new state law (see **Act 368 of 2000**, below), the sales tax would have generated $1.2 billion over 30 years (though only one-fourth of this would have been for land protection). However, county voters rejected the measure by a slim margin.

During 2001, opposition to the comprehensive plan and provisions of the new ordinance fueled support for takings legislation at the state level, but locally the new Unified Development Ordinance edged closer

to completion. Finally, on November 20, 2001, the Charleston County Council voted to adopt the ordinance, albeit without some controversial elements. Among those deleted were provisions for PDR and transfer of development rights (TDR) programs, but the ordinance includes agricultural zoning in much of the county's agricultural area at 1:25-, 1:15- and 1:10-acre densities. Advocates hope to adopt the PDR program within the next few years.

### York County

In 1998, the York County Commissioners established the York County Forever Commission and approved $400,000 for the purchase of development rights and fee interests in conservation lands, including farmland. Although guidelines for the program have been drafted, the county has not yet made any purchases of easements or land.

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## Recent Legislation

Several recent bills are important for farmland protection efforts in South Carolina.

### Conservation Grant Incentive Act

House Bill 3782, the Conservation Incentives Act, was signed into law May 19, 2000, creating an income tax credit for conservation donations and creating a Conservation Grant Fund to stimulate private conservation activities. The tax credit is equal to 25 percent of the value of a federal income tax deduction for a charitable conservation contribution, up to a maximum credit of $250 per acre. In any given tax year, use of the credit is limited to the lesser of $52,000 or the extent of the taxpayer's liability. If the credit exceeds the taxpayer's income tax liability, it may be carried forward to succeeding years until all the credit is claimed. In addition, unused credit may be sold or otherwise transferred to another tax-paying entity. The South Carolina law explicitly states that "with regard to the sale or exchange of a credit allowed under this section, general income tax principles apply for purposes of the state income tax."

The Conservation Grant Fund, which will be administered by the department of Natural Resources, was created to stimulate conservation donations and to expand the capacity of nonprofit land trusts. Funding will be used to educate the public about conservation easements and fee-simple gifts of land for conservation and make monetary grants to land trusts for:

- Transaction costs of conservation donations;
- Stewardship expenses, including baseline inventories, planning and monitoring; and
- Educational activities.

Fund proceeds may not be used to purchase interests in real property.

### Act 368 of 2000

On June 14, 2000, House Bill 3993 was signed into law. The bill includes a provision authorizing counties to impose a sales tax of up to 1 percent for up to 25 years to finance a variety of transportation-related projects, including the creation of greenbelts. The imposition of the tax is subject to voter approval, and the ordinance adopting the tax and the ballot language must describe the project for which the proceeds of the tax are to be used. Officials in Charleston County had hoped to use the tax to fund a purchase of agricultural conservation easements program under the "greenbelts" provision, but the ballot measure to approve the tax was defeated (see above). The additional sales tax authority remains available for counties that choose to adopt it as funding source.

## CONSERVATION BANK ACT

On February 6, 2001, South Carolina Representative Chip Campsen introduced **House Bill 3462**, the South Carolina Conservation Bank Act <http://www.statehouse.net>. If approved, the bill would create a Conservation Bank Trust Fund to provide loans and grants to public and private entities for land conservation projects meeting a variety of purposes, including farmland, forestland, open space, wildlife habitat, water quality, wetlands, historic and archaeological resources, and recreational and parkland protection.

The Conservation Bank Trust Fund would be funded by sales of a special $48 "Conserve South Carolina" motor vehicle license plate and by $.25 of the $1.30 state tax on deed recording, which would generate an estimated $10.4 million dollars annually over the life of the bill. The act would sunset after 10 years of full funding.

In reviewing proposals for loans or grants made from the fund, awards are to be made on the basis of resource quality and financial criteria. Projects protecting multiple resources and using loans or leveraging significant amounts of funding would receive priority, as would projects using conservation easements rather than fee acquisition. A provision states that the law "must not be construed to eliminate or unreasonably restrict hunting, fishing, farming, forestry, timber management, or wildlife habitat management" on property in which an interest is obtained under the Conservation Bank Act.
The Senate approved the bill on April 4 with no funding but added a selection criteria targeting prime, unique and locally important farmland based on soil quality and other factors. The House Ways and Means Committee restored funding to the bill.

On May 30, 2001, the South Carolina House adjourned debate on the
**Conservation Land Bank Act** <http://www.statehouse.net>, putting the bill on hold until January 2002.

## FARM AND FOREST LANDS PROTECTION ACT

Introduced by Senator Leventis as Senate Bill 12, the Farm and Forest Lands Protection Act would establish a State Priority Agricultural Land Board to administer a statewide purchase of agricultural conservation easements program and establish criteria and guidelines for county-level boards. The Senate approved the bill in March 2000, but it failed in the House. The bill was rolled into the Senate version of the budget bill, but again failed to make it out through the House.

Reintroduced during the 2001 session, the Farm and Forest Lands Protection Act was accompanied by a companion bill in the House, filed by Representative Charles Sharpe as **House Bill 3111** <http://www.leginfo.state.sc.us/sessions/114/bills/1143111.html>. The Senate version received a favorable review from the Senate Agriculture Committee in April 2001, but was not taken up by the full Senate. Given serious budget problems facing the state and strong opposition from homebuilders and realtors, the bill has stalled and does not seem likely to receive further activity.

## TAKINGS LEGISLATION

Several bills targeting land use regulations were introduced during 2001 to require compensation for regulatory "takings." The most important are S. 528, introduced by Senator Glenn McConnell, and the identical H. 3995. A third bill, H. 3110, is identical to takings legislation that was defeated in 1998.

Opponents of McConnell's bill fear it would disastrously limit the ability of communities to plan for their own growth. Nonetheless, property rights advocates have mounted an aggressive campaign and appeared in force at an October hearing held by a Property Rights Task Force established by McConnell. Support for the takings legislation appears particularly strong in Charleston and Richland counties. Additional Task Force hearings are expected in the coming months. Legislative activity on the bills is expected to center in the Senate.

**United States Department of Agriculture**

USDA

NRCS Natural Resources Conservation Service

**November 2001**

# Farmland Protection Program North Carolina Summary

**Customer Focus**

In 1999, Mr. Robert Blackburn's family farm in eastern Forsyth County was enrolled in the Farmland Protection Program (FPP). Many years from now, the 59-acre farm that was purchased by his grandfather 114 years ago will remain in farmland or open space. Funding provided by FPP and Forsyth County's matching farmland preservation program enabled him to keep his land in agriculture.

"*I pulled tobacco in that field,*" he said, pointing to a new velopment of $125,000 uses. Instead of tobacco, the .arm now grows brick cluster homes. "*It's coming from every direction. Everywhere you turn all your farms are gone,*" said Blackburn.

But Mr. Blackburn has done what he could to draw a line and ensure that, at least here, the houses advance no further. By selling his development rights to Forsyth County, Robert Blackburn's land can never be turned into condominiums, strip malls or business parks.

For Blackburn, the decision to sell the developments rights on his land was about preserving the choice for his grandchildren.

"*Once you fill it up with houses, it's gone. There ain't no more farming,*" he said. "*I know I could hold off and get more money out of this eight or ten years down the line. But I wanted a place where, if my kids and my grandchildren wanted to grow some vegetables or something, it'll be ere.*"

**Overview** The USDA Farmland Protection Program (FPP) helps farmers keep their productive land in agriculture. The program assists states, tribes, local governments and non-profit organizations by purchasing conservation easements for the purpose of limiting conversion to non-agricultural uses. NRCS provides up to 50% of the easement cost to the cooperating entity, which acquires, manages, and enforces the easement. Landowners participate voluntarily, and protected farms remain in private ownership. Every protected farm operates under a conservation plan approved by the local Conservation District. Nationally, $52.5 million has been obligated to state and local entities since establishment of the program in 1996. Proposals were accepted in 1996, 1997, 1998, and 2001.

**Accomplishments** The FPP has been active in North Carolina since 1996 when the first FPP allocation was received. Since 1996, FPP has expanded from one county to three counties. In Forsyth County, the Forsyth County Farmland Preservation Program was started in 1986 due to the rapid loss of prime farmland to non-agricultural uses. Since 1987, nearly $3 million have been paid to buy or lease development rights on 1,605 acres of farmland. To date, 27 farms have enrolled in the program with county expenditures at approximately $2.5 million, State expenditures of $167,092, and Federal expenditures of $331,144. In Gaston County, 170 acres in easements have been protected, with Federal shares of $150,000, and a total cost in easements of $417,000. During 2001, a total of $578,000 was allocated to three land trusts to purchase conservation easements on over 600 acres of agricultural land.

**Outlook** According to 1997 NRI data, NC is one of the most rapidly developing states in the nation. Loss of farmland is a primary concern throughout the State; however, the Piedmont region is currently experiencing the greatest development pressures. The interstate corridor from Raleigh to Charlotte is developing at a much greater pace than the rest of the state. Even the Coastal Plain region, where most of the agricultural land is located, is beginning to experience significant urbanization in several counties. From 1999 to 2001, many counties enacted farmland preservation ordinances, established voluntary agricultural districts, and began to explore funding options for purchasing conservation easements. The land trusts throughout NC continue to play a major role in preserving farmland by identifying potential participants, supplying the matching funds for the FPP grants, and providing the administrative support for acquiring the easements. Since 2000, the State has provided substantial funds for farmland preservation. Requests for money from counties and land trusts exceed the available public resources, with over $2 million in matching Federal funds requested. If population continues to increase, as it has in the recent past, the challenge of land use planning to preserve agriculture lands, while meeting the residential and commercial needs of the increasing general public, will be a monumental task.

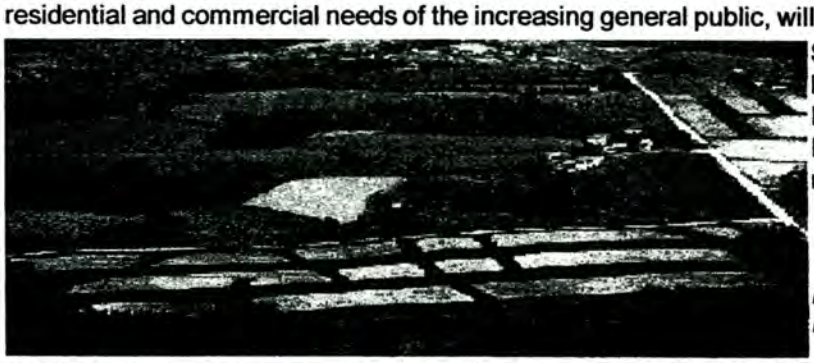
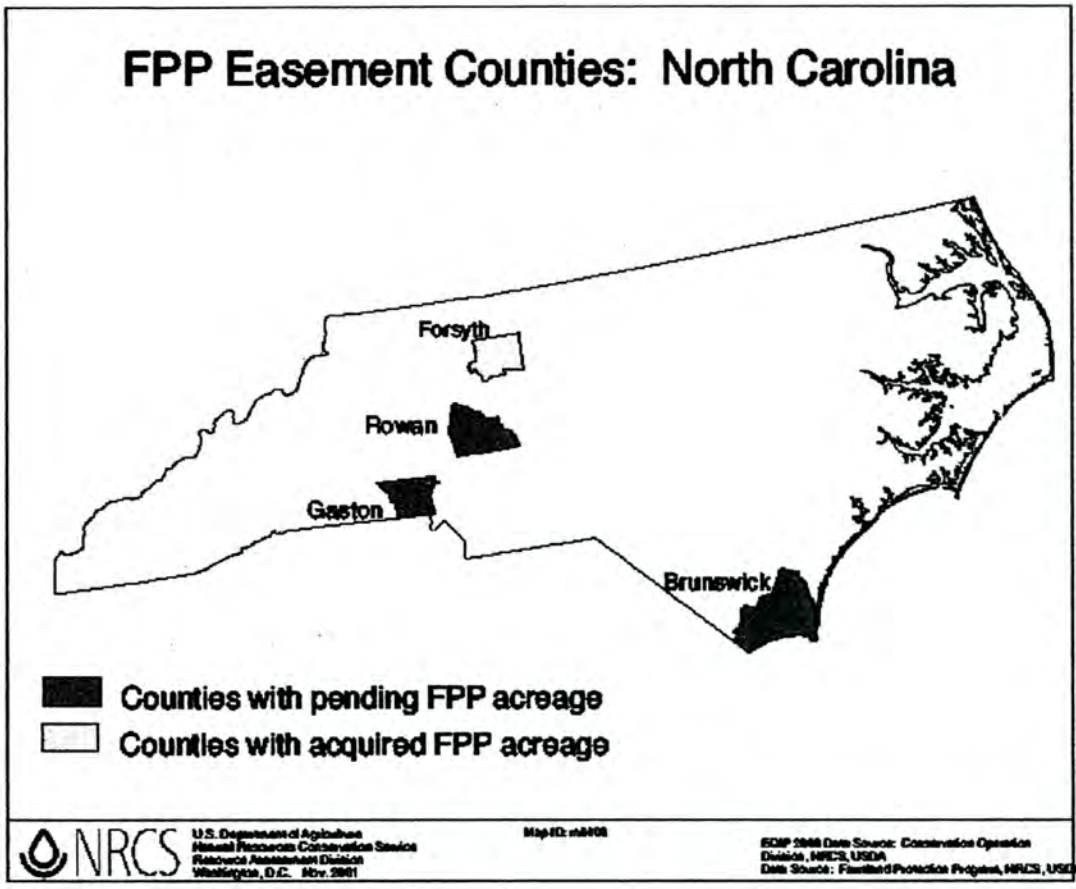


*Photo of NC Farmlands*
*Photo by: NRCS*

**State Contact:**
Mike Sugg, FPP Manager
Phone: (704) 637-2400
Email:
mike.smugg@nc.usda.gov




**NC Farmland Protection Program**
**(As of October 2001)**

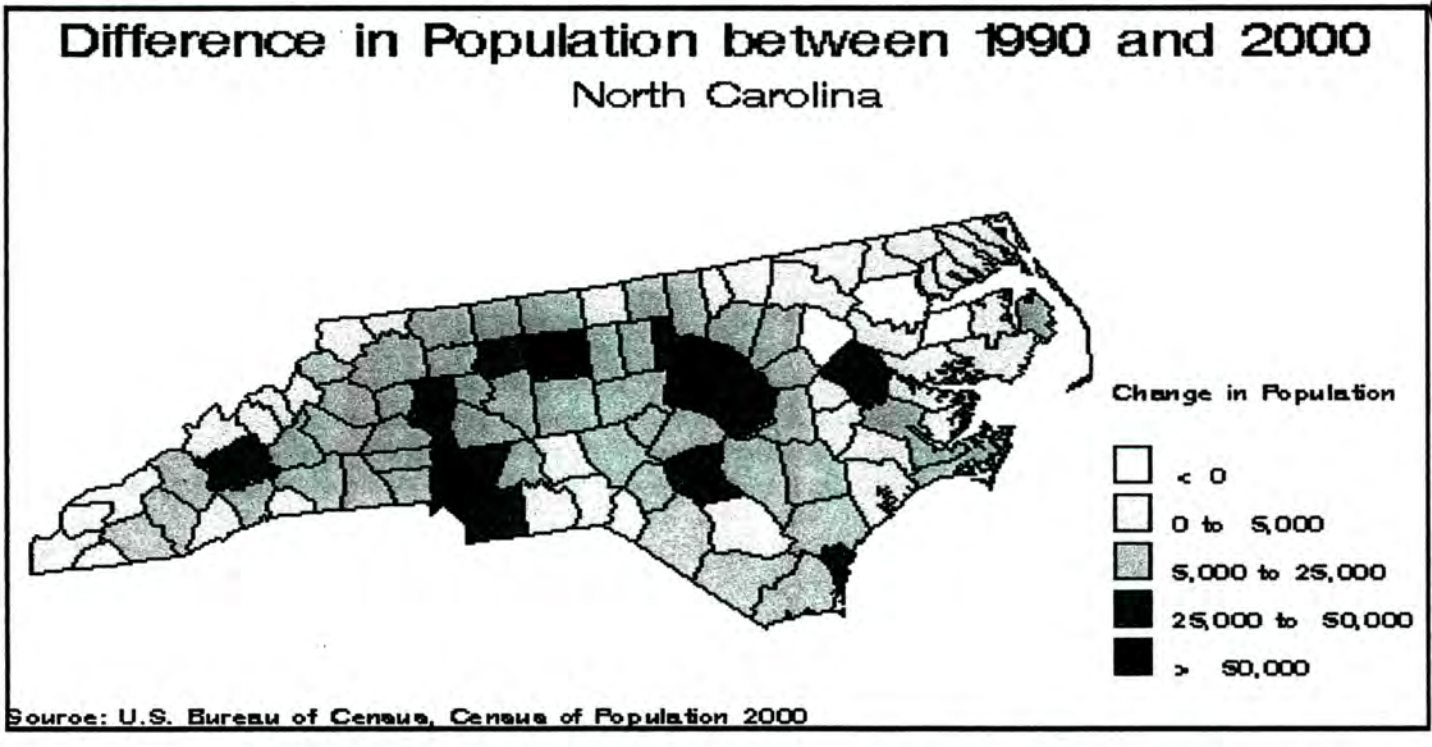
**County:** Brunswick / **Acres:** 268
**Total Easement Cost:** $520,000
**Average per acre:** $1,940
**Federal payment amount:** $260,000
**Percentage:** 50%

**County:** Rowan / **Acres:** 241
**Total Easement Cost:** $400,000
**Average per acre:** $1,660
**Federal payment amount:** $163,800
**Percentage:** 41%

**County:** Gaston / **Acres:** 170
**Total Easement Cost:** $300,000
**Average per acre:** $1,765
**Federal payment amount:** $150,000
**Percentage:** 50%

**County:** Forsyth / **Acres:** 343
**Total Easement Cost:** $706,382
**Average per acre:** $2,059
**Federal payment amount:** $331,144
**Percentage:** 47%

**TOTAL ACRES:** 1,022
**EASEMENT COSTS:** $1,926,382
**AVERAGE PER ACRE:** $7,424
**FEDERAL PAYMENT AMOUNT:** $904,944
**PERCENTAGE:** 47%



# CASE STUDY

## PURCHASE OF DEVELOPMENT RIGHTS PROGRAM
## STATE OF PENNSYLVANIA
May 2001

With easements on more than 186,000 acres of farmland, Pennsylvania's PDR program ranks first in the nation and currently is the nation's fastest growing state program. The program was launched with the approval of a $100 million bond issue in 1987. Authorizing legislation was enacted in 1988 and became effective in February 1989.

### PROGRAM PURPOSES

The primary purpose of the program is "...to provide means by which agricultural land may be protected and enhanced as a viable segment of the Commonwealth's economy and as an economic and environmental resource of major importance."

In addition, the program is intended to:
- Encourage landowners to make a long-term commitment to agriculture by offering them financial incentives and security of land use;
- Protect farming operations in agricultural security areas from incompatible nonfarm land uses that may render farming impracticable;
- Assure permanent conservation of productive agricultural lands in order to protect the agricultural economy of the Commonwealth;
- Provide compensation to landowners in exchange for their relinquishment of the right to develop their private property; and
- Leverage state agricultural easement purchase funds and protect the investment of tax payers in agricultural conservation easements."

### ADMINISTRATION

The Pennsylvania program is administered by the state Department of Agriculture's Bureau of Land Protection and the State Agricultural Land Preservation Board in cooperation with county Agricultural Land Preservation Boards. The state Agricultural Land Preservation Board is made up of 17 members. Twelve must represent agricultural interests and include:
- The Secretary of Agriculture;
- The Chairman and Minority Chairman of the House Agriculture and Rural Affairs Committee, or their designees;
- The Chairman and Minority Chairman of the Senate Agriculture and Rural Affairs Committee, or their designees;
- The Dean of the College of Agriculture of the Pennsylvania State University;
- An individual, appointed by the Governor with significant knowledge in agricultural fiscal and financial matters; and
- Five active, resident farmers appointed by certain elected officials.

The board is responsible for selecting an easement purchase threshold, approving county programs and approving county recommendations for easement purchases.

The Department of Agriculture's Bureau of Farmland Protection employs eight full time staff people who implement the program on a day-to-day basis. Program staff are primarily

responsible for reviewing applications. They also provide administrative guidance to county boards. Two, in-house legal staffers handle title issues and contracts. The Bureau does not employ review appraisers. Instead, the counties hire state-certified appraisers and state program staff review appraisals for compliance with state regulations. The program has the authority to hire review appraisers and may move in that direction.

Counties with Agricultural Security Areas—units of 250 or more acres in active agriculture that are formed by landowners and designated by local governments—are permitted to create county programs to acquire easements. The county program must be approved by the state board and is re-certified every seven years. Only counties with state-approved programs are eligible to submit applications for state funding. Counties can receive state grant funds and state matching funds. Currently, 50 of the state's 67 counties are eligible to participate.

County programs are administered by County Agricultural Land Preservation Boards. County boards must be authorized by county resolution and are appointed by the county governing body. County boards are required to develop county ranking criteria (that follow state guidelines), make recommendations for purchases to the state board, execute agreements to purchase easements in the name of the county, maintain records and monitor and enforce the easements. They are required to work with the county planning commission to develop maps identifying important agricultural areas where development is occurring or is likely to occur in the next 20 years.

Act 138 of 1998 authorizes townships to purchase easements, however they are not eligible to receive state funds.

Although private organizations cannot hold easements with the state, they help protect farmland by pre-acquiring easements. Act 15 of 1999 recognizes the important role played by nonprofits by allocating up to $500,000 from the Supplemental Agricultural Conservation Easement Purchase Account for reimbursement grants of up to $5,000 to cover incidental land acquisitions costs (e.g., appraisal costs, legal services, title searches, document preparation, title insurance, closing fees and survey costs).

The state program does not typically work with other state land protection agencies.

### ACTIVITIES FUNDED

The program is authorized to buy perpetual easements on farmland, if recommended by a county and approved by the state board. Originally, the law also enabled the state to purchase 25-year easements for 10 percent of the value of a permanent easement. This option was eliminated by legislative amendment in 1994, before any term easements were purchased. The provision was eliminated because there was little landowner interest in term easements—primarily because of the 10 percent cap—and because state officials decided that it didn't make sense to spend money on less than permanent protection. The state cannot buy land in fee. The state is required to review and certify county easement acquisition programs.

### FUNDING SOURCES

The program was launched with the approval of a $100 million bond issue in 1987. In 1991, the legislature adopted House Bill 185 that dedicated a portion of the cigarette tax (two cents per pack) beginning on July 1, 1993. The tax has generated more than $20 million each year for easement acquisitions.

While Pennsylvania boasts one of the best-funded programs, there is concern about the sustainable nature of cigarette tax revenues. With declines in the number of smokers and the possibility of additional federal cigarette taxes, the result may be lower sales and decreased tax revenues. The state is considering alternate sources of funding.
In the spring of 1999, the legislature appropriated an additional $43 million in supplementary funding to address the backlog of applications. Of this, $500,000 was earmarked for the development of an Installment Purchase Agreement program to stretch public dollars, and $500,000 was made available to land trusts to reimburse transaction costs.

On December 15, 1999, governor Tom Ridge signed the Growing Green program into law following overwhelming approval in both houses of the General Assembly. The program provides $646 million over five years to a variety of environmental and conservation programs, including $100 million for farmland protection. This money will be disbursed in five equal installments.

To date, Pennsylvania has received more than $2 million from the federal Farmland Protection Program.

### ELIGIBILITY CRITERIA

Only counties with certified county programs can submit recommendations for the purchase of easements to the state board.

In addition, the state requires that farms:

- Be located in Agricultural Security Areas (ASAs) encompassing at least 500 acres;
- Be contiguous acreage of at least 50 acres or 10 acres if it is used for a crop unique to the area or is contiguous to a protected property;
- Contain at least 50 percent of soils that are both available for agriculture and fall into USDA NRCS capability classes I – IV; and
- Contain 50 percent or 10 acres, whichever is greater, of harvested croplands, pasture or grazing land.

Counties may develop additional criteria, such as crop yields or annual gross farm income, but the state board must approve them.

### RANKING CRITERIA

Counties must evaluate farms using a modified land evaluation and site assessment (LESA) system. The state mandates the relative weight of the LE and SA components. State guidelines require that the LE account for at least 40 percent, but not more than 70 percent of the total LESA score and specify how to calculate the LE score (i.e., the relative value of the soils).

To determine the site assessment score, counties must consider factors in three different categories: Development Potential, Farmland Potential and Clustering Potential. Each category must account for a minimum of 10 percent and maximum of 40 of the total LESA score. The state also specifies the number of factors that can contribute to each category. For example, the state directs counties to use three to ten factors to score Development Potential. In addition, the state requires the use of specific factors. Counties must consider the availability of sanitary sewer and public water to measure Development Potential.

Counties may include additional criteria or substitute criteria with the approval of the state board.

## PROGRAM PROCEDURES

### Allocation of Funds

By March 1 of each year the state board sets an annual easement purchase threshold and allocates funds to counties. The threshold must be at least $10 million.

Half of the annual threshold is distributed to counties based on the amount of real estate activity within the county as measured by real estate transfer tax revenues. This allocation is referred to as "state grant funds." It is calculated by multiplying the "adjusted weighted transfer tax revenues" for each county by half of the annual threshold. "Adjusted weighted transfer tax revenues" equal "weighted transfer tax revenues" for each county divided by the "weighted transfer tax revenues" for all counties (except urban counties; i.e., Philadelphia). "Weighted transfer tax revenues" are the amount of transfer tax revenues collected by each county during the preceding year (except Philadelphia) capped at three times the statewide average (excluding Philadelphia).

The balance of the annual threshold is distributed to counties based on local contributions and county agricultural production. This additional allocation is commonly referred to as "state matching funds." For most counties the "match" equals the annual appropriation of local funds for easement purchases multiplied by four. It cannot exceed the average annual "state grant" multiplied by four. Counties that have an annual agricultural production that represents at least two percent of the state annual agricultural production for the same year (based on figures from the Pennsylvania Agricultural Statistics Service) receive an additional sum. It is calculated in the same way—the annual appropriation of local funds for easement purchases multiplied by four but capped at four times the average annual allocation of "state grant funds."

If the allocation of "state matching funds" equals more than 50 percent of the annual threshold, the state uses an alternate formula. The alternate formula is calculated by multiplying half of the annual threshold by the annual local appropriation expressed as a percentage of funds allocated by all counties. This amount cannot exceed the average annual allocation of "grant funds" multiplied by four.

Sixty percent of the funds remaining after the initial distribution of "matching funds" are distributed using the alternate formula. The cap (four times the average state grant) is not applied at this stage. Forty percent of the funds remaining after the initial distribution of "matching funds" are distributed to each county based on "adjusted weighted transfer tax revenues."

The allocation process was developed to target counties under more intense development pressure, counties that invest in farmland protection and the state's most productive agricultural counties. However, the process for distributing state matching funds has not kept pace with the dramatic increase in local matching funds. The state routinely uses the alternate formula to allocate matching funds because the standard methodology would exceed 50 percent of available funds. State officials may ask the legislature to amend the law to earmark a larger percentage of the annual threshold for "state matching funds."

### Application Process

Landowners obtain application forms from approved county boards. The county board reviews applications to determine if they meet the eligibility criteria. If the application is complete and meets the minimum criteria, an agent or member of the county board visits the farmland tract and discusses the county program with the applicant. Then, the county board ranks the applications

using the county ranking criteria. The ranking score determines the order in which farms are selected for appraisals. The highest ranked farms are selected first.

In deciding which farms to protect after the appraisals have been conducted the county board must consider:

- The farmland ranking score;
- The cost of the project; and
- Other factors or considerations set forth in the approved county program (e.g., whether the applicant has demonstrated clear title).

Offers to purchase easements are submitted to landowners in writing and are accompanied by the appraisal reports. Within 30 days applicants may accept or reject the offer, or seek another appraisal at their expense. If the offer is accepted, the county board and the applicant enter into an agreement of sale conditioned upon the approval of the state board.

A county board makes its recommendation for the purchase of an easement by submitting twenty-two copies of a standard summary report to the state board that includes:

- A description of the farm;
- A description of the soils;
- The farmland ranking score and its relative rank in the current application round;
- The likelihood of conversion to other uses if the easement is not purchased;
- A description of the nature of development pressure in the area;
- A description of the nature and scope of conservation practices and best land management practices in place;
- A discussion of the purchase price; and
- Supporting documentation.

The state board must make decisions within 60 days of receiving a complete recommendation for purchase. If the recommendation for purchase is approved, the state board will execute the agreement of sale.

This past year, the state purchased about 300 easements. They are reporting a backlog of more than 1,600 applications.

**Easement Valuation**

State law specifies that the value of the easement is the difference between market value and farmland value as determined by a state certified appraiser. The appraisal is based on comparable sales. If the seller disagrees with the appraisal, they are entitled to select and retain a separate independent state-certified general real estate appraiser.

Lancaster County is experimenting with a point system to determine easement values for projects that they are undertaking without state funding. The county has found that the use of a point system has speeded up the application process. The state is considering a pilot program that would allow counties to use a point system on a state-funded project. This, however, would require an amendment to state law.

**Project Cap**

Regardless of the easement value, the state contribution toward the purchase price cannot exceed $10,000 per acre. This cap was established in 1994. Counties can use county funds to make up the difference. Currently, the legislature is considering a bill to remove the cap. A legislator from

Montgomery County, where easement values typically average $15,000 per acre, sponsored the bill.

**Payment Options**
Historically, payments could be made in a lump sum or in installments over a maximum of five years. Landowners negotiated the installment payment terms (e.g., dates of payments, interest rate on the outstanding balance) with the county board. Funds to cover principal and interest were encumbered at closing.

In the spring of 1999, the legislature appropriated $500,000 for the development of an Installment Purchase Agreement (IPA) program to stretch public dollars. A new state law authorizes installment payments over as many as 30 years and authorizes counties to invest state grants at closing in U.S. Treasury obligations to cover future principal, and possibly interest, costs. The state set up a model program through the recently adopted New Garden General Authority so that any county could offer this payment option to interested landowners. The state currently is educating county agricultural land preservation boards and landowners about IPA. State officials expect to close on their first IPA transaction in April.

## EASEMENT PROVISIONS

Counties are required to use the state's model easement, which is included in the program regulations. All easements are reviewed and approved by program staff. Key provisions are listed below.

**Residences**
One additional residence is permitted by right if:

- It serves as the landowner's principle residence or to house on-farm labor;
- No other residential structure has been constructed on the restricted land since the easement was granted;
- The house occupies no more than two acres; and
- The structure and driveway do not significantly harm the economic viability of land for agricultural production.

The replacement of an existing residential structure is permitted if the existing structure is razed and the new structure is erected within the same footprint. Renovation and modification is allowed if it does not increase the footprint of the residential structure.

**Agricultural Structures**
The construction or use of any building or other structure for agricultural production, or the renovation or modification of an existing agricultural structure is permitted, but the county program may limit maximum building coverage. County authority to limit coverage followed the construction of greenhouses in Lehigh County that covered close to 50 percent of the protected farm. Since the 1997 amendment, a few counties have limited coverage to no more than five to 10 percent of the parcel.

**Subdivision**
Originally the program allowed subdivision if it did not harm the agricultural viability of the resulting tracts. But this language was too vague. In 1994, the program tightened up the requirements. Now subdivision cannot result in parcels that do not meet the program's eligibility criteria. In addition, the change authorized counties to adopt more stringent criteria than the state's standard. According to state program staff, some counties do not allow subdivision of

protected farms. This was a thorny issue and now program managers have to track two classes of easements.

**Timeline**
In general, it takes 12 to 18 months to complete an acquisition.

**Public Access**
Public Access is not addressed in the model easement.

**Mineral Rights**
Landowners (or the owners of these interests) are permitted to grant leases, assignments or other conveyances or to issue permits, licenses or other authorizations for the exploration, development, storage or removal of coal, oil and gas by "underground mining methods." According to staff, surface mining is not permitted.

## MONITORING AND STEWARDSHIP

The county board is primarily responsible for monitoring and enforcing easements. The state board or its designee reserves the right to inspect restricted land on its own behalf or in conjunction with the county board. Counties are required to inspect protected farms annually. Within ten days of conducting an inspection the county board must prepare a written report that identifies the land that was inspected; provides the name of the owners at the time the easement was originally acquired and the name of the current owner; a description of modifications in the number, type, location or use of any structures on the land since the date of filing of the deed of easement; a description of any deviations from the conservation plan observed on the restricted land; and a statement of whether the provisions of the deed of easement are being observed. A copy of the inspection report must be mailed to the property owner. County boards are required to submit annual reports that summarize the number of inspections, violations detected, violations resolved and the circumstances surrounding unresolved violations to the state board.

According to the terms of the model state easement, all agricultural production on the subject land must be conducted in accordance with a conservation plan approved by the County Conservation district or the county board. Plans must be executed by the closing on the easement. The conservation plan must be updated every ten years or upon any change in the type of farming. The plan also must include an installation schedule, maintenance program and a nutrient management component. Plans are not required to be eligible for the program, however, ranking criteria may prioritize farms with plans in place.

## EASEMENT TERMINATION

The Commonwealth can extinguish an easement after 25 years if the land is no longer "viable agricultural land." This authority is contingent upon the approval of the state board, and the county, subject to the approval of the county board. The landowner must pay an amount equal to the value of the easement at the time of resale as determined by an appraisal.

## CONTACT

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# CASE STUDY

## TRANSFER OF DEVELOPMENT RIGHTS PROGRAM
## MONTGOMERY COUNTY, MARYLAND

May 2001

### BACKGROUND

Montgomery County, Maryland lies immediately northwest of Washington, D.C., between the Potomac and Patuxent Rivers. The southeast portion of the county is enveloped in the greater D.C. metropolitan area and contains the cities of Bethesda, Silver Spring, Wheaton and Rockville. The county's population grew by more than 89,000 people between 1990 and 1999 to 850,000, representing the largest population gain in the state. Yet, despite intense development pressure, the northwest part of the county remains rural and is in active agricultural use. Major commodities include nursery and greenhouse crops, dairy products and horses and ponies. Agricultural sales totaled $28,563,000 in 1997.

Montgomery County was the first county in Maryland and one of the first counties in the nation to respond to sprawl. It became a desirable place to live in the 1950s because of the easy commute to the nation's capital. Montgomery's population more than doubled between 1950 and 1960 from 164,000 to 340,000, making it the fastest growing county in the state. After witnessing the loss of productive farmland during the 1950s and 1960s in the southeastern part of the county, elected officials decided to protect the remaining farmland in the northwestern section.

In 1969, the County Council adopted a plan called *On Wedges and Corridors*. The plan recommended protecting agricultural land and open space. The wedges represented the rural areas and the corridors represented the developed area in the southeastern section. The goal of the plan was to concentrate future growth in the corridors. In addition, the plan is important because it was the county's first public document to recognize that farmland is necessary for the survival of the agricultural industry.

In 1973, the Montgomery County Council adopted a Rural Zone, which covered approximately one third of the county, to establish a five-acre minimum lot size. This modest downzoning was intended to slow land development, but it actually accelerated conversion. Enough people had enough money and the desire to develop at the lower density so that during the 1970s, the county lost approximately 3,000 acres of farmland a year.

In response, the county appointed a task force to consider tools to stem farmland loss. The task force considered strengthening its zoning, creating a purchase of development rights (PDR) program, and transfer of development rights (TDR) program. Task force members, however, concluded that PDR was too expensive. They also were concerned about adopting restrictive zoning without compensating landowners. As a result, the group recommended a combination of agricultural protection zoning and TDR.

In 1980, the County Council adopted a functional master plan entitled *Preservation of Agriculture and Rural Open Space*. To implement the plan the county designated an 89,000-acre Agricultural Reserve and rezoned this area as the Rural Density Transfer (RDT) zone. In the reserve, residential development was decreased from one unit per five acres to one unit per 25 acres. The

downzoning was based on a county study that found that this was the minimum acreage that could support a farm family on a cash crop, direct market basis.

The Agricultural Reserve became the designated "sending area." Landowners in the sending area would have the right to sell their development rights for use in designated "receiving areas."

A lawsuit filed by a group of property owners from the Agricultural Reserve in the early 1980s charged that they had suffered a loss in property value because receiving sites had not been designated prior to the downzoning. A circuit court judge ruled that the downzoning was valid on its own merits and did not depend on the TDR program.

The first transfer was completed in 1983. By 1997, the program had protected 38,251 acres of farmland. Participation dropped off in subsequent years. By the summer of 2000 the program only had protected an additional 2,332 acres to bring the total to 40,583 acres.

## PURPOSE

The purpose of Montgomery County's TDR program is to preserve farmland and rural open space in the Agricultural Reserve.

## ADMINISTRATION

Two public entities play a role in administering the TDR program. The Maryland-National Capital Park and Planning Commission (M-NCPPC) is a bi-county agency that serves as the planning agency for Montgomery and Prince George's counties. Staff develop master plans for each of the county's 21 planning areas that identify land for inclusion Agricultural Reserve and / or additional receiving areas; review preliminary subdivision plans and site plans that propose the use of TDRs; monitor the capacity of receiving areas; and enforce the zoning in the RDT. Montgomery County's TDR program falls under the jurisdiction of the "rural" team within M-NCPPC's Community-based Planning Division.

The Agricultural Services Division is a unit within the county's Office of Economic Development that administers the county's farmland protection programs. Division staff educate farmers in the Agricultural Reserve about this farmland protection option and help monitor the effectiveness of the program.

## PUBLIC EDUCATION

In the early 1980s planning staff held a series of public meetings in both sending area and receiving area communities to educate landowners about the TDR program. The planning board also published *Plowing New Ground*, a series of questions and answers to explain the county's TDR program. It was revised and reprinted in 1986 and 1990. It is still available today. M-NCPPC continues to take the lead in educating the general public about the program. Staff in the rural team of the Community-based Planning Division respond to requests from landowners and the general public. The Agricultural Services Division also works to educate landowners and the general public about the TDR program.

## PROGRAM PROCEDURES

### Transfer Process

Farmland owners sell TDRs or options to buy TDRs to interested buyers. Since the number of TDRs needed for a receiving site project is not certain until the site plan is approved, TDRs in Montgomery County are typically secured under option contracts.

To use TDRs, buyers file preliminary subdivision plans for the receiving site property with the Montgomery County Planning Board (i.e., M-NCPPC). The board must act within 60 days. Once the preliminary plans are approved, applicants file a site plan. The site plan must show the total number of dwelling units including TDRs and affordable housing units. Montgomery County requires site plan approval of receiving site projects to ensure that the transferred density does not overwhelm the receiving site or cause problems for adjacent properties.

Upon site plan approval, the buyer submits a Record Plat of Subdivision to the M-NCPPC for final approval. At this point, sellers typically file a deed of transfer with the county attorney's office to convey the TDRs to the buyer *and* an easement on the farmland in the sending area that limits the development potential of the property the number of rights retained. (See Attachment A for deed of transfer template and Attachment B for easement template). Both the deed of transfer and the easement must be recorded prior to final planning board approval of the record plat.

Sellers may opt to "separate" TDRs from the property earlier in the process. However, once the rights are separated they cannot be reattached to the sending area property. Each TDR is assigned a serial number by the county attorney's office when the TDR easement is approved and recorded. The serial numbers of TDRs used to increase base density must be listed on the record plat.

Once the applicant has received final planning board approval, the record plat is recorded in the Office of Land Records with an extinguishment document that certifies that the TDRs are no longer available for transfer. At this point, the applicant is eligible for a building permit.

The time to process an "application" or proposal for use of the TDRs is comparable to the normal subdivision review process. (See Attachment C for more information on this process.) In addition, the county has priority categories of providing sewer and water service. If a development using TDRs passes an adequate public facilities test and receives site plan approval from the planning board, it advances to a higher priority category.

**Sending areas**

Potential sending sites are located in the Rural Density Transfer (RDT) zone. The RDT or Agricultural Reserve was originally 89,000 acres. The boundaries of the reserve followed natural features like stream valleys. Where no natural features existed, developable land immediately outside the reserve was zoned for low-density rural residential use. The reserve has expanded as additional planning areas within the county designated additional acreage as a RDT zone. Today, the RDT or Agricultural Reserve encompasses a bout 93,000 acres.

In general, the RDT zone limits on site development to one unit per 25 acres. There are two exceptions for lots that are at least 25 acres:

- Tenant houses and mobile homes associated with farming activities; and
- Lots for children of individuals who owned sending sites prior to the RDT zoning.

However, a development right must be reserved for every permanent dwelling on the sending site, regardless of whether the units were built before or after the RDT rezoning.

All lots less than 25 acres that were recorded before the RDT zone are exempt from the RDT regulations. In other words, landowners are permitted to develop their land according to the prior zoning, which allowed one house per five acres. However, in these cases, landowners must reserve a TDR for each dwelling on a lot 10 acres or larger recorded prior to the creation of the

RDT zone. After the construction of one home, further development on these pre-RDT lots must comply with the regulations of the RDT zone.

**Receiving areas**
Montgomery County has identified receiving areas in 15 of the county's 21 planning areas. At first the receiving areas were designated by each community's master plan. However, in 1987, the Maryland Court of Appeals ruled that the designation of TDR receiving sites should appear in the zoning code. As a result, the county adopted a comprehensive zoning ordinance in 1987 that established TDR receiving zones in those communities with TDR receiving areas in their master plans.

**Allocation of rights**
In general, landowners in the sending area are awarded one development right for every five acres regardless of the physical limitations of the land that might have prevented development.

**How rights are applied**
TDRs are used to increase residential density in established receiving areas. Zoning districts in receiving areas contain two separate density limits. A baseline limit sets the density maximum for projects in which developers choose not to use TDRs. A higher limit is permitted for projects that use TDRs. The developer is not guaranteed the density allowed by either limit. The actual density may be less than the maximum allowable density due to various site constraints and environmental limitations.

Typically, county planners approve only marginal increases in lot yield. For example, six single family detached dwellings per acre are permitted as opposed to four without TDRs. Still, there has been opposition from neighbors of potential receiving areas. In the late 1980s, a "not in my backyard" (NIMBY) lawsuit halted implementation of the TDR program and necessitated the County Council to reauthorize the program.

Other than through TDR, the only way a developer can exceed the base density of a receiving site is by providing moderately priced dwelling units or MPDUs. The county allows increases in residential density for projects that include a certain percentage of MPDUs. If the project meets this criteria, the allowable density may be increased an additional 20 percent beyond the density allowed under the TDR-only option.

Montgomery County requires the density increase granted to individuals using TDRs to represent at least two-thirds of the maximum allowable increase. This rule was meant to ensure efficient use of designated receiving areas.

**TDR values**
The private market sets the value of TDRs. Initially, TDRs sold for about $3,500 apiece or $700 per acre. The market price of TDRs rose to a peak of $11,000 in 1996, but has declined to between $6,500 and $7,500 in 2000.

The primary reason values rose in the early years was due to the fact that the county began a PDR program in 1988. The average price of TDRs doubled within three years of the inauguration of the PDR program. Notably, Montgomery County uses a formula to determine easement values for purchase instead of relying on appraisals, which would have reflected limitations on development imposed by the current zoning. (See Attachment Q for easement formula.) The PDR program offered landowners another option for receiving compensation and set a floor for TDR

prices. However, values have declined as developers determined that it is more profitable to build houses on larger lots than to increase the density with TDRs.

**TDR bank**

The county created a County Development Rights Fund in 1982 to ensure that landowners in the sending area could sell TDRs or use TDRs as collateral to secure loans. The county ordinance created a Development Rights Fund Board to buy TDRs and to guarantee loans made by private lending institutions. The fund was intended to be a last resort. Before becoming eligible to submit an application, landowners were required to try to sell their TDRs in the open market or to secure a loan using the TDRs as collateral. The fund was never used and was eliminated by 1990.

### INCENTIVES FOR PARTICIPATION

Montgomery County's program is often categorized as a "mandatory" TDR program because restrictive zoning was adopted to reduce the amount of residential development allowed in the sending area. To realize the full equity based on the prior zoning, landowners must participate in the TDR program.

In addition, Montgomery County has been careful to make TDR the primary means of exceeding the base zoning of a receiving site. The only alternative is for the development of affordable housing.

As a further incentive, Montgomery County's capital improvements program ensures that sewer, water, transportation and other public services are extended into receiving areas, rather than sending areas where they could subvert the program's goal of farmland preservation.

For buyers, the incentive is that TDRs allow them to build more residential dwelling units. However, more recently, developers have found that it is more lucrative to build fewer houses at lower densities, which has decreased the market for TDRs.

### EASEMENT PROVISIONS

The county has developed a standard easement for TDR transactions. The model easement is significantly different from the model agricultural preservation easement used by the county's PDR program. The standard TDR easement does not address agricultural structures, future subdivision, mining, or the development and implementation of a soil, water and forestry conservation plan. This is because the TDR program was developed primarily to reduce residential density in the sending area. The easement document does not attempt to control other uses and activities. The easement specifies that a residential dwelling may not be constructed, occupied or maintained on the property unless a development right is retained with the property for each home. The easement specifically states "...nothing herein may be construed to convey to the public a right of access or use of the property...."

### MONITORING AND STEWARDSHIP

The Maryland-National Capital Park and Planning Commission (M-NCPPC) enforces the zoning in the county's sending area. Staff review subdivision plans and check the TDR records prior to granting approval. In addition, the county's permitting entity reviews the TDR records before issuing building permits.

Landowners who have sold TDRs are not required to develop or implement a conservation plan.

## EASEMENT TERMINATION

The standard easement for TDRs does not provide an administrative process for termination. This is because the development potential still exists and, in most cases, is transferred to another location. In contrast, the model agricultural easement for the Montgomery County PDR program contains an administrative process for terminating the easement after 25 years if the grantee determines that "...conditions on or surrounding the Property have changed so much that it is no longer suitable for the Property to be used for agricultural production...."

## CURRENT ISSUES

A significant issue confronting the Montgomery County TDR program is the fundamental change in market forces. In general, individuals desire and now are willing to pay for larger lots in both the sending area and the receiving areas.

In the sending area, this trend is evident in the escalating value of the "fifth TDR" While most landowners in the sending area are compelled to transfer four out of five TDRs, the fifth TDR can be reserved for on-site development in the sending area. Individuals are buying these TDRs to build country estates. Once a high-end home is built on the sending area property, it becomes unaffordable for commercial farmers. Also, because there are no siting requirements the "fifth TDR" is fragmenting the land base. In some cases, landowners are opting to build houses in the middle of 25-acre tracts.

The county has considered a number of approaches for dealing with the "fifth TDR." One option is to require mandatory clustering in the sending area, however county officials believe that landowners will be unlikely to support additional restrictions. Plus, clustering may not be a workable solution given septic requirements and the physical constraints of many of the sending area properties. Another idea is to use a county-funded land protection program to buy out the fifth TDR on key properties.
Private groups also have offered solutions. A new land trust was established in the county to encourage landowners to donate the fifth TDRs.

Likewise, in the receiving areas it has become more lucrative for developers to build houses on relatively larger lots (i.e., to build at the base densities). According to Jeremy Criss, Agricultural Services Division Manager with the county's Office of Economic Development, TDR prices have dropped over the past five years and the TDR program has stalled.

Identifying additional, viable receiving areas continues to be an obstacle for the TDR program. A wave of environmental regulations adopted after receiving areas were identified reduced the allowable density. In some cases, the reduction in density due to environmental requirements fell below the required minimum density increase for developers using TDRs. The planning board has the option to wave the TDR minimum, but the conflict frustrates developers nonetheless. At the same time, civic associations and county residents have objected to new receiving areas in their communities. Finally, identifying receiving areas requires Maryland-National Capital Park and Planning Commission to undertake a lengthy master planning process plus a zoning map amendment. The entire process can take up to five years.

In February, a county TDR task force and advisory group held their first meeting. The group is working with a team of graduate students from the University of Maryland to update the county's status report on the availability of TDRs and viable receiving sites. Once this data is collected the group will recommend ways to reinvigorate the program such as developing a faster process to

identify new receiving areas and proposing other uses for TDRs (e.g., additional parking spaces or commercial square footage).

**RESOURCES**

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# CASE STUDY

## FARM VIABILITY ENHANCEMENT PROGRAM
## STATE OF MASSACHUSETTS

May 2001

### DESCRIPTION

The Massachusetts Farm Viability Enhancement program was created in 1994 to improve the economic productivity and environmental integrity of participating farms. The program has two phases. In Phase I, a participating farmer will work with a planning team to develop a plan to increase on-farm income and preserve the farm's environmental resources. Consultants analyze the current operation and may recommend ways to improve efficiency and increase on-farm income, such as improved management practices, diversification, direct marketing, value-added initiatives and agri-tourism. The team also makes recommendations to prevent pollution and conserve resources.
In Phase II, funding is available to participating farmers to implement the plan. Farmers may apply for grants of $20,000 or $40,000 in exchange for five or ten year term easements.

The program has helped farmers introduce value-added initiatives including new or expanded farm stands, ice cream production and retailing, maple sugar houses, restaurants, processing facilities and finished wool products. The program director estimates that participants realize an average net increase on-farm income of $18,000-$19,000 per year. The program has served as a model for other similar state programs, including those in Connecticut, New Jersey and New York.

### HISTORY

The program was developed primarily to help Massachusetts' struggling dairy farmers. The idea was also promoted by Massachusetts Farm Bureau as an alternative to the Agricultural Preservation Restriction (APR) program—the state's purchase of development rights program.

An advisory committee was formed in 1994 to oversee a pilot program. A Farm Status Questionnaire was distributed to 18 possible candidates from five different categories of farms: dairies, vegetable/small fruit operations, orchards, livestock operations, and public ownership. The committee used information from this questionnaire to select five geographically diverse farms to participate.

The first participants included a sheep farm supported by off-farm income and four dairy farms. Business plans were prepared and implemented for each pilot farm, a process that took about 10 months. Members of the program's advisory committee met in 1996 to review the pilot phase of the program. The findings from the pilot farms showed a need for business planning assistance, and helped to secure funding for the program.
As of December 29, 2000, 142 farms have participated in the program, covering 25,714 acres. Roughly half (12,586) of these acres are under covenant, and 3,328 acres are protected under the Agricultural Preservation Restriction (APR) program. Participating farms are located in 12 of the state's 14 counties (every county except Suffolk and Nantucket). However, forty-two percent of participating farms are clustered in the Pioneer Valley – a three county region situated along the Connecticut River. These farms represent 45 percent of the total acreage in the program.

## ADMINISTRATION

Historically, one full-time director under the direction of the Massachusetts Commissioner of Agriculture administered the program. A second full-time employee was hired in spring 2001. In addition, a network of consultants located throughout the state make up the planning teams during Phase I.

The consultants are paid on an hourly basis and include farmers, commodity experts, financial analysts, builders, natural resource managers and other individuals with relevant expertise from universities, private businesses, federal or state government, non-profit conservation organizations.

A "point-person" is assigned to each participating farm to coordinate the business planning process. The point-person meets with farmers to understand the farm operations and the types of changes farmers want to make. The point-person then assembles a planning team from the network of consultants. The point-person ensures that all team members do their part in meeting with the farmer and providing input to the plan. The point-person makes sure that the farmer understands and agrees with the implementation steps and timeline outlined in the plan.

Participating farmers are required to submit documentation to the program administrator to ensure that the funds are spent according to the implementation steps outlined in the plan. Farmers also must submit financial information for five years following implementation so that program staff can evaluate the effectiveness of the program.

## ELIGIBILITY CRITERIA

Any Massachusetts farmer who owns at least five acres of land in agricultural use, intends to continue farming, and wishes to enhance the economic and environmental viability of their farm is eligible to apply to the program.

## RANKING CRITERIA

A 15-member review committee, appointed by the Commissioner of Agriculture, evaluates program applications. The review committee includes farmers, Farm Bureau members and representatives of the banking industry. They use a 15-point system to rank each applicant according to the following six criteria, in order of priority:

- Degree of threat to the continuation of agriculture on the land (up to five points)
- Number of acres of land to be placed in the program (up to three points)
- Degree to which the project would accomplish environmental objectives (up to two points)
- Number of years and type of agricultural experience of the applicant (up to two points)
- Interest of farmer in doing value-added or retail (up to two points)
- Suitability and productivity of the land for agricultural use based on its soil classification, physical features, and location. (up to one point)

Other factors included on the application, and therefore given some consideration, include:

- Enrollment in Chapter 61 or Chapter 61A—the state program that assesses and taxes agricultural land based on its current use value—in order to determine the type of farming that takes place on the applicant's farm
- Geographic location—in order to attempt to represent a wide geographic distribution through the program.
- Prior participation in the state's Agricultural Preservation Restriction (APR) program—see discussion of APR program below.
- Diversity of operations—the program is intended to aid all types of farms in Massachusetts.

## FUNDING

The pilot phase of the Farm Viability program was funded by money from the Agricultural Preservation Restriction program. In 1996, the Massachusetts Farm Viability Enhancement Program officially was launched with a $5 million allocation from a $150 million statewide open space bond bill. In 2000, the program received a two year appropriation. By June 30, 2001, the state will have invested $6.8 million. According to program staff, there are currently more than twice as many applicants as available funding.

## RELATIONSHIP TO APR PROGRAM

The Massachusetts Farm Viability Enhancement Program and the Massachusetts Agricultural Preservation Restriction (APR) program are both administered by the Massachusetts Department of Food and Agriculture. Initially, the two programs operated independently of one another; farmers with land protected with an APR *were not* eligible for the Farm Viability program. The lack of cooperation was due in part to an ebb in political support for the permanent farmland protection program. Farm Bureau and others argued that there should be an alternative to APR (i.e., state funds spent on farmers for less than permanent restrictions). Another issue was the fact that the two programs competed for funding under annual bond caps.

The programs now work hand in hand to support agriculture and protect farmland. APR farmers became eligible for the viability program in 1996 and now are given special consideration during the application process. APR farmers receive business planning assistance, which protects the state's investment in a permanent restriction (they are not able to apply for implementation grants in exchange for term easements). At the same time, farm viability participants who receive implementation grants agree to term restrictions, which provide short-term protection. Out of the 25,714 acres that have participated in the Farm Viability program, 3,328 are protected through the APR program.

## CONTACTS

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American Farmland Trust

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# FACT SHEET

## THE FARMLAND PROTECTION TOOLBOX

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## DESCRIPTION

This fact sheet provides a brief description of the tools and techniques that state and local governments are using to protect farmland and ensure the economic viability of agriculture. Some of the techniques result in programs that are enacted and administered at the state level, others are used primarily by local governments. Sometimes, municipal governments adapt and strengthen state laws to meet unique local needs. Many of the most effective farmland protection programs combine regulatory and incentive-based strategies.

## PROGRAMS THAT ARE GENERALLY ENACTED AT THE STATE LEVEL

### Agricultural District Laws

Agricultural district laws allow farmers to form special areas where commercial agriculture is encouraged and protected. Programs are authorized by state legislatures and implemented at the local level. Sixteen states have enacted agricultural district laws. Each law provides a unique set of incentives. Common benefits of enrollment in a district include automatic eligibility for differential assessment, protection from eminent domain and municipal annexation, enhanced right-to-farm protection, exemption from special local tax assessments and eligibility for state PACE programs. Some agricultural district laws require farmers to sign agreements that prohibit development for the term of enrollment.

In most states with agricultural district programs, farmers who wish to form a district apply directly to their local governments. Local governments review and approve applications, which are then sent to the state for final approval. In some states, local governments must develop plans to protect agriculture and farmland before farmers may apply to create agricultural districts.

Agricultural district programs are a unique farmland protection technique because they use a combination of incentives to achieve the same goals as regulatory strategies. Instead of controlling land use, agricultural district laws offer farmers benefits for keeping their land in agriculture.

### Conservation Easements

Every state in the nation has a law pertaining to conservation easements. The National Conference of Commissioners on Uniform State Laws adopted the Uniform Conservation Easement Act in 1981. The Act was designed to serve as a model for state legislation to allow qualified public agencies and private conservation organizations to accept, acquire and hold less-than-fee-simple interests in land for the purposes of conservation and preservation. Since the Uniform Act was approved, 21 states have adopted conservation easement-enabling legislation based on this model and 23 states have drafted and enacted their own conservation easement-enabling laws. In Pennsylvania, conservation easements are authorized by common law. Alabama, Oklahoma and Wyoming do not have separate provisions of state law authorizing the conveyance of conservation easements, but state agencies are given the power to hold title to easements in their authorizing legislation.#

Agricultural conservation easements are designed specifically to protect farmland. Grantors retain the right to use their land for farming, ranching and other purposes that do not interfere with or reduce agricultural viability. They hold title to their properties, and may restrict public access, sell, give or transfer their property, as they desire. Producers also remain eligible for any state or federal farm program for which they qualified before entering into the conservation agreement.

Conservation easements limit land to specific uses and thus protect it from development. These voluntary legal agreements are created between private landowners (grantors) and qualified land trusts, conservation organizations or government agencies (grantees). Grantors can receive federal

# Stefan Nagel, State Conservation Easement Legislation (Washington, D.C.: National Trust for Historic Preservation, 1995).



*The Farmland Information Center is a public/private partnership between American Farmland Trust and the USDA Natural Resources Conservation Service that provides technical information about farmland protection.*